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The Hong Kong Polytechnic University

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Global Financial Crisis: A Corpus-based Study on Metaphors

Ho Nga Man

A thesis submitted in partial fulfillment of the requirements for the degree of Doctor of Philosophy

January 2012

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Ho Nga Man

Abstract

This study is a corpus-based examination of metaphors in the media coverage of the global financial crisis of 2008. It aims to investigate the interconnectedness of the linguistic, conceptual and communicative functions of metaphor. Based on conceptual metaphor theory, the study compares the different conceptualizations from various source domains. It discusses how metaphors perform different functions in financial news discourse, particularly how metaphors express and describe negative emotions in financial news reports during the financial crisis.

The research started with the compilation of a 1-million-word corpus of news articles on the financial crisis. With the use of the software suites Wmatrix tool 2.0 and WordSmith tool 5.0, metaphors directly conceptualizing the emotions of fear, anger and anxiety were identified and classified into various source domains such as ORGANISM and WATER. To further examine how negative emotions are expressed in news discourse, the study also examines the use of target-term absent emotion metaphors that express negative emotions. The study reveals various findings and suggestions related to the linguistic and cognitive dimensions of metaphor. The findings show that target-term present emotion metaphors describe various stages and intensities of negative emotions. On the other hand, target-term absent emotion metaphors are highly hyperbolic and can express negative emotions strongly in news reports. Both types of metaphor complement each other in filling lexical gaps, enhancing the decorativeness, expressiveness, reconceptualization and informativeness of financial news discourse. Various theoretical and lexico-grammatical implications have also arisen from the study.

To sum up, this study shows how target-term present and target-term absent emotion metaphors perform different functional roles in the media coverage of the financial crisis. It reveals the systematicity of conceptual metaphors with the source domains, and strengthens the link between the linguistic, conceptual and discursive aspects of metaphor. This may make a significant contribution to metaphor research in discourse.

Publications arising from the thesis

Book chapters

Li, L., & Ho, J. (forthcoming). Business Metaphors in the 2008 Financial Tsunami. In Phillips, G (ed), *Topics and Targets: Conceptual and linguistic metaphors in text and discourse*. London, J. Benjamins.

Conference proceedings

Ho, J. (2009). "A Corpus Approach to Figurative Expressions of Fear in Business Reports". Cognitive Science Research Papers, 2009, vol 1, pp.93-102. University of Birmingham, Great Britain.

Ho, J. (2009). "Fear in Stock Market Crash: A Corpus-based Metaphoric Study". In K. Bhatia, W. Cheng, B. Du-Babcock and J. Lung (eds), Language for Professional Communication: Research, Practice & Training. Hong Kong: City University of Hong Kong, Asia-Pacific LSP and Professional Communication Association, and the Hong Kong Polytechnic University.

Acknowledgements

I take this opportunity to express my most sincere gratitude to my supervisor Dr. Li Lan. I deeply appreciate her excellent guidance, insightful comments and encouragement which is a major contribution to this dissertation. My deep gratitude also goes to my present co-supervisor Dr. Yap Foong-Ha and host supervisor Dr. Jeannette Littlemore (University of Birmingham) for their thought-provoking discussions and critical comments. I am also indebted to my former co-supervisor Dr. Gillian Humphreys for help.

I would also like to thank my colleagues at the Department of English, The Hong Kong Polytechnic University, for their academic advice and encouragement. Great thanks are due to the colleagues at the Centre for Advanced Research in English, University of Birmingham, for giving me a happy academic and social experience during my academic visit.

Not least, I am deeply grateful to my family members for their love and patient listening when I am unmotivated, and to my Lord for giving me the perseverance and determination in achieving the goal to finish this dissertation.

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Typographical Conventions

- All conceptual form of metaphors are capitalized, e.g. FEAR IS FIRE
- Semantic fields identified by Wmatrix are capitalized and underlined, e.g. <u>VIOLENT/ ANGRY</u>
- Italics are used for the examples shown in the tables or figures; or for the linguistic form of metaphorical expressions, e.g., the metaphor *rippled*
- Single inverted commas are used for emphasis, e.g. the values of 'unambiguity'; or for reference of meanings, e.g. the word 'panic' refers to 'a sudden strong feeling of fear that prevents reasonable thought and action'
- As for an example in inverted single quotes, the source domain component is indicated by italic, but the target domain component and other words remain unchanged, e.g. in the sentence '*my* anxiety is not *disappearing*'
- In concordance lines, items in bold are node, whereas items <u>underlined</u> are highlighted collocates or source domain components, e.g.

ted government struggling to stem the **panic**. Sound familiar? It does

Chapter 1 Introduction

This chapter begins with a brief description of the global financial crisis that is the background for this study. It then explains the research gaps that were identified in contemporary metaphor research, and the research focus of this study. To provide a clear direction for tackling the identified problems, the chapter moves on to the research aim and objectives, followed by the academic significances of this study. The chapter finally ends with the outline of each chapter of the study.

1.1 Background: Global financial crisis in 2008

The year 2008 saw the worst economic crisis since the Great Depression of the 1930s. The financial crisis was first triggered by a series of deep-rooted financial problems in the United States such as a massive housing bubble, a credit bubble, unstable financial innovations with inherent risk miscalculations and the dollar's vulnerability (Shiller, 2008). Taken together, several investment giants in the U.S. such as Bear Stearns and IndyMac were found to have high levels of bad debt. Later, two of the world's largest investment banks, Merrill Lynch and Lehman Brothers, and the insurance company, American International Group (AIG), were also reported to be on the verge of collapse because of losses on investments in real estate and securities tied to mortgages. The financial challenges of these business institutions then snowballed from a persistent U.S. financial problem into a world financial crisis.

On September 15 2008, the demise of Lehman Brothers led to upheaval in a range of financial markets. The Dow Jones industrial average plunged in the biggest point drop since September 17 2001 after the September11 attacks. While the major Asian exchanges were closed for a holiday, markets in India, Taiwan, Singapore

and Australia all dropped sharply. The downgrading by credit-rating agencies caused AIG to face a crunch of \$14.5 billion. To prevent credit from drying up, which would have left the broader economy in a state of paralysis, the U.S. government effectively nationalized AIG by granting an \$85 billion loan in exchange for nearly 80 percent of its stock, and tightened the rules of short selling. The government further pumped \$55 million in temporary reserves into the system on September 18 after coordinated action with the central banks of other nations, and pledged to pump hundreds of billions of dollars into buying bad bank debts. The Fed's rescue package helped to raise the Dow Jones industrial average by over 400 points on the day following the dramatic dip.

However, the stimulation package of the Federal government only served as a short-term solution to the global financial crisis. The market worsened from September 2008 to March 2009, and the crisis caused serious problems in business sectors and society as a whole. U.S. retail sales suffered the greatest decline in December since record-keeping started almost 40 years ago (Haynes & Schneider, 8 January 2009). The prices of stocks and commodities continued to decline. Crude oil prices dropped to \$34 a barrel on the New York Mercantile exchange. The Dow Jones Industrial Average fell to below 8000 for three days during February. Orders to U.S. factories continuously dropped by 3.9% each month for six months which is the longest period of decline since 1992 (Schneider, 5 February 2009). Because of the low demand from customers, there was a massive reduction of staff in different sectors. In December, hotels and restaurants in America slashed 54,000 positions, temporary-help firms cut 78,000 and financial companies shed 32,000 (Irwin & Mufson, 6 December 2008).

Emotion is normally used as a tool by the news media to influence public perceptions of news reports. Previous research demonstrates that the language used in economic news reporting results in weakening confidence and in financial losses for investors, as well as the unexpected collapse of business institutions (see, for example, Oborne, 2002; Sherman, 2002). During the global financial crisis, the media were inevitably accused of causing the collapse of business institutions that worsened the U.S. financial situation and triggered the world economic crisis. In response to public accusations against the news media, some journalists asserted that it was their responsibility to report the seriousness of the crisis:

"I wouldn't say we're not doing those stories, but we're doing them very carefully," said Andrew Serwer, managing editor of Fortune magazine, a Time Warner publication. "How do you say 'There's panic out there, but don't panic?' And is it even our responsibility to say, 'Don't panic.'?" (Pérez-Peña, 22 September 2008).

Among different types of linguistic devices, metaphors possess hyperbolic function which help to convey negative emotions in media coverage. In the news coverage of a global financial crisis, how do the news media report the crisis by using metaphors? And how do they convey negative emotions? These questions paved the way for the present research. In particular, the present research sets out to pinpoint the communicative functions of metaphors used in the news discourse of the global financial crisis.

1.2 Rationale for the study

The cognitive function of metaphors has been widely investigated in an enormous number of metaphor studies. The present study seeks to fill the research gaps in three aspects which are often neglected: (1) the influence of contextual factors in the choice of metaphors; (2) the balance between linguistic, conceptual and discursive functions of metaphors; (3) the criteria for classifying conceptual domains. The following sections discuss how these three aspects have been neglected in contemporary metaphor research.

1.2.1 Influence of contextual factors

Conceptual Metaphor Theory contends that the use of metaphors is a fundamental cognitive ability which relates to the way humans think and speak (Lakoff & Johnson, 1980). As pointed out by Lakoff and Johnson (1980), 'metaphors are based upon culturally pervasive, cognitively entrenched image schemas and entailments' (p.22). Lakoffian theory provides an illuminating theoretical framework for contemporary metaphor research, but their research approach to metaphors is often a topic of debate. The use of decontextualized data and the over-emphasis on the conceptual level of metaphors have long been criticized. There is clearly a need for examining metaphor use by taking discourse into account and using naturally-occurring data to enhance the reliability of the claims in the study.

Conceptual metaphor theory is widely used in contemporary metaphor research. Take, for example, Kövecses's five-stage emotion scenario and cognitive models (2000) which were established on the basis of Lakoffian theory. The emotion scenario effectively explains how the energy flowing from emotion arousal triggers a behavioural response, while cognitive models such as EMOTION IS OPPONENT and EMOTION IS SOCIAL SUPERIOR clearly delineate the conceptualizations of different types of emotion metaphors. Following the traditional research approach of the Lakoffian school, Kövecses's theoretical models were also established on the basis of self-elicited evidence regardless of contextual factors. This raised the question of whether these theoretical models are also applicable to investigating metaphors used in naturally-occurring data such as financial news.

1.2.2 Balance between linguistic, conceptual and discursive functions

Investigation into metaphors used in discourse has been on a steady rise in recent years. As Zinken and Musolff (2009) note, 'discourse-analytic approaches study

metaphorical meaning and understanding as it is embedded in discursive activity' (p.6). Steen (2008) proposes a three-dimensional model of metaphors and shows the inter-connectedness between the linguistic, conceptual and communicative functions of a metaphor. As indicated by Steen, 'when metaphor is studied as part of actual language use, or events of discourse, it does not only manifest a linguistic form and a conceptual structure, but also a communicative function' (p.221). The three-dimensional model significantly raised awareness of the importance of discursive factors. From this model I also argue that contemporary metaphor research often puts a heavy focus on the conceptual dimension of metaphors and the linguistic dimension is often neglected. It is seldom questioned to what extent the lexical items realizing the same target domain differ in terms of conceptualization, and how the linguistic expressions chosen show that the metaphorical choice is determined by discursive factors.

1.2.3 Criteria for classifying conceptual domains

The corpus linguistic approach is one of the methods of examining the use of metaphors in discourse and it enhances the reliability of claims about conceptualizations. Corpus research often starts with the generation of a word list and the identification of metaphors in concordance lines. A corpus-based approach enables metaphors to be examined through observation of authentic linguistic patterns. However, as with most metaphor studies, the method of classifying source or target domains often relies on intuition or existing knowledge of the lexical meanings. It seems that the criteria of classification of target or source domains are not clearly stated. Hence, it is obvious that metaphor research needs to set specific criteria for identifying the conceptual domains which provide a strong basis for metaphor claims.

1.2.4 Approach to investigating emotion metaphors

In traditional emotion metaphor studies, the main approach is to identify the metaphorical uses associated with the lexis of particular emotion concepts such as fear and anger. This is labeled as Target-term present metaphor in the present study. However, the comparison of conceptualizations associated with different emotion lexis is relatively scarce, although Goatly's study (2007) discusses in detail how emotion is metaphorized in different ways by using a great deal of the lexical evidence. In addition to Target-term present metaphors, Target-term absent metaphors are useful for expressing emotions in the discourse. However they have received little attention in emotion metaphor studies. It seems to be rare as well to identify how metaphors fulfil various communicative functions in financial news discourse. These areas are worth more discussion in emotion studies.

1.3 Research aim, objectives and significances

The observations made from the above studies reveal five main areas of investigation: (1) how journalists conceptualize negative emotions in news reports of a global financial crisis; (2) how empirical data is crucial for examining the discursive influence on metaphor choice; (3) how putting our research focus back on the linguistic dimension of metaphor may provide an explanation as to how conceptualizations are influenced by discursive factors; (4) how the criteria for classifying metaphors into source domains need an empirical basis; and (5) how the use of target-term absent emotion metaphors can be useful for studying the conceptualizations of emotions. To bridge the research gap, this study adopted a corpus-based approach to examine emotion metaphors in financial news discourse. The overall aim is to raise awareness of the relationship between the linguistic, conceptual and discursive aspects of metaphor use. To fulfil the research aim, this study seeks to achieve the following objectives:

1. To examine the metaphors used by journalists in reporting the global financial crisis in 2008;

2. To compare the communicative functions of target-term present emotion metaphors associated with the emotions of fear, anger and anxiety;

3. To examine how target-term absent emotion metaphors describe and express negative emotions in news reports.

Through the achievement of the above goals, this study strives to contribute to the paucity of metaphor research in discourse and highlight the inter-connectedness between the linguistic, conceptual and communicative functions of a metaphor. It also hopes to encourage a bottom-up approach in investigating the conceptual metaphor, and to provide insights into the link between metaphor production and communicative functions. By analyzing target-term present and target-term absent emotion metaphors, this study will show their different functional roles in the discourse - target-term present emotion metaphors conceptualize the emotions whereas target-term absent metaphors express emotions via affective grounds.

1.4 Outline of the study

To achieve the research aim and objectives, Chapter 2 is devoted to the discussion of theories which underpin the study, namely the Conceptual Metaphor Theory and the Three-Dimensional Approach. It also discusses news values, metaphor functions, emotions and Corpus Linguistics. Chapter 3 explains the research methodology. It discusses the size and source of the data and the corpus compilation. The procedures for metaphor identification and interpretation with the use of the software suites Wmatrix tool 2.0 and WordSmith tool 5.0 are also outlined. Chapter 4 reports findings relating to negative emotions in the financial crisis. The chapter starts with quantitative findings: reports about agents feeling

fearful, angry and anxious were analyzed. After that, metaphors were identified and classified into different source domains. The grammatical patterns show the difference in communicative functions of the metaphors. Chapter 5 reports how the conceptualizations of negative emotions of fear, anger and anxiety show differences in intensity of emotion. The metaphor functions of informativeness and vividness realized in news discourse are also discussed. Chapter 6 discusses how the target-term absent emotion metaphors related to disaster and opponent perform various communicative functions and help express negative emotions in news reports. Chapter 7 compares the communicative functions performed by each source domain related to target-term present and target-term absent emotion metaphors is also discussed. Finally Chapter 8 summarizes the findings. A number of suggestions are provided for metaphor research in discourse and for use of Wmatrix tool 5.0. Implications for future investigations into metaphor in discourse are also discussed.

Chapter 2 A review of theories of metaphor and the literature on metaphor

This chapter is devoted to a review of the theories of metaphor and the methodology which underpin my study. Conceptual Metaphor Theory (Lakoff & Johnson, 1980) forms the theoretical framework of this study. Conceptual Metaphor Theory emphasizes the cognitive basis of metaphor which significantly expands the traditional interpretation of metaphor as merely literary decoration. However, the tradition of using empirical data to support the cognitive claim in Lakoffian theory is controversial. To address this, recent metaphor research illuminates the relationship between metaphor and discourse. In this study, the Three-Dimensional Model of Metaphor (Steen, 2008) is adopted as the analytical framework on the basis of Conceptual Metaphor Theory. These frameworks are useful for analyzing the communicative functions of metaphors in texts. This chapter begins with a discussion of Conceptual Metaphor Theory and the Three-Dimensional Model, followed by the functions of metaphor. It then moves on to discuss news values and emotion concepts. Finally, the chapter describes the main tenets of corpus linguistics.

2.1 Definitions of metaphor

Metaphor has been studied for almost a century. Yet the definition of metaphor is in dispute owing to differences in theories and research approaches. This section outlines the definitions of metaphors suggested by Richards (1936 [2001]), Lakoff and Johnson (1980), Goatly (1997) and Deignan (2005).

2.1.1 I. A. Richards' definition

Metaphor has long been regarded as a literary device which is used for decorative puposes. This view started to be challenged in the nineteenth century. In this new view, metaphor was no longer regarded as secondary in literature, but was regarded as possessing cognitive value. The cognitive view was first developed by I. A. Richards in 1936. In his Interaction Theory, Richards emphasizes that metaphor is an 'omnipresent principle of language' rather than an 'added power of language' ([2001], p.93). He argues that metaphor is not based on similarities between two dissimilar referents, rather, our interpretation of metaphors 'creates' similarities, and this is based on the connection between two thoughts in the mental process: 'in the simplest formulation, when we use a metaphor we have two thoughts of different things active together and supported by a single word, or phrase whose meaning is resultant of their interaction' (Richards, 1936 [2001], p.93). These two thoughts are named 'tenor' and 'vehicle', which can produce new and irreducible meanings. Kittay (1987) gave a clearer explanation of 'tenor' and 'vehicle': 'vehicle' is 'the idea conveyed by the literal meanings of the words used metaphorically', whereas tenor is 'the idea conveyed by the vehicle' (p.16) For example, in one of Richards' famous examples, 'men are wolves', 'men' belongs to the tenor and 'wolves' belongs to the vehicle. We understand the concept of men (tenor) metaphorically by using the concept of wolves (vehicle). Interaction Theory emphasizes the interaction between two thoughts. This definition of metaphor led to the establishment of Conceptual Metaphor Theory (Lakoff & Johnson) in 1980.

2.1.2 Lakoff's definition

In Conceptual Metaphor Theory (1980) (hereafter CMT), Lakoff and Johnson assert that metaphor structures our way of thinking. Metaphor is defined as 'the mapping relations between two independent conceptual domains: the source domain and the target domain' (Lakoff & Johnson, 1980, p.117). It is a ubiquitous phenomenon which is grounded in our thought, and enables us to comprehend and experience abstract concepts in terms of less abstract concepts (Lakoff & Johnson, 1980, 1999).

The cognitive mechanism involved is the mapping of knowledge, in the sense that the conceptual structure from one experiential domain (*source domain*) is projected onto a different experiential domain (*target domain*). In cognitive semantics, *domain* refers to 'background knowledge for representing concepts' (Clausner & Croft, 1999, p.3). Lakoff and Johnson (1980) suggest two aspects of metaphor: conceptual metaphor and linguistic metaphor. Conceptual metaphor is a matter of thought and the focus is the mapping of knowledge from the source domain to the target domain. On the other hand, linguistic metaphor refers to the surface manifestation of cross-domain mapping known as *metaphorical expression* (or *metaphorical linguistic expression*). For instance, in phrases such as '*wasting* time', '*spend* my time', 'don't *have* the time to *give* you' and '*invested* a lot of time in her' (Lakoff & Johnson, 1981, p.290), we understand the concept of time in terms of the concept of money. Therefore, TIME is the target domain and MONEY is the source domain, and the conceptual metaphor is TIME IS MONEY.

Compared with the metaphor definitions suggested by Richards (1936[2001]), Lakoffian definitions have pointed out the cognitive function and the structure of metaphors in a more concrete way. However, as indicated by Cameron (1999), conceptual metaphor theorists seem to make a sharp distinction between language and thought:

The conceptual system is not only involved in the processing of metaphor, but that thought is itself structured metaphorically, and that the systematicity of metaphor on the surface of language, merely reflects underlying conceptual structure in which something is understood, stored and processed in terms of something else (Lakoff, 1987a). (p.11) However, this sharp distinction of language and thought is completely different from the well-known Sapir-Whorf hypothesis which suggests that language determines thought and culture, and the distinction has also been questioned by some researchers (e.g. Quinn, 1991; Steen, 1994). In later sections, we will see that Lakoffian theory has put a heavy focus on cognition while downplaying the importance of the linguistic aspect of metaphors.

2.1.3 Goatly's definition

As seen in previous sections, Richards (1936[2001]) and Lakoff & Johnson (1980) emphasize the cognitive mechanism of two-domain conceptual mapping in their definitions of metaphor. In his book The Language of Metaphors, Goatly (1997) suggests three important concepts for understanding metaphors: Topic, Vehicle and Ground. Topic is 'the actual unconventional referent' which corresponds to Tenor in Richards's definition (1936[2001]) and Target domain in Lakoff and Johnson's definition (1980). Vehicle, meaning 'the conventional referent of the unit', is equivalent to Richards's definition and corresponds to Source domain in Lakoff and Johnson's definition. Ground is 'the similarities and/or analogies involved' (p.9). In other words, it is the linguistic expression that manifests the similarity and analogy between Topic and Vehicle. However, sometimes Ground may not be explicitly found in the metaphorical expression. The following example best illustrates the three concepts 'Topic', 'Vehicle' and 'Ground'. In the sentence 'The past is a foreign country; they do things differently there' (Goatly, 1997, p.8), 'The past' is the Topic (target domain) whereas 'foreign country' is the Vehicle (source domain). The Grounds, building the similarity or analogy between Topic and Vehicle, is 'things are done differently'.

The notion of similarity and analogy is further indicated in the definition of metaphor suggested by Goatly:

Metaphor occurs when a unit of discourse is used to refer unconventionally to an object, process or concept, or colligates in an unconventional way. And when this unconventional act of reference or colligation is understood on the basis of similarity, matching or analogy involving the conventional referent or colligates of the unit and the actual unconventional referent or colligates. (Goatly, 1997, p.8)

The notions of similarity and analogy in this definition are extended from the Comparison Theory in which 'metaphor is best viewed as an elliptical version of a simile or comparison' (ibid., p.118). Similarity refers to the features of the Vehicle which can apply to the Topic (equivalent to 'Tenor' in Richards's term), and Analogy refers to the relationship between the Topic and Vehicle. Goatly exemplifies this by 'The yacht ploughed the waves' (ibid., p.123) in which the yacht is compared to a plough because of the similarity of 'streamlined shape, shape of share and shape of keel'. The waves are compared to a field, linking by Ground about the 'wide, homogeneous expanse'. However, the metaphor does not work on its own if we only perceive the metaphor in terms of similarities. This is because the interpretation of metaphor depending on analogy is also important here: the relationship between the movement of a yacht and that of a plough, and the relationship between the movement of a yacht through waves, and that of a plough through a field.

As with the definitions of Richards (1936[2001]) and Lakoff and Johnson (1980), it is also seen that Goatly's definition of metaphors is more based on a linguistic perspective. The notion 'colligation', suggested in his definition of metaphors, is defined as a type of collocation. He regards collocation as 'any kind of co-occurrence of words in the text', whereas colligation is 'a syntactic relationship between the two words' (p.8). However In the five co-selection items suggested by Sinclair (2004), collocation and colligation are defined as different items as collcations are the word relations and colligation are the relations between words and grammatical categories. The present study follows the definitions of

collocation and colligation suggested by Sinclair (2004), and will show how different collocates and colligates illustrate similarities or analogies between the target and source.

2.1.4 Deignan's definition

Like Goatly (1997), Deignan (2005) also defines metaphor from a linguistic perspective. She emphasizes the importance of naturally-occurring data in the interpretation of metaphors, and elaborates the definition of linguistic metaphor in Lakoff's Conceptual Metaphor Theory:

A metaphor is a word or expression that is used to talk about an entity or quality other than that referred to by its core or most basic meaning. This non-core use expresses a perceived relationship with the core meaning of the word, and in many cases between two semantic fields. (p.34)

This definition has two important notions: the 'perceived relationship' and the 'noncore use'. The 'perceived relationship' between two semantic fields is similar to the notion of Ground suggested by Goatly (1997), indicating that the comparison of two domains is made through analogy or similarity. The notion of 'perceived relationship' is also an important factor in distinguishing metaphor and other tropes such as metonymies which are relationships 'between meanings based on contiguity in experience, or, linguistically, on deletion rather than substitution' (Goatly, 2007, p.15). Another important notion from Deignan's definition is 'non-core use' which indicates the use of the corpus-based approach in analyzing metaphors. The core meaning, suggested by Sinclair (2005) in his five co-selection items, is the basic meaning of a word. Deignan (2005) suggests that by examining the collocates associated with a word, we can determine whether the word meaning in the context in question is different from its core meaning or not. If the meaning is different from the core meaning it is metaphorical. This study uses a corpus-based approach to study metaphorical expressions in news reports covering the global financial crisis. At the same time, it also aims to investigate how the mappings of knowledge from the source to target domains result in the use of metaphorical expressions. Hence, the definitions of metaphors suggested by Lakoff and Johnson (1980) and Deignan (2005) are equally important in the present study. In the following, the main ideas of CMT will be discussed.

2.2 Conceptual Metaphor Theory

Traditional views hold that i) a metaphor is a decorative ornament in writing; ii) a metaphor is a linguistic phenomenon; iii) a metaphor is based on the pre-existing similarity between two words, that is the similarity exists before people use the analogy (Kövecses, 2002). However, the cognitivists (e.g. Kittay, 1987; Lakoff & Johnson, 1980; Kövecses, 2002) suggest that metaphors are important in our cognitive thinking. They believe that in addition to the pre-existing similarity, metaphors are based on human experience, i.e., how we conceive abstract things in terms of the concrete ones in daily life. One of the pioneering metaphor theories is the Conceptual Metaphor Theory established by Lakoff and Johnson (1980). In Section 2.1, we were introduced to definitions of metaphors. The following sections will explain the main ideas of CMT, including the cognitive basis of metaphors, the classifications of metaphors and the Invariance Principle. The challenges that CMT faces will also be discussed.

2.2.1 Cognitive basis of metaphor

In our everyday life, many concepts such as argument, time and love are difficult to express literally. People very often make use of metaphors unconsciously to express more abstract concepts. In CMT, the relation between a metaphor and a metaphorical expression is the relation between a way of thinking and a way of talking (Lakoff and Johnson, 1980). As Lakoff and Johnson (1980) point out,

metaphor is 'pervasive in everyday life, not just in language but in thought and action. Our ordinary conceptual system, in terms of which we both think and act, is fundamentally metaphorical in nature' (p.3). The use of source domain language and inference patterns for mapping onto the target domain concepts is primary whereas the surface language is secondary. For instance, as exemplified in Section 2.1.3, lexical items of money (target domain: MONEY) are often used to structure our understanding of time (source domain: TIME) as in '*wasting* time', '*spend* my time', '*have* much time *left*' and '*invested* a lot of time in her' (Lakoff & Johnson, 1980, p.290). All the above expressions related to time and money are linguistic metaphoric expressions, and therefore are secondary. The corresponding conceptual metaphor is expressed in small capitals as TIME IS MONEY and is primary. The conceptual mappings are not random but possess particular patterns (Goatly, 2007).

2.2.1.1 Unidirectionality of metaphor

CMT holds that the conceptual mapping goes from a more concrete domain to a more abstract domain. Such a metaphorical process is unidirectional, that is, only features in the source domain are mapped onto the target domain and not vice versa at the same time. For example, love can be conceived in terms of physical force as in 'I could feel the *electricity* between us', 'there were sparks' and 'I was magnetically drawn to her' (Lakoff & Johnson, 1980, p.49). Physical forces such as electromagnetic fields and gravitation are mapped onto the source domain of LOVE, conceptualizing the attractions in a couple. The physical force, however, cannot be conceived in terms of love. This means that the mapping, LOVE IS A PHYSICAL FORCE, cannot be reversed and become PHYSICAL FORCE IS LOVE. CMT suggests that the conceptual mapping is acquired by people through their experience of everyday life, from the concrete domain to the abstract domain but not vice versa. However it is argued by some researchers (e.g. Goatly, 1997; Stockwell, 1999; Casasanto & Boroditsky, 2007) that the abstract target domain can be reversed to become the source domain. For instance, 'light-year' and 'immediate neighbour' illustrate SPACE IS TIME which reverses TIME IS SPACE; 'justified

margins' (STRAIGHTNESS IS CORRECTNESS) reverses CORRECTNESS IS STRAIGHTNESS; and 'free-size' (SPACE TO MOVE IS FREEDOM reverses FREEDOM IS SPACE TO MOVE).

2.2.1.2 Systematicity of metaphor

In addition to its unidirectionality, conceptual mappings are also systematic in nature. As Lakoff and Johnson (1980) point out, metaphorical concepts can form a coherent system on the basis of sub-categorization. For instance, our experiences with money, limited resources and valuable commodities enable us to conceptualize time, as in '*spend* your time', '*running out of* time' and '*budget* your time'. Here, two aspects of the metaphorical concept TIME IS MONEY come into play, namely, TIME IS A LIMITED RESOURCE and TIME IS A VALUABLE COMMODITY. These metaphorical concepts constitute a system by which we understand the concept of time. We conceptualize time in terms of money but not in terms of other irrelevant concepts such as sports. Therefore, metaphorical mappings are not random, but are constrained by particular structures in source and target domains. This extended knowledge is acquired through understanding in daily life (Lakoff & Johnson, 1980; Kövecses, 2002). However, it should be noted that not all aspects of money can be mapped onto time given the nature of partial metaphorical mapping (See Section 2.2.3).

2.2.2 Types of metaphor

As explained earlier, we use metaphors to express various concepts in daily life. We are able to easily understand various kinds of concepts because we unconsciously use metaphors which possess different properties and functions. In CMT, Lakoff and Johnson (1980) have identified four types of metaphors on the basis of cognitive structures. They are briefly explained in the following.
2.2.2.1 Structural metaphor

Among the three types of metaphors, structural metaphors provide the richest knowledge of the target concept (Lakoff & Johnson, 1980; Kövecses, 2002). Structural metaphors help speakers to understand a concept in the target domain by exploiting a highly structured and clearly delineated concept from the source domain. For example, in the clauses 'your claims are *indefensible*' and 'he *shot* down all of my arguments', the metaphors *indefensible* and *shot* are actions of war compared with the structure of an argument. The concept of argument is metaphorically structured in terms of the concept of war, i.e., ARGUMENT IS WAR. The examples discussed in Sections 2.2.1.1 and 2.2.1.2 are also structural metaphors, that is, LOVE IS A PHYSICAL FORCE and TIME IS MONEY.

2.2.2.2 Ontological metaphor

Ontological metaphors (or *physical metaphors*) provide less cognitive structure for the target concept than structural metaphors. Most of our concepts are grounded in ontological metaphors and people comprehend abstract target concepts by viewing them as entities. Lakoff and Johnson (1980) explain that 'our experiences with physical objects (especially our own bodies) provide the basis for an extraordinarily wide variety of ontological metaphors, that is, ways of viewing events, activities, emotions, ideas, etc., as entities and substances' (p.25). The concepts could be objects, substances or containers, but there are no specific indications of what kind of object, substance or container they are. For instance, in the clause 'are you *in* the race on Sunday?', the race is conceptualized as a container object (RACE IS CONTAINER OBJECT). However, it gives no clue as to the type of container.

Ontological metaphors serve a number of purposes, such as quantifying ('You've got *too much* hostility in you'), identifying aspects ('The ugly side of his personality *comes out* under pressure'), identifying causes ('The pressure of his

responsibilities *caused* his breakdown') and setting goals and motivating actions ('I'm changing my way of life so that I can find true happiness') (Lakoff and Johnson, 1980, p.27). The functions of ontological metaphors are probably due to the step of reification which structures the abstractions in a metaphorical way (Goatly, 1997), so that the abstract things mentioned in the above examples can be measured and counted (i.e. 'hostility'), be ascribed physical qualities (i.e. 'personality'), cause events (i.e. 'responsibilities') and be possessed (i.e. 'true happiness'). Kövecses (2002) clearly delineates the link between structural and ontological metaphors. He notes that once the concept is given a status, it can be further conceptualized in terms of structural metaphors. This can be supported by examples like 'my mind is rusty this morning'. 'My' is an ontological metaphor as it implies that the mind is a possession, while 'rusty' is structural (Kövecses, 2002, p.35). Ontological metaphors are useful for expressing a large number of concepts. But as Lakoff and Johnson comment, most of the metaphorical expressions are not regarded as being metaphorical, except some more obvious ones such as personifications.

Personifications are believed to be the most obvious ontological metaphors. They help expressing a concept by specifying a particular aspect of human beings. Lakoff and Johnson (1980) explain that 'personification is not a single unified general process. Each personification differs in terms of the aspects of people that are picked out' (p.33). The aspects that are picked out for conceptualizations can be human motivations, goals, actions and characteristics, as in 'inflation has *attacked* the foundation of our economy', 'his theory *explained* to me the behaviour of chickens raised in factories' and 'life has *cheated* me'. Of all the ontological metaphors, only personifications will be discussed in the present study.

2.2.2.3 Orientational metaphor

The third type of metaphor introduced in CMT is orientational metaphor. Orientational metaphors are space-oriented and provide the most abstract cognitive structure for a concept. This derives from the fact that spatial orientations such as up-down, in-out, front-back, on-off, deep-shallow and central-peripheral form the basis of our physical and cultural experience. For example, Lakoff and Johnson (1980) observe that English speakers tend to use the concept 'up' to describe the emotion of happiness metaphorically as in 'I'm feeling up', 'that boosted my spirits' and 'my spirits rose' (p.15). On the contrary, the concept 'down' can be used to describe the emotion of sadness as in 'I'm feeling down', 'I'm depressed' and 'My spirits *sank*' (ibid.). These metaphors constitute a coherent system for the concepts HAPPY IS UP and SAD IS DOWN respectively, and contribute to an internal systematicity. In addition, Lakoff and Johnson observe that each orientation can be used to conceptualize a number of concepts. For example, the concept 'up' can also be used to describe other concepts such as health ('he's at the peak of health'), status ('she'll rise to the top' and positive situations ('things are looking up') (ibid., p.18). This constitutes an overall external systematicity among different orientational metaphors. Though orientational metaphors provide even more abstract conceptual structures for target concepts than ontological ones, they help to organize a whole system of concepts which are interconnected with each other.

The discussions so far suggest that orientational and ontological metaphors are more abstract and conventional than structural metaphors for illustrating concepts. According to Steen (2008), deliberate metaphor use is a rhetorical strategy utilized by senders to achieve a specific discourse function (for more discussion of Steen's theory, see Section 2.3). Given that orientational metaphors and most ontological metaphors (except personification) are too abstract and conventional in nature, their mappings with target domains such as EMOTION do not seem to involve a conscious selection of a source domain for achieving a communicative purpose. Therefore, these two kinds of metaphors are regarded as non-deliberate metaphors in the present study.

2.2.3 Partial metaphorical mapping

As explained earlier, cross-mapping forms a basis for the comprehension of a metaphor, in which knowledge relating to a more concrete source domain is mapped to a more abstract target domain. In the process of conceptual mapping, we are able to focus on certain features of a concept. In fact, the idea about selection of particular features of target under the influence of the source was originated by Max Black in his Interaction Theory (1979): 'The maker of a metaphorical statement selects, emphasizes, suppresses, and organizes features of the primary subject by applying to it statements isomorphic with the members of the secondary subject's implicative complex' (p.28). Such features are referred to by Lakoff and Johnson (1980) as the highlighting and hiding of aspects in metaphorical mappings. For instance, Reddy (1993) observes that in English, the abstract idea of communication is often understood in terms of the physical transfer of objects. He called it the Conduit Metaphor. For instance, ideas of a speaker can be conceptualized as objects, and words are conceptualized as containers as in 'pack more thought into fewer words', 'the sentence was *filled with* emotion', and 'your words seem *hollow*' (Reddy, 1993, p.287-288). Lakoff and Johnson (1980) gave a clear explanation of conduit metaphors. They state that 'the speaker puts ideas (objects) into words (containers) and sends them (along a conduit) to a hearer who takes the idea/objects out of the word/containers' (p.10). Hence, the concept of communication is structured by the combined metaphors: IDEAS (or MEANINGS) ARE OBJECTS, LINGUISTIC EXPRESSIONS ARE CONTAINERS and COMMUNICATION IS SENDING.

The aspect of the CONDUIT metaphor, LINGUISTIC EXPRESSIONS ARE CONTAINERS FOR MEANING, carries an entailment that words and sentences have meanings in themselves. They are also independent of any context or speaker. However, the aspect of the communication process that the CONDUIT metaphor hides is the matter of contextual differences, since one sentence can be comprehended in various ways by different participants across different situations. The highlighting and hiding of aspects are further discussed in the revised version of CMT (Lakoff, 1993).

In a revised version of CMT (1993), Lakoff further explains the highlighting and hiding of aspects in a conceptual mapping and proposes the 'Invariance Principle'. He indicates that a target concept has several aspects which are in focus (*highlights*), and the other aspects of the concept will remain hidden in the metaphorical mappings. In turn, speakers also utilize only certain aspects of a source domain in understanding a target. The invariance principle automatically blocks the mapping of knowledge which is at odds with the inherent schematic or skeletal structure in the target domain (Lakoff, 1993; Kövecses, 2002). In other words, the invariance principle decides how much of the metaphorical entailment potential of a source domain can be mapped onto the target domain. The highlighting and hiding is a crucial criterion of partial metaphorical mappings, and can also contribute to the systematicity of a metaphor. However, the conceptual mapping is actually more complex than what Lakoff suggested. For example, the claim that only pre-existing features of the target domain are mapped by the source has been criticized by Brugman:

Lakoff is often unclear whether features and structures in the target domain are preserved in the same way as features from the source domain are preserved in the transfer; and many abstract target domains are "structured entirely by one or more metaphorical mappings" (Brugman 1990, p.258-59)

Kövecses (2009) also casts doubt on the process of mapping of components in the target and source domains. He asserts that it is more than an automatic conceptual process. The selection of components does not stem from the conventional and unconscious understanding of the target domain. Instead, the choice of metaphor is determined by the communicative situation: 'In a dynamic discourse situation the activated target domain (such as political structure) in the discourse can indeed select components of the source (such as building) that fit a particular target idea or

purpose' (p.17). For instance, the expression 'building without fire-escapes' can be used to negatively describe the European Union. This takes issue with the CMT that most human thoughts are governed by unconsciousness rather than consciousness. Musolff (2012) also argues that 'the immediate and wider context that 'constrains' the sense in which a metaphorical utterance is understood. Depending on the contexts of use, the source domain content can vary almost infinitely' (p.305). I support the notion of Kovecses (2002) and Musolff (2012) that the selection of domain components is related to the intention of the speaker or writer and this is in turn influenced by the context. This is because if we say that all metaphors are produced unconsciously in our mind, the discursive value of metaphors and the intention of speakers or writers will be neglected.

2.2.4 Degree of metaphoricity

The conventionality of metaphor is related to metaphoricity. According to Goatly (1997), whether a word is metaphorical or not is actually a matter of degree. In the following, I will discuss the three main approaches to classifying metaphors, of Lakoff (1987), Goatly (1997) and Deignan (2005) respectively.

2.2.4.1 Lakoff's classification of metaphors

Lakoff (1987) has classified 'dead' (or non-innovative) metaphors into four types: historical, linguistically dead but conceptually alive, one-shot metaphor, and conventionalized metaphor. They are briefly outlined in the following.

1. Historical metaphors

Historical metaphors are words that are linguistically and conceptually dead. This is because the original literal sense of the word is no longer used and so the conceptual mapping is also lost. For example, the word 'pedigree' originally is a variant of the French word meaning the foot of a crane. Given that the word 'pedigree' no longer means 'the foot of a crane', it has lost its original literal meaning. Thus, the conceptual mapping of linking the foot of a bird with a family tree has disappeared.

2. Metaphors that are linguistically dead but conceptually alive:

Lakoff and Johnson observe (1987) that some metaphors are linguistically dead but conceptually alive. This means that the word has lost its original literal meaning, but it is still metaphorical in some sense. For instance, 'comprehend' no longer has its original literal meaning of 'take hold', but its extended meaning links the physical action of grasping with the mental process of understanding. This constitutes a conceptual metaphor mapping.

3. One-shot metaphors:

One-shot metaphors' literal and metaphorical senses are still in use. For instance, the terminology of describing a basketball move as a 'dunk' is treated as a one-shot metaphor. The word 'dunk' was originally used to describe the action of dipping a biscuit into a hot drink. This action is now compared with the image of dipping the ball into a basketball net. However, features in the domains of basketball and hot drinks are not conceptually mapped. Also, the conceptual mapping can only be used in the situation of playing basketball, not in other situations.

4. Conventionalized metaphors

Conventionalized metaphors' literal and metaphorical senses are in current use, and the use is pervasive in many situations. For instance, the word 'grasp' can literally refer to the physical action of holding something. It can also be metaphorically used to describe the mental act of understanding.

Lakoff's classification of four types of dead metaphors is based on a cognitive approach, not on a linguistic one. The classification reveals that the noninnovativeness of metaphor is due to historical facts and the pervasiveness of use in different situations. He also shows that the different types of dead metaphors, except for the one-shot metaphor, involve systematic mappings, that is, the mapping of features from one domain onto another. However, the criteria for deciding whether the word still constitutes a conceptual mapping are far from clear. For example, for the word 'comprehend' that was exemplified above, Lakoff notes that it is linguistically dead as the etymological meaning has been lost. However, if people do not have the etymological knowledge that 'comprehend' referred to the action of grasping an object, how could they evoke a conceptual mapping which compares the physical action to the process of understanding? Hence, it may be an issue that a word can be regarded as metaphorical by some speakers but not by others. Obviously, the classification criteria need more empirical support.

2.2.4.2 Goatly's classification of metaphors

Goatly (1997)'s classification of metaphors makes use of naturally-occurring texts from some sources such as the Bank of English, newspapers and literature. It is important and influential for a number of contemporary metaphor studies. In his model, Goatly classifies metaphors into three main types: Dead, Inactive and Active. They are briefly described as follows:

1. Dead metaphors:

Dead metaphors' former literal sense is nowadays seldom used or the metaphorical connection between the different meanings of the word is hardly made. For instance, the word 'pupil' can mean a young student or the circular opening in the iris. Lexically, this kind of metaphor has a homonymic relationship. Words whose metaphorical connections are hidden by former language changes are further labeled by Goatly (2011a) as dead and buried. For example, the Latin word 'inculcate' originally meant 'to stamp in' and then came to mean 'to indoctrinate with', but it no longer has the meaning of 'stamp in'. Hence, it is hard for English speakers to regard the meaning of 'inculcate' as metaphorical unless they have knowledge of Latin. These two types of metaphors are quite similar to the historical metaphors suggested by Lakoff (1987), in the sense that knowledge of Latin or etymology may be needed for the reconstruction of the metaphorical connection.

2. Inactive metaphors:

In of the case of inactive metaphors, a metaphorical connection between the meanings of a word can be recognized regardless of historical knowledge. Inactive metaphors can be further classified into 'Sleeping' and 'Tired' metaphors. A sleeping metaphor has a conventional metaphorical meaning. The literal meaning of the word is still currently in use and can be evoked by the metaphorical sense on some occasions. For example, the word 'vice' can refer to a gripping device or to depravity. The meaning of a tired metaphor is also conventional. However compared with a sleeping metaphor, it is easier to evoke the literal sense from the tired metaphor. One of the best examples for illustrating this is the word 'fox'. Literally it refers to a dog-like mammal, but it also has the metaphorical sense of a cunning person. The Grounds for inactive metaphors are predictable because they are more fixed by 'convention' or 'habit' (Goatly, 1997, p.34). From a lexical perspective, sleeping and tired metaphors also have a polysemous relationship with the literal sense of the words. They are

similar to the conventionalized metaphors suggested by Lakoff (1987) in his classification.

3. Active metaphors:

For active metaphors, the metaphorical sense of a word can be strongly evoked through the literal sense. The metaphorical sense of the word is highly unpredictable due to its context-dependent nature. For instance, the word 'icicles' literally refer to rod-like ice formations. It can also metaphorically refer to fingers of a dead man's hand which are stiff, cold and tapered. The two meanings of the word do not have any lexical relationship. As with inactive metaphors, the Grounds for active metaphors are highly unpredictable because they are contextdependent, relying on 'the interaction of the Vehicle and the particular Topic being referred to' (Goatly, 1997, p.34-35).

Goatly's classification has distinguished metaphors with an innovative sense from those with a conventional sense or whose senses are lost due to historical facts or etymology. However as indicated by Goatly (1997), sometimes metaphors may be asymmetric: 'intended as metaphors by the speakers but not understood as such by the hearer, or, conversely, not intended as metaphors by the speaker but interpreted as such by the hearer' (p.127). Deignan (2005) also had a similar view, that the categorization of a metaphor as an inactive or active metaphor may vary across speakers and therefore the nature of a metaphor is sometimes hard to perceive. Hence, there may need to be some clear criteria for deciding the degree of metaphoricity. In the following section, the corpus-based classification suggested by Deignan (2005) will be described.

2.2.4.3 Deignan's classification of metaphors

Deignan's classification of metaphors (2005) is developed from Lakoff's and Goatly's models. She innovatively incorporates a corpus-based approach into the classification of metaphors. Metaphorical expressions are generally distinguished into four main kinds:

1. Innovative metaphors:

According to Deignan, innovative metaphors are usually infrequent due to the newness of the expressions. If metaphors are used in fewer than one out of one thousand concordance lines in the corpus, or all occurrences are from the same source, then the metaphors are regarded as innovative. For instances, as in the case that was discussed in Section 2.2.4.2, the expression *five icicles* is regarded as innovative.

2. Conventionalized metaphors:

Deignan distinguishes conventionalized metaphors from dead metaphors by considering the relationship between coreness and dependency shown by a metaphor and its literal sense. The literal sense of a conventionalized metaphor is more 'core' than its metaphorical sense. This means that it is very likely that the literal sense will be evoked by the metaphorical sense of a word. The metaphorical sense also depends on the literal sense. For instance, the word *machinery* is always used in metaphorical sense when it is pre-modified or post-modified by phrases, as in 'the civil service *machinery*' and 'the *machinery* that finances the public schools'.

3. Dead metaphors

As described in previous paragraphs, a metaphor is considered dead if the metaphorical sense of a word does not depend on the core sense (literal sense). For example, according to the Oxford English Dictionary (Little et al. 1973, cited in Deignan, 2005), the word 'deep' carries the literal sense of 'measurement' and is regarded as figurative in the phrase '*deep* blue carpet' as it metaphorically refers to the intensity of colour. However, the literal sense of 'measurement' is no longer evoked by such metaphorical uses of the word 'deep'. Therefore, the word 'deep' is treated as a dead metaphor.

4. Historical metaphors

In line with the classification criteria of Lakoff (1987) and Goatly (2011a), if the literal sense of a word is no longer in use, a metaphor is regarded as historical. It is easily identified in the corpus as the former literal sense is not represented in the corpus or the sense has an entirely different meaning for current speakers. Hence, the examples previously discussed such as 'pedigree', 'comprehend' and 'pupil' are all identified by Deignan as historical.

In her classification method, Deignan (2005) has used some corpus-based techniques to identify metaphors. For instance, she suggests the criteria of 'one out of one thousand concordance lines in the corpus', or 'all occurrences are from the same source' as identification of innovative metaphors, She also suggests identifying conventionalized metaphors by examining the pre-modifying or post-modifying collocations.

2.2.4.4 Summary

This section compared the metaphor classification methods of Lakoff (1987), Goatly (1997) and Deignan (2005). Similarities are found in these three approaches. In

Goatly's approach, the notions of inactive metaphors and dead metaphors are similar to Lakoff's conventionalized metaphors and historical metaphors respectively. However, Goatly has further suggested that the degree of conventionality can increase from dead, dead and buried, sleeping, tired to active metaphors. Deignan (2005) seems to borrow the notions from the approaches of Lakoff (1987) and Goatly (1997), in which she also defines conventionalized metaphors and historical metaphors as in Lakoff's model (1987), and defines dead metaphors as in Goatly's model (1997). However Deignan used the term 'innovative metaphors' instead of 'active metaphors', and she also suggests some corpus-based criteria for classification of metaphors. Given that the present study is based on a corpus of financial news reports, Deignan's approach would be useful for identifying innovative and conventionalized metaphors.

2.2.5 Challenges to Conceptual Metaphor Theory

Lakoff and Johnson's CMT sheds light on the cognitive value of metaphors. However, like other theories, it has been challenged. The use of decontextualized data and the over-emphasis on the conceptual level of metaphors have long been criticized. The challenges will be discussed in the following.

2.2.5.1 Usefulness of the top-down approach

One contentious issue is the use of the top-down approach. In CMT the conceptual metaphor is regarded as primary while linguistic expression is regarded as secondary. Hence, cognitive linguists in early studies tended to employ a top-down research approach to provide self-elicited examples with personal intuition for support of their cognitive claims (see, for example, Lakoff & Johnson, 1980, 1999; Lakoff & Turner, 1989; Kövecses, 1986, 1999). The theory has been criticized as over-emphasizing the unconscious use of metaphors and lacking empirical discourse evidence (Deignan, 2010). It also neglects the motivation for metaphor use as it does not relate the forms of metaphors used to the characteristics of the

discourse (Zinken & Musolff, 2009). Vervaeke and Kennedy (1996) argued that the methodology used by Lakoff and Johnson in CMT is far from objective as the postulation of conceptual metaphors usually depends on the linguistic examples they marshaled. Similarly, Steen (2007) argues that the self-elicited evidence used in CMT is a circular evidence:

That is, if cognitive linguists have found metaphor in language in various ways, can they then also claim that they have found metaphor in thought? And can they then continue by utilizing these conceptual metaphors in deductive fashion to go back to language and find other linguistic manifestations of the same conceptual metaphors without becoming vulnerable to the accusation of circularity? (p.19)

The reliability of this claim about conventional metaphor has also been questioned by some metaphor researchers (see, for example, Goatly, 2007, 2011a; Low, 2003; Semino et al. 2004; Deignan, 2005) in recent years. Goatly (2007, 2011a) observes that the important theme in English 'ANGER IS HOT LIQUID IN A CONTAINER' stressed by Kövecses (1986) is far from authentic. With the use of data in the corpora *Metalude* (2002), Goatly showed that the lexical examples about anger as boiling water have no association with containers, and the theme is not unique to the concept of anger, but can also be applied to other negative emotions such as stress. The arguments of Steen (2007) and Goatly (2011a) show consensus, in the sense that traditional cognitive linguists utilize the deductive approach with their created examples to support the claim that metaphor reflects thought. This approach has affected the objectivity of the analysis.

2.2.5.2 Unidirectionality of conceptual mappings

As discussed in previous sections, Lakoff and Johnson (1980) suggest the unidirectionality of conceptual mapping, that is, knowledge is mapped from the source domain onto the target domain. Their two-domain model is actually developed from the Interaction Theory suggested by Richards and Max Black (see Section 2.1.1). However, these models are criticized as over-simplified. The twodomain model has also been argued cogently by Turner and Fauconnier (1995) to be highly parsimonious since it is only part of a larger and more general model of conceptual projection and has ignored the complexities of human thought (Fauconnier, 1997; Fauconnier and Turner, 2000; Grady et al., 1999; Turner and Fauconnier, 1995). As Mac Cormac (1990) indicates,

Most commentators on metaphor have followed Max Black's advice to begin their analysis with banal metaphors, simple identifications of the form "A is B,"... metaphors may be much more complicated than that and may involve at least two but often more than two referents, and these referents cannot be divided simply into the familiar and the unfamiliar. (p.26)

It is doubted that the two-domain model will be able to account for the conceptual mechanism of all metaphors, especially novel metaphors. For instance, in the sentence 'If Clinton were the Titanic, the iceberg would sink' (Fauconnier & Turner, 2000), there are partial cross-space mappings between the elements: Clinton is the counterpart of the Titanic and the scandal is the counterpart of the iceberg. According to the Blending theory established by Fauconnier and Turner (2000), the blended space utilizes the organizing frame structure from the Titanic input space, and makes use of the crucial causal structure and event shape structure from the Clinton scenario. Hence, this constructs the blend as 'Clinton is the Titanic and the scandal is the iceberg'. It is impossible to infer the central metaphorical meaning by applying Lakoff's two-domain model. This is because the causal and event shape structure from the Clinton scenario is contrary to the source about the Titanic. If the inferences are projected from the source as suggested by Lakoff's two-domain model, the metaphor would be interpreted as 'Clinton must lose the presidency because of the scandal'. However, the fact articulated from the metaphor is that Clinton is not ruined but instead survives. This instance shows that Lakoff's twodomain model may not be able to explain novel metaphors as it fails to make use of the developed emergent structure which cannot be solely found in the target and source, but only through the integration process.

In the Neural Theory of Metaphor (2008), Lakoff has further refined CMT by providing more explanations of the mechanism of thought and language. For instance, Lakoff indicates that during the mapping process, a metaphorical inference occurs and when 'a metaphorical mapping is activated in a neural circuit, there is an inference in the source domain of the mapping, and a consequence of the source domain inference is mapped to the target domain, activating a meaningful node' (p.29). Although Lakoff provides further explanation of the mapping process, it appears that the problem of whether the two-domain model can explain novel metaphors or not remains unsolved. Based on the above discussion, I agree that it may not be easy to explain the use of novel metaphors by applying Lakoffian theory. However, judging from the corpus data in the present study, most of the metaphors identified are conventionalized rather than novel ones, so this problem is not a main concern in this study.

2.2.5.3 Fuzziness in categorizing target and source domains

Another challenge for CMT is that it does not have clear criteria for categorizing the target and source domains (Hardie et al., 2007; Koller et al., 2008). It is often hard to determine which target or source domain a word belongs to. This is actually an issue for many later metaphor studies using CMT as their framework as well. The issue is especially crucial when dealing with the English language, in which a vast amount of words are polysemous. For instance, as mentioned in the analysis in this present study, it is not easy to classify 'grow' into the source domains of HUMAN, PLANT or ANIMAL. The categorization may need some basis such as a dictionary or software such as Wmatrix (this will be discussed in later chapters).

2.2.5.4. Summary

This section started with a discussion of definitions of metaphor. The definition suggested by Lakoff and Johnson has been compared with those suggested by Richards, Goatly and Deignan. The Lakoffian definition with the complement of Deignan's definition is adopted in this study. The central ideas of Conceptual Metaphor Theory have also been discussed, including the cognitive basis of metaphors, the unidirectionality of mappings, systematicity, partial mappings and degrees of metaphoricity. The theory emphasizes that metaphors make use of our cross-domain knowledge to express abstract ideas in daily life. The knowledge is undirectionally mapped from the target domain onto the source domain. Metaphors can be classified according to cognitive structure and also metaphoricity. Metaphorical expressions from the same source domain constitute the systematicity of metaphors. However, research also shows that the conceptual mapping can be reversed rather than being unidirectional. Also, different structures of a target can be mapped onto various sources to constitute different metaphorical meanings. Hence, multivalency and diversification of sources, as suggested by Goatly (1997), were also discussed in the chapter. Finally, the section discusses the challenges of Conceptual Metaphor Theory. The use of self-elicited data, the emphasis on unidirectionality in the conceptual mapping and the categorization of target and source domains are some aspects of the theory which are yet to be resolved. Despite these problem areas, Conceptual Metaphor Theory is still a very important and influential theoretical framework for later metaphor studies. This study applies a corpus-based approach and identifies metaphors by reading through financial news texts. It also uses the annotation tool Wmatrix to provide a basis for the categorization of target and source domains.

2.3 Reconciling the relationship between language, thought and discourse

Metaphors are important for constructing social realities in different disciplines. Studying metaphors in a particular discourse is useful for our understanding of metaphor (Zinken & Musolff, 2009). According to Koller (2006), 'Relying on introspection, or extrapolating from the analysis of selected sample texts, runs the risk of addressing the idiosyncratic rather than the typical, the individual rather than the socially shared' (p.240). Gibbs (2010) similarly suggests that conclusions in metaphor studies should take discursive factors into account and should not rely on 'constructed' and 'decontextualized' examples (2010, p.3). It is emphasized that we should investigate the role of metaphors in manifesting the communicative function in texts as well as examining the linguistic form and conceptual mapping of metaphors. There is obviously a need for an investigation of metaphor use that includes consideration of discursive factors.

This section will outline the Three-dimensional Model of Metaphor (Steen, 2008), and this will be followed by a discussion of metaphor functions and a discussion of metaphors in business discourse.

2.3.1 Three-dimensional Model of Metaphor

As discussed in Section 2.2.5, one of the challenges to Lakoff's Conceptual Metaphor Theory is that it downplays the importance of discourse. By 'discourse' it means that all forms of communication is socially constructed by using a linguistic code to represent the world (Fowler, 1991). Gibbs (2010) noticed that 'one of the most remarkable aspects of much contemporary metaphor research is the fact that little attention is given to what metaphors actually communicate in discourse' (p.10). To reconcile the relationship between language, thought and discourse, Steen (2008) advances a three-dimensional framework for metaphor research. These three dimensions involve metaphors in language, thought and communication, which is different from the traditional theoretical metaphor models

which only focus on the interaction between language (linguistic form) and thought (conceptual structure). As Steen (2008, p.231) explains:

- 1. Linguistic function of metaphor: To fill lexical (and other formal) gaps in the language system (metaphor in language).
- 2. Conceptual function of metaphor: To offer conceptual frameworks for concepts that require at least partial indirect understanding (metaphor in thought).
- 3. Communicative function of metaphor: To produce an alternative perspective on a particular referent or topic in a message (metaphor in communication).

Among the three dimensions, the linguistic dimension of metaphor has the function of expressing meaning by using other words. Goatly (2011a) and Skorczynska and Deignan (2006) also indicate the metaphor's function of filling the lexical gap. The fulfilment of conceptual and communicative functions depends on the deliberateness of the metaphor.

2.3.2 Deliberateness and non-deliberateness of metaphors

As discussed in Sections 2.2.1 and 2.2.2, metaphors can be categorized according to their cognitive structure and metaphoricity. In terms of cognitive structure, Lakoff and Johnson (1980) divided metaphors into three types according to their cognitive structures, that is, orientational, ontological and structural. In terms of metaphoricity, metaphors are categorized by Lakoff (1987), Goatly (2011a) and Deignan (2005) as dead, conventional and novel. These methods are definitely useful for classifying different types of metaphors in a study and help shape the scope of investigation and research objectives. However, given the trend for

investigating metaphors in discourse, it is worth questioning how metaphors with certain communicative purposes can be classified.

In the Three-dimensional Model of Metaphor suggested by Steen (2008), metaphors are categorized according to their deliberateness, that is, they are classified as deliberate and non-deliberate. Deliberate metaphors are usually used to achieve a particular discourse function such as word play or rhetoric; they lead the addressee to change his or her perspective on the referent or target of the metaphor and draw his or her attention to a different conceptual domain. In other words, the use of a deliberate metaphor is intentional and could evoke a live cross-domain mapping in the mind of the addressee through comparison. For example, the word 'hit' in 'we hit Amsterdam like a bulldozer' is a deliberate metaphor because it instructs the addressee to think of the notion of a bulldozer hitting something. Nondeliberate metaphors including inconspicuous metaphorically-used words still have communicative value (e.g. people will understand 'hit' means 'arrived in'), but the metaphor will not evoke an A IS B construction. The construction of conceptual mappings would distract from the communicative point of the expression (ibid.). For instance, the word 'hit' in 'we hit Amsterdam in the early evening' is a nondeliberate metaphor because the cross-domain mapping between the actions of hitting and arriving is not set up in the mind of the addressee. According to Steen, the distinction between deliberate and non-deliberate metaphors is different from the traditional distinction between conventional and novel metaphors. Deliberate metaphors can be conventional or novel metaphors. This is because what matters in the Three-dimensional Model is the achievement of the communicative function of the metaphor, not the degree of its metaphoricity.

2.3.3 Summary

In summary, the Three-dimensional Model suggested by Steen has provided a concrete methodological model for metaphor research in discourse. This discourseanalytical framework significantly filled the gap between linguistic and cognitive dimensions in CMT. At the same time, by introducing the idea of deliberate metaphors, the method also strengthened the importance of contextual factors in metaphor research. However, there is the same issue that is raised when discussing the classification models of Lakoff and Goatly – the expressions could be asymmetric, with the metaphoricity of a word being interpreted differently by various speakers. Hence, opinions on whether a metaphor is deliberate or non-deliberate (unable to construct conceptual mapping) may also differ across people. Rather than identifying the delibrateness of a metaphor, the present study will only adopt the concept of communicative function from the Three-dimensional Model. Corpus-based evidence would be useful for analyzing the linguistic form of metaphors, and it would also be important in providing support for the claims relating to the communicative functions of metaphors.

The theoretical backbone of the present study is as follows. The Conceptual Metaphor Theory forms the basis of the present study. Cognitive claims about the ubiquity of metaphors, the role of metaphors in conceptualizing abstract ideas and the systematicity of metaphors will be discussed. The analysis of financial news discourse will demonstrate how various types of metaphors conceptualize abstract emotions and highlight aspects including the arousal, intensity, control and consequence of emotions. Different kinds of conceptual metaphors with a particular source domain form the conceptual web and constitute the systematicity. In addition, this study sees contextual factors as important considerations in metaphor choice. Therefore, the Three-dimensional Model serves as a complement for the theoretical basis of the present study, and the corpus-based approach suggested by Deignan (2005) is important in merging the frameworks of Lakoff and Johnson

(1980), and Steen (2008). Through this approach, this study hopes to investigate the relationship between the linguistic, conceptual and communicative aspects of conceptual metaphors in the news reports during the 2008 global financial crisis.

2.4 Interrelations of metaphors

Section 2.2 reviews the main ideas of Conceptual Metaphor Theory (Lakoff & Johnson, 1980). The claim of unidirectional mapping from source to target has over-simplified the interplay of metaphors. Goatly (1997) has discussed different types of metaphorical relationships. He explains that metaphors could have different interrelations because of 'the semantic/ real world relations of their separate Topics and Vehicles, coupled with the co-textual relations between their corresponding V-terms and T-terms' (Goatly, 1997, p.255). The following section will discuss the various kinds of interrelations including Multivalency, Diversification, Mixing and Extension. To keep the consistency with the use of terminology in this study, the term *Source* is used to represent *Vehicle* and the term *Target* is used to represent *Topic*.

2.4.1 Multivalency

Multivalency refers to the multiple use of the same expression for various target domains (Goatly, 1997, p.258). It helps to fill the lexical gap in the discourse, create a sense of equivalence between the target domains and produce thematic equivalences. For instance, the source domain FIRE can be used to refer to water in 'the farthest reaches of the river burst into *flame*', to new people in 'the people were like the *fire*' and to honey in 'the scent of the honey rose out of it like the smoke and flame from a *fire*'. However, sometimes multivalency could cause confusion because it is not easy to identify the real target. For instance, the expression *through road* can metaphorically refer to the transfer of students from a particular primary school to the corresponding secondary school in their district, as in 'This will give

us "a *through-road* for nine-year, basic education." (Goatly, 2002, p.283). However, *through road* can also be used to conceptualize the abstract learning process, for example, 'there should not be any obstacles in the system that block learning, so that they will progress in a *through-road*'.

2.4.2 Diversification

In contrast to Multivalency, Diversification refers to various sources linking to the same target. There are two types of diversification. The first type is when the Grounds are diverse and have lexical gap-filling function. For instance, in William Golding's *The Inheritors*, the source terms *cat*, *water* and *wolf* all refer to the target 'the new people'. The use of different source terms highlights various aspects of the target including same smell and same teeth (i.e. *cat*), horrifying, daring and inviting (i.e. *water*), as well as dangerous (i.e. *wolf*). If the two expressions have a syntactic relationship but represent two different source domains referring to the same target, the relationship Mixing will occur (more discussion in Section 2.4.3). Another type is when the Grounds are identical. For example, in one of the texts of the book *Paradise Lost*, Satan's legion of angels are conceptualized as *dwarfs*, *pygmies* and *faerie elves* (Goatly, 1997, p.261). All these three expressions highlight the smallness and numerousness of the angels in the story.

In his book *Washing the brain* – *Metaphor and Hidden Ideology*, Goatly (2007) also discussed the multivalency of emotion metaphors. For instance, emotion can be conceptualized by using expressions of movement (e.g. *pull* in 'sad memories of his childhood pulled at his heart'), liquid (e.g. *inject* in 'the star injected some interest into the show') and weather (e.g. *climate* in 'the climate of violence and fear in Soweto'). Deployment of various sources performs the function of highlighting different aspects of the same target domain: the MOVEMENT metaphor *pull* highlights the arousal of feelings; the LIQUID metaphor *inject* highlights the action of making something more interesting or exciting, and the WEATHER metaphor *climate* focuses on the emotional atmosphere or mood.

2.4.3 Mixing

A mixed metaphor is formed by one or more inactive metaphors and active metaphors (Goatly, 1997). The source domains of the metaphor, with no relationships or contradictive relationships, are usually neglected by the writer but they have been evoked by the readers. As Goatly (1997) points out, there are two factors to decide the use of mixed metaphors in the text: 'the strength of syntactic bonding and syntactic proximity between the two V-terms [source terms]' and 'the degree of activity of the metaphor' (p.270, emphasis added). For instance, in the sentence 'a vast disorder of flying shapes and darkness and *ragged fumes* of light' (ibid., p.270), *ragged fumes* is a mixed metaphor because of the two extreme sources: *ragged* refers to a piece of old cloth which is a flexible solid substance but fumes belong to gaseous substances as shown. As with Goatly (1997), Kimmel (2010) also discusses about mixed metaphors and indicates the criteria of textual adjacency. However, she also suggests that metaphors in a mixed metaphor cannot 'share any imagistic ontology or any direct inferential entailments between them' (Kimmel, 2010, p.98).

As noted by Goatly (1997), the congruity of mixed metaphors can be enhanced by using three tactics. The first tactic is to increase the distance between the two source terms by adding some intervening words. For instance, authors can add an of-genitive postmodifier to the subject noun head, as in 'the *trickle* of smoke *sketched* a chalky line up the solid blue of the sky' (p.271). Second, authors can also put one of the source terms in a syntactic structure such as a relative clause so that the two source terms are at different rank, as in 'great bulging *towers* that *sprouted* away over the island' (p.271). The third tactic is to place the less active source term first, as in 'the rock that had saved him was *lathered* and *fringed* with leaping *strings* of foam'(p.271). The source term *lathered* meaning the foamy white mass of bubbles is less active than the second source term *fringed*. Interestingly, this example also illustrates the use of three tactics mentioned above.

2.4.4 Extension

Extension refers to the occurrence of a lexical set of source or topic terms belonging to the same semantic field. The lexical set of source terms contributes to a particular image or schema. For instance, the source terms *belched*, *scurf* and *womb* in a poem belong to the semantic field of the body. Extension may involve syntactic articulation when there is a syntactic relationship between the two source terms, as in 'Your matrons, and your maids, could not *fill up The cistern* of my lust' (Goatly, 1997, p.264).

There are two types of extension: Allegory and Quasi-allegory (Goatly, 1997). As for Allegory, both target and source terms are specified. For instance, in William Golding's novel *The Spire*, there is a descriptive paragraph '... The nave was his legs placed together, the transepts on either side were his arms outspread' (ibid., p.265), the target is the church, manifested by words *the nave* and *the transepts*. The source is a man which is manifested by the expressions *his legs placed together* and *his arms outspread*. In Quasiallegory, the literal Topic level is not specified or not easy to identify.

2.5 Metaphor functions in news discourse

In recent years, applied linguists have started to investigate the socio-cultural factors behind metaphor use and emphasize the relationship between discourse and language such as economic discourse (see, for example, Eubanks, 2000; Charteris-Black, 2004; Koller, 2005, 2008; Skorczynska, 2010). In news discourse, metaphors are useful for making the dissemination of news more interesting. It is also one of the interactional strategies used by journalists for convincing the readers about their

point of view (Littlemore & Low, 2006). According to Henderson (1994), metaphors play three main important roles in economic discourse (p.110):

- 1. Textual decoration or perhaps as a teaching device, to illustrate or exemplify;
- 2. A central organizing principle of all language;
- 3. A device for exploring specific economic problems and as a basis for extending the domain of economic ideas

As indicated by Henderson's categories, metaphors help decorate economic texts, and enhance readers' understanding of complicated economic concepts. However, with the second of Henderson's categories, it is far from clear what 'a central organizing principle' means. It appears that the ideas in these three roles can be effectively elaborated with the list of functions suggested by Goatly (2011a). Goatly (2011a) notes that in news reports, metaphors possess six main functions: filling lexical gaps, explanation and modeling, reconceptualization, argument by analogy, decoration and hyperbole, and enhancing informativeness, as well as expressing emotional attitudes. As the institutions of news reporting are socially, economically and politically situated, news is often reported from a specific angle, and metaphors perform various functions in news text. The functions of metaphors (apart from expression of emotional attitudes, which will be discussed in Section 2.8.3.2.2) will be briefly described in the following sections.

2.5.1 Filling lexical gaps

Metaphors help convey ideas which are not easy to express in literal language (Gibbs, 1994; Skorczynska and Deignan, 2006; Goatly, 2011a). According to Goatly (2011a), metaphors serve the function of filling lexical gaps due to the unavailability or processability problems of words. Unavailability of words means that no words could convey the meaning in the discourse except the metaphor. For instance, Goatly (2007, 2011a) insightfully observes that it is almost impossible to

avoid using MOVEMENT metaphors to describe the concept of time, as in 'time passes', 'time goes by slowly' and 'the time dragged'. In this case, metaphor serves as a useful method of word formation. Sometimes, it is hard to process figures, so metaphor is needed to plug the lexical gap. For instance, we use the term *light-year* to describe long astronomical distances instead of stating the exact distance (Goatly, 2011a, p.155). In addition, metaphors may help convey the speaker's idea more precisely (Goatly, 2011a). In the sentence 'my cry for help was the cry of the rat when a terrier shakes it', the action of 'cry' is made more specific by being associated with the metaphorical expressions 'of the rat' and 'a terrier shakes it'.

Skorczynska and Deignan (2006) comment that 'Metaphors in this group [filling lexical gap] seemed to have developed originally because the language lacked a way of talking about a particular entity, quality, or action.' (p.97). Therefore, rather than revealing the intention of the writer or speaker, a metaphor which helps fill a lexical gap can show its importance to the language. Skorczynska and Deignan compared metaphors in scientific and popular business texts. They consider that all metaphors which do not have an alternative in the specialist dictionary have the function of filling a lexical gap. Examples are 'cash *flow*', '*infant* mercury' and '*free-rider* problems'. With the use of corpus data, the present study will show how some metaphors can perform the function of lexical gap filling in the financial news discourse.

2.5.2 Explanation and modeling

Metaphor helps to concretize the abstract concepts in daily life so it possesses the function of explanation and modeling. This function is particularly important and pervasive in scientific and economic disciplines. For instance, in explaining the concept of transmission of electricity to students, teachers always compare it with the flow of water through pipes (Goatly, 1997). In a study of economic textbooks, Skorczynska and Deignan (2006) found that the game metaphor is often deployed in modeling economic theories, as in 'First, we describe a four-stage *game*. At the

first stage firms choose H high or L low quality' (p.100) and 'We conduct our analysis within the context of a non-co-operative *game-theoretical* model with incomplete information' (p.100). Font *et al.* (2010) conducted interesting research on mathematics lessons. They found that mathematics teachers deploy ontological metaphors to explain the graphical representation of functions as in 'this function always *exists*' (p.139) and 'Is this value *included* in the domain' (p.141). The mathematical objects are also organized by using orientational metaphors as in 'the minus 1 would be here *below*'. By using metaphors in explaining and modeling theories, authors can persuade the reader to accept what they say.

2.5.3 Reconceptualization

As with modeling, reconceptualization also enables us to describe the world by using metaphors, especially the 'unconventional terms' or 'unfamiliar categories', so that we can perceive the experience from a different perspective (Goatly, 1997, p.152). Reconceptualizing metaphors in different genres produces various effects. Poetic metaphors usually make use of unfamiliar categories to reconceptualize our thinking towards a particular idea. In the line 'arrogance and hatred are the wares peddled in the thoroughfares' (ibid., p.152), for instance, arrogance and hatred are conceptualized as a commodity that can be bought and sold.

2.5.4 Argument by analogy

As with modeling, argument by using an analogy which justifies 'an action or recommendation' can also enhance the author's power of persuasion (Goatly, 1997, p.152). Goatly has noted a main difference between modeling and reconceptualizing metaphors and argument by analogy: 'whereas with modeling and reconceptualizing metaphors we are concerned with describing the world, "arguments" by analogy seem to be embedded in the sphere of human action on the world" (ibid., p.152). The persuasion is often achieved through exploitation of affective response. For instance, in the excerpt 'he told the Conference last week

that football hooliganism was exacerbated by press coverage. This was rather like blaming the Meteorological Office for bad weather', the stupidity of blaming the Meteorological Office as source is transferred to the target 'saying press coverage exacerbates football hooliganism' (ibid., p.153).

2.5.5 Decoration and hyperbole

Lakoff and Johnson (1980) emphasize the cognitive function of metaphors in Conceptual Metaphor Theory. However, the decorative and hyperbolic functions of metaphors should not be neglected. To some extent, metaphors enhance the degree of interest and help express emotion in a news article. The use of metaphor serves as an interactional strategy to entertain and convince the readers (Altheide, 2002; Charteris-Black, 2004; Littlemore & Low, 2006; Skorczynska & Deignan, 2006; Steen, 2008). Gibbs (1994) also suggests in his Vividness Hypothesis that speaker can convey a more vivid and richer image through metaphors to capture a subjective experience. For example, if the example 'my love is like a blossoming bouquet of roses' (see Section 2.5.6) is replaced by the literal expression 'my love is strong', clearly the compact configurations of information including the sweetness, delicacy and beauty of the feeling will be lost. Therefore, it is obvious that metaphors help express rich configurations of information compared to a literal expression.

In addition, metaphors help grab attention and express emotion in a news article when they are hyperbolic. Indeed, metaphors are regarded as hyperbolic in nature. According to Goatly (2011a), 'To some extent all metaphors are hyperbolic because they give extra weighting to those features of similarity, in Tversky's terms, which are negligible in conventional linguistic classification' (p.174). However it is certain that some metaphors involve a higher intensity of exaggeration than others. Hyperbolic metaphors deliberately exaggerate the scale of size, quantity or violence (Goatly, 2011a). Smith (1657) distinguished hyperbole into auxesis and meiosis. Auxesis refers to the exaggerated intensification of an

entity whereas meiosis refers to the exaggerated reduction of it. It seems to be more obvious to find metaphor functioning as auxesis than meiosis in metaphor studies. For example, in the sentence 'did she [Fergie] keep ice-cool...' (Goatly, 2011, p.323), the metaphor 'ice-cool' amplifies the indifferent personality of Fergie. This shows that hyperbolic metaphors serve as a way of forming opinion. They are also useful for revealing power relation and group identity. Cameron (2003) studied classroom discourse and compared of the different metaphors used in teacher-class talk and peer talk. One interesting observation is that primary school kids tend to use exaggerations in their peer talk, as in 'I've done millions of sums', 'loads and loads of us', and 'squashed meat with pepper all over it and mustard'. The author concludes that hyperbolic metaphors reflect the 'relatively powerless participatory role' of students in the classroom discourse (Cameron, 2003, p.142). All these examples show that metaphors perform the hyperbolic functions by way of auxesis.

2.5.6 Enhancing informativeness

Metaphors help compress more information content in discourse. Goatly (2011) explains informativeness by applying the theory of information: 'According to the theory, the more predictable an item the less information it conveys. So that in the word queen the letter u carries no information, and nor does the word to in the sentence "I want to go home" (p.175). Active metaphors are referentially and colligationally unpredictable if they are investigated regardless of co-text. For example, the word 'icicle' in 'he held five icicles in each hand' is high in information content. It seems that Goatly's suggestion of enhancing informativeness is in line with the Compactness hypothesis suggested by Gibbs (1994). Gibbs indicates that many ideas can be compressed in a metaphorical expression. For instance in the clause 'my love is like a blossoming bouquet of roses'(Gibbs, 1994, p.125), 'love' is made more specific by adding the metaphorical expression 'blossoming bouquet of roses'. The metaphor conceptualizes love as something that is sweet, delicate and beautiful, but may be short-lived.

2.5.7 Summary

The discussion above reveals that metaphors possess a wide variety of communicative functions in news discourse. Metaphors in news reports are an interactional strategy to convince the reader. Thus, it is rational to infer that in the media framing of the global financial crisis, metaphors performed different functions in arousing and deepening the negative emotions of readers, and so the communicative purposes of metaphors may fit with the enhancement of news values in the media coverage. The present analysis will discuss how metaphors perform the functions of filling lexical gaps, explanation and modeling, reconceptualization, argument by analogy, decoration and hyperbole, and enhancing informativeness, as well as expressing emotional attitudes. and convey emotional attitudes in the corpus.

2.6 Research on metaphor in economic studies

Some studies reveal that in financial news reporting, journalists should be socially responsible because their use of words may affect the emotional states of investors, and so influence the reactions of investors and affect business performance. As Doyle (2006) points out,

Of course, from an investment point of view, market sentiment is an important consideration since, irrespective of whether it is correctly informed, it remains a key determinant of valuations for investment instruments. So, reportage which accurately discerns, interprets and reports on moods and movements within financial markets will find prominence because it is of value and interest to those looking to media for guidance about investment (p.446).

Since metaphors possess vividness, informative and hyperbolic functions (Goatly, 2011a), it is assumed that the use of metaphor may strengthen the force of negative emotions conveyed in news reports of the global financial crisis.

The cognitive function of metaphor in economic texts has increasingly aroused the interest of both economists and applied linguists. Yet the research focuses of these two groups differ markedly. Economists are more interested in how prevalent metaphors contribute to the construction of economic theories or how metaphors engage in a socio-economic regime (e.g. McCloskey, 1985, 1994; Walters & Young, 2008). For example, Walters and Young (2008) examined the FASB's 1993 issuance of an exposure draft on stock compensation. They analyzed business periodicals such as Business Week and Forbes, and found that the use of dominant metaphors varied with the development of the debate. In the early stages of the debate, the stock options are metaphorically rendered as something good and positive. However as the debate goes on, crime metaphors realized in expressions like 'corporate theft' and 'stealing from stockholders' characterize the stock options as illicit, dishonest and untrustworthy behaviour. On the basis of these findings, the authors came to the conclusion that metaphors are effective in accounting policy debates.

Applied linguists, on the other hand, stress the correlation between metaphors and features of economic texts (e.g. Chung, Arhens, & Sung, 2003; Oberlechner, Slunecko, & Kronberger, 2004; Koller, 2005, Skorczynska & Deignan, 2006; Skorczynska, 2010a, 2010b). They focus on different types of conceptualizations in economics texts and explain their communicative functions from a range of perspectives such as cultural and cross-lingual. According to Henderson (1994, 2000), there are two metaphor traditions in the domain of economics, i.e., mechanistic and organic traditions. In the mechanistic tradition, the aggregation of the economy is structured as a machine or an engine and economic performance is compared to the operation of the machine or engine. In the organic tradition, features of living things are employed to conceptualize the economy. By reviewing the previous metaphor research, we can see that more traditions of metaphors are recurrent in economic discourse, in addition to MACHINE and LIVING THING metaphors as suggested by Henderson. The trend in business metaphor research is summarized below:

Typical recurrent business	Example of business metaphor studies
metaphor	
WAR	Eubanks (1999), Koller (2005), Skorczynska & Deignan (2006), Skorczynska (2010a)
LIVING THING	Smith (1995), Boers (1997), Chung, Arhens, & Sung (2003), White (2003), Bratoz (2004); Oberlechner, Slunecko & Kronberger (2004)
GAME	Eubanks (1999), Koller (2005)
DISASTER	White (2004), Charteris-Black and Ennis (2001), Charteris-Black (2004)
SPORTS	Koller (2005), Skorczynska (2010a)
MACHINE	Henderson (1994), Gramm (1996), Charteris- Black and Ennis (2001)

Table 2.1 Typical recurrent metaphors in business discourse

As revealed in Table 2.1, LIVING THING, DISASTER and MACHINE metaphors are mainly studied. This also reflects the fact that they are recurrent in economic discourse. Hence, we can see that not only features of organisms are metaphorically used in the financial discourse, but also human activities such as games, war and sports.

WAR metaphors usually help convey the aggressiveness of business competition or the rescue of the economy (Eubanks, 1999; Koller, 2005; Skorczynska & Deignan, 2006; Skorczynska, 2010a). The aspects of casualties, weapons and battle in the source domain of WAR are often highlighted. A case in point is the study by Koller (2005) examining metaphor use in business magazines

and newspapers. Koller embedded her metaphor study in the framework of combined Conceptual Metaphor Theory and Critical Discourse Analysis. She built several corpora by collecting business magazines and newspapers such as the *Economist, Fortune* and the *Financial Times*. The author affirms that metaphors of WAR such as 'armed with a new \$80 million budget' and 'turf war' are frequently used to describe evolutionary struggle in financial markets. The metaphors help masculinize the discourse and the business practices. Skorczynska and Deignan (2006) compare metaphor use in several business research articles such as the Journal of Economics & Management Strategy and business periodicals including Fortune. The authors observe that metaphors are more recurrent in business periodicals than in research articles. Among various types of metaphors, WAR is the most recurrent, and is manifested by words such as 'battlefield', 'beleaguered', 'kill', 'retreat' and 'siege'. It is concluded that the nature of the readership has an influence on the choice of metaphors.

Another salient metaphor in business discourse is the LIVING THING metaphor (See, for example, Smith, 1995; Boer, 1997; Charteris-Black, 2000; Chung, Arhens, & Sung, 2003; White, 2003; Bratoz, 2004; Oberlechner, Slunecko & Kronberger, 2004). Financial markets involve a vast number of human activities, so it is understandable that the market is often conceptualized as a living entity, and the analogy SOCIAL ORGANISATION IS BODY (Metalude) is pervasive. The health conditions and growth stages of organisms are employed to conceptualize the financial market. For instance, Boers (1997) and Charteris-Black (2000) studied metaphors in economic texts. Both studies show that the economy or business institutions are conceptualized as a sick person when economic activity is slow, as in 'ailing industrial companies', 'bank continued to hemorrhage and 'chronic deficit'. Metaphorical expressions related to health are employed to illustrate the reviving economy. Examples are 'vibrant enterprises' and 'arthritic labour markets'. This is related to the analogy STATE OF ORGANISATION IS HEALTH (Metalude). The concept of growth is also used to conceptualize economic performance in phrases such as 'infant industry'. White (2003) studied the

collocations of the word 'growth' in the Financial Times. He observes that the word 'growth' often co-occurs with metaphors such as 'revive', 'push up', 'wither' and 'falter'. The results imply that an economy has a cyclic relationship.

In addition to metaphors of WAR and LIVING THING, the DISASTER metaphors is also one of the mainstream metaphors. Charteris-Black and Ennis (2001) compared English and Spanish financial news reports about the October 1997 stock market crash. Both English and Spanish financial news reports showed the use of DISASTER metaphors such as 'crash', 'collapse' and 'turmoil'. One of the interesting differences is that English financial news reports show the use of nuclear metaphors as in 'meltdown' and 'fallout', but they are absent in Spanish data. On the other hand, Spanish data also shows the use of the DISASTER metaphor derrumbe (meaning 'landslide'), but it is absent in English data. The study significantly reveals that cultural differences play an important role in metaphor choice. White (2004) examines metaphor use during the currency crisis in 1992. He studied the words 'turbulence' and 'turmoil' in two British newspapers, The Times and The Financial Times. White observes that DISASTER metaphors tend to co-occur with the two words 'turbulence' and 'turmoil', such as 'stormy' and 'sweeping northwards'. The connection between DISASTER metaphors and the words 'turbulence' and 'turmoil' further conveys a sense of crisis in the financial news discourse. This investigation provides insights into the identification of source domains with the help of the surrounding co-textual elements.

In sum, this section has discussed the trend of business metaphors and the findings relating to metaphor of business research. The present research favours a more linguistic analysis of financial news texts. It will examine how negative emotions are structured in financial news reports by a wide variety of metaphors.

2.7 News values of global financial crisis

Mass media plays an important role in disseminating financial information to the public. There has been a surge of press coverage with the rise of stock markets since the 1920s (Shiller, 2000). Randall (2000), a journalist, points out that 'a newspaper's role is to find fresh information on matters of public interest and to relay it as quickly and accurately as possible to readers in an honest and balanced way' (p.22). News values are the fundamental factors by which the news community determine the prominences of a news story. What events are reported does not depend solely on the facts. Rather, the importance of an event lies in 'the operation of a complex and artificial set of criteria for selection' (Fowler, 1991, p.2). One widely cited set of news values was given by Galtung and Ruge (1973) in their pioneering study (p.65):

- 1. Frequency
- 2. Threshold
- 3. Unambiguity
- 4. Meaningfulness
- 5. Consonance
- 6. Unexpectedness
- 7. Continuity
- 8. Composition
- 9. Reference to elite nations
- 10. Reference to persons
- 11. Reference to something negative
- 12. Reference to elite people

The most important news values are 'frequency', 'threshold', 'unambiguity', 'consonance', 'unexpectedness', and 'continuity'. 'Frequency' means that the event
is more likely to be reported if the event is durative. 'Threshold' includes 'absolute intensity' and 'intensity increase' which indicates the 'size' or 'volume' needed for an event to become newsworthy. 'Unambiguity' is that the whole cause and consequence of an event has to be very clear. 'Meaningfulness' relates to 'cultural proximity' and 'relevance'. 'Consonance' includes 'predictability' and 'demand', which is linked to whether people expect or want the event to happen. An event may be more newsworthy if it ranks high in terms of 'unexpectedness'. This is determined by 'unpredictability' and 'scarcity'. 'Continuity' simply means if an event hits the headlines, then similar kinds of events will continue to be defined as 'news'. Sometimes newsmakers will also consider the 'composition' of the newspaper published on that day. All the above news values are the main considerations in selecting news for reporting.

Judged from the list of criteria shown above, the incident of the global financial crash in 2008 was of very high news value, meeting eight of these criteria: frequency of coverage, threshold, unambiguity, unexpectedness, consonance, continuity, reference to something negative, reference to elite nations and reference to people. For example, the worst part of the financial crisis lasted at least seven months from September 2008 to March 2009 ('frequency' and 'continuity'). The serious impact of the crisis involved countries worldwide, so it had a great size and intensity ('threshold') and carried a negative evaluation ('reference to something negative'). It is widely known that the global financial crisis was triggered by the housing bubbles in the United States, so the incident fulfilled the values of 'unambiguity' and 'reference to elite nations'. In addition, the financial crisis also fulfilled the news values of 'consonance', 'reference to people' and 'unexpectedness'. This is because the crisis influenced a great number of countries, and it was difficult to predict when the global financial situation would revive. Journalists are taught to achieve two main types of goal in news writing and reporting: 'goals that relate to the content of the news story and goals that relate to the shape of the text or story design' (Cotter, 2010, p.136). It is assumed in this research that metaphors can help shape news texts. The above discussion shows that the global financial crisis was of high newsworthiness. It is likely that in shaping the news story, journalists would utilize metaphor as a tool to enhance the news values in their reports.

Based on the set of news values discussed above and metaphor functions discussed in Sections 2.5 and 2.6, this study proposes that in news discourse, using metaphors could be one way to enhance the informative value of a news article. Metaphors with the communicative functions of informativeness, decoration and hyperbole enhance the threshold and unexpectedness of an incident, and make it appear to be more negative or positive. By reporting an incident which involves elite nations and people with the use of metaphors, journalists can enhance the emotions and attention of readers. On one hand, a high news value is regarded as a criterion for journalists to report an incident. But on the other hand, it could also be regarded as a criterion for the readers to decide whether the news is worth reading or the newspaper is worth buying. Hence, it seems that after choosing a piece of news with high news value and catch the attention of readers to maximize the newspaper's profits. In this situation, metaphors can be an effective tool in news writing to catch the attention of readers and influence their emotions.

2.8 Emotion

The present study investigates the metaphors associated with negative emotions in the media framing of the 2008 global financial crisis. Among the negative emotions, fear, anxiety and anger were chosen for the analysis of metaphors. This section will start with a discussion of the characteristics of emotion from a psychological perspective. This will be useful for comprehending the conceptualizations for emotion concepts in the later chapters.

2.8.1 Definitions of emotion

Emotion is considered one of the most central and pervasive aspects of human experience (Ortony, Clore & Collins, 1988). However, it is also a concept which is hard to define. As Joseph LeDoux (1996) points out, 'Unfortunately, one of the most significant things ever said about emotion may be that everyone knows what it is until they are asked to define it' (p.23). Earlier, in the nineteenth century, Charles Darwin (1872/1998) related the expression of emotions to his theory of evolution. He indicated that emotion stems from evolution because expressions of emotion are innate. Expressions of emotion serve a purpose because they confer particular survival or reproductive advantages. For example, in order to protect themselves from the threat of an invader, animals would change their appearance by making themselves look bigger and stronger so as to scare off the intruder. Modern neuroscientists such as Antonio Damasio (1999) also stress the biological functions of emotion. As Damasio (1999) points out, 'all emotions have some kind of regulatory role to play, leading in one way or another to the creation of circumstances advantageous to the organism exhibiting the phenomenon' (p.51). The biological function of emotion is to enable an organism to produce certain reactions to the inducing situation, and regulate the internal state of an organism in order to prepare for such action.

Ortony, Clore and Collins (1988) define emotions as 'valenced reactions to events, agents, or objects, with their particular nature being determined by the way in which the eliciting situation is construed' (p.191). However, it seems that such a definition is too simple to explain the mechanism of emotion. One of the typical definitions of emotion is given by Robert Plutchik in 1982. According to Plutchik (1982), emotion is 'an inferred complex sequence of reactions to a stimulus' such as 'cognitive evaluations, subjective changes, autonomic and neural arousal, impulses to action, and behaviour designed to have an effect upon the stimulus that initiated the complex sequence' (p.551). The definition suggested by Plutchik has highlighted four important points (Kalat & Shiota, 2007):

- 1. Emotion is inferred rather than observed. This is because we can feel our own emotions, but have to infer the emotions of other people;
- 2. Emotion is a reaction to a stimulus;
- 3. Emotion includes cognition, feeling, and action. One of the examples of cognition is appraisal, which refers to how a person interprets a situation or event. Feeling is the sensation and action is meant by the impulse which leads you behave in a particular way;
- 4. Emotion leads us to produce a response to a situation, for example, we escape when we feel fear.

One of the problems with this definition is that sometimes cognitions, feelings and actions may not occur together if the emotions are not prototypical but partial instead. Kalat and Shiota argue that 'sometimes when you are hot and uncomfortable you might start to feel angry, without any cognition of why you are angry' (p.4). The concept of partial emotion is reasonable because some emotions such as joy and sadness may not result in action. However, the argument of Kalat and Shiota seems to be self-contradictory. This is because the feeling of hot and uncomfortable might be the reason causing the arousal of anger.

Keltner and Shiota (2003) modify Plutchik's definition (1982) and suggest a more comprehensive explanation of emotion: 'a universal, functional reaction to an external stimulus event, temporarily integrating physiological, cognitive, phenomenological, and behavioural channels to facilitate a fitness-enhancing, environment-shaping response to the current situation' (p.89). The word 'fitnessenhancing' refers to the evolution of humans because organisms that could experience emotions would have better chances with regard to survival and reproduction. This definition of emotion is adopted in the present study. I will demonstrate that there is a link between the psychological definition and linguistic analysis of emotion.

2.8.2 Nature of negative emotions

Anger, fear and anxiety are commonly regarded as negative emotions (Frederickson, 2003; Lindquist, et al. 2006). This is because they are unpleasant to experience, and also elicit distinct autonomic nervous responses including escape and attack. The following sections will describe the emotions of fear, anxiety and anger.

2.8.2.1 Fear

Fear is often regarded as a prototype emotion because when compared to other emotion concepts, feelings of fear involve 'clear cognitions, intense feelings and clear-cut actions (escape or attack)' (Kalat & Shiota, 2007, p.100). There is a consensus that fear is a negative and unpleasant emotion, but actually it is beneficial to human life. According to Preparedness Theory (Seligman, 1971), humans are biologically 'prepared' to acquire a fear of certain objects or situations that used to threaten the survival of our species. According to this view, fear is a negative anticipated emotion arising from human instinct because humans realize that a threat may harm their survival. This evolutionary view is consistent with James (1884)'s instantiation of fear: when a person meets a bear, he runs because he is frightened (p.14). It is supported by the view of Kalat and Shiota (1999) as they indicate that fear is a 'reaction to danger', meaning it is 'feelings of danger or dread and a sense of being threatened' (ibid, p.100-101). Such physical danger is immediate, concrete and overwhelming (Lazarus, 1991). By feeling fear, humans could recognize the danger of a situation and escape from a threat. Fear is also considered a future-oriented emotion because it involves worries about adverse future events (Ortony, Clore, & Collins, 1988; Lazarus, 1991). Such worries would motivate humans to escape from unpleasant situations or trigger avoidance behaviour. However, as Lewis and Haviland-Jones (2000) point out, the behaviour associated with fear may not necessarily involve flight. This is ascribed to the fact that fear can engage the motor system, causing a freezing behaviour. Some scholars suggest that fear is an inborn response to threats in nature (James, 1884; Ö hman, Eriksson, & Olofsson, 1975). However, it is found that most human fears are learned through experience and appraisal of the overall situation. All in all, there is a consensus that fear is an unexpected, unpleasant, externally caused and uncontrollable emotion (Scherer, 1997).

2.8.2.2 Anxiety

In emotion literature, anxiety is regarded as a more complicated and secondary emotion because it contains a great variety of emotions including distress, anger, sadness, guilt and fear (Ghinassi, 2010). In fact, both concepts are connected with the experiencing of dangerous and threatening situations, but what is different is the kind of experience that triggers each emotion and the persistence of the feeling (ibid.). Kalat and Shiota (2007) define fear as an emotion that arises from 'a perceived danger, either to oneself or to a loved one, and it subsides quickly when the threat is gone'. The arousal of the feeling is often caused by a specific object or event, such as an airplane flight or a snake. By contrast, anxiety is a response to a general expectation that something undesirable is going to happen when there is actually no identification of a particular danger (Lazarus, 1991). Lazarus (2001) defines anxiety as 'an existential emotion par excellence, which has to do with one's being in the world and personal fate (e.g., life and death)' (p.57). The threat a person is facing is uncertain and existential (Lazarus, 1991). Hence, compared with fear, anxiety persists longer. For example, when a rabbit sees or smells a predator, it will feel anxious. Even though the predator is gone or not smelled, the anxiety of the rabbit recedes very slowly as it might still be present.

2.8.2.3 Anger

Another prototype emotion that is popular in emotion studies is anger. As defined, anger refers to 'the emotional state associated with a desire to hurt someone or drive that individual away' (Kalat & Shiota, 1997, p.124). Given the desire to do something harmful, anger may give rise to aggressive and detrimental behaviour. The reason for carrying out the attack is the non-acceptance of the event as necessary and inevitable, and expectation of changing the situation (Frijda, 1986, as cited in Berkowit & Harmon-Jones, 2004). People usually feel angry when a situation is unpleasant, unfair and deliberately initiated by a person (Scherer & Wallbott, 1994). As Kalat and Shiota (1997) point out, 'any emotion serves a function' (p.125). Like fear, anger brings benefit to humans because a mild anger could enable people to understand more about a person's limits and demands, and so enhance interpersonal relationships (Kassinove, Sudholdolsky, Tsytsarev, & Solovyova, 1997; Tafrate Kassinove, & Dundin, 2002).

The emotions of anger and fear are often compared and contrasted. An unpleasant event would trigger the autonomic nervous system's fight-or-flight response in which fear will lead to flight and anger will lead to fight. Sometimes people may feel both emotions at the same time but the dominance of one emotion depends on the presence of an immediate physical danger (Berkowitz, 1990). Some researchers (Keltner, Gruenfeld, & Anderson, 2003) claim that if the unfavourable event is related to an insult by someone, whether the recipient of the insult feels anger would depend on his or her relative status: if the recipient is more powerful, then he or she will feel angry and carry out a counterattack. However, such a claim is far from rational because even if a person had a lower status than the one responsible for the insult, he or she would still feel angry because of the unfairness. Also, the arousal of anger and the arousal of fear are different. Fear is a more universal reaction, so it is easier to elicit fear by just a sudden, loud noise. In comparison, anger is a more idiosyncratic emotion because people feel anger with reference to various kinds of events. Sometimes, the arousal of anger cannot be attributed to any event. Instead, the emotion can arise directly from a bodily feeling (Berkowitz & Harmon-Jones, 2004). For example, people may be angry because of bodily discomfort such as feeling hot, crowded or getting a headache (Kalat & Shiota, 2007). Hence, there could be two forms of anger: 'one type of anger might be a response to a particular kind of event, and another might be more diffuse and apt to be directed toward whomever happens to be around' (Kalat & Shiota, 2007, p.130). The latter is more related to 'irritability' or 'crankiness' (ibid.). My study of metaphor mapping onto anger will show that the conceptualized anger belongs to the former type that Kalat and Shiota suggest. Studying the conceptual metaphors associated with different emotions and comparing their functions would enhance human understanding of each emotion concept, and contribute to the psychological studies of emotion.

2.8.3 Linguistic approach to investigating emotion

As discussed in Section 2.8.1, psychologists believe that emotion is triggered by some stimulus and will lead to various behavioural responses. In the past, cognitive linguists have investigated the figurative expressions which are employed to describe different emotion concepts (See, for example, Kövecses, 1986; Lakoff and Kövecses, 1987; Matsuki, 1995; Yu, 1995, Stenfaowitsch, 2006; Goatly, 2007, 2011a; Lascaratou, 2007; Maalej, 2007; Hsiao & Su, 2010; Oster, 2010; Maalej & Yu, 2011). In the following sections, I will discuss the linguistic approach to investigating emotion. Section 2.8.3.1 introduces the cognitive model of emotion suggested by Kövecses (1990, 2000). Finally this section ends with a literature review of emotion metaphor studies (See Section 2.8.3.2) which discusses the empirical and top-down approaches, and compares the views of Stefanowitsch (2006) and Goatly (2011b) on descriptions and expressions of emotion.

2.8.3.1 Cognitive model of emotion

Kövecses (1990, 2000) argues that metaphors can be employed to describe different stages of emotional states. He suggests a cognitive model of emotion by borrowing Lakoff's idea of an 'EVENT STRUCTURE metaphor' (1990, 1993). According to Lakoff, an EVENT STRUCTURE metaphor is a kind of primary metaphor such as physical space, force and motion. These concepts are used to understand various aspects of events. Figure 2.1 shows the convergence of the sub-metaphor EVENT STRUCTURE and the emotion metaphor:



Figure 2.1. Cognitive model of emotion (Kövecses, 2000, p.59)

As illustrated in Figure 2.1, emotion is conceptualized as a force and the effect of emotion (the behavioural responses) is the effect of the force (Kövecses, 2000). There are five stages of the scenario,: Cause (Cau), Emotion (Emo), Control (Con),

Loss of Control (LoCon) and Behavioral Response (BeRe), and four aspects: state, passion, action and event. First, a cause (an event or an entity) changes the nonemotional state (the aspect of 'state') of a person to an emotional one. The emotion will influence the person (the aspect of 'passion'). The person may make an attempt to control the emotional behaviour (the aspect of 'action'). Once the person loses control, he or she may produce a response to the emotion, i.e., have an emotional behaviour. By using self-elicited data, Kövecses (1990) indicates that different kinds of emotion metaphors focus on various aspects in the cognitive model, such as EMOTIONAL STATES ARE BOUNDED REGIONS (e.g. He's in a rage) for 'states', A CAUSED CHANGE OF STATE (EMOTION) IS MOTION CAUSED BY A FORCE (e.g. flying *into* a rage) for 'passion', CONTROL OVER AN EMOTIONAL ACT IS CONTROL OVER MOTION (e.g. fear ruled over her), CAUSES ARE FORCES for 'action'. As for the metaphor BEHAVIORAL RESPONSES ARE OTHER-PROPELLED MOTIONS, Kövecses (2000) does not explicitly give any examples, but he points out that action verbs like *swept away* and *blown away* can describe a loss of emotional control. Kövecses's cognitive model of emotion has explicitly outlined the stages of emotion and shows a sensible way of categorizing metaphors according to the stages. The model is adopted in this study for investigating emotion metaphors.

2.8.3.2 Research in emotion metaphor studies

Emotion is an abstract concept which is difficult to define. In the past, some scholars have believed that emotion is a subcategory of state, whereas some others think it is a subcategory of action or passion (Kövecses, 2000). As Halliday and Matthiessen (1999) point out, emotion should be understood within social, semiotic and biological systems. This section reviews the literature of emotion metaphor studies. It is further divided into two sections: Section 2.8.3.2.1 reviews studies using top-down and empirical approaches, and Section 2.8.3.2.2 compares the

notions of Stefanowitsch (2006) and Goatly (2011b) about metaphorical expressions and descriptions.

2.8.3.2.1 Use of top-down and empirical approaches

In the past twenty years, a significant number of metaphor studies have examined how different emotion concepts are understood by using knowledge of various source domains. In the early stages of development in this line of study, researchers favoured an introspective method of analyzing emotion metaphors (see, for example, Kövecses, 1986; Lakoff and Kövecses, 1987; Matsuki, 1995; Yu, 1995). The primary emotions such as happiness, fear and anger have been widely investigated in different languages including English, Chinese and Japanese. Lakoff and Kövecses (1987), in their pioneering study, investigated how the emotion of anger is understood in terms of a comprehensive system of conceptualizations. Examples are ANGER IS FIRE (e.g. His anger is *smoldering*), ANGER IS AN OPPONENT IN A STRUGGLE (e.g. I was struggling with my anger) and ANGER IS A CAPTIVE ANIMAL (e.g. He unleashed his anger). Among the conceptual metaphors, Lakoff and Kövecses suggest that the metaphor ANGER IS A HOT FLUID IN A CONTAINER (e.g. She is *boiling* with anger) is an important theme for the concept of anger. The physical container corresponds to the body of an angry person; the top of the container refers to the rational self of the angry person; the hot fluid is equivalent to the anger; the degree of the fluid's heat is related to the intensity of the anger. However because it lacks empirical evidence, this metaphor claim is challenged by Goatly (2007) as unconvincing. Based on the linguistic data in his corpus Metalude (2002), Goatly demonstrates that the metaphor ANGER IS A HOT FLUID IN A CONTAINER is not an important theme. His arguments are briefly summarized as follows (Goatly, 2007, p.245-246):

1. The [the word 'previous' was removed] examples in which anger is boiling water have nothing particular to say about containers, though, of course, water is usually encountered in vessels.

- 2. Several of the lexical items which might be thought to belong to that theme can actually be used for negative emotions in general such as stress rather than just anger: *let off steam* 'get rid of strong feelings by behaving noisily' (singing opera is a way for me to *let off steam*), *safety-valve* 'a means to release negative emotions' (doing exercise is a good safety valve for stress). [Emphasis removed, italics added]
- 3. Most of the lexis which is cited to support this platitude is better covered by the more prolific metaphor theme EMOTION IS EXPLOSION: *explosion* 'outburst of strong feeling' (the teacher's *explosion* of anger shocked the pupils), *blow up* 'lose your temper' (I *blew up* when I discovered how two-faced she'd been). [Emphasis removed, italics added]

From the above, we can see that Goatly argues that the metaphor ANGER IS A HOT FLUID IN A CONTAINER is not an appropriate metaphor theme for metaphors of anger. This is because no metaphorical expressions are related to the notion of container. Also, some of the metaphorical expressions suggested by Lakoff and Kövecses can apply to the concept of stress, and many expressions are best described by EMOTION IS EXPLOSION. Goatly's arguments are fairly plausible as the claims are based on naturally-occurring data.

Having identified the limitation of self-elicited data, recent emotion studies tend to examine metaphor use by adopting the empirical approach (Stenfaowitsch, 2006; Goatly, 2007, 2011a; Lascaratou, 2007; Maalej, 2007; Hsiao & Su, 2010; Oster, 2010). Lascaratou (2007) collected Modern Greek dialogues between painsuffering individuals and health professionals to examine conceptualizations of the experience of pain. From the data, the author observes that pain intensity is conceptually associated with SUBSTANCE, LIVING ORGANISM, A FORCE, HEAT and FIRE. For example, the word *trela* (meaning 'madness') in '*trela* pono' (meaning 'pain is *madness*') shows that the intensity of pain constitutes a kind of force. The word *kapsimo* (meaning 'burning') in 'kapsimo exo edo' (meaning 'I felt something *burning* here') conceptualizes the intensity of pain as fire. Apart from these conceptualizations, Lascaratou also investigates metaphor use from a lexical-grammatical perspective. One of her interesting observations is that the patients tend to describe the pain experience by using intransitive verbal constructions such as first-person *ponao* avowals and third-person *ponai* utterances. The intransitive verbal constructions help patients to convey the painful sensations in a more direct way, and construe pain more as a 'self-induced processual event' (Lascaratou, 2007, p.183).

Hsiao and Su (2010) investigated metaphors and hyperbolic expressions in Mandarin Chinese conversations. They collected oral and written data from some online corpora such as The Spoken Mandarin Corpus of NTU Cognitive Pragmatics Lab. The research shows that based on the mechanism of conceptual metaphors, hyperbole is realized through a number of syntactic devices including polysyndeton (e.g. ku shuai diao meaning 'cool, great and fancy'), extreme case formulation (e.g. chao bushuang de, meaning 'excessively upset'), resultative verb construction (e.g. *xia-si*, meaning 'frightened to death') and four-word idiomatic construction (e.g. huo-mao-san-zhang, meaning 'fire was ten-metre high'). The authors suggest from the findings that metaphor serves as the bedrock of hyperbole. For example, 'chao' (meaning 'excessively') makes use of the image of 'a container overflowing with emotion', and 'xin fensui' (meaning 'heart is broken') conceptually associates emotion with destructive forces. Hsiao and Su's study significantly reveals the importance of using naturally-occurring data. The spoken examples they collected are lively and colloquial, and some of them might have been overlooked if the topdown approach had been used instead. The studies of Lascaratou (2007) and Hsiao and Su (2010) are empirical and significantly reflect the use of metaphors in real contexts. However, like many other empirical metaphor studies, there seems to be no empirical basis for the metaphor themes they suggest.

A database of metaphor themes can provide a strong basis for the identification of metaphors. *Metalude*¹ (Metaphor at Lingnan University, Department of English) has been developed by Goatly and his research team since 2002. It is an online database containing over 9000 conventional and lexicalized metaphors in English, which are collected from several dictionaries such as *Collins COBUILD English Dictionary, Cambridge International Dictionary of English, The Oxford English Dictionary* and *The Encarta Dictionary*. The metaphorical expressions collected were sorted into different metaphor themes. Readers can find metaphor themes by searching for a particular word or for a target or source domain, and associated metaphorical meanings are also provided to enrich the understanding of readers. In the present study, *Metalude* was used for checking the metaphor themes so as to provide a solid basis.

2.8.3.2.2 Target-term present and target-term absent emotion metaphors

Metaphors are very useful for expressing emotions. Yet there seems to be controversy on the focus of metaphorical expressions. Stefanowitsch (2006) distinguished two types of metaphorical expressions for the study of emotion: metaphorical patterns and metaphors containing only source domain components. A metaphorical pattern consists of both target domain and source domain components. For example in the clause 'his eyes were filled with anger' (Stefanowitsch, 2006, p.69), 'anger' is the target domain component whereas 'fill with' is the source domain component. Metaphorical patterns are called 'target-term present emotion metaphors' in the present study. Another type of metaphorical expression merely contains the source domain component, and is called a target-term absent emotion metaphor in this study. For instance, in the clause 'he is known for his many rapid conquests' no lexical item indicates the feeling of love. Rather, the source domain component 'conquest' implicitly conceptualizes love as war.

¹ METALUDE at http://www.ln.edu.hk/lle/cwd03/lnproject_chi/home.html.

Goatly (2011b) distinguished three types of metaphors based on function: metaphorical lexis-description, metaphorical expression, and overlapping of these two kinds. Metaphors describing emotion are conceptual. For example, happiness is conceptualized as light in the sentence 'her face lit up'. This is consistent with 'metaphorical pattern' suggested by Stefanowitsch and so is regarded as target-term present emotion metaphor in the present study. On the other hand, metaphors expressing emotion are interpersonal. Most of them are about body wastes such as 'piddling' in '\$5 is a piddling amount' and 'pooh-pooh' in 'he pooh-poohs my attempts to play the piano' (ibid., p.23). However, Goatly comments that the description and expression of emotion often overlap. For example, in 'this is my darkest hour' (ibid., p.24), the phrase 'darkest hour'conceptualizes emotions in terms of darkness (SAD IS DARK). At the same time, it also expresses the sadness of a person. Hence, the metaphor both describes and expresses the emotion. This seems to be consistent with the second type of metaphor suggested by Stefanowitsch: a metaphorical expression in which no words indicate the target domain. Hence, this kind of metaphorical expression is regarded as an emotion metaphor with target-term absent.

From the above different categorizations of emotion metaphors, we can see that Stefanowitsch and Goatly hold different views about target-term absent emotion metaphors. The apparent disagreement between Goatly and Stefanowitsch may be because of the different metaphor foci. Goatly deals with conventional metaphors whereas Stefanowitsch examines innovative metaphors. Stefanowitsch argues that 'for metaphorical expressions that do not constitute metaphorical patterns, it is often difficult to determine which precise target-domain we are in fact dealing with' (Stefanowitsch, 2006, p.66). Therefore, the investigation of metaphors with no explicit target domain should be discouraged. Goatly agreed with the difficulty of identifying metaphors expressing emotion. Rather than discouraging investigation of these metaphors, however, he points out that metaphors indirectly describing emotion are also useful as they possess an evaluative function. For instance, emotion can be contagious ('easily communicated to many people') and pathological ('showing extreme2 uncontrolled feelings') (ibid., p.26). The metaphors transfer the evaluation from the source domain DISEASE to the target domain EMOTION, implying that EMOTION IS DISEASE. Hence, it is useful to examine all these metaphors rather than avoiding metaphors with no explicit target domain. Stefanowitsch's view is understandable as it can be hard to explain the entailments mapped from a metaphorical expression with no indication of target domain components. However, for some metaphors such as DISASTER, the target domains are so obvious as to be identifiable even there are not any hints from the co-texts. Therefore, I agree with Goatly's view that finding metaphors expressing emotion and describing emotions can help us exhaustively examine the concept of emotion. It is also important for us to investigate different functions of metaphors.

2.8.4 Summary

This section discussed the psychological and cognitive linguistic dimensions of the concept of emotion in. It first described the definitions of emotion and the nature of fear, anxiety and anger. In the analysis, the conceptualizations of metaphor will demonstrate that there is a link between the nature of emotions and the cognitive basis of metaphors. The section then outlined the cognitive model of emotion proposed by Kövecses (1990) that formed the basis of this emotion research. Finally the section reviewed the literature of emotion metaphors. It also discussed issues regarding the use of empirical data and the notion of target-term present and target-term absent emotion metaphors. In sum, target-term absent emotion metaphors are as important as target-term present emotion metaphors, but only in some source domains where people can easily build the link to emotions. Therefore this study will investigate emotion metaphors both with target-term absent and with target-term present. The concordance lines of words which are semantically annotated as emotion by Wmatrix will be examined for metaphor identification. To exhaustively extract target-term absent emotion metaphors, the lexical items of the field of business will also be investigated. This study will examine how metaphors

are utilized as a tool to conceptualize the emotions of the public as well as enhance the newsworthiness of the news reports.

2.9 Corpus linguistics

As discussed in Section 2.2, the methodological framework of conceptual metaphor theory established by Lakoff and Johnson (1980) is often argued to be lacking empirical support because of the self-elicited data employed (Steen, 1999; Cameron, 2003; Semino, Heywood, & Short, 2004; Deignan, 2005; Goatly, 2007). Therefore, in recent years there is a growing use of the corpus linguistic technique to investigate metaphors. The analytical method in corpus linguistics utilizes empirical and contextualized data which allows researchers to support their metaphor claims through quantitative analysis. This undeniably remedies the limitation of the traditional CMT approach, and enhances the persuasiveness and objectivity of metaphor claims.

The following sections will introduce the main tenets of corpus linguistics. Section 2.9.1 gives definitions of corpus linguistics and a corpus, and describes the reading of a corpus. Section 2.9.2 outlines the corpus design. Section 2.9.3 examines the differences between corpus-based and corpus-driven approaches. Finally Section 2.9.4 discusses six main kinds of corpus-based methods for investigating metaphorical uses.

2.9.1 Definition and reading of a corpus

Corpus linguistics is the study of language through investigation of naturallyoccurring linguistic patterns. According to Tognini-Bonelli (2001), corpus linguistics is 'the study of language through observation of language evidence in corpora. It differs from traditional linguistics in its insistence on the systematic study of authentic examples of language in use' (p,1). The investigation of authentic linguistic examples relies on the use of a corpus. A corpus is a 'collection of pieces of language text in electronic form, selected according to external criteria to represent, as far as possible, a language or language variety as a source of data for linguistic research' (Sinclair, 2005, p.16). In other words, a corpus is a collection of electronic naturally-occurring data and the purpose of compilation is for linguistic research. The data can be collected from written texts or verbal transcriptions. One prestigious written corpus is The Time Magazine Corpus of American English directed by the Brigham Young University. Most corpora are composed of written texts as it is not easy to build a sizeable spoken corpora because of the difficulty of recording and transcribing of conversations (Sinclair, 1991; Hunston, 2002; Kennedy, 1998; Partington, 1998; Tognini-Bonelli, 2001; Meyer, 2002). Still, there are some well-established spoken corpora such as the Longman Corpus of Spoken American English. The British National Corpus (BNC) directed by Oxford and Lancaster universities, and publishers in the Oxford University Press and The Bank of English (BoE) directed by the University of Birmingham consist of both a written corpus (BNC-w) and a spoken corpus (BNC-s). They are some of the most prestigious and well-established general corpora in the world.

Corpus linguistic analysis often involves four procedures: counting of words, compilation of concordance lines, sorting in a concordance to find patterns, and investigation of the context of a search word. These procedures can be conducted with the aid of concordancers such as WordSmith tool 5.0 (Scott, 2008) and Wmatrix tool 2.0 (Rayson, 2008) (See Section 2.9.4.5). Reading a corpus is entirely different than reading texts. Tognini-Bonelli gives excellent information on reading a corpus:

A Text	A Corpus
Read whole	Read fragmented
Read horizontally	Read vertically
Read for content	Read for formal patterning
Read as a unique event	Read for repeated events

Table 2.2 Comparison between a text and a corpus (Tognnini-Bonelli, 2001, p.3)

Read as an individual act of will	Read as a sample of social practice
Instance of one individual performance	Give insights into the language system
Coherent communicative event	Not a coherent communicative event

As seen in Table 2.2, compared to a text, a corpus is 'read fragmented, read vertically, read for formal patterning, read for repeated events, read as a sample of social practice, gives insights into a language and is not a coherent communicative event' (Tognini-Bonelli, 2001, p.3). To read the data in a fragmented and vertical way, and investigate the formal patterns, concordance lines are crucial elements in the analysis. Concordance lines from the *Corpus of Global Financial Crash* (CGFC) are exemplified as follows:

1 little "detail." Across the Country, Fear About Savings, the Job Market and 2 ilouts. "I have my own savings and no fear about them," Mrs. Merkel told 3 t to. But Applebaum is "riddled with fear about this market." Dominick, a te 4 r contracts. We went from euphoria to fear." After a futile search for new cu 5 to address the heart of the crisis - fear among banks to lend. "This is not 6 hman bankruptcy might set off so much fear among investors that the market "w 7 about her investments symbolized the fear among many everyday Americans who a 8 lan is about tamping down Wall Street fear and bringing back Wall Street gree 9 ormer Communist bloc to South America, fear and disbelief mingled with frustra 10, many Americans aren't buying it. In Fear and Distrust Run High (Sept. 30), 11 DERSON Published: September 14, 2008 Fear and greed are the stuff that Wall 12 t now, fundamentals do not count, and fear and greed rules." Big Financiers S 13 e Patriot Act, this bill is fueled on fear and hinges on haste." Many lawmak Figure 2.2. Extract of the KWIC concordance for fear

Figure 2.2 shows the concordance lines of the search word 'fear'. Each concordance line is originated from an individual text of the corpus, or some concordance lines may come from the same text if the word 'fear' occurs more than once in the text. This explains why the corpus is read in a fragmented way. Rather than reading paragraph by paragraph as when reading a text, we read each concordance line vertically such as from line 1 to 13 in Figure 2.2. To investigate formal patterns, we may do a left sort or right sort. In Figure 2.2, the data is processed by sorting on the words that are one word to the right of the search word (R1), so we can see that the conjunction 'and' (Frequency: 5) and the prepositions 'about' (Frequency: 3) and 'among' (Frequency: 3) co-occur frequently with the search word. The methods of analyzing linguistic patterns from a corpus will be discussed in detail in Section 2.9.4.

2.9.2 Corpus design

The method of data processing in corpus linguistics has made a breakthrough in traditional linguistics and enriched our understanding of language. A corpus has to be designed specifically based on its research purpose. Sinclair (2005) clearly delineates a set of core principles in corpus design:

- 1. The contents of a corpus should be selected without regard for the language they contain, but according to their communicative function in the community in which they arise.
- 2. Corpus builders should strive to make their corpus as representative as possible of the language from which it is chosen.
- 3. Only those components of corpora which have been designed to be independently contrastive should be contrasted.
- 4. Criteria for determining the structure of a corpus should be small in number, clearly separate from each other, and efficient as a group in delineating a corpus that is representative of the language or variety under examination.
- 5. Any information about a text other than the alphanumeric string of its words and punctuation should be stored separately from the plain text and merged when required in applications.
- 6. Samples of language for a corpus should wherever possible consist of entire documents or transcriptions of complete speech events, or should get as close to this target as possible. This means that samples will differ substantially in size.
- 7. The design and composition of a corpus should be documented fully with information about the contents and arguments in justification of the decisions taken.
- 8. The corpus builder should retain, as target notions, representativeness and balance. While these are not precisely definable and attainable goals, they

must be used to guide the design of a corpus and the selection of its components.

9. Any control of subject matter in a corpus should be imposed by the use of external, and not internal, criteria (p.1-10)

As illustrated by the above list, the communicative purposes of the corpus content have to be specific. For instance, corpora can be compiled for different research purposes such as language teaching and learning (e.g. McCarthy, 2008; Warren, 2011), discourse analysis (e.g. Cameron, 2005), literary studies and translation studies (e.g. Wynne, 2005), pragmatics (e.g. Deignan, 2005), sociolinguistics (e.g. Partington, 1998), media discourse (e.g. Baker & McEnery, 2005; Koller, 2004) and political discourse (e.g. Charteris-Black, 2004). Once the communicative purpose is determined, researchers need to consider external criteria when considering the subject matter in the corpus. The criteria include the mode of the text (e.g. speech or writing), type of text (e.g. news articles, poems or journals), discipline of the text (e.g. academic or popular), language or language varieties of the text, origin of the texts, and date of the texts. Another principle of corpus design indicated by Sinclair in the list is that the selection of components in the corpus has to be purpose-oriented. For example, if the research purpose is to examine the usage and grammar in a standard language such as standard English, then a reference corpus such as the British National Corpus or Bank of English will be useful for investigation.

One important factor in deciding how to assemble a corpus is its representativeness. The notion of the representativeness of a corpus will be discussed in the following sections, followed by the different types and functions of corpora.

2.9.2.1 Context of situation and representativeness

The aim of using the corpus linguistic method is to discover recurrent linguistic patterns which are typical of a particular speech community or context of situation. According to Sinclair (1991), a corpus is 'a collection of naturally-occurring language texts, chosen to characterize a state or variety of language' (p.171). In his contextual theory of meaning, Firth (1957) also suggests the importance of contexts of situation in compiling a corpus:

We must take our facts from speech sequences, verbally complete themselves operating in contexts of situation which are typical, recurrent, and repeatedly observable. Such contexts of situation should themselves be placed in categories of some sort, sociological and linguistic, within the wider context of culture. (p.35)

The view of Firth seems to be agreed with by Koller et al. (2008). The authors comment that corpus linguistic techniques reflect how particular metaphors are 'shared by, and distributed and reinforced among, members of a discourse community' (Koller, et al., 2008, p.142). Therefore, using the corpus linguistic approach to examine natural linguistic patterns enables the researchers to make observations that they may not have made through self-intuition (Sinclair, 1991; Deignan, 2005).

To ensure that the linguistic patterns in a corpus truly reflect the language use in a speech community or a specific context of situation, representativeness is an important factor for building a corpus (Biber, 1993; Sinclair, 2004; McEnery et al., 2006). According to Biber (1993), representativeness 'refers to the extent to which a sample includes the full range of variability in a population' (p.243). McEnery et al. (2006) differentiate a corpus from an archive in terms of representativeness: 'A corpus is designed to represent a particular language or language variety whereas an archive is not' (p.13). Representativeness is achieved through balancing and sampling (McEnery et al., 2006). Balancing of a corpus refers to the range of genres included in a corpus whereas sampling refers to the selection of text chunks for each genre.

2.9.2.1.1 Representativeness of general corpora and specialized corpora

The main distinction in corpora is whether a corpus is general or specialized .General corpora and specialized corpora have different set of criteria for achieving representativeness. General corpora consist of a wide variety of texts from different genres and sources, and are usually huge in size. They give an overview of a language or language variety. As mentioned in section 2.9.1, The Bank of English directed by University of Birmingham is an excellent example of general corpora. It is a sizeable corpus which consists of 450 million words and is still expanding. The written data is collected from a wide variety of sources such as newspapers, magazines, fiction and non-fiction books, brochures, leaflets, reports and letters. The spoken data is mainly collected from transcriptions of everyday casual conversation, radio broadcasts, meetings, interviews and discussions. A general corpus is said to be balanced if it consists of text types which are as broad as possible, so that it can be 'maximally representative of the language or language variety' (McEnery et al., 2006, p.15).

On the other hand, a specialized corpus is either domain-specific (e.g. a legal or financial corpus) or genre-specific (e.g. news articles or letters). The size of specialized corpora is usually much smaller than that of general corpora. The aim of compiling specialized corpora is often to investigate the language used in a specific variety, register or genre (Cheng, 2012). Flowerdew (2004) states a set of factors to consider when setting out to build a corpus. The factors include the specific purpose for compilation, contextualization, genre, type of text or discourse, subject matter or topic and variety of English. A specialized corpus is said to be balanced and representative if it consists of a wide range of texts from the genre or register which should be examined. For instance, *The Time Magazine Corpus of American English*

is an online collection of *Time Magazine* articles from 1923 to 2006. The corpus consists of more than 100 million words, and is genre-specific because it is a collection of magazine articles. It also has high degree of representativeness because it has a wide variety of texts from *Time Magazine*.

2.9.2.1.2 Sampling of general corpora and specialized corpora

A corpus enables us to observe the linguistic patterns of a particular language community or genre, but it can never be exhaustively investigated. Therefore, sampling is a useful method to ensure that the corpus compiled is representative and balanced. There are two important aspects in sampling: population and sampling frame. According to McEnery et al. (2006), 'the population is the assembly of all sampling units while the list of sampling units is referred to as a *sampling frame*' (p.19). Corpus designers often need to consider the type, time period and number of texts to be selected, as well as the length of the text samples. For example, the population that the pioneering corpus *Brown Corpora* was drawn from is written English texts published in the United States in 1861. The sampling frame is taken from a list of books and periodicals collected in the Brown University and the Providence Athenaeum.

In some cases, sampling can also be achieved through selection of particular text chunks or stratified sampling. Sampling of text chunks refers to the selection of particular chunks in a text. However it is not clear which part of a text, initial, middle or end, should be sampled (McEnery et al., 2006). Also, I argue that the initial, middle and end chunks of a text may have specific linguistic features which are worth investigation. Sampling of text chunks will cause the negligence of textual features. On the other hand, stratified sampling refers to the proportion and number of samples for each text category of a corpus. For instance, the spoken British National Corpus is composed of texts from five main contexts. 20.56% of texts are from educational or informative contexts, 21.47% from a business context, 21.86% from an institutional context, 23.71% from leisure context and 12.38%

from an unclassified context. To design a corpus, it is certain that the proportion and number of texts in each genre or source should be taken into consideration. However, as McEnery et al. (2006) say, it may be hard to objectively determine the proportion. Nevertheless, the factors of balancing and sampling still give us some insights into building a representative corpus.

2.9.3 Corpus-based and corpus-driven approaches

There are two approaches to analyzing linguistic features in corpora: corpus-driven and corpus-based (Tognini-Bonelli, 2001). Corpus-driven study is an inductive approach with no assumptions. According to Tognini-Bonelli (2001), 'the corpus is used beyond the selection of examples to support or quantify a pre-existing theoretical category. Here the theoretical statement can only be formulated in the presence of corpus evidence and is fully accountable to it' (p.11). Such corpus evidence is the 'recurrent patterns' and 'the frequency distributions' that is revealed in language in context (Tognini-Bonelli, 2001, p.87). In other words, the researcher makes observations of the linguistic patterns which emerge from the corpus and formulates the theoretical statements. On the other hand, corpus-based study is a deductive approach which starts with some assumptions or aims of testing the existing paradigms. Tognini-Bonelli (2001) points out that the corpus-based approach is 'a methodology that avails itself of the corpus mainly to expound, test or exemplify theories and descriptions that were formulated before large corpora became available to inform language study' (p.65). Cheng (2012) outlines the difference in corpus-based and corpus-driven procedures as follow:



Figure 2.3. Corpus-based and corpus-driven approaches (Cheng, 2012, p.187)

As seen from Figure 2.3, the corpus-driven approach begins with observations of linguistic features in corpus data. The recurrent patterns observed in the corpus data then allow the formulation of hypotheses and generalizations. Finally, the theoretical statement is built upon the observations. Hence, the corpus-driven approach is a bottom-up approach. On the contrary, the corpus-based study is a top-down approach. It usually starts by selecting a theory on the basis of the researcher's research interest. The researcher then formulates a more specific hypothesis and collects the corpus data for making observations. The observations derived from the data are utilized to test the hypotheses and support the theory. In the following sections, I will review studies using corpus-driven and corpus-based approaches.

2.9.3.1 Application of corpus-driven approach

In corpus linguistics, corpus-driven approaches are more encouraged than corpusbased studies. For instance, Tognini-Bonelli and Johns are two strong advocates of the corpus-driven approach. Tognini-Bonelli (2001) comments that the corpus in a corpus-driven approach is regarded as 'more than a repository of examples to back pre-existing theories or a probabilistic extension to an already well defined system' (p.84). Rather, 'every step in this direction seems to lead the scholar to uncover new grounds, posit new hypotheses and not always support old ones' (p.84). Based on the corpus-driven approach, Johns (1991) established a famous language learning methodology called Data-driven Learning (DDL). In this method, the student acts as both language learner and researcher to make observations from the corpus data and identify the linguistic patterns. According to Johns (1991),

The assumption that underlines this approach [DDL] is itself a form of linguistic research, and that the concordance printout offers a unique resource for the stimulation of inductive learning strategies – in particular the strategies of perceiving similarities and differences and of hypothesis formation and testing. (p.30)

The DDL approach makes corpus-driven approaches even more applicable and practical in language learning. Similarly, Cheng (2012) also encourages the corpusdriven learning method. She indicates that 'conducting language projects can help the student-researcher to develop generic attributes such as analytical reasoning, critical thinking, and problem-solving' (p.135).

Tognini-Bonelli (2001) studied the two inflected forms 'facing' and 'faced' in two corpora – the *Birmingham Corpus* (*Bham Corpus*) and the *Economist and Wall Street Journal Corpus* (the *Economist & WSJ Corpus*) (p.93). The former is a corpus of general English whereas the latter reflects the semi-technical language of economics. The author first consulted the dictionary meanings of 'face', which show that it has a concrete meaning (i.e., positioning of people or things) and an abstract meaning (i.e., dealing with something difficult or unpleasant). From the corpora, Tognini-Bonelli (2001) observed that the frequency of 'facing' and 'faced' are relatively higher in the *Economist & WSJ corpus* than in the *Bham Corpus*. The inflected form 'facing' in the *Bham Corpus* tends to collocate with words that are related to physical notions, such as 'palms', 'stood' and 'windows'. However, it tends to collocate with abstract words in the *Economist & WSJ corpus* such as 'crunch', 'toughest' and 'challenges'. As for the inflected form 'faced', interestingly, neither the *Economist & WSJ corpus* nor the *Bham Corpus* show collocates related to physical notions. The author concluded that the two inflected forms play different lexical roles in the registers of general English and its specialized counterpart.

2.9.3.2 Application of corpus-based approach

Compared to the corpus-driven approach, the corpus-based approach is regarded as being confined to the existing theory, which results in the insufficient exploitation of the potential of corpus evidence (Tognini-Bonelli, 2001). As Tognini-Bonelli comments,

The corpus-based linguists adopt a "confident" stand with respect to the relationship between theory and data in that they bring with them models of language and descriptions which they believe to be fundamentally adequate, they perceive and analyse the corpus through these categories and sieve the data accordingly (p.66).

Since corpus-based studies rely on pre-existing theories, linguists have to carry out the approach in a precise and accurate way. Hence, the corpus-based approach is useful as it may reveal minor corrections and adjustments that need to be made to the theoretical model adopted. Indeed, the corpus-based approach is very popular in conducting metaphor studies (e.g., Deignan, 1999; Stefanowitsch, 2006; Skorcznska, 2010). The approach enables us to quantity the results relating to metaphor use and provide objectivity to claims about it, to explore the co-text of the search word in a large number of texts and also to enrich the description of various concepts through a wide range of metaphorical expressions (Oster, 2010). Partington (2006) examines genre-specific metaphors in a corpus of business journalism by comparing the results with texts of news, sports and arts. She found that the recurrent metaphors in business texts are BUSINESS IS A RACE, A BUSINESS TAKE-OVER IS A HUNT and COMPANIES ARE PERSONS, MACHINES or ANIMALS. Deignan and Potter (2004) studied the body-related metaphors and metonyms in English and Italian languages. Their results show that the English corpus and the Italian corpus each contain a very large proportion of metaphors and metonyms with a certain degree of fixedness. For example, 'heart' is often used when referring to the emotions , as in broke her heart', 'apologize from the bottom of my heart' and 'opening her heart'. The expressions are more restricted lexically and structurally in English. While 'shut' is often used with 'mouth' in English, more verbs collocate with *bocca* (meaning 'mouth') in Italian such as *spalancare* ('open very wide'), *serrare* ('shut tight'), *tappare* ('cork') and *cucire* ('sew shut'). They concluded that the differences are rooted in folk beliefs or conventional behaviour in different cultures.

Unlike Deignan and Potter (2004), who used existing large-scaled corpora as the source of English and Italian data, Semino (2002) collected British and Italian newspapers published around the time of the euro's official introduction. She observed that the dominant metaphorical expressions relating to the euro in British news reports are consistent with those in Italian ones. For example, the euro is conceptualized as an animate living being by using metaphors like having a long *life*, and the value of the euro is conceptualized by using metaphors of physical well-being like *health*. The differences in the metaphorical expressions also show the entirely different attitudes of Britain and Italy towards the introduction of the euro. For instance, while war metaphors are widely exploited to indicate the efforts of countries to qualify for monetary union in the Italian corpus, inactive metaphorical expressions with the verb 'lock' are often used in reference to the fixing of the exchange rates between the old Euroland currencies and the euro in the British corpus. Both Semino's and Deignan and Potter's studies provide insights into the fixedness of expressions in different languages. Semino's findings supported Deignan and Potter's claim that linguistic expressions in English appear to be more restrictive than those in Italian. However, Semino does not analyze the co-texts of metaphorical expressions such as collocations or semantic prosody.

In sum, a corpus-based approach provides a more objective overall picture of conceptualizations in a language. I argue that the corpus-based approach should be encouraged rather than discouraged in metaphor study. This is because the importance of a corpus in metaphor study does not only lie in the observation of repetitive linguistic patterns, but also in the observation of collocations cooccurring with particular lexical items which help the researcher to identify the type of source domain and the differences in intensity conveyed by various metaphorical collocations (see Chapter 5 for more detailed discussion). The present study considers co-text important and will analyze how collocational patterns, colligation patterns, semantic preference and semantic prosody reveal the different functions of emotion metaphors. The analysis will also demonstrate that using a corpus-based approach could reveal metaphorical patterns that are contradictory to the conclusions in some metaphor research using elicited data.

2.9.4 Corpus approaches to metaphors

A corpus-based approach provides a strong evidence-base for metaphor claims. There has been a growing body of corpus studies on metaphor use (e.g. Koller, 2006; Deignan & Semino, 2010). Stefanowitsch (2006) outlined seven main methods for conducting a corpus analysis of metaphors (p.2-6):

- Manual searching
- Searching for source domain vocabulary
- Searching for target domain vocabulary
- Searching for sentences containing lexical items from both the source and the target domain
- Searching for metaphors based on 'markers of metaphor'
- Extraction from a corpus annotated for conceptual mappings
- Extraction from a corpus annotated for semantic fields/domains

The following sections will describe each of the above methods and review corpusbased metaphor studies that use these approaches.

2.9.4.1 Manual searching

Manual searching is the method that early corpus-based metaphor studies often used (See, for example, Semino and Masci, 1996). The researcher carefully read through the whole corpus and identified all the metaphors he or she observed. It is the original method used in corpus linguistics as there were still no electronic concordancers. However, as concordancers have developed (e.g. WordSmith 5.0) and have enhanced the efficiency of analysis, manual searching is no longer popular.

2.9.4.2 Searching for source or target domain vocabulary

From the word list the researcher can conduct a corpus study by searching for vocabulary from the source domain or target domain. The researcher has to first decide the source domain or the target domain that he or she is going to investigate. After that, he or she needs to identify all the lexical items from the source or the target domain. For example, in her corpus-based study, Koller (2006) identifies the source domain such as WAR and MATING by exhaustively reading through the news texts on mergers and acquisitions. This may be feasible for a corpus of smaller size like 10,000 words. However it seems to be time-consuming and almost impossible to exhaustively identify all the items from one-million-word corpus like the one used in the present study.

There is another way we can identify items from the source or the target domain. We can start the analysis by finding the keyness of words. The concept of 'keywords' is used to study the keyness of words in a study corpus compared with another reference corpus. The higher keyness value means that the frequency of the word is relatively high and it used especially frequently in the study corpus (Deignan & Semino, 2010). This function is particularly useful for characterizing a genre or text. For instance, Deignan and Semino (2010) use the web-based annotation tool *Wmatrix* (see Chapter 3 for more detailed explanation) to identify the key semantic fields from their corpus of presidential speeches. The main semantic field 'M: Movement, location, travel and transport' is identified by the software tool and the words in this semantic field are further investigated to identify the associated metaphorical collocations. The software suite *Wmatrix* is particularly useful for annotating words from the corpus, providing a strong evidential basis for the identification of the target or the source domain. However, the keywords-based method may not be applied in the case of target domains that are pervasive in many kinds of discourse such as EMOTION, and high frequencies of the lexical items in a semantic field do not mean that the associated metaphorical expressions are abundant (Stefanowitsch, 2006).

2.9.4.3 Searching for sentences containing lexical items from both the source and the target domain

Some researchers search for sentences with lexical items from both the target domain and the source domain. This is called target-term present emotion metaphor in the present study (see Section 2.8.3.2.2). As mentioned in Section 2.8.3.2.2, claims relating to metaphors are more persuasive if the co-text explicitly indicates the target domain word, but this consideration may lead researchers to neglect a vast amount of metaphors (e.g. DISASTER metaphors) that implicitly conceptualize the concepts in the target domain.

2.9.4.4 Extraction from a corpus annotated for conceptual mappings

As Hardie et al. (2007) point out, though researchers have exploited corpus linguistic techniques to examine metaphors in recent years, their methods (e.g., Charteris-Black, 2004; Deignan 2005; Stefanowitsch, 2005; Skorczynska &

Deignan, 2006) usually focus on finding concordance lines of preselected search strings. They start by identifying metaphors in a small corpus and the identified metaphors are then searched for in a large corpus (see, for example, Cameron & Deignan, 2003; Skorczynska & Deignan, 2006). To deal with larger data sets, Skorczynska and Deignan (2006) manually annotated small data samples first and then searched for concordance lines of the metaphors in a larger corpus. This method helps identify particular metaphors in a target large corpus provides a generalization for metaphors identified in a target large corpus. However, this method may limit the potential metaphoricity of words or expressions in the large corpus. It may neglect some metaphors that are absent in the smaller corpus but actually present in the large corpus.

Oster (2010) also adopts a corpus-based approach to identify metaphors. She analyzed the metaphorical conceptualization of fear in the Corpus of Contemporary American English (Davies, 2008). From the data, she argues that it is not sufficient to discuss the metaphorical expression of an emotion by just using frequency of occurrence. Metaphors represented by more different types of linguistic metaphors should be regarded as more productive and creative. This is rather an innovative claim in emotion metaphor studies. However, the productivity and creativity of a metaphor can only be determined with the use of a sizeable corpus or a dictionary.

2.9.4.5 Research in metaphor studies by using annotation tool Wmatrix 2.0

In order to identify open-ended sets of metaphorical expressions, a corpus analysis can be conducted by extracting from a corpus annotated for semantic fields or domains using a tool such as Wmatrix. Wmatrix is employed by some researchers in conducting corpus-based or corpus-driven metaphor studies though it was originally designed for purpose of semantic analysis only. The semantic tags assigned by the software are regarded as the source or target domains of metaphoric expressions (Koller et al., 2008).

Hardie et al. (2007) use Wmatrix tool 2.0 to replicate two previous manual studies (i.e., Semino & Swindlehurst, 1996; Koller, 2004). Semino and Swindlehurst (1996) studied metaphors in Ken Kesey's novel entitled One Flew Over the Cuckoo's Nest whereas Koller (2004) focused on metaphors in business magazine articles. By using automatic annotation tools to revisit the studies, Hardie et al. (2007) found that Wmatrix tool 2.0 supported the claims that MACHINE metaphors are the most prominent in Kesey's novel and WAR metaphors are the most dominant in business magazine articles. The tool even generates more metaphoric tokens in the domain than manual analysis. Similarly, Semino et al. (2009) employed Wmatrix tool 2.0 to compare the use of metaphor in a scientific journal and a science magazine. They first used the software to assign part-ofspeech tags and semantic field tags, and then decided which semantic categories were more prominent in the two datasets through keyness statistics, followed by finding the tag-lemma ratio and lemma-token ratio. Their results showed that the scientific journal corpus has a wide range of source domains. The technical terms in the scientific journal corpus are often used metaphorically in the magazine. These pieces of research show that Wmatrix tool 2.0 helps identify more significant results for metaphor in source domains, and also provides an empirical basis for the corpora approach to metaphor analysis.

2.9.4.6 Summary

The above discussions show that a corpus analysis of metaphors can be carried out in a number of ways. However not every method can identify metaphors exhaustively and give strong evidence-based support for making claims about the target domain or the source domain. This study adopted the method of extraction from a corpus annotated for semantic fields using Wmatrix tool 2.0 and WordSmith tool 5.0 as the software suites. Wmatrix is utilized to extract lexical items from different semantic fields, and the concordancer of WordSmith tool 5.0 is employed to extract concordance lines to manually identify metaphor uses. Chapter 3 will further discuss the analytical methodology involving the use of software tools.

2.9.5 Summary and conclusion

This chapter discussed news values, metaphor theories, emotion studies and corpus linguistics. The discussions in this chapter showed the importance of using naturally-occurring and contextualized examples for analyzing metaphor use. There is also clearly a need for contributing to the growing body of metaphor research which focuses on communicative functions of metaphors, and emotion studies that do not simply deal with basic emotion concepts. The present study is underpinned by conceptual metaphor theory However, to achieve the research objective of finding the communicative functions of metaphors in news articles, this study will adopt a three-dimensional model for the analysis which remedies the limitations of conceptual metaphor theory. The three-dimensional model examines the interconnectedness between language, thought and communication. Since the global financial crisis possessed high news value, this study will discuss how metaphors mapping onto the domains of negative emotions enhanced its newsworthiness and fulfilled communicative functions in the financial news discourse. The use of metaphors may reflect the relationship between journalists, investors and government. The next chapter will outline the research methodology, including the procedures of compiling the corpus and conducting the corpus linguistic analysis.

Chapter 3 Corpus compilation and research methodology

In the previous chapters we have taken a look at what the cognitive basis of metaphor in conceptual metaphor theory (Lakoff & Johnson, 1980) brings to the three-dimensional model of metaphors (Steen, 2008). The background of corpus linguistics and corpus-based approaches to metaphor studies, as well as the nature of emotion, were also discussed. This chapter will outline the methods of corpora compilation and the stages of metaphor analysis in the current study. The study followed the five-step procedure suggested by Steen (2007) to examine metaphors in usage: Conceptualization, Data collection, Operationalization, Data analysis and Interpretation.

Conceptualization is the theoretical stage because it involves the introduction and adoption of an appropriate metaphor theory. The stage of operationalization refers to the procedures of metaphor identification. This study adopted the methodological framework Metaphor Identification Procedure (Pragglejaz Group, 2007) to identify the metaphorical senses of the words in the Corpus of Global Financial Crisis. In the following sections, the stages of data collection, operationalization, data analysis and interpretation in the present study will be introduced.

3.1 Corpora compilation

Three methods of data collection are available: introspection, observation and manipulation (Steen, 2007). This study adopted the method of observation because the data collected was natural written data. As Steen (2007) points out, 'conversations or written texts are typical examples of natural language data that can be collected by observation. Their linguistic forms and the presence of metaphor may be studied for their symbolic structures or their associated cognitive processes and/or products' (p.11).
The natural language data of this study was collected from three American broadsheet newspapers, USA Today, The New York Times and The Washington Post, during the global financial crisis from 15 September 2008 to 15 March 2009. These three newspapers are chosen as representative of the mainstream news media in the United States because this research attempts to show how different kinds of metaphors describe and express emotions in the popular press. The rationale for selecting these three newspapers is that their business news coverage is accessible and targeted at a wide range of readers including non-specialists as well as more economically literate readers. It is assumed that the metaphor use in the three newspapers fulfils the functions of filling lexical gaps, explanation and modeling, reconceptualization, argument by analogy, decoration and hyperbole, and enhancing informativeness, as well as expressing emotional attitudes (Goatly, 2011a). The data was collected from the official websites covering the period between the trigger of the financial crisis and its development into a global financial crisis. The headlines and the list of contents on the news websites were read to identify the topic of the financial crisis. When compiling the corpus, all the graphs and pictures were deleted to leave just text. After data cleaning, the files were then saved as plain text files for access in concordancers. The corpus was named Corpus of Global Financial *Crisis* (CGFC). Table 3.1 shows the components of the financial news corpus:

	Name of newspaper	Number of	Number of	Average article
		articles	words	length
1	USA Today	288	238,933	830
		(30.35%)	(23.68%)	
2	The New York Times	411	479,839	1167
		(43.31%)	(47.56%)	
3	The Washington Post	250	290,227	1161
		(26.34%)	(28.76%)	
	TOTAL	949	1,008,999	

Table 3.1. Publication data in financial news corpus

As revealed in Table 3.1, the whole CGFC comprised 949 news articles totalling 1,008,999 words. The next section will explain the procedures involved in conducting the corpus-based metaphor analysis.

3.2 Operationalization: Integrating the corpus approach and Metaphor Identification Procedure

According to Steen (2007), operationalization refers to the formulation of metaphor identification criteria. The approach in this research started from the search for target domain words (i.e., words related to emotion) from the CGFC with the use of the automatic annotation tool Wmatrix.

3.2.1 Identification of lexical items in the target domain

Wmatrix tool 2.0 is an online software package for semantic analysis (Rayson, 2008). The USAS tool (*UCREL Semantic Annotation System*) automatically allocates all the words or multi-word expressions to different semantic fields with reference to the Longman Lexicon of Contemporary English (McArthur, 1981). Wmatrix tool 2.0 is employed by some researchers conducting corpus-based or corpus-driven metaphor studies to identify open-ended sets of metaphorical expressions, though it was originally designed for purpose of semantic analysis only. The semantic tags assigned by the software are regarded as the source or target domains of metaphoric expressions (Koller et al., 2008). To find the most recurrent semantic fields in a corpus, the user can read the USAS Tag list (only Semtag and Frequency are shown) or Word and USAS Tag list (Semtag, Word and Frequency are shown).

The first step was to upload the text files. Since Wmatrix tool 2.0 cannot process more than 1,000,000 words of the text file in one go, the electronic news data was first saved in ten word files, and then uploaded onto the website of Wmatrix² by using tag wizard in the software. After being uploaded

² Rayson, P (2008). Wmatrix. Retrieved August 1, 2009 from http://ucrel. lancs.ac.uk/wmatrix2.html

successfully, the ten word files were then merged, so that only one word list would be generated. A word list was then generated by the software to find the lexical items which were allocated to the semantic field of emotion.

Based on the Longman Lexicon of Contemporary English (McArthur 1981), the USAS Tag list distinguishes 21 main semantic fields and more than 200 subdivisions. The lexical items from the corpus were classified into different semantic fields. The major semantic fields are shown in Table 3.2:

	<u> </u>	<u> </u>	
A	В	С	Е
General and abstract	The body and the	Arts and crafts	Emotion
terms	individual		
F	G	н	I
Food and farming	Government and the	Architecture, buildings,	Money and commerce
	public domain	houses and the home	in industry
K	L	М	Ν
Entertainment, sports	Life and living things	Movement, location,	Numbers and
and games		travel and transport	measurement
0	Р	Q	S
Substances, materials,	Education	Language and	Social actions, states
objects and equipment		communication	and processes
Т	W	X	Y
Time	The world and our	Psychological actions,	Science and technology
	environment	states and processes	
Z			
Names and			
grammatical words			

Table 3.2. Major semantic categories in the USAS tagset (Hardie et al., 2007)

As shown in Table 3.2, the capital letters A to Z represent 23 different semantic fields such as <u>EMOTION</u> (E), <u>ARCHITECTURE</u>, <u>BUILDINGS</u>, <u>HOUSES</u> and the <u>HOME</u> (H), <u>LIFE AND LIVING THINGS</u> (L), and <u>EDUCATION</u> (P). Digits are used to indicate the subdivisions of each semantic field. For example, lexicons with the tag E3 belong to the semantic field of anger. The +/- markers indicate the comparatives and superlatives respectively (Archer, Wilson & Rayson, 2002). As the file is uploading onto the website, the tag wizard will perform two levels of linguistic annotation. The first level is Part-of-speech tagging through the CLAWS tagger and the second level is Semantic tagging through the Word frequency, semantic tag frequency and POS frequency in different lists.

Figure 3.1 shows that there are three frequency lists in Wmatrix: Word list, Part-of-speech list and Semantic list.

00)			Wm	atrix2				
	+	🕙 http://ucre	l.lancs.ac.uk/wm	atrix2.html			¢ Q- wm	atrix	
) ===	goeth	ne institut hk	toytown german	y Google Tra	nslate c	ambridge onli	e BBC Lear	ning English	
Taggir Folder Optior Help >	er C ng > T ns > M ns > S > Conte	GFC ag Wizard y folders Det witch to Simpl ents Availabi	My Tag Wizard ails Create D e Interface Edit lity Tagsets: PO!	Domain Tag \ Delete Archii user options S & Semantic	Wizard Ext ve Ext] USAS: Le	Load file with tract Join xicon & MWEs [You an	You a out tagging Share E & Context rul a here > <u>My fo</u>	Umatr re logged in as: poly impty TRASH] es Updates Fec iders > CGFC] File	iX rujanet adback details
		Frequ	ency list	Concordance	N- & C- grams	Collocation	Keyn	ess analysis	i.
w	ord	Word only (Frequency;	Sorted by: Word)				Key words c BNC Sample Go	ompared to: r Spoken	•
Pa spe	int of sech	POS only (S Frequency; Word and P Frequency;	iorted by: POS) OS (Sorted by: Word; POS)				Key POS cor BNC Sample Go	npared to: r Spoken	•
Sem	nantic	USAS Tag of Frequency: Word and U (Sorted by: F Word; USAS	INIY (Sorted by: USAS tag) SAS tag Enquency, S tag)				Key concept BNC Sample	s compared to: r Spoken	•

Figure 3.1. Screen shot for the frequency lists in Wmatrix

Because the objective of using Wmatrix tool 2.0 is to annotate the words in the CGFC and assign them to different semantic fields, the semantic list (as indicated by the circle in Figure 3.1) was selected and 'word and USAS tag' was chosen. Figure 3.2 shows the semantic list of words with USAS tag:

00			Wmatrix2			
►	+ http://ucre	l.lancs.ac.uk/wmat	rix2.html	¢	Q* wmatrix	
	goethe institut hk	toytown germany	Google Translate	cambridge online	BBC Learning English	
Save			Word	Sentag	Frequency	Relative
	_		hit	E3-	151	0.03
Sear	rch term: 'E3'	. 6	turmoil	E3-	135	0.03
Sort	ted on	0.0 99 92	rest	E3+	81	0.02
frea	uency.	SHUNE	toxic	E3-	58	0.01
	achej.		calm	E3+	43	0.01
You ar	re viewing a frequency	profile.	threat	E3-	39	0.01
Clicko	on a column heading t	o sort on that	aggressive	E3-	36	0.01
Column	n. Istances net vet sveik	the in initial	anger	E3-	32	0.01
workar	roances not yet availa	ible in joined	battered	E3-	32	0.01
- Cinai			angry	E3-	29	0.01
			fallout	E3-	28	0.01
_			threatened	E3-	28	0.01
Sear	ch shortcuts:		force	E3-	25	0.00
Show	complete list	•	attack	E3-	24	0.00
Go			attacks	E3-	24	0.00
			aggressively	E3-	19	0.00
Sear	ch this list:		threatening	E3-	18	0.00
Enter	the word or tag	you wish to	relax	E3+	17	0.00
carc	th for here:		unrest	E3-	14	0.00
E3-	60	2	eleaguered	E3-	12	0.00
you	can also search fe	or part of a	threatens	E3-	12	0.00
woru	or tag:	for a second second	violent	E3-	12	0.00
enter	. or leave blank	for complete	hitting	E3-	11	0.00
iist)			tumult	E3-	11	0.00

Figure 3.2. Screen shot of words with USAS tag

As shown in Table 3.2, letter E is the semantic tag for emotion words. Under semantic tag E, there are six sub-semantic tags indicating different emotions: E1: Emotional Actions, States And Processes General; E2: Liking; E3: Calm/Violent/Angry; E4: Happiness and Contentment ; E5: Bravery and Fear ; E6: Worry and confidence. The markers '+/-' in the semantic tag reveal whether the words carry a positive or negative sense in the semantic field. Since the aim of the study was to find the conceptualizations of negative emotions, semantic tags E3-, E4-, E5- and E6- were typed separately in the search window (as indicated by the circle in Figure 3.2) to generate the frequency and kind of emotion words in each semantic field.

As shown in the right-hand column in Figure 3.2, lexical items such as *anger*, *violent* and *tumult* were classified into the semantic field of <u>VIOLENT/ANGRY</u> (E3-). Stefanowitsch (2006) points out the problem of extracting lexical items from a corpus annotated for semantic fields. He argues that 'semantically annotated corpora may not be consistent with respect to the semantic fields that they assign words to' and 'in a corpus thus annotated, expressions manifesting conceptual mappings could not be identified on the basis of the annotation' (p.5-6). Because English words are often polysemous in nature and it is undeniable that the labeling of words in a particular semantic field may not be accurate, all the semantic lists of words relating to fear, anger, sadness and anxiety were checked to remove unsuitable words.

Some words assigned to the emotion fields related to disaster or physical attack were regarded as metaphors expressing the emotions. The associated concordance lines will be analyzed and metaphorical uses will be discussed in Chapter 7. Sometimes a word may be wrongly assigned to a semantic field due to its multi-meanings, so each concordance line associated with the lexical items by WordSmith tool 5.0 was scrutinized and the unsuitable ones were removed.

3.2.2 Identification of metaphors

The WordSmith 5.0 tool was utilized to create concordance lines of each lexical item annotated as emotion by Wmatrix, and the metaphorical senses associated 112

with the emotion words were identified. WordSmith tool 5.0 is a PC-based concordancer developed by Mike Scott in 2008. There are two utilities in the software that are particularly useful for the type of analysis in this study: 'Concord' and 'Wordlist'. 'Concord' allows researchers to investigate a word or phrase in context. Linguistic patterns can be studied through the concordance lines of a search word or phrase. The wordlist program shows all the unique words in the corpus file and the total frequency of the types and distinct words. Word clusters, collocates and dispersion plots can also be examined in 'Concord'.

In the Concord window, the CGFC text file was opened and the lexical item annotated as emotion by Wmatrix tool 2.0 was typed under 'Search Word'. After clicking 'ok', the concordance lines were generated. Figure 3.3 illustrates the example of concordance lines associated with the lexical item 'anger':



Figure 3.3. Screen shot of concordance lines showing 'anger'

The left and right sort functions in WordSmith tool 5.0 help sort the large amount of data. They serve as the base for finding collocations, colligations, semantic preference and semantic prosody. No matter how powerful a software tool is, the task of distinguishing between literal and metaphorical uses of a word has to be done by human beings. To identify the metaphors, Metaphor Identification Procedure (Pragglejaz Group, 2007) (thereafter MIP) was adopted in this study. The MIP procedures related to the investigation of target-term present emotion metaphors are combined with the corpus-based approach and shown below:

- 1. Find lexical items in the target domain of emotion with the use of Wmatrix.
- 2. Read through the concordance lines associated with each lexical item in the semantic fields of emotion.
- 3. (a) For each lexical unit in the text, establish its meaning in context: that is, how it applies to an entity, relation, or attribute in the situation evoked by the text (contextual meaning). Take into account what comes before and after the lexical unit.

(b) For each lexical unit, determine if it has a more basic contemporary meaning in other contexts than the one in the given context. For our purposes, basic meanings tend to be:

More concrete (what they evoke is easier to imagine, see, hear, feel, smell or taste);

Related to bodily action;

More precise (as opposed to vague);

Historically older.

It should be noted that basic meanings are not necessarily the most frequent meaning of the lexical unit.

(c) If the lexical unit has a more basic current-contemporary meaning in other contexts than the given context, decide whether the contextual meaning contrasts with the basic meaning, but can be understood in comparison with it.

4. If yes, mark the lexical unit as metaphorical.

For Step 3c, the metaphorical senses of words were also identified with reference to Sinclair's 'five categories of co-selection' (2004, p.11). The analysis will be shown in detail in Chapter 5.

The first step in MIP was originally to read the text on a word-by-word basis. However, since the present research is a corpus-based approach and the data involves 1,000,000 words, it would be too time-consuming to read the texts exhaustively. Deignan (2005) suggests a corpus-based approach can be started by 'establishing the existence of linguistic metaphors that realize a particular conceptual metaphor' and 'trawling concordance lines to see if they occur' (p.93). However, if this method is adopted, the conceptual metaphors may not be extracted exhaustively from the corpus. Hence, the approach in this study started from the search for target domain words (i.e., words related to emotion) from the CGFC with the use of the automatic annotation tool Wmatrix.

As Deignan (2006) points out, 'a concordance will show the researcher the linguistic contexts in which a lexical item is used, but this information then has to be processed manually' (p.93). Hence, each concordance line was examined manually to identify whether there was a metaphorical use associated with the search word. This stage involves four steps and the following excerpt selected from the CGFC as an example is used to illustrate the steps:

(3.1) As a result, rumor, speculation and fear can cripple a bank with shocking speed.

In the context, 'cripple' is a verb meaning 'cause a bank to be unable to function normally'. The agent for this action is the noun 'fear' and the patient suffering from this action is the noun 'bank'. According to the *Cambridge International Dictionary of English* (1995), the basic meaning of 'cripple' is 'to injure someone so that they are unable to walk or move in a normal way'. Hence, comparison of the contextual and basic meanings of 'cripple' shows the clear difference. The basic meaning of 'cripple' involves the physical action of injury, so the contextual sense of 'cripple' is more abstract than that of the basic sense. The damage done to a bank is like making a person unable to walk normally. Since the contextual sense of the word 'cripple' is different from the basic sense of the word, and it could be comprehended via comparison, the word 'cripple' is metaphorical in the context.

In a similar way to the identification of target-term present emotion metaphors, the use of target-term absent emotion metaphors can be also identified by using the corpus approach and MIP procedures. The top ten keywords were first identified by using the 'keyword' function in WordSmith tool 5.0. After that, concordance lines associated with these top ten keywords were read, and metaphorical uses were identified through MIP procedures. In each concordance line associated with a lexical item, the local referent and topic shifts were found. Then we used comparison to test whether the incongruous words are integrated in the whole referential or topical framework. For example,

(3.2) the plan gave Treasury Secretary Henry Paulson too much power, might not stanch financial bleeding and would stick average Americans with the bill for years of Wall Street excess.

Words like 'Treasury Secretary Henry Paulson' and 'Wall Street' provide evidence that the sentence is a financial discourse. In the clause 'stanch financial bleeding', the collocation 'stanch...bleeding' is about the action of stopping the process of losing blood from a body. This is incongruous with the word 'financial' and other co-textual elements. There is a topic shift from finance to biology. According to the *Cambridge International Dictionary of English* (1995), the basic meaning of 'bleed' is 'to lose blood'. However in the context, 'bleeding' is a noun referring to 'the loss of money'. This shows a clear difference between the basic meaning and contextual meaning of 'bleeding'. Hence, 'bleeding' is identified as a metaphorical use and can be categorized according to MONEY IS BLOOD/LIQUID.

3.3 Metaphor interpretation

In this stage, metaphorically-related words associated with negative emotion terms were classified into different source domains. The classification is also conducted with four of the co-selection items suggested by Sinclair (2004): collocations, colligations, semantic preference and semantic prosody.

Collocations are word relations. They are 'the co-occurrence of words with no more than four intervening words' (Sinclair, 2004, p.34). Colligational patterns are lexicogrammatical realizations, and are relations between words and grammatical categories as indicated by Tognini-Bonelli (2001),

'while collocation is instantly identifiable on the vertical axis of an alphabetized concordance, colligation represents a step in abstraction and is therefore less immediately recognizable unless the text is tagged with precisely the required grammatical information...collocational and colligational patterns will, together, form the basis of the formalization of repeated events'. (p.89-90)

Semantic preference is 'the restriction of regular co-occurrence to items which share a semantic feature, e.g. about sport or suffering' (Sinclair, 2004, p.141). Semantic prosody is the relation between words and lexical sets, and refers to the speaker attitude. As summarized by Hunston & Thompson (2000):

The notion of semantic prosody (or pragmatic meaning) is that a given word or phrase may occur most frequently in the context of other words or phrases which are predominantly positive or negative in their evaluative orientation...As a result, the given word takes on an association with the positive or, more usually, the negative, and this association can be exploited by speakers to express evaluative meaning covertly. (p.38)

Sinclair (2004) explains that 'the initial choice of semantic prosody is the functional choice which links meaning to purpose; all subsequent choices within the lexical item relate back to the prosody' (p.34). In other words, it is the semantic prosody selected by the speaker or writer that determines the semantic preference. The semantic preference then determines the collocational and colligational patterns. The following concordance lines illustrate the

investigation of collocation, colligation, semantic preference and semantic prosody of 'fear' and its inflection.

t the most recent reminder of the fear and shock gripping the country. But
 amid a buyer's strike. Part of the fear gripping Wall Street is the "who's
 os can hear and feel the financial fear gripping his customers. They stop in
 Japan's Economy TOKYO A new emotion is gripping Tokyo: fear. The world's
 nt banks further stoked investors' fear that a deep recession was on the way.
 more aware of the risk of stoking fear and the risk of being blamed. Journal
 lout of financial markets, stoking fears of a deep, lingering economic slump
 ise it on the restructuring, stoking fears that the companies could be pushed

In Figure 3.4, 'fear' in lines 1 to 4 collocates with the word 'grip', constituting the colligation pattern of 'noun + verb'. The collocations show that fear has a semantic preference of 'force' and carries the semantic prosody of 'strong'. On the other hand, in lines 5 to 6, 'fear' collocates with the word 'stoke' in the colligation pattern 'verb + noun', showing the semantic preference of 'fire' and prosody of 'intensified'.

Deignan (1999) suggests that a corpus-based approach to metaphors could start by examining the collocational and semantic patterning. Hence, colligations, collocations, semantic preference and semantic prosody were chosen for identification of the semantic sense of the metaphorically-related words. They are useful for classification of source domains. For each of the concordance lines associated with emotion words (for finding target-term present emotion metaphors) and top ten keywords (for finding target-term absent emotion metaphors), collocations were first analyzed to identify metaphorical uses. Semantic preference helps identify the semantic category of the lexical items in particular concordance lines, so it also helps metaphorical identification. These co-selection items were combined with MIP procedures as explained in Section 3.2. Collocations were useful for finding the communicative functions of metaphors in financial news discourse. After that, colligations related to the metaphors were investigated to identify any particular grammatical patterns. The senses of the words in the concordance lines were also evaluated to identify the semantic prosody. Semantic prosody helped find the implications of metaphors in the news discourse.

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After interpreting the metaphorical meanings, the intensities of emotions conceptualized by the metaphors were determined. To evaluate the relative intensity of metaphors accurately, 10 native speakers were asked to fill in a survey (See Appendix 7) and rate the relative intensity of four groups of metaphors. Group 1 is *strike*, *ruin*, *destroy* and *cripple*. Group 2 is *hobble*, *hammer*, *wreak havoc* and *kill*. Group 3 is *wind*, *whirlwind*, *storm*, *tornado*, *hurricane* and *tsunami*. Group 4 is *hit*, *punch*, *attack*, *batter*, *assault* and *bludgeon*. Each of the groups consists of a set of statements and a grid. In the sentences, different metaphors (underlined) are used to conceptualize different intensities of emotions. Each respondent had to read each sentence and rate the relative emotion intensity described by the metaphor in the grid. Number 1 represents the lowest emotional intensity and number 5 the highest emotional intensity.

3.4 Summary

This chapter explains the procedures by which the present study was conducted, including data collection, operationalization, data analysis and interpretation. It provides details of how the corpus for this research was compiled, and how source domains and metaphors were identified with the use of Wmatrix tool 2.0 and WordSmith tool 5.0. The greatest advantage of using Wmatrix tool 2.0 is that it can automatically allocate the words in corpus texts to different semantic fields. This function is important for analysis of metaphor. First, researchers do not need to use their own intuitions or dictionaries to decide if a word belongs to a certain semantic field. This greatly saves time compared with manually annotating the corpus. Second, because of automatic annotation, the accuracy of assigning the semantic categories is increased and researchers may find more significant results of potential metaphors in a semantic field. However, the limitation of Wmatrix tool 2.0 is that, since its annotation of words is based on a dictionary, some words that are supposed to be in a particular semantic field may be missed out. Comparisons between Wmatrix tool 2.0 and WordSmith tool 5.0 also show that the concordancing function in Wmatrix tool 2.0 is yet to be developed.

As for metaphor identification, the chapter explains how the corpusbased approach can be integrated into the MIP method. Sinclair's collocation, colligation, semantic preference and semantic prosody give the MIP method a stronger basis for the analysis of metaphors in this study. This study posits that the co-selection items would be useful for finding the communicative functions of metaphors in financial news discourse. The next chapter will discuss the quantitative findings and metaphorical words related to emotions.

Chapter 4 Quantitative findings

This chapter is devoted to the discussion of the quantitative findings related to lexical items in emotion domains. Given that there is a relatively higher frequency of occurrences in the domains of FEAR, ANGER and ANXIETY, the lexical items in these three semantic fields will be studied in this and the following chapters. This chapter will first present the frequency of lexical items in FEAR, ANGER and ANXIETY annotated by the USAS tool of Wmatrix, followed by the results of metaphor identification. It will reveal how the metaphors were categorized into different source domains by analyzing the collocations, semantic preference and semantic prosody associated with emotion words. After that, the list of source domains generated from the CGFC will be compared with the findings of Kövecses (1986) and Stefanowitsch (2006). We will argue that it is important to use naturally occurring data and take discourse into consideration for metaphor analysis. The grammatical structure for the target domain and source domain elements will also be discussed. Different grammatical patterns will give a clue as to how metaphors convey information compactly in various ways.

4.1 Distribution of lexical emotion terms

Lexical items from the Corpus of Global Financial Crisis (CGFC) were automatically allocated by the USAS tool of Wmatrix tool 2.0 to the semantic field of EMOTION. A USAS semantic tag was assigned to each lexical item to represent the semantic field it belongs to. The lexical items were then categorized into four main semantic fields of emotion: CALM/ VIOLENT/ANGRY (E3), HAPPY/SAD (E4), FEAR/BRAVERY/SHOCK (E5), and WORRY, CONCERN, CONFIDENT (E6) (Archer, Wilson, & Rayson, 2002). It should be noted that 'calm' can be an emotion word as in 'then I'll calm down' or a metaphor from weather (e.g. British people want calm leadership). In each semantic tag, the singular negative sign (e.g. E4.1-) indicates that the lexical items in the field are antonyms of the same semantic tag with a positive sign (e.g. E4.1+). The more plus signs, the higher intensity the emotion has. For instance, 'jolly' belongs to E4.1+ whereas 'happiest' belongs to E4.1+++. Table 4.1 shows the results of semantic annotations in the field of emotion with frequencies:

USAS	Semantic field	Number of	Frequency	Relative
Semantic tag		lexical items		Frequency %
E3	CALM/VIOLENT/	2	13	0.17
	<u>ANGRY</u>			
E3+	CALM	47	165	2.11
E3-	VIOLENT/ ANGRY	241	1403	17.93
E3		3	4	0.05
E3		2	2	0.03
E4.1+	<u>HAPPY</u>	75	373	4.77
E4.1+++		3	6	0.08
E4.1-	<u>SAD</u>	87	771	9.85
E4.1		2	3	0.04
E4.2+	<u>CONTENT</u>	23	87	1.11
E4.2-	DISCONTENTED	20	78	1.00
E5+	BRAVERY	8	27	0.35
E5++		1	1	0.01
E5-	FEAR	95	1108	14.2
E6+	<u>CONFIDENT</u>	27	655	8.37
Е6-	WORRY	101	2016	25.8

Table 4.1. Distribution of lexical items in different semantic fields of emotion

As shown in Table 4.1, the frequencies of emotion lexical items with a negative sense (N= 5625, relative frequency: 71.9%) are much higher than those of lexical items with a positive sense (N= 2040, relative frequency: 26%), showing that emotions of investors are more negative than positive because of the outbreak of the financial crisis. The most dominant semantic field is <u>WORRY</u> (E6-, N=2016), followed by <u>VIOLENT/ ANGRY</u> (E3-, N=1403) and <u>FEAR/ SHOCK</u> (E5-, N=1108).

Mass media plays a crucial role in shaping the views of the public (Shaw & McCombs, 1977). The study by Altheide and Michalowski (1999) shows that words conveying fear are pervasive in media texts, especially news reports of public disturbances, because this can increase the negative perceptions of readers. The findings here seem to be in line with their observation. The high frequency of negative emotion words suggests that in the news reports of the global financial crisis, journalists use emotion words as a strategic tool to influence the perception of readers towards the financial situation. Metaphors conceptualizing emotions would strengthen the negative force in the news reports, and influence the thinking and actions of investors as well as the public. Chapter 5 will discuss metaphorical expressions which contain both target and source domain elements (e.g. fear [target domain] *rippled* [source domain] through the market).

One of the problems of annotated corpora is that the words assigned to a semantic field may not belong there (Stefanowitsch, 2006). Hence, all the concordance lines associated with each lexical item assigned to the semantic fields of <u>FEAR</u>, <u>ANGER</u> and <u>ANXIETY</u> were manually scrutinized to filter out the wrongly assigned words. It was found that a large number of lexical items which are related to the emotions, such as 'traumatize', 'chilling' and 'cowardice', were included in the semantic fields of <u>FEAR</u>, <u>ANGER</u> and <u>ANXIETY</u>. According to the type of metaphors identified by Goatly (2011b), expressions like 'traumatize' refer to disaster and could be regarded as target-term absent metaphors which express the emotions. It may be not easy to identify which particular kind of emotion the metaphorical expressions directly refer to. However it is also worth discussing how journalists make use of different source domains such as DISASTER and WAR to describe negative emotions in news reports. Hence, this part of the analysis will be further discussed in Chapter 6.

The semantic annotation function of Wmatrix tool 2.0 brings convenience to researchers. However, it should be noted that the annotation of words is not perfect for semantic analysis. First, the annotation of words is solely based on the basic semantic meaning of a word or phrase. The annotation of words may overlook the polysemous nature of words. For instance, the word 'stress' has a primary meaning of 'exert pressure on'. It can refer to the emotion of anxiety and also the action 'emphasize'. It is found that the sense of 'emphasize' is mistakenly identified as 'anxiety' in some concordance lines. Hence, after manual scrutiny of each concordance line, the wrongly assigned words and duplicates were removed. Lexical items with frequency lower than 10 were also disregarded in this study.

After the filtering of unsuitable words and removal of words with frequency less than 10, the semantic field <u>FEAR</u> contains 20 types³ of lexical items with a total of 1049 occurrences. Some of the types are illustrated in Table 4.2.

Lemma	Inflection	Derivation	Frequency in 1 mil wd
			(sub-total)
Fear (337)	Fears (155)	Fearful (52)	606
	Feared (43)		
	Fearing (19)		
Panic (162)	Panics (10)	Panicky (12)	207
	Panicked (23)		
Scare (18)	Scared (34)	Scary (30)	82
Alarm (21)	Alarmed (14)	/	54
	Alarming (19)		
Frighten (/)	Frightening (18)	/	36
	Frightened (18)		

Table 4.2. Distribution of lexical items in the semantic field FEAR

As shown in Table 4.2, 'fear' (N= 337), 'panic' (N= 162) and 'alarm' (N= 21) can be nouns or verbs. The verb form of 'fear' has inflections such as 'fears' (N= 155), 'feared' (N= 43) and 'fearing' (N=19). Altogether, the noun form, verb form, inflections and derivations of 'fear' account for the highest frequency (N= 606) among all types in the semantic field <u>FEAR</u>. The word with the second highest frequency is 'panic' and the verb inflection 'panics' as well as its derivation 'panicked', totaling 207 words. Among the lexical items, 673 lexical

³ The use of the word 'type' in this study is different from that in WordSmith 5.0. It means the number of kinds of lexical items in a semantic field. The derivations and inflections of a lexical item are counted as different types. For example, scary, scaring and scared were regarded as 3 different types of words.

items of <u>FEAR</u> are nouns (e.g. 'fear' and 'panic'), 212 are adjectives (e.g. 'alarmed' and 'panicky') and 164 are verbs (e.g. 'frightened' and 'feared').

The semantic field of <u>ANXIETY</u> contains 21 types of lexical items with 1561 occurrences in total, which is slightly more than the occurrences for the semantic field of <u>FEAR</u>. Table 4.3 reveals the frequency of some of the lexical items:

Lemma	Inflection	Derivation	Frequency in 1 mil
			wd (sub-total)
Worry (131)	Worried (237)	Worrisome (19)	520
	Worries (110)		
	Worrying (23)		
Anxious (36)			114
Anxiety (78)			
Concern (171)	Concerns (182)		506
	Concerned (153)		
Distress (37)		Distressed (102)	139
Stress (97)			97
Nervous (69)		Nervousness (10)	79
Under pressure			39
(39)			

Table 4.3. Distribution of lexical items in the semantic field <u>ANXIETY</u>

The frequencies for 'worry' (N =131) and 'concern' (N =171) include both noun and verb forms. The word 'concern' and its inflections account for the highest frequency of occurrences (N= 506) in the corpus, followed by 'worry' and its inflections and derivations (N= 520). As with the semantic field <u>FEAR</u>, noun (N= 728) is the commonest word class in the semantic field <u>ANXIETY</u> (e.g. 'anxiety', 'concern' and 'nervousness'), followed by adjective (N= 493) (e.g. 'worried' and 'nervous'), and verb (N= 338) (e.g. 'worrying' and 'concerned'). 'Worrying' and 'concerned' can be a verb, but can also be an adjective. The verbs 'fear', 'worry' and 'concern' underwent nominalizations, so they are ontological metaphors. Comparatively, the semantic field <u>ANGER</u> has the lowest number of lexical items. There are only three types of lexical items constituting 148 occurrences. Wmatrix tool 2.0 has classified a great many lexical items into the semantic field <u>ANGER</u>, such as 'hit', 'grappling' and 'brutal', but these words do not have direct relationship with the emotion. However, they belong to the source domain of WAR and so will be discussed in Chapter 6. Other lexical items that are expected to be seen in the semantic field <u>ANGER</u> such as 'furious' and 'angered' are less than 10 in terms of occurrences, and so were disregarded in this study. Table 4.4 shows the distribution of lexical items and the corresponding frequency of occurrences:

Word	Frequency in 1 mil wd (sub-total)
Anger (67)	126
Angry (59)	
Outrage (21)	21

Table 4.4. Distribution of lexical items in semantic field ANGER

Among these 147 occurrences, 88 lexical items are in noun forms such as 'anger' and 'outrage'. The rest are adjectives which are manifested by the word 'angry'.

From the above findings, we can see that the frequency of adverbs in all three semantic fields is lowest (i.e. each of the adverbs is lower than 10). This may be because the adverbs describe actions done in an emotional way. Financial news may not contain much description of actions of this kind. The next section will show how the metaphors that co-occurred with the emotion words were identified from the CGFC.

4.2 Possession of negative emotions

The financial crisis that happened in 2008 had a great impact on countries worldwide. It is assumed that in the media coverage, journalists will report the negative emotions of different agents such as investors, consumers, business institutions and government officials. To identify the parties that are feeling afraid, angry, or anxious, it is useful to look at the concordance lines and identify the corresponding collocations. In the following sections, I will report the corpus findings about the agents that feel afraid, angry and anxious. I will also discuss the different reasons for the negative emotions.

4.2.1 Who feels fear and why do they feel fear?

In the CGFC, some of the concordance lines show that the agents possessing the emotion of fear are explicitly stated. The frequency of occurrences related to the main agents are summarized in Table 4.5:

Agent	Frequency	Relative frequency (%)
Investor	372	36.2
Consumer or client	124	12.1
Business institution	210	20.4
Country	63	6.1
Government	35	3.4
Expert	40	3.9
TOTAL:	844 (out of 1029)	82.1

Table 4.5. Frequency of agents feeling fear

Table 4.5 reveals that the agents feeling fear are mainly investor (N=372, 36.2%), followed by business institution (N=210, 20.4%) and consumer or client (N=124, 12.1%). The highly frequent co-occurrence between the lexical items of <u>FEAR</u> and investors or business institutions is reasonable. This is because the financial crisis has a direct impact on investors and business institutions. The other agents include government, country and expert. The following sections will discuss the reasons why each of the above agents were described as feeling fear, and how the emotion of fear affects the policies or plans of different parties.

4.2.1.1 Investor

In the news reports, journalists frequently associate the word 'investor' with lexis in the semantic field <u>FEAR</u>. Figure 4.1 shows the concordance lines associated with the lexical items of <u>FEAR</u>.

1 since World War II, S&P says. Investor **fear** spiked to its highest level in si 2 Lehman bankruptcy might set off so much **fear** among investors that the market w In another signal of growing investor fear, gold prices rose \$25.70, to \$100 4 estment banks further stoked investors' **fear** that a deep recession was on the 5 and profit reports underscored investor **fears**. Microsoft surprised investors b 6 tt was not enough to fully placate the **fears** of investors. The cost of protec 7 t to stabilize the markets. <u>Investors</u>, **fearful** that the worst is still to com 8 ings will someday get better." Anxious, **fearful** <u>clients</u> So are some financial 9 coursed through the markets. <u>Investors</u> **feared** the decision in Washington woul 10ill Lynch to Bank of America. <u>Investors</u> **feared** that the last remaining indepen 11ified terror" now rules global markets. **Fearing** the future, <u>investors</u> are sell 12<u>investors</u> are reluctant to get out now, **fearing** they will sell at or near the 13a and Brazil halted to stem an <u>investor</u> **panic**. °BIt looks pretty ugly down the 14mporarily fallen because of unreasoning panic among investors. Financial compe 15 at it recently, she had \$349,000. "I'm **afraid** to look," she said. Shank, a Ha 16 I have to work more." <u>Many people</u> are **afraid** to borrow money, slowing the re 17 the elements that normally appear when **scared** <u>investors</u> finally get spooked e 18d ground °X have left <u>financial players</u> **scared**. Investors also remained concer 19ekly records. Investors were taken on a scary ride. On Friday, the Dow plunged 20ing economy. The political tumult might **scare** off <u>foreign investors</u>. "Governme 21 large that foreign investors would get **spooked**. They might then decide that o 22s fell sharply. But investors were also **spooked** by the Fed's weak projections 23ng." The failure of the bailout package frightened investors that the economic 24 Chase , but the terms of the sale have frightened investors in other troubled Figure 4.1. Concordance lines 'Investor + lexis of FEAR'

As shown in Figure 4.1, other linguistic choices in addition to 'investor' are 'client' (line 8), pronouns like 'I' (line 17), 'many people' (line 18) and 'financial players' (line 20). The concordance lines reveal that investors feel fear due to a variety of reasons such as the financial situation. This is manifested by expressions including 'deep recession' (line 4) and 'the worst is still to come' (line 7). The expressions show that the financial situation at that time was unstable and it was hard to predict the development of the global financial crisis. In addition, investors are afraid because of the situation and performance of business institutions and because of political decisions. Examples of expressions associated with these factors are 'Lehman bankruptcy' (line 2), 'last remaining independent bank' (line 10), 'the decision in Washington' (line 9) and 'failure of the bailout package' (line 25). These expressions show the link between the fear relating to the financial situation, to the performance of business institutions and to the political decisions taken to deal with the situation. A series of business institution bankruptcies triggered the financial crisis in 2008 and caused the fear of investors that the situation might continue to worsen. The introduction of a bailout package by the Federal government was an attempt to rescue the economy and appease the fear of investors. However, some investors were not confident about the rescue plan, and were afraid that it might not be enough to stop the crisis. These reasons caused the investors not to borrow money or make further investments.

If we compare the adjectives in the semantic field <u>FEAR</u>, we find that the words 'panicked' and 'frightened' more frequently co-occur with 'investors'. Figure 4.2 shows the corresponding concordance lines:

1 in Chinese buying is part of a rush by **panicked** <u>investors</u> into U.S. Treasurys, 2 oint since the financial crisis began, **panicked** <u>investors</u> are asking: How much 3 financial-bailout package -- and while **panicked** <u>investors</u> react to the congres 4 ernet analyst at RBC Capital Markets . **Panicked** <u>investors</u> are moving out of hi 5 billion stimulus package. Furthermore, **panicked** <u>investors</u> have been selling so 6wer low and scare the pants off already **frightened** <u>investors</u>, not all individua 7ked hedge funds pulling out cash. It is **frightened** <u>investors</u>. 'There is no reas 8 officials tried to send assurances to **frightened** <u>investors</u>.' There is no reas **Figure 4.2. Concordance lines** 'panicked/frightened + investors'

As revealed in Figure 4.2, the words 'panicked' and 'frightened' serve as a premodifier to describe the fear of investors. Comparatively, they rarely co-occur with other agents such as 'business institution' or 'government'. Hence, the findings suggest that the words 'panicked' and 'frightened' are preferred when journalists describe the emotions of individuals rather than organizations such as businesses and governments.

4.2.1.2 Business institutions

The emotion of fear is not just possessed by people like investors, business clients and consumers, but also by business institutions. Figure 4.3 shows the concordance lines associated with words referring to business institutions and the lexical items of <u>FEAR</u>.

1.ertainty that they dared not lend, for **fear** of killing their <u>banks</u> with bad lo 2. The high lending rate reflects <u>banks</u>' **fears**: They have no confidence that the 3. even <u>Toyota</u> said this weekend that it **fears** the impact on the parts suppliers 4.re are differences. The <u>Bank of Japan</u>, **fearful** that expansionary fiscal policy 5. a day at a time, as <u>banks</u> become more **fearful** of giving out cash. The volume 6.nounced Monday morning. <u>Merrill Lynch</u>, **fearing** it would be next, had agreed to 7.1 week, with <u>giant multinational banks</u> **afraid** to lend money to other giant mu 8.ing * Industries or <u>Financial Services</u> **Panic** turned to elation on Wall Street 9.urchases, if not done properly, could **alarm** <u>bank shareholders</u> by appearing to **Figure 4.3. Concordance lines 'business institution + lexis of FEAR'**

Figure 4.3 shows that the majority of business institutions that show fear are banks, which is realized by phrases such as 'for fear of killing their banks' (line 1), 'the high lending rate reflects banks' fears' (line 3) and 'giant multinational banks afraid to lend' (line 7). These expressions show that during the financial crunch, the banks were afraid to lend money to the public for mortgages or to other banks. This was to prevent the accumulation of bad loans after a series of

business institution bankruptcies. To tackle the problem, the banks attempted to increase the lending rate to avoid there being too many borrowers. In fact, the lexical item 'fear' from lines 2 to 8 is also metaphorical because the business institutions are conceptualized as human, as in 'banks' fears' (line 2), 'the bank of Japan, fearful' (line 4), 'banks become more fearful' (line 5).

Other business institutions involved include the car manufacturer *Toyota* (line 4) and investment bank *Merrill Lynch* (line 7). The financial crash seriously affected auto sales. Auto giants like *Toyota* also feared that the quality of the auto materials provided by their suppliers would go down.

4.2.1.3 Market

In some concordance lines, the possession of fear is not explicitly stated. Rather, the lexical item 'fear' frequently co-occurs with the word 'market' to form the phraseological pattern 'fear in the market'. This pattern is only regularly associated with the word 'fear', not with other words such as 'panic' and 'alarm'. Figure 4.4 illustrates the pattern:

```
1 the VIX. 'It's showing a huge amount of fear in the marketplace.' The VIX is h
2 arch. 'There is an inordinate amount of fear in the market.' The Dow Jones ind
3 we're running into is there is a lot of fear in the market," said Adam Birzgal
4 ue plan, which in turn may stir renewed fear in the markets. Treasury Secretar
5em: WPT053603097108Coping With Panic and Fear in the Markets Section: Financial
6 at that are positive.°© In addition to fear in the markets, a significant dec
7 have not reached high enough levels of fear in the options market to suggest
8 t how investors can cope with panic and fear in the markets and how they can a
9f confidence that is feeding unnecessary fear in the marketplace," Bair said in
Figure 4.4. Concordance lines 'fear + in the market'
```

As shown in Figure 4.4, the word 'fear' co-occurs frequently with the word 'market' in the corpus in phrases such as 'fear in the markets' (N= 4), 'fear in the marketplace' (N= 2) and 'fear in the options market' (N= 1). The concordance lines reveal that the reasons for the fear include fluctuations in stock performance and the introduction of a rescue package. The results accord with the findings related to investor fear and business institution fear. Metaphorically, the word 'fear' is treated as an object (FEAR IS AN OBJECT) that is present in the bounded space 'market' (MARKET IS A BOUNDED SPACE). Interestingly, in L1-L3 positions of the search word 'fear', we find that phrases expressing quantity are recurrent (N=4). Examples of such expressions

are 'huge amount of' (line 1), 'inordinate amount of' (line 2), 'a lot of' (line 3), and 'high enough levels of' (line 7). This shows that the ontological stage of reification has taken place, so that the abstract things like emotions can be measured (Goatly, 1997). Comparatively, this kind of phrase rarely co-occurs with the pattern involving lexis in the semantic field <u>FEAR</u> and the word 'investor' (See Section 4.2.1.1), or involving the lexis of <u>FEAR</u> and terms referring to business institutions (See Section 4.2.1.2). This seems to show there are some criteria for linguistic choice in news reports: if journalists want to express the high intensity of fear, they will prefer the phrase 'in the market' instead of specifying that the fear belongs to business institutions or investors.

On the other hand, the word 'panic' is modified frequently by the adjective 'financial'. Figure 4.5 shows the corresponding concordance lines:

1 t "America could slip into a	financial	<pre>panic," Bush blamed the crisis on "easy</pre>
2 nhattan mansion amid growing	financial	${\tt panic}$ and declared, $^\circ {\tt \beta This}$ is where the
311 was less likely to spark a	financial	<pre>panic. And Lehman has had access to fun</pre>
4as made to avoid a full-blown	financial	panic and had nothing to do with Hypo,
5hat has been absent since the	financial	<pre>panic broke out last fall. Richard Bern</pre>
6rk together to stop a growing	financial	<pre>panic, but they failed to offer a syste</pre>
7ther to quell an intensifying	financial	<pre>panic that threatens the world economy.</pre>
Figure 4.5. Concordance lines	'financial	+ panic'

Figure 4.5 shows collocational patterns involving the adjective 'financial' and the noun 'panic'. There are two important things to notice in these concordance lines. First, when journalists describe the panic of a country or other group, they tend to use the adjective 'financial' to represent the domain of emotion instead of the phrase 'in the market' as in the case of the word 'fear'. Second, the concordance lines show that the verbs or phrasal verbs that co-occur with 'financial panic', such as 'slip into' (line 1), 'spark' (line 3) and 'broke out' (line 5), express the arousal of panic. Verbs like 'avoid' (line 4), 'stop' (line 6) and 'quell' (line 7) express an attempt to assuage the emotion of panic. These two kinds of verbs signify the change of state of the emotion, implying that 'panic' is more sudden and uncontrollable compared with other lexis in the semantic field <u>FEAR</u>.

The results reveal that the financial crisis had a serious impact on the public. The public not only includes investors, but also consumers. The financial crash influenced the spending habits of consumers. Figure 4.6 shows the concordance lines associated with the word 'consumer' or 'client' and the lexical items of FEAR.

1 rmenos can hear and feel the financial **fear** gripping his <u>customers</u>. They stop 2 ession: tightening credit and <u>consumer</u> **fear** reduced demand for manufactured g 3 boost. <u>Consumers</u> now hoarding cash for **fear** of losing their jobs would start 4 cuts will spread and <u>consumers</u>, already **fearful**, will have less money to spend 5 and incurring transactional fees. 'I'm **fearful** that <u>consumers</u> will make decis 62008; Page D01 The American <u>consumer</u> is **scared** stiff. New economic data show t 7 mode are reluctant to lend. <u>Consumers</u>, **spooked** by job losses, dwindling 401(k) 8 ay, as then, uncertainty has <u>consumers</u> **spooked**. By some measures, stock market 9 e says. <u>Consumers</u> have been adequately **frightened** by the implosion of home pri

Figure 4.6. Concordance lines 'consumer/client + lexis of FEAR'

As revealed in Figure 4.6, consumers avoided spending on goods or dining out. They were also reluctant to invest further after the financial crisis occurred. This is manifested by phrases such as 'reduced demand for manufactured goods' (line 2), 'consumers now hoarding cash' (line 3) and 'frightened by the implosion of home prices' (line 9). The reason for changing spending habits was the fear of losing jobs, as shown in the above concordance lines, for example lines 3 and 7.

4.2.1.5 Country and government

The financial crisis involved a great number of countries in the world. Figure 4.7 shows the corresponding concordance lines:

1TOKYO - A new emotion is gripping <u>Tokyo</u>: **fear**. The world[®] Is second-largest eco 2 <u>China</u> is cautious when it [discuss...]for **fear** of sending a signal that could si 3 at "<u>America</u> could slip into a financial **panic**," Bush blamed the crisis on "eas 4 <u>the U.S., Europe and Japan</u>, is raising **fears** that even so-far-resilient devel 5 -welts that help explain the <u>country's</u> **fears** of inflation and its interest in 6 where else in the world, <u>the French</u> are **scared**. Scared for their savings, scar **Figure 4.7. Concordance lines 'country + lexis of FEAR'**

Figure 4.7 reveals that country names frequently co-occur with the lexis of \underline{FEAR} . The country names are metonyms that could stand for the local people or the government. The concordance lines show that a number of countries often described in the news reports are those with advanced economies such as China (line 2), America (lines 3 and 4), France (line 6) and Japan (line 1). People are 132

afraid of the economic problems brought by the financial crisis such as inflation ('country's fears of inflation' in line 5). Also, some countries such as China are also careful of their responses to the media to prevent sending signals that might worsen the performance of the market (line 2). All these findings suggest that the financial crisis happening in 2008 is globalized, large-scale and influential.

However, if we look at the concordance lines that associate a government with the emotion of fear, we will find that the reasons for the fear are more related to the introduction of a rescue package. Figure 4.8 shows the corresponding concordance lines:

1 analysts and <u>senior government officials</u> **fear** that taxpayers may be giving up 2 happen if the credit crisis didn't ease; **fear** that <u>Congress</u> would be blamed fo 3 hman will be a test. <u>Financial officials</u> **fear** another failure of a big counter 4 ting suggested that <u>European governments</u> **feared** they would need to intervene a 5 institutions it does business with. What **frightened** <u>Fed and Treasury officials</u> 6 <u>anke and Mr. Paulson</u> dismissed the idea, **fearing** it would do far more harm tha **Figure 4.8. Concordance lines 'government + lexis of <u>FEAR</u>'**

The concordance lines show that the United States Congress raised several concerns about the introduction of a rescue package. On one hand, they feared that an injection of taxpayers' money into the toxic assets would raise the fury of taxpayers. On the other hand, they were afraid that the rescue plan would not be successful, and they would be the scapegoat if the situation did not ease.

4.2.1.6 Experts

Apart from the public's and government's voices, the voices from financial experts play an important role in the financial crisis. The reporting of expert opinion in news reports enables the readers to analyze the financial situation or government policies in a more objective way. Figure 4.9 shows the concordance lines associated with terms relating to 'expert' and the lexis of <u>FEAR</u>.

1 data Monday underscored <u>economists'</u> **fears** that the nation is falling into a d 2 competence. <u>GOP Strategists</u> Whisper **Fears** Of Greater Losses in November By Ch 3 he <u>traders and analysts</u> on Wall [...] **fearing** the worst. This time, however, th 4champion of free trade; <u>some analysts</u> 5 money at levels that <u>some economists</u> **fear** a move by Congress to restrict forei **fear** could undermine the nation's economo **Figure 4.9. Concordance lines 'expert + lexis of <u>FEAR</u>'** As shown in Figure 4.9, experts whose opinions are mentioned by the media include economists (lines 1 and 5), strategists (line 2) and analysts (lines 3 and 4). The concordance lines show that the experts feared that the financial situation might get worse. For instance, the economists seem to disagree with moves by the United States Congress such as the spending spree to prevent the further collapse of the financial system and restriction of foreign companies from stimulus spending. They feared that these moves might affect the economic security of the United States.

4.2.2 Who is angry and why are they angry?

In section 4.2, we have detailed the agents that are described as feeling fear in the media coverage of the financial crisis. The findings reveal that fear is possessed by a diversity of agents such as investors, business institutions, governments, consumers and clients, as well as economists and other experts. Their fear relates to a number of different things, including the feasibility of the rescue package, stock performances, the change in government policies and bankruptcies of businesses. Compared to the findings related to fear, corpus data shows that the word 'anger' co-occurs more frequently with words associated with the public or political parties. The frequency of occurrences related to the main agents are summarized in Table 4.6:

Agent	Frequency	Relative frequency (%)
Public	45	30.6
Political party	39	26.5
Business institution	8	5.4
Country	5	3.4
Government	5	3.4
Expert	0	0
TOTAL:	102 (out of 147)	69.3

Table 4.6. Frequency of agents feeling anger

As shown in Table 4.6, the agents feeling angry are mostly the public (N=45, 30.6%) and political parties (N=26.5, 38.2%). Compared with the findings relating to agents that feel fear, no concordance lines show co-occurrence between experts and anger. This is probably because the role of experts such as economists and analysts is to predict economic situations or evaluate the

effectiveness of policies. According to Berkowit and Harmon-Jones (2004), people who feel angry usually do so because some event or situation is non-acceptable, and they want to change the situation. Therefore, it is more reasonable to report the anger of the public or a political party in the media coverage rather than that of analysts and economists. The following sections will discuss the reasons for public anger and political anger.

4.2.2.1 Public

The corpus data shows that the word 'anger' is frequently preceded by the word 'public' or other words related to the public. Figure 4.10 illustrates the main agents possessing the emotion of anger:

1"The first is understanding that $\underline{taxpayer}$ anger and frustration," Gibbs said. B 2unds has evaporated in the face of <u>public</u> anger over the Bush administration's 3tegists fear that an outpouring of <u>public</u> anger generated by Congress's struggl 4romise good. Mindful of the rising <u>public</u> anger at the use of public money to 5al protest hasn't fully suppressed <u>public</u> anger over the reversal of China's ec Figure 4.10. Concordance lines 'public + anger'

In several of the concordance lines above, the word 'public' clearly represents the American public as it co-occurs with people or policies in the context of the United States. Examples are 'Obama' (line 2), 'Bush administration' (line 3) and 'Congress struggle' (line 4). The findings suggest that the introduction of a rescue package caused serious controversy among the Americans. On one hand, they were angry that Congress planned to purchase toxic assets and rescue the economy by spending taxpayer funds. which seemed unfair. On the other hand, the supporters of the rescue plan were angry about the indecisiveness of Congress.

4.2.2.2 Political parties

While the American public felt and expressed anger over the rescue package because of the indecisiveness of the government or the unfairness in using taxpayer funds, political parties were angry for different reasons. Figure 4.11 illustrates the concordance patterns between words representing political parties and the lexis of <u>ANGER</u>:

lut lawmakers in both parties voiced anger over the steep cost and even skeptici 2t. Lawmakers, however, reacted with anger; Steinbrueck, the finance minister, s 3kers in both parties have expressed anger at how Paulson used the first half of 4f 23 Republicans who said they were angry that the Senate bill would extend fou 5 Bailout Proposal Meets Bipartisan 6ense. It's tapped into the populist 7ervative Republicans also expressed outrage. "?Rep. Charles B. Rangel (D-N.Y.), 7ervative Republicans also expressed outrage, echoing scornful comments by Newt 8n. In part because of the political outrage over how the program has been run, Figure 4.11. Concordance lines between political parties and lexis of ANGER

Figure 4.11 shows that words in the semantic field <u>ANGER</u> frequently co-occur with the word 'lawmaker', as in 'lawmakers in both parties voiced anger' (line 1), 'lawmakers reacted with anger' (line 2) and 'key lawmakers in both parties expressed anger' (line 3). Other words related to political parties are 'bipartisan' in 'bipartisan outrage' (line 6), 'populist' in 'populist anger' (line 7) and 'political' in 'political outrage' (line 9). The concordance lines show that politicians were also angry about the introduction of a rescue package. In the \$700 billion rescue package, Congress not only planned to purchase the toxic assets of banks and business institutions, but also reduce mortgage payments to help home owners reduce the risk of foreclosures (New York Times, 28 September 2008). The reason for this political anger is doubt about the workability of the rescue plan and the enormous cost.

4.2.3 Who is anxious and why are they anxious?

As discussed in Chapter 2, anxiety is a more complicated emotion that contains a great variety of emotions including anger and fear (Ghinassi, 2010). Hence, it may be expected that the agents feeling anxious in the financial crisis and the reasons for their anxiety are the combined agents and reasons that we found in our analyses of anger and fear.

	0	
Agent	Frequency	Relative frequency (%)
Investor	252	16.4
Business institution	213	13.8
Political party	77	5
Public	202	13.1
Government	58	3.7

Table 4.7. Frequency of agents feeling anxious

Expert	139	7.5
Financial	73	9
TOTAL:	1014 (out of 1538)	66

Table 4.7 shows that the major agents feeling anxiety are investors (N=252, 16.4%), followed by the public (N=202, 13.1%) and business institutions (N=213, 13.8%). Comparatively, government officials showed less worry in media reports (N=58, 3.7%). This may be because they are policy makers and their duty was to implement plans to stop the spread of anxiety. The following sections will discuss the agents that were described as feeling anxious in the media coverage and the reasons for their emotion.

4.2.3.1 Investor

Investors play an important role in the news reports of the global financial crisis. The plural 'investors' is always found in the CGFC. Figure 4.12 shows that the word 'investors' frequently co-occurs with the lexical item 'worry' and its inflections:

1 nt by early afternoon as <u>investors</u> worried that Sony;'s third-quarter earnings 2t to Bank of America. <u>Investors</u> had worried the confluence of crises severely t 3 at hit Texas last month, <u>investors</u> worried that an important gauge of unemploy 40mments yesterday calmed <u>investors'</u> worries about the future of banks. Investor 5ade. <u>Investors</u> around the world are worried about what the evaporation of credi Figure 4.12. Concordance lines 'investor + worried'

As revealed by Figure 4.12, investors worry about several aspects of the economic situation: stock performance, unemployment and the worsening of economy. These reasons are manifested by expressions such as 'Sony's thirdquarter earnings announcement' (line 1), 'an important gauge of unemployment' (line 3) and 'the future of banks' (line 4). This shows that the reasons for investors' anxiety are quite similar to the reasons for their fears. However, compared with the reasons for investors' fears, the concordance lines rarely show a connection between investors' anxiety and the introduction of a rescue package.

In addition to the word 'worry', 'nervous' is frequently used to modify the word 'investor'. Figure 4.13 illustrates the associated patterns:

Figure 4.13. Concordance line 'nervous + investors'

1 their money safe. Instead, **nervous** 2 ckered, Wall Street waited. **Nervous** 3ir own balance sheets, while **nervous** 4inancial crisis and reassure **nervous** 5ading positions with Lehman. **Nervous** 6ect across Latin America. As **nervous** 1 investors have fled from stocks, corporate 1 investors stayed on the sidelines on Thurs 1 investors are forcing companies to pay hig 1 investors, but even before the meeting beg 1 investors around the nation logged onto th 1 investors pulled money out of emerging mar

As shown in Figure 4.13, the word 'nervous' co-occurs frequently with 'investors'. If we look at words in the R2 position of the search word 'nervous', it is interesting to find that phrases occurring after 'nervous' tend to refer to the consequences of nervousness such as the actions of investors. Examples are 'fled from stocks' (line 1), 'logged onto their investment accounts' (line 5) and 'pulled money out of emerging markets' (line 6). This suggests that investors are reluctant to have further investment due to their nervousness about the financial situation. This accords with the findings relating to consumer fear (See Section 4.2.1.4).

In addition to the words 'nervous' and 'worry', 'investor' is also found to be frequently associated with the adjective 'jittery'. Figure 4.14 shows the related patterns:

1The president sought to calm **jittery** <u>investors</u> by assuring that bank deposits a 2 was gaveled to a close, but **jittery** <u>investors</u> sent them plunging again as Rep 3e Sept. 11 terror attacks as **jittery** <u>investors</u> struggled to digest one of the b 4ublic statements to reassure **jittery** <u>investors</u> and lenders, pledging to do anyt 5e same time to help reassure **jittery** <u>investors</u>. Many politicians have accused t 60 A.I.G. was immaterial, but **jittery** <u>investors</u> and clients pulled out of the fi **Figure 4.14. Concordance line** 'jittery + investors'

As with the pattern involving 'nervous' and 'investor', in the R2 position we find the consequences due to the emotion. This is manifested by expressions such as 'sent them [stocks] plunging again' ('line 2), 'struggled to digest one of the biggest and most sudden upheavals' (line 3) and 'pulled out of the firm' (line 6). This shows that the journalists' motivation for using the adjective to modify the noun 'investor' is an attempt to convey the link between anxiety and investors' actions or stock performances. Another noteworthy finding from the co-text is that words referring to attempts to reduce anxiety like 'calm' (line 1), 'reassure' (lines 4-5) and 'assure' (line 6) tend to associate with 'jittery investors'. This kind of verb shows the attempt of the government to stop the intensification of anxiety.

4.2.3.2 Business institutions

During the global financial crunch, different business sectors were seriously affected. As discussed in Section 4.2.1.3, the business people showing fear are more related to the banking industry. However, the emotion of anxiety was felt by people from a diversity of business disciplines. For example,

(4.1) Not long ago, 20,000 <u>textile and garment factories</u> were bustling here...And other owners are worried about mounting debts and the prospect of bankruptcy. (Barboza, 2009)

(4.2) A wide range of companies...are worried about their dwindling access to credit and are putting pressure on lawmakers to act. Among them are <u>cash-strapped small businesses</u>, <u>the ailing auto-dealership industry</u> and <u>franchise</u> <u>owners of chain restaurants such as McDonald's and Sonic</u>. (Cho & Fletcher, 2008).

Examples 4.1 and 4.2 show that the businesses experiencing worry include textile and garment factories, small businesses, the auto-dealership industry and chain restaurants. The findings show the link between the worries people felt and the debts of companies that were the main trigger of the global financial crisis. The mounting debts caused the bankruptcy of financial institutions such as Lehman Brothers. The incidents triggered the worries of other companies that they might suffer the same fate. Moreover, the disclosure of the mounting debts of business institutions during the financial crisis enabled the financial institutions to raise the lending rate. This action increased the pressure on many small businesses and industries.

4.2.3.3 Political parties

As discussed in Section 4.2.2.2, the political anger described in the news reports is due to the expense of enormous taxpayer funds and doubts about the feasibility of the rescue plan. The worry of lawmakers is also related to the bailout plan:

- (4.3) ... adopt conflict-of-interest rules for any private firms that are hired to help the Treasury manage the bailout program. <u>Some lawmakers</u> were worried that such firms might also own assets that could grow in value depending on how the rescue plan was run. (Haynes & Schneider, 2009)
- (4.4) <u>Some lawmakers</u> said they were worried that the Fed has already expanded its own balance sheet from about \$800 billion to nearly \$2 trillion as it created lending programs for stressed financial markets. (Kirchhoff & Gogoi, 2009)

As shown in Examples 4.3 and 4.4, lawmakers worry that the private companies which help manage the bailout plan may have a conflict of interest, and the bailout program may cost more than \$800 billion.

4.2.3.4 Public

In the corpus data, the word 'worried' often co-occurs with proper nouns and personal pronouns. Figure 4.15 illustrates the concordance patterns of the word 'worried':

1 Silva, 33, a floor manager. "I'm worried a lot. ... I will lose my job. I just 2 surveyed throug[...] said they had worried about money the day before, according 3is two years from retirement, was worried about her small business account. She 4 28). One woman, <u>Cynthia Shank</u> is worried about her individual retirement accou 5g and not think about it. Now I'm worried about providing for myself." Retireme Figure 4.15. Concordance lines 'interviewees + worried'

As revealed in Figure 4.15, the verb 'worried' associates with proper nouns such as 'Cynthia Shank' (line 4) and personal pronoun 'they' (line 2) and 'I' (line 5). The use of reported speech and direct speech in the co-text shows that these people are the interviewees who responded to the media about their feelings relating to the financial crisis. If we examine the use of the adjective 'worried' in reports about individuals, we find that the worries of interviewees are mostly about their retirement accounts. In comparison with the other reasons for fear, anxiety and anger felt by other agents, we can see that the retirement issue is more related to one's private life. This shows that the word 'worried' is a more informal word compared to 'concerned' or other adjectives, and is more used to describe personal feelings. This further suggests that the role of agents can be 140 one of the factors governing the linguistic choice of emotion words in news reports.

4.2.3.5 Government

Figure 4.16 illustrates that terms for governments worldwide co-occur with lexical items in the semantic field <u>ANXIETY</u>:

1.m 4.7% a year earlier. The Fed is **worried** about an extremely severe recession 2weren't enough, some Fed officials **worried** that the deteriorating economy could 3largest economy. Communist leaders **worry** about rising job losses and possible u 4uropean officials left[...]they were **unnerved** as credit markets pummeled institut 508 Policy makers around the world, **unnerved** by the relentless sell-off of share 6ng, also indicates that <u>Beijing</u> is **worried** that its huge dollar-denominated for Figure 4.16. Concordance lines 'government + lexis of <u>ANXIETY</u>'

From Figure 4.16, we can observe that the words 'worry', worried' and 'unnerved' co-occur with terms referring to governments or government officials. Expressions which manifest this are 'The Fed' (line 1), 'Fed Officials' (line 3), 'communist leaders' (line 4) and 'European officials' (line 5). The word 'Beijing' (line 6) is used as a metonym to stand for the Chinese government in this context. These expressions show that journalists tend to report the financial situation of countries with advanced economies such as the United States, European Union countries and China. This accords with the findings relating to government fear (See Section 4.2.1.5). The concordance lines reveal that the officials tended to worry about the economic problems that would be brought by the global financial crisis. The foreseeable problems included severe recession (lines 1) and rising jobless rates (line 3).

4.2.3.6 Experts

As discussed in Section 4.2.1.6, the analysts and economists had fears relating to the feasibility of the rescue plans and the possible problems arising from the plans. However, the corpus data reveals that the analysts and economists worried for different reasons. Figure 4.17 illustrates the associated patterns.

1 <u>Many economists</u> are **worried** that the spreading global economic weakness could 2ly. <u>Some experts</u> are **worried**. ;\$It; 's more possible to cause social unrest if t 3t markets'. <u>Analysts</u> **worry** that a host of other companies, ranging from mortgag 4at." <u>Some economists</u> **worry** that the nation is in danger of slipping into a self 5 But <u>some economists</u> **worry** that even in 2011 the economy may be too fragile to 6<u>Some market analysts</u> **worry** that a collapse of a major fund could shake confiden **Figure 4.17. Concordance lines** 'economists/analysts + worry

Figure 4.17 shows that the words 'economists' and 'analysts' tend to associate with expressions referring to societal and economic problems. This is manifested by expressions such as 'the spreading global economic weakness' (line 1), 'cause social unrest' (line 2), 'economy may be too fragile' (line 5) and 'shake confidence (line 6). This reflects the fact that the global financial crunch could cause a great many problems including rising unemployment, social unrest, tightened credit, reduced spending and diminished public confidence.

4.2.3.7 Financial discipline

As discussed in Sections 4.2.1.3, the word 'fear' is often associated with the phrase 'in the market' and the word 'panic' is frequently modified by the adjective 'financial'. Interestingly, among the lexical items in the semantic field <u>ANXIETY</u>, the words 'anxiety' and 'distress' frequently associate with the adjectives 'economic' and 'financial'. Figure 4.18 reveals the related patterns:

lho has started to see the $\underline{\text{economic}}$	anxiety show up in his practice. "Younger ki		
2bama. Among white voters, economic	anxiety translates into greater support for		
3008 Item: J0E247374381808 Economic	anxiety circles globe with U.S. recovery pla		
4, 2008 Amid the deepening $\underline{\text{economic}}$	anxiety, I.B.M. delivered a dose of reassur		
5ing right now is of great economic	anxiety." Less than two years ago, Verna Wee		
6n investors expect major financial	distress. These companies are paying 10.3 p		
7if Wachovia does go into financial	distress, the FDIC might do the same thing t		
8vestors fearful that the financial	distress could spread to Asia to sent region		
9would be able to survive financial	${\tt distress}$ on the scale of the Great Depressio		
10ff buildings because of <u>financial</u>	distress. It was a perfect icebreaker, larg		
11 attacks and subsequent economic	distress. The recent downturn with the most		
12 ake satisfaction in the economic	distress in the United States. "You are righ		
13se of the current global <u>economic</u>	distress. For the U.S. economy, which just a		
14ect the broader national economic	distress. "The economic downturn is the obvi		
15 reason for the nation's economic	distress. If the government buys the assets		
Figure 4.18. Concordance lines 'financial/economic + anxiety/distress'			

As illustrated in Figure 4.18, the word 'anxiety' tends to be modified by 'economic' (lines 1-5). The word 'distress' co-occurs frequently with both 'economic' (lines 6-10) and 'financial' (lines 11-14). This shows that the anxiety and distress are due to problems that occurred in the financial field. To emphasize the intensity and global spread of the anxiety, journalists use further adjectives such as 'great', 'national', 'broader' and 'global'. This is manifested

by phrases such as 'great economic anxiety' (line 5), 'global economic distress' (line 13) and 'broader national economic distress' (line 14).

4.2.4 Summary

In this section, we have discussed the agents that felt fear, anger and anxiety in the financial crisis. The reasons for investors' and business institutions' worry were similar to their reasons for fear. Investors and consumers were afraid because of the worsening of the financial situation and its unpredictability. They were worried about impending economic problems. Banks feared to lend money for mortgages. Small businesses and industries were worried about the prospect of bankruptcy. The public were afraid because of the economic problems that had arisen or might arise from the financial crisis. Government officials, economists and analysts were scared because they were not confident of the effectiveness of the rescue plan. They were also worried about the foreseeable economic problems. The causes of the fear felt by the various parties are interrelated.

By contrast, the main agents that were reported to be angry are the public and political parties. As with their fear and anxiety in some instances, their anger was related to the government's rescue plans. However, rather than relating to the feasibility of the plan or possible problems resulting from it, the main reasons for their anger were the solutions in the bailout package. The public were angry about the unfairness of spending taxpayer funds, but some advocates of the package were angry about the indecisiveness of government about implementing the plan. Lawmakers also expressed criticisms about the bailout package as the purchase of toxic assets and reduction of mortgage payments required enormous costs. In some cases, the emotions of fear and anxiety are described as the direct causes of financial market fluctuations.

The findings also reflect that there are particular lexical-grammatical choices of emotion lemmas for some agents. In the semantic field <u>ANXIETY</u>, the words 'jittery' and 'nervous' are often used to describe investors. In addition, the word 'worry' is preferred over other choices when reporting the
emotion of interviewees. Emotion lemmas also occur in particular collocational patterns. In the semantic field <u>FEAR</u>, the lexical item 'fear' tends to occur with the phrase 'in the market' to show widespread emotion. However, the word 'panic' is often modified by 'financial'. It is also often followed by action verbs expressing an attempt to assuage anxiety. This reflects the difference between the word 'panic' and other lexical items in the semantic field <u>FEAR</u>. The spread of panic needs to be stopped immediately due to its uncontrollable nature. As for the semantic field <u>ANXIETY</u>, the words 'anxiety' and 'distress' are often preceded by the adjectives 'financial' and 'economic'. The phrase 'jittery investor' also tends to associate with words referring to an attempt to assuage anxiety. All in all, the findings have provided us with insights about the different causes of emotions in a particular context, and the lexical-grammatical choices of particular emotion lemmas in the reporting of emotions.

4.3 Identification of metaphorical use of lexical emotion terms

To examine metaphors in use, concordance lines were investigated to distinguish the literal and metaphorical uses of lexical items in the field of emotion. As discussed in Section 3.2, the criteria for distinguishing metaphorical uses in this method are based on the dictionary meaning of the word and its meaning in context. Deignan (1999) suggests that a corpus-based approach to metaphors could start by examining the collocational and semantic patterning. The collocates of emotion words are useful for identifying semantic preference. The semantic preference enables us to investigate the 'descriptive dimensions' of the concept and more details like causes and experiencers of the emotion (Oster, 2010, p.733). On the other hand, analysis of semantic prosody is useful for finding the attitudinal meaning and evaluations of a particular concept. Hence, to identify the metaphors, collocations in each concordance line containing the emotion word were first identified and classified according to various meanings. The types of collocates were examined to find the semantic preferences associated with the search words, and the semantic prosody of each lexical item was analyzed for identification of metaphors. Atypical semantic preferences associated with a lexical item may imply that there is a metaphorical use. The semantic preferences and semantic prosodies of 'fear' are instantiated as shown in Table 4.8:

Linguistic expression	Frequency (Percentage)	Semantic preference	Semantic prosody
slower economy, bearing a disproportionate burden, further losses on past loans, severe and long recession, a hard landing, in jeopardy, mortgage credit risk exists, losses are bigger	17 (11.72%)	Current financial situation	Threat
lending to or investing in banks, being wiped out completely, , withdraw cash, flooding the markets	12 (8.28%)	Investors' action	Insecurity
provide only a short-term cushion, government capital injection, thaw frozen credit markets, wipe out equity holders, paying for other countries, dilute the holdings	11 (7.59%)	Government's action	Insecurity
driving everyone's action, sweeping Wall Street, ruling the market, taken over as the main driver, dominating people's behaviour	32 (22.07%)	Force	Overpower
(fear) builds in, put (fear) into the hearts of depositors, tamping down Wall Street (fear), often a healthy thing, (fear) and greed are the stuff	21 (14.48%)	Object	Visibility
(fear) quickly returned, fled the markets, growing investor (fear), your biggest enemy, begets fear,	12 (8.28%)	Organism	Aggravation

Table 4.8. Semantic preference and prosody of 'fear'

spiked to its highest level, rising (fear), (fear) rose,	10 (6.90%)	Intensity	Heightening
what could happen, worst could get worse, what they don't understand, disheartening economic stagnation of the 1970s might return, will become a reality, more to come, extreme uncertainty in the market	10 (6.90%)	Upcoming problem	Uncertainty
risk of stoking (fear), fueled on (fear), set off so much (fear), further stoked investors' (fear)	8 (5.52%)	Fire	Increase
stem the (fear), rippling through the markets, adrift in uncertainty	5 (3.45%)	Water	Spread
stir renewed (fear), mixture of (fear), confusion, outrage and nervous, mingled with	5 (3.45%)	Mixture	Complication

As shown in Table 4.8, 'fear', syntagmatically, is often associated with phrases like 'slower economy', 'bearing a disproportionate burden' and 'mortgage credit risk', showing that words associated with 'fear' have the semantic preference of 'financial situation' (17 out of 145, 11.72%). In this semantic field, phrases like 'in jeopardy', 'severe and long recession, and 'a hard landing' describe the financial situation as a disastrous one which may result in job cuts and a poor economy. Hence words associated with 'fear' carry a semantic prosody of 'seriousness'. In addition, phrases like 'lending to or investing in banks', 'trying to withdraw cash' and 'paying for other countries' suggest that words associated with 'fear' have a semantic preference of 'investors' action' (12 out of 145, 8.28%). Apart from 'investors' action', some of the concordance lines also reflect a semantic preference of 'Government's action' (11 out of 145, 7.59%). The syntagmatic choices include 'government capital injection', 'dilute the holdings' and 'lacks the power to quickly thaw frozen credit markets'. The linguistic choices in the semantic preferences of both 'Investors' actions' and 'Government's action' also carry the semantic prosody of 'Insecurity' because the bank giants were afraid of 'being wiped out completely', the investors tried to 'withdraw cash', and the public worried that the bailout plan would 'provide only a short-term cushion'. These expressions show that investors or the public felt insecure about the corporate situation and the effectiveness of the government's rescue package.

It is noted from Table 4.8 that the semantic preferences 'current financial situation', 'investors' action', 'government's action' and 'upcoming problem' are expected to occur in financial news discourse. However, semantic preferences such as 'force', 'object', 'organism', 'intensity', 'fire', 'water' and 'mixture' are atypical in financial texts. Hence, the collocates for these semantic preferences are regarded as possessing metaphorical senses. For example, in the case of the semantic preference 'force' (32 out of 145, 22.07%), it is realized in phrases such as 'ruling the market', 'taken over as the main driver' and 'dominating people's behaviour'. The expressions also imply that nobody can escape under the influence of fear. Hence, the words associated with 'fear' carry the semantic prosody of 'overpower' (32 out of 145, 22.07%). Some words associated with fear(s) also reveal the semantic preference of

'water' (3.45%, 5 out of 145), exemplified by phrases including 'floating around the market' and 'rippling through the market'. In addition, 'fear' is also associated with words such as *stoke*, *incite* and *spark*. These lexical choices show the semantic preference of 'Fire' (8 out of 145, 5.52%). 'Fear' collocates with the verb *stoke* as in the following lines:

1 tment banks further stoked investors' **fear** that a deep recession was on the 2 are more aware of the risk of stoking **fear** and the risk of being blamed. 3 bailout of financial markets, stoking **fears** of a deep, lingering economic 4 vise it on the restructuring, stoking **fears** that the companies could be pus Figure 4.19. Concordance lines 'stoke + fear'

The associated meaning of fire implies that the emotion of fear spreads very rapidly in the financial market. Hence, in this case, words associated with *fear* have a semantic prosody of 'Increase' (8 out of 145, 5.52%).

All the above findings suggest that co-selection items including collocation, colligation, semantic preference and semantic prosody are useful in detecting metaphorical senses of lexical items. In fact, they are also useful for finding the communicative functions of metaphors in financial news discourse. Detailed metaphorical uses in various source domains will be discussed in Chapter 5. Metaphors with target-term absent that express the emotions will be discussed in Chapter 6. The communicative functions of metaphors that conceptualize and express emotions will be compared and discussed in Chapter 7.

4.4 Frequency of emotion words mapped with metaphors

The numbers of metaphors mapping onto the target domains of FEAR, ANXIETY and ANGER were obtained by the use of Metaphor Identification Procedure (Pragglejaz Group, 2007) and analysis of co-selection items (Sinclair, 2004). The co-selection items for investigation include collocations, semantic preference and semantic prosody. Table 4.9 shows the related frequency of emotion words and co-occurring metaphors.

	Lemma	Word	Frequency	% of
		frequency	of	metaphors
			metaphors	associated
FEAR	Fear(s)	492	71	14.4
	Panic(s)	172	32	18.6
	Alarm	22	3	13.6
ANGER	Anger	69	7	10.1
	Outrage	21	3	14.2
ANXIETY	Worry(s)	241	17	7.1
	Anxiety	80	19	41.3
	Tension	13	1	7.7
	Unease	13	1	7.7
	Nervousness	10	1	0.1
	Total	1133	161	1133

Table 4.9 Frequency of emotion words and associated metaphors

Among 1049 concordance lines of FEAR, only 106 co-occur with metaphorical expressions (relative frequency: 10.1%). Only 'fear', 'panic' and 'alarm' and their plural forms occur together with metaphors. This finding supports the view of Hanks (2006) that 'metaphorical uses cannot be too frequent' because 'frequency breeds literalness' (p.21). As shown in Table 4.9, the target domain of ANXIETY has the greatest variety of lexical items (5 kinds, N= 39). The lexical items include 'anxiety', 'worry' and 'unease'. As for the target domain of ANGER, only 10 out of 148 occurrences are associated with metaphors (6.8%) and it has the lowest range of lexical items associated with metaphors. The results show that the words associated with metaphors are those regarded as 'prototypical members' of lexical fields such as 'fear', 'anger' and 'anxiety'. Traditional emotion metaphor studies tend to focus on prototypical emotion words like 'fear' and' anger'. The quantitative results show that other lexical members of the emotion domains also co-occurred with metaphors in financial news articles. Hence, comparison of conceptualizations of different lexical members with the same target domain would be an interesting area for future emotion research.

Table 4.9 reveals that journalists used a large number of negative emotion words to describe the global financial crisis. Chapter 5 will provide further discussion on how negative emotions are further intensified through the use of metaphors with a negative sense.

4.5 Source domains of emotion concepts

The previous section has dealt with the identification of metaphorical senses of emotion expressions by analyzing their collocates, semantic preference and semantic prosody. This section will briefly discuss the different source domains and how colligational patterns reflect the differences in conceptualizations across the emotion concepts FEAR, ANGER and ANXIETY.

The meanings of collocates help pinpoint the type of source domain which is structuring the emotion concept. The source domains (See Appendices 4a-6b for all the concordance lines) associated with the emotion concepts FEAR, ANGER and ANXIETY are presented in Figures 4.20, 4.21 and 4.22:



Figure 4.20. Distribution of source domains mapping onto FEAR



Figure 4.21. Distribution of source domains mapping onto ANXIETY



Figure 4.22. Distribution of source domains mapping onto ANGER

The above figures illustrate a list of source domains mapping onto emotion concepts. The findings show that the target domain of FEAR can be mapped with a variety of source domains⁴ (HUMAN, PLANT, ANIMAL, WIND, FIRE,

⁴ It is inherently difficult to label a source domain because many English words are polysemous in nature. To determine the names of source domains, in the present study the naming of source domains in previous metaphor studies (e.g. Goatly, 1997; Charteris-

WATER, OBJECT, SOUND, EXPLOSION, MXITURE and DISEASE) whereas metaphors of ANXIETY mapped onto nearly as many source domains: HUMAN, PLANT, ANIMAL, WIND, FIRE, WATER and OBJECT. The collocates associated with lexical items of FEAR and ANXIETY reflect the fact that they have similar sets of source domains. The lexical items of ANGER in the CGFC mostly cooccur with words used in their literal sense, and metaphors only mapped onto the domains of FIRE and WATER. The differences in numbers of source domains may be due to the high metaphorical use of lexical items of FEAR in the corpus. This seems to suggest that journalists may tend to raise the negative perception of readers of the global financial crisis by using 'fear' as a tool rather than 'anger' or 'anxiety'. The variety of source domains mapping onto the words of FEAR may substantially enhance the negative sense they convey. Compared with the emotions of anxiety and anger, fear may have more influence on the actions of investors or financial institutions. This point will be discussed in detail in Chapter 5.

ORGANISM is one of the most recurrent source domains mapped with EMOTION. The source domain of ORGANISM includes HUMAN, PLANT and ANIMAL. It is the most recurrent source domain for the emotion concepts FEAR (N= 52 out of 113 occurrences, 46%) and ANXIETY (N= 41 out of 55 occurrences, 74.5%). Some collocates conceptualize human actions, for example, grip (e.g. troubles grip), flee (e.g. fear fled) and hobble (e.g. hobbled by worries), whereas others describe personality, including indiscriminate (e.g. fear is indiscriminate), and unrelenting (e.g. unrelenting fears). The results seemed to agree with the view of White (1997) that financial markets are often described as if they were human (FINANCIAL MARKET IS A SENTIENT BEING) because economic language is abstract in nature. Thus, it would be easier to explain the irrational performance of a financial market by describing it as a person with vulnerability and fragility. HUMAN metaphors can be further classified into REPRODUCTION, GROWTH, OPPONENT and SOCIAL SUPERIOR. Section 5.2 will discuss the different conceptualizations in these source domains. The different conceptualizations will show that emotion metaphors have various communicative functions in the financial news

Black, 2004; White, 2004) was reviewed, and the *Cambridge International Dictionary of English* (1995) was consulted to understand the core meaning of each metaphorical expression.

discourse. In particular, the section will reveal that Kövecses's schemas of OPPONENT and SOCIAL SUPERIOR need to be modified when applied to concepts in financial news. More discussion of metaphors in the source domain of ORGANISM is contained in Section 5.2.

The source domain of NATURAL FORCE includes WIND, FIRE, and WATER. More metaphors in the WATER and FIRE domains are mapped onto the domains of FEAR (WATER: 19 out of 34 occurrences, 55.9%; FIRE: 14 out of 34 occurrences, 41.2%), ANGER (WATER: 8 out of 10 occurrences, 80%; FIRE: 2 out of 10 occurrences, 20%), and ANXIETY (WATER: 3 out of 7 occurrences, 42.9%; FIRE: 4 out of 7 occurrences, 57.1%). For example, anger is conceptualized as water which can *spill out* or *bubble up* as steam whereas fear is conceptualized as a wind which *swirls* or *sweeps* the global financial market. Different kinds of NATURAL FORCE metaphors capture various intensities of emotion as well as its levels of control. Sections 5.3 and 5.4 will further interpret conceptualizations in the domains of FIRE and WATER. As with the source domains of OPPONENT and SOCIAL SUPERIOR, the section will demonstrate that discursive factors need to be taken into account when applying Kövecses's force schemas of FIRE and WATER.

As for the domain DISEASE, only four metaphors mapping onto the emotion of fear are related to disease and bacteria. Examples are *plagued* (e.g. *plagued* by the fear), *infect* (e.g. alarm has *infected* Poland) and *contagion* (e.g. *contagion* of fear). In this case, the emotion is conceptualized as DISEASE which brings a harmful influence to the 'patient' i.e. the investors.

4.6 Comparison of lists of source domains

Kövecses (1986) and Stefanowitsch (2006) have outlined conceptual mappings for the emotions FEAR and ANGER, showing how metaphors reflect the control and aggressiveness of ANGER, and the loss of control of people when feeling FEAR. Kövecses (1986) used data elicited from students and consulted Roget's University Thesaurus to identify the root analogy of emotion metaphors. Contrasting with Kövecses's use of the personal knowledge to identify metaphors, Stefanowitsch (2006) used a corpus-based method. He searched concordance lines associated with representative lexical items of emotion in BNC and identified metaphorical mappings. Also, Stefanowitsch focuses on metaphors which contain both target-domain and source-domain items. Tables 4.10 and 4.11 illustrate Kövecses's and Stefanowitsch's lists of metaphors respectively:

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	Root analogies
FEAR	1. A FLUID IN A CONTAINER (e.g. The sight <i>filled</i> her <i>with</i>
	fear.)
	2. A VICIOUS ENEMY (e.g. Fear slowly <i>crept up on</i> him.)
	3. A TORMENTOR (e.g. My mother was <i>formented</i> by fear.)
	4. A SUPERNATURAL BEING (e.g. He was <i>nauntea</i> by fear.)
	5. AN ILLNESS (e.g. Jack was <i>sick with</i> fright.)
	6. INSANITY (e.g. Jack was insane with fear.)
	7. AN INCOMPLETE OBJECT (e.g. I was <i>beside</i> myself with fear.)
	8. AN OPPONENT IN A STRUGGLE (e.g. Fear took hold of me.)
	9. A BURDEN (e.g. Fear weighed heavily on them.)
	10. A NATURAL FORCE (e.g. She was <i>engulfed</i> by panic.)
	11. A SUPERIOR (e.g. His actions were <i>dictated</i> by fear.)
ANGER	1. A HOT FLUID IN A CONTAINER (e.g. She is <i>boiling with</i> anger.)
	2. FIRE (e.g. His anger is <i>smoldering</i> .)
	3. INSANITY (e.g. The man was <i>insane with</i> rage.)
	4. AN OPPONENT IN A STRUGGLE (e.g. I was <i>struggling with</i> my anger.)
	5. A CAPTIVE ANIMAL (e.g. He <i>unleashed</i> his anger.)
	6. A BURDEN (e.g. He <i>carries</i> his anger <i>around</i> with him.)
	7. AGGRESSIVE ANIMAL BEHAVIOR (e.g. Don't <i>snarl</i> at me!)
	8. (CAUSE OF ANGER) TRESPASSING (e.g. Here I <i>draw</i> the <i>line</i> .)
	9. PHYSICAL ANNOYANCE (e.g. He's a pain in the neck.)
	10. A NATURAL FORCE (e.g. It was a <i>stormy</i> meeting.)
	11. BEING A FUNCTIONING MACHINE (e.g. That really <i>got</i> him <i>going</i> .)
	12. A SUPERIOR (e.g. His actions were completely <i>governed</i> by anger.)

Table 4.11. Stefanowitsch's list of FEAR and ANGER metaphors

	Root analogy
FEAR	1. A FLUID IN A CONTAINER (e.g. fear <i>permeate</i> X)
	2. AN ENEMY/ OPPONENT (e.g. overwhelming fear)
	3. A SUPERNATURAL BEING (e.g. fear <i>haunt</i>)
	4. ILLNESS (e.g. unhealthy fear)
	5. INSANITY (e.g. irrational fear)
	6. A NATURAL FORCE (e.g. <i>wave</i> of fear)
	7. A SUPERIOR (e.g. fear <i>dominate</i>)
	8. LIQUID (e.g. fear <i>pour out</i>)
	9. A SUBSTANCE IN A CONTAINER (UNDER
	PRESSURE) (e.g. <i>filled with</i> fear)
	10. MIX (e.g. <i>tinge</i> of fear)
	11. COLD (e.g. <i>cold</i> fear)
	12. HEAT (e.g. <i>heat</i> of fear)
	13. LIGHT (e.g. <i>flicker</i> of fear)
	14. DARK (e.g. <i>shadow</i> of fear)
	15. HIGH/LOW INTENSITY (fear rise)
	16. PAIN (e.g. be <i>tortured</i> with fear)
	17. A SHARP OBJECT (e.g. <i>prick</i> of fear)
	18. AN ORGANISM (e.g. <i>revival</i> of fear)
	19. A WILD/CAPTIVE ANIMAL (e.g. fear be <i>fierce</i>)
	20. A BARRIER (e.g. fear <i>barrier</i>)

ANGER	1. HOT FLUID IN A CONTAINER (e.g. <i>boiling</i> anger)
	2. FIRE (e.g. <i>burning</i> anger)
	3. INSANITY (e.g. <i>frenzy</i> of anger)
	4. AN OPPONENT IN A STRUGGLE (e.g. <i>fight</i> against
	anger)
	5. A CAPTIVE ANIMAL (e.g. anger be <i>loosed</i>)
	6. A BURDEN (e.g. <i>carry</i> anger)
	7. AGGRESSIVE ANIMAL BEHAVIOR (e.g. hackles
	rise in anger)
	8. PHYSICAL ANNOYANCE (e.g. <i>fit</i> of anger)
	9. A NATURAL FORCE (e.g. <i>climate</i> of anger)
	10. A SUPERIOR (e.g. anger <i>rule</i> the day)
	11. A SUBSTANCE IN A CONTAINER (UNDER
	PRESSURE) (e.g. <i>fill</i> with anger)
	12. A LIQUID (e.g. anger <i>well up</i>)
	13. HEAT/ COLD (e.g. anger have <i>lava flow</i>)
	14. A MIXED OR PURE SUBSTANCE (<i>mixture</i> of anger
	and EMOTION)
	15. LIGHT (e.g. <i>white glow</i> of anger)
	16. DARKNESS (e.g. <i>black gloom</i> of anger)
	17. HIGH/ LOW (INTENSITY) (e.g. <i>level</i> of anger)
	18. A SLEEPING ORGANISM (e.g. X <i>arouse</i> anger)
	19. A DISEASE (e.g. <i>bouts</i> of anger)
	20. GORGE (e.g. <i>bitter</i> anger)
	21. A SHARP OBJECT (e.g. <i>sharp</i> anger)
	22. A PLANT (e.g. anger <i>grow</i>)

Tables 4.10 and 4.11 show that the metaphorical mappings by Stefanowitsch (2006) by using BNC are far more numerous than those listed by Kövecses (1986). This is because Stefanowitsch used a larger corpus while Kövecses was based on a small set of data. From the corpus, Stefanowitsch (2006) has identified all the metaphorical mappings that are suggested by Kövecses (1986) except FEAR IS A TORMENTOR, FEAR IS AN INCOMPLETE OBJECT, FEAR IS A BURDEN, ANGER IS TRESPASSING, and ANGER IS BEING A FUNCTIONING MACHINE. Compared to Kövecses (1986)'s list, 11 more metaphorical mappings for the target domain of ANGER are found in

Stefanowitsch (2006)'s list, such as ANGER IS A DISEASE and ANGER IS DARKNESS. On the other hand, 12 more metaphorical mappings for the target domain of FEAR are found in the list of Stefanowitsch (2006) such as FEAR IS LIGHT and FEAR IS MIX. The large number of target-term present emotion metaphors reveals the importance of using naturally occurring data and the corpus-based approach. Kövecses's categories are problematic because of lacking lexicographical or corpus evidence. Some metaphorical mappings by Kövecses (1986) are criticized by Stefanowitsch (2006). For example, FEAR IS A VICIOUS ENEMY, FEAR IS A TORMENTOR and FEAR IS AN OPPONENT IN A STRUGGLE could be categorized into the mapping FEAR IS AN ENEMY. This argument is reasonable but the list of Stefanowitsch seems to be questionable as well. To name a few, Stefanowitsch regards *permeate* in 'fears *permeate* X' as a CONTAINER metaphor, but containers can't be permeated; Irrational is not a metaphor; Wave belongs to EMOTION IS CURRENT/WAVE instead of NATURAL FORCE; Tinge belongs to EMOTION IS COLOUR instead of EMOTION IS MIX; The source domain RISE relates to INCREASE and is not associated with emotion or fear in particular; *Tortured* and *prick* are BAD EMOTION IS DISCOMFORT instead of PAIN and SHARP OBJECT; fear barrier doesn't mean FEAR IS A BARRIER. Instead, barrier means the limitations which prevent one overcoming fear such as FREEDOM IS SPACE TO MOVE. Also, FEAR IS A WILD/CAPTIVE ANIMAL is separate from another mapping FEAR IS AN ORGANISM. An enemy or superior is usually an entity with life, so FEAR IS AN ENEMY and FEAR IS A SUPERIOR should also be subcategorized under the mapping FEAR IS AN ORGANISM. This shows that Stefanowitsch's categories are even less principled than Kövecses's.

Compared with the metaphorical mappings listed by Kövecses (1986) and Stefanowitsch (2006) (see Tables 4.10 and 4.11), the findings from the CGFC show that the distributions of source domains mapping onto ANGER and FEAR are slightly different. Many of the source domains of FEAR suggested by Kövecses (1986) including FLUID IN A CONTAINER, TORMENTOR, SUPERNATURAL BEING, INSANITY and A DIVIDED SELF are absent in the list of source domains mapping onto FEAR (see Figure 4.21 and Table 4.10). The metaphor AN OPPONENT IN A STRUGGLE (e.g. fear *tightened its grip*) is subsumed under the domain FEAR IS ORGANISM in this study. Interestingly, the emotion of anger is often regarded as more aggressive and explosive than that of fear (Rule and Nesdale, 1976). It may be expected that FIRE metaphors only map onto the domain of ANGER. However, the data shows that metaphors of FIRE frequently map onto the source domain of FEAR (N= 12), as in '*stoke* fear of recession'. The frequency of occurrence of FIRE metaphors is high in the CGFC, possibly because the emotions of investors are highly influenced by the unpredictable decisions of financial institutions and stock performances. It is widely known that fire easily and quickly spreads to the surroundings once it breaks out. In a similar way, the emotion of fear immediately spreads in the financial market after negative news is received.

In addition, metaphors such as HOT FLUID IN A CONTAINER, INSANITY, AN OPPONENT IN A STRUGGLE, A CAPTIVE ANIMAL, A BURDEN, AGGRESSIVE ANIMAL BEHAVIOR, TREPASSING, PHYSICAL ANNOYANCE and A FUNCTIONING MACHINE are absent in the CGFC. Interestingly, the metaphor ANGER IS A HOT FLUID IN A CONTAINER is claimed by Kövecses (1986) as a prototypical one for the emotion of anger. However, this conceptualization of ANGER is absent in the CGFC. This may be because lexical items of ANGER have low frequency of occurrence in the CGFC, suggesting that people felt more fear than anger in the global financial crisis. It may also be because this metaphor theme is not important at all for anger - as Goatly (2007) suggests, there are other more prolific metaphor themes for anger such as EMOTION IS EXPLOSION. The absence of the metaphor ANGER IS A HOT FLUID IN A CONTAINER in the corpus data supports the view of Stefanowitsch (2006) that naturally occurring data is not adequate for presenting a complete set of conceptual mappings with a target domain.

As in the list by Stefanowitsch (2006), the findings from the CGFC reveal mappings between FEAR and source domains LIQUID and ORGANISM. The source domain MIXED SUBSTANCE on Stefanowitsch's list is termed as MIXTURE, whereas the domain A WILD/CAPTIVE ANIMAL (e.g. fear *lurk*) is subsumed under the domain ANIMAL. Hence, the domains suggested by Stefanowitsch (2006) including A SUBSTANCE IN A CONTAINER (UNDER PRESSURE), DARK, PAIN, A SHARP OBJECT and A BARRIER are absent from the list (see Table 4.11). On the other hand, some of the source domains

mapping onto FEAR, including SOUND (e.g. *a crescendo of* alarm) and EXPLOSION (e.g. *set off* so much fear), are absent from the lists suggested by Kövecses (1986) and Stefanowitsch (2006). It is also found that compared with the source domain list of Stefanowitsch (2006), which is generated from BNC, the CGFC shows that lexical items of FEAR frequently mapped onto the domains of ORGANISM (N=66) and NATURAL FORCE (N=28). For example FEAR could be *bubbling up* as steam.

The high frequency of metaphors with these source domains may derive from several causes. First, the global financial crisis has a great impact on stock market and on society as a whole. Metaphors of disaster are used to describe the effects of the crisis. Second, WATER is regarded as a recurrent source domain in financial discourse, which largely involves the trade and transition of money (Charteris-Black & Ennis, 2001). This is probably the reason why metaphors of WATER are recurrent in the CGFC. Third, given that financial news discourse always involves how the emotions of investors are influenced by stock performances, it is not difficult to understand why metaphors conceptualizing the depth and level of emotions are frequent in the corpus. It appears, then, that the type of discourse is a crucial factor in finding the diverse source domains mapping with a target domain. It would be interesting to compare the conceptual for exploring the communicative purposes of metaphors with multivalency or diversification.

4.7 Grammatical structure of target-term present emotion metaphors

In five co-selection items suggested by Sinclair (2004), analysis of colligation reflects the grammatical patterns associated with the search word. Many studies show that collocational and colligational patterns help identify the differences between synonyms or polysemous words (e.g. Hoey 1993, 2005; Tognini-Bonelli 2001; Hunston 2002; Stubbs 2002). In this study, it is assumed that colligational patterns could also be useful in identifying multivalency, that is, differences in the conceptualization of emotion concepts with a particular source domain or across several source domains. Hence, all the metaphors are

classified according to word class. Table 4.12 reveals the structure of targetterm present emotion metaphors of some recurrent source domains. In the table, 'ADJ' stands for 'adjective', 'N' for 'noun', 'V' for 'verb', 'ADV' for 'adverb', 'P' for 'pronoun' and 'Q' for 'quantifier'. The word 'target' stands for 'target domain' and 'source' stands for 'source domain'. For example, in the targetterm present emotion metaphor 'fear can *cripple* a bank', 'fear' belongs to the target domain and is a noun, so it is expressed in the form '[N]_{target}'. 'Cripple' is the source-domain element and it is a verb, so it is expressed in the form '[V]_{source}'. Hence the whole target-term present emotion metaphor is expressed as '[N]target + [V]source'. In another case, if the target domain element is also a noun and the source domain element is a verb, but the target domain element serves as the object (e.g. *fed* anxiety) rather than the subject in the clause, then the target-term present emotion metaphor '[V]source + [N]target'.

FEAR AN		ANX	NXIETY ANGER		GER		
		Absolute	Relative	Absolute	Relative	Absolute	Relative
		frequency	frequency	frequency	frequency	frequency	frequency
	[ADJ]source + [N]target	14	13.2%	11	20.3%		
	[N]target + [ADJ]source	1	0.9%				
	[V]source + [N]target	3	2.8%	3	5.6%		
SM	[N]target + [V]source	25	23.6%	20	37%		
RGANE	Passive [V]source + [N]target	7	6.6%	1	1.9%		
Ö	Passive [N]target + [V]source	2	1.9%				
	[N]target + [N]source	1	0.9%				
	[N]target + [P]source	1	0.9%				
	[Q]source + [N]target			1	1.9%		

 Table 4.12. Grammatical structure of target-term present emotion metaphors

	[ADJ]source + [N]target	1	0.9%	1	1.9%		
ER	[V]source + [N]target	11	10.3%			2	20%
WAT	[N]target + [V]source	4	0.2%	1	1.9%	2	20%
	[N]source + prep+ [N]target			2	3.7%	4	40%
	[V]source + [N]target	13	12.3%	1	1.9%	2	20%
FIRE	[N]target + [V]source	1	0.9%	2	3.7%		
D	[V]source + [N]target	1	0.9%				
WIN							

Table 4.12 shows different dominant grammatical patterns between target domain and source domain elements with various source domains. For the source domain of ORGANISM, the structure of target-term present emotion metaphors associated with FEAR is dominated by the 'noun + verb' form (23.6%) as in 'fear is *dominating* people's behaviour'. The most recurrent target-term present emotion metaphor in the domain of ANXIETY also follows the 'noun + verb' form (37%) as in 'stress is creeping' and 'anxiety lingers'. This reveals that metaphors of ORGANISM tend to appear in verb form. This may be because human actions are utilized to describe how emotions influence market activities. Among the 'noun + verb' forms in the domain of FEAR, 72% of the verbs (18 out of 25 occurrences) are transitive. The emotion words play the role of subject in the clauses and there are direct objects following the transitive verbs. Corpus data shows that those direct objects are related to people (e.g. 'investors and producers'), cities (e.g. 'Tokyo'), actions of people (e.g. 'consumer and investor behaviour') and stock performance (e.g. 'share price'). The direct objects seem to show that there is a chain reaction caused by the emotion of fear: it has a direct impact on the decisions and actions of investors whose actions in turn affect stock performances. By contrast, a majority of the verbs of ANXIETY (60%, 12 out of 20 occurrences) are intransitive. There is no direct object following the intransitive verb. Examples of the intransitive verbs are linger, grow, surface and jump. This seems to suggest that the ORGANISM metaphors are utilized to indicate the influence of fear on the investors' actions and stock market performance. But for anxiety, the function of ORGANISM metaphors is to reflect the intensity of emotions. This may suggest that the things that happened in the financial crisis were more directly influenced by the emotion of fear than by anxiety. Chapter 6 will discuss these conceptualizations in detail.

The second most dominant grammatical structure to express FEAR is the 'adjective + noun' pattern (13.2%) such as '*unrelenting* fears' and '*full-blown* panic'. The structure Noun+ Noun+ Verb is also recurrent in the target domain of FEAR. The occurrence of this pattern is due to the phenomenon that lexical items of FEAR often co-occur with other words expressing feelings, such as 'confusion' and

'greed'. However, this phenomenon is relatively rare in the domains of ANXIETY and ANGER. This kind of pattern will be discussed further in Section 5.2.4.1, along with suggested reasons for the phenomenon.

For the source domains of WATER and FIRE, the dominance of grammatical patterns also differs in the domains of FEAR and ANXIETY. The structure Verb + Noun (23.6%) is the most recurrent for the target-term present emotion metaphors of FEAR, whereas the structure Noun + Verb (5.6%) is the most recurrent in the target domain of ANXIETY. This demonstrates that the metaphors of WATER and FIRE tend to appear in verb form. However, the metaphorical expressions in the domain of FEAR are mostly intransitive verbs such as *sweep* and *ripple*. The subject of these verbs is 'fear' and the object. According to Table 4.12, the direct object is the lexical items of FEAR, and the linguistic choices for the verbs co-occurring with the lexical items of FEAR are stoke, spark and stem. These expressions conceptualize the emotion of fear as fire and water, showing how the fear is triggered and assuaged. On the other hand, with the target-term present emotion metaphors 'noun + verb' in the domain of ANXIETY, the choice of verbs such as *ripple* and *flare* reflects the spread of anxiety. Again, this shows that the arousal of anxiety is not explicitly indicated in the metaphorical expressions. The compactness hypothesis suggested by Gibbs (1994) suggests that metaphor can provide detailed information and convey a vivid image. Goatly (2011a) also noted the function of informativeness regarding metaphors in the newspaper genre. Metaphors like stoke conceptualize fear as fire. The metaphor is used to describe the arousal of fear, but at the same time it also implies that the emotion is strong and intense. From everyday experience we know that fire easily spreads, so the metaphor *stoke* also implies the spreading influence of fear in the financial market. This seems to suggest that metaphors in verb form can be as rich in interpretation and as informative as noun metaphors. The above findings reflect the fact that journalists choose to convey information about the arousal and influence of fear via metaphors, whereas on the other hand they used metaphors to convey information

about the intensity of anxiety. This may suggest that the negative impact of fear on market performance is of higher news value than the negative impact of anxiety.

Goatly (2011a) noted that metaphors in noun form can directly evoke imagery and provide the richest interpretation, and metaphor recognition is reduced if the word class of the source domain element is a verb or adjective. From Table 4.12, we can see that the grammatical pattern [N]target + [N]source is relatively scarce in the corpus. Rather, the grammatical patterns [N]target + [V]source and [V]source + [N]target are more frequently used. This shows that journalists tend to use verb forms of metaphor rather than noun or adjective forms to conceptualize negative emotions. The compactness hypothesis (Gibbs, 1994) in Section 2.4.4 reveals that metaphors can provide detailed information. This study agrees with Goatly (2011a)'s observation that nouns can provide the most concrete images, so source domain elements in noun form should provide the most compact information. However, judging from the findings that metaphors in verb form are preferred over those in noun form in describing negative emotions, it is proposed that the choice of word class for metaphors and the compactness hypothesis may also depend on the type of discourse. Given that financial news discourse is informative in nature, metaphors in verb form seem to provide the richest imagery in this context without violating the features of financial news discourse.

4.8 Summary

This chapter has reported the findings relating to target-term present emotion metaphors which pave the way for the analysis of conceptualizations in the next chapter. With the use of concordancers Wmatrix tool 2.0 and WordSmith tool 5.0, this chapter also showed the metaphors identified in the CGFC through collocates, semantic preference and prosody, and the classifications of source domains. It should be noted that Wmatrix tool 2.0 offered researchers convenience in annotating the words, but the classification method is not without faults. The factors

of syntactic patterns and polysemy may need to be taken into account for a future advanced version of Wmatrix. Nevertheless, the results support the view of Stefanowitsch (2006) that the corpus-based approach helps identify metaphors in an exhaustive way.

This chapter also analyzed the grammatical structure of target-term present emotion metaphors. It is suggested that the grammatical structure can identify differences in emotion concepts. Emotion words of ANXIETY often serve as the subject noun in the clauses, and they are followed by the target-term present metaphors as the verb. This reflects the fact that human actions are utilized to describe how emotions influence market activities. As for transitivity, the verb metaphors of ANXIETY tend to be intransitive and tend to indicate the intensity of the emotion. Similarly, the verb metaphors of ANXIETY tend to reflect the spread of the emotion. On the other hand, the verb metaphors of FEAR are mostly transitive and indicate the action of starting or stopping the spread. In terms of adjectives, the adjective metaphors mapped onto the target domain of ORGANISM tend to express the change in intensity of the emotions rather than being descriptive or evaluative. The grammatical patterns show the link between lexical-grammatical choice and the conceptualizations of metaphors.

The high proportion of negative emotion words in the corpus reflects the fact that journalists tended to stir up negative emotions of investors. The findings relating to metaphor use in Chapter 5 will demonstrate how journalists further utilized metaphors as a tool to exaggerate the financial situation. It has also been shown that metaphors reflect the preference of journalists in reporting emotions. The findings seem to suggest that to enhance the newsworthiness of the financial crisis, journalists tended to use a greater variety of source domain elements to conceptualize the emotion of fear compared to the emotions of anger and anxiety. In the next chapter, we are going to discuss how metaphors with the source domains of ORGANISM and NATURAL FORCE fulfill different communicative purposes and reflect ideologies in financial news articles.

Chapter 5 Conceptualizations of target-term present emotion metaphors

Chapter 4 discussed the quantitative findings of the CGFC and the agents of negative emotions. Emotion concepts as target domain elements, mostly appearing in noun form, reveal that financial news reports, as a genre, are more informative than descriptive. The findings reveal that the emotion of fear is conceptualized by using a greater variety of source domains (11 types) than that of anxiety (7 types) and anger (2 types). This suggests that the spread of fear is utilized as a tool to convey negative impact in the media framing of the global financial crisis. The results show that linguistic expressions of ORGANISM and NATURAL FORCE are widely used to conceptualize emotion concepts in the CGFC. The recurrence of metaphors of WATER reflects the features of financial news discourse, suggesting that future studies could explore in greater depth the relationship between types of conceptual metaphors and discourse. The results also suggest the importance of identifying the word classes of the target domain element and the source domain element in a target-term present emotion metaphor. The analysis of colligation patterns also further strengthens the notion that the influence of fear has greater newsworthiness than emotions of anger and anxiety. The different combinations of word class provide insights into the features of a particular emotion concept, and also reflect the differences of emotion concepts.

The mass media plays an important role in society. The definitions, scenarios and language depicted in news reports have a strong impact on shaping public perceptions of problems and issues (Snow, 1983; Altheide & Snow, 1991). Among linguistic tools, metaphor has been used as an effective tool which can influence public perceptions of events. This chapter will analyze the conceptualizations of target-term present emotion metaphors. The chapter will first outline a modification of Kövecses's five-stage emotion scenario (2000) which forms the basis of the present analysis, and follow this with a

discussion on the conceptual metaphors EMOTION IS ORGANISM and EMOTION IS SUBSTANCE/ NATURAL FORCE, and on the conceptualizations of different emotion concepts. It will be argued that the cognitive emotion models suggested by Kövecses (2000) may not fully explain the metaphor use in particular types of discourse such as financial news, and I will propose evidence-based suggestions for models. Lastly, the chapter will end with a comparison between the ORGANISM metaphors and SUBSTANCE/ NATURAL FORCE metaphors.

5.1 Five-stage emotion scenario

As revealed in Figure 2.1, Kövecses (1990, 2000) adopted the idea of 'EVENT STRUCTURE metaphor' from the Lakoffian school (1990, 1993) to establish a five-stage emotion scenario. In his model, the five stages of a scenario include Cause (Cau), Emotion (Emo), Control (Con), Loss of Control (LoCon) and Behavioral Response (BeRe), The stages describe how emotion is aroused, and how a person attempts to control the emotion, then loses control and produces a behavioural response. Kövecses's five-stage emotion scenario is based on his self-elicited data, so the behavioural response of a person towards the emotion may be regarded as an important part of the scenario. However, the corpus data shows that emotion metaphors were used to describe the situation in the financial market rather than an individual act. For example, the clause 'fear rippled through the market' can be interpreted as 'fear spread through the people investing in the market'. The five stages of a scenario are interpreted as follows. A cause (an event or an entity) changes the non-emotional state (the aspect of 'state') of the financial market to an emotional one, showing CAUSE IS FORCE. The emotion is supposed to influence the performance of the financial market (the aspect of 'passion'). Some units (e.g. the government) may make an attempt to control the emotional performance of the financial market (the aspect of 'action'), showing IMPORTANCE/STATUS IS HIGH. Once the emotion of investors is out of control, the emotion may have a negative impact on the actions of investors and market performance, reflecting CONTROL IS PUSH/ PUT DOWN.

5.1.1 Capture of emotion stages in corpus data

The collocations of emotion terms reflect different emotion stages as suggested in Kövecses's five-stage emotion scenario. The frequency of collocations is presented in Table 5.1:

Stages	Frequency of	Relative frequency	Example
	collocations	%	
Cause	17	10	stoke fear, fuel anger
Loss of	104	61.2%	The panic <i>infected</i>
Control			Poland
Influence	19	10.4	Panics can <i>drive</i>
			steep declines in
			value

Table 5.1. Frequency of metaphors capturing the stages of emotion

The corpus data shows that EMOTION metaphors (N= 104 out of 170, relative frequency: 61.2%) mostly capture the stage of loss of control, for example metaphors of metaphors of DISEASE (e.g. *infected* Poland), and metaphors of INTENSITY (e.g. *deepening*). Different conceptual metaphors capture various stages of emotion. For instance, metaphors of SOCIAL SUPERIOR such as *drive down* capture the stage of influence (19 out of 170 occurrences, relative frequency: 10.4%). Metaphors of FIRE (e.g. *stoke*) capture the stage of cause (19 out of 170 occurrences, relative frequency: 11.2%). On the other hand, metaphors of WATER (e.g. *stem*) mostly capture the stage of control (10 out of 182 occurrences). However, some emotion metaphors, especially metaphors of OBJECT and ORGANISM (e.g. 'fear is *stuff*' and 'fear is *indiscriminate*'), give no clue as to whether they capture the stage of cause, state, control, loss of control or behavioural response. This is because the five-stage scenario suggested by Kövecses (1990) is based on the notions that EMOTION IS FORCE

and EMOTION metaphors are EVENT STRUCTURE metaphors. EVENT STRUCTURE metaphor, suggested by Lakoff (1993), is the general term for metaphors that characterize changes, processes, actions, causes, purposes and means in terms of space, motion and force. The conceptual mappings of different event structure metaphors help generalize a wide range of expressions. For instance, the phrase 'got over' in the sentence 'He got over his divorce' is an EVENT STRUCTURE metaphor which conceptualizes difficulties as impediments to motion. However, the word stuff refers to a state of an object and *indiscriminate* is a characteristic of a person. These metaphors are not EVENT STRUCTURE metaphors. It has been pointed out in Section 4.7 that metaphors in adjective form in the CGFC mostly express particular stages but have no descriptive function. These words obviously do not relate to force, so I argue that it is not necessary that all EMOTION metaphors are FORCE metaphors. Second, Kövecses (1990) noted that there are some sub-metaphors of the EVENT STRUCTURE metaphor suggested by Lakoff (1990) which can apply to EMOTION metaphors. These include STATES ARE LOCATIONS, CHANGES ARE MOVEMENTS, CAUSES ARE FORCES, and EXTERNAL EVENTS ARE LARGE, MOVING OBJECTS. However, the metaphorical expressions stuff and indiscriminate seem not to relate to any of the above submetaphors. Hence, it seems that the five-stage scenario can only apply to some of the EMOTION metaphors from the corpus. Nevertheless, Kövecses's fivestage emotion scenario provided a concrete analytical basis for the study of emotion metaphors. Given that this study deals with the conceptualizations of metaphors, the metaphors to be discussed mostly fall into the category of EVENT STRUCTURE metaphor. Therefore, metaphors describing different stages of the emotion scenario will be discussed in the following sections.

5.1.2 Suggested modified Kövecses's five-stage emotion scenario

Results reveal that financial news discourse usually describes the emotion of investors as a whole, and it focuses more on the impact of emotion on the reasoning of investors than on physiological changes in their bodies. Thus, it is likely that Kövecses's five-stage emotion scenario (1990) may need modification when applied to a financial news context. The findings show that

the causes of the emotions are nearly the same as the effects of the emotions (See Section 4.2). This may suggest that there is a link between the cause and the effect in the five-stage scenario when applied to a financial news context. The scenario is cyclical in nature rather than linear and unidirectional. This is because the cause of negative emotions in the financial market will trigger fluctuations in the stock market, and lead to actions by the government or business institutions, but these events and actions in turn arouse more negative emotions. The suggested modified model is shown in Figure 5.1:



Figure 5.1. Modified Kövecses's five-stage emotion scenario

In the three-dimensional framework of metaphor proposed by Steen (2008), metaphor has conceptual and linguistic structures, as well as communicative properties. The communicative properties of metaphor enable people to interact purposefully. However, many studies on emotion metaphor appear to be framed two-dimensionally, i.e., linguistic and conceptual properties (e.g. Lascaratou, 2007; Stefanowitsch, 2006). This study linked Kövecses's five-stage emotion scenario and Steen's three-dimensional framework of metaphor for discussion of my findings. As discussed in Section 2.4, metaphor in the popular press has the functions of informativeness, expressing emotion, decoration and hyperbole. I will demonstrate that metaphors in the CGFC showing different aspects of emotions fulfil various communicative functions in financial news discourse. The following sections will discuss the conceptualizations in the ORGANISM,

SUBSTANCE and NATURAL FORCE domains. It will reveal that different submetaphors in the source domains indicate various aspects of emotion and communicative purposes.

5.2 EMOTION IS ORGANISM

Shefrin (2000) noted that investors often experience different emotions because of five main considerations: 'ponder their alternatives; make decisions about how much risk to bear; ride the financial roller coaster while watching their decisions play out; assess whether to keep to the initial strategy or alter it; and ultimately learn the degree to which they have achieved their financial goals' (p.120). The analysis of collocations in Section 4.2 shows that investors experience fear, anger and anxiety because of the financial upheaval, and they have to assess how much risk they can bear and if they should still maintain their initial strategies. The CGFC data reveals that in the financial crisis, most investors did not adhere to their initial financial strategies but changed their plans by, for example, cutting their expenditure and selling stocks in an irrational way. This section will discuss how different metaphors of ORGANISM conceptualize the 'actions' of emotions and how they affect the decisions of investors and business institutions.

5.2.1 Overview of source domain ORGANISM

ORGANISM is one of the recurrent conceptual domains associated with FEAR and ANXIETY. This is reasonable because the financial market is often conceptualized as a living entity and involves a great deal of human activity (Smith, 1995; White, 1997, 2003; Oberlechner, Slunecko & Kronberger, 2004). As reported in Section 4.5, the source domain of ORGANISM involves several sub-domains including HUMAN, PLANT and ANIMAL. The following subsections will briefly compare the distribution of ORGANISM metaphors and outline the flow chart of the source domain ORGANISM.

5.2.1.1 Distribution of ORGANISM metaphors

The corpus data shows that there is a great variety of lexical items from ANXIETY mapping with the source domain of ORGANISM including *worries* (N=12), *anxiety* (N= 11), *concern* (N=14), *nervousness* (N=2) and *tension* (N=1). By contrast, only three of the lexical items from FEAR mapped with the source domain of ORGANISM: *fear* (N= 56), *panic* (N= 17) and *alarm* (N= 1). This reveals that *fear* and *panic* are regarded as prototypical expressions of FEAR in financial news discourse and so were widely used. The co-occurrence of metaphors associated with the prototypical lexical members may help draw the attention of readers towards news issues. The metaphorical expressions mapping onto the target domain of FEAR and ANXIETY are illustrated in Tables 5.2 and 5.3:

	Aspect	Frequency	Relative	Example
			frequency	
			(%)	
HUMAN	Reproduction	1	0.9	fear <i>beget</i> fear
	Growth	3	2.8	<i>feed</i> panic
	Role	3	2.8	fear is <i>enemy</i>
	Personality	2	1.9	fear is
				indiscriminate
	Low Activeness	7	6.6	lingering fear
	High Activeness	15	14.2	fear <i>fled</i> the
				markets
	Power	18	17.0	fear <i>rules</i>
PLANT	Reproduction	2	1.9	sow fears
	Growth	11	10.4	grow alarm
	Maturity	1	0.9	<i>full-blown</i> panic
ANIMAL	Reproduction	1	0.9	spawn fears
	Maturity	2	1.9	<i>full-fledged</i> panic

 Table 5.2. Metaphorical expressions of ORGANISM mapping onto FEAR

	Aspect	Frequency	Relative	Example
			frequency	
			(%)	
HUMAN	Reproduction			
	Growth	1	1.9	feed anxiety
	Role			
	Personality			
	Low Activeness	7		stress creep
	High Activeness	15	14.1	troubles jump
	Power	14	25.9	malaise <i>take over</i>
PLANT	Reproduction			
	Growth	14	25.9	growing stress
	Maturity			
ANIMAL	Reproduction	1	1.9	spawned by
				troubles
	Maturity			

Table 5.3. Distribution of metaphorical expressions of ORGANISM mapping onto ANXIETY

As shown in Tables 5.2 and 5.3, with more than 10 kinds altogether in the corpus, the ORGANISM metaphors reflect different attributes including reproduction, growth, action, activeness, role and personality. Different aspects of ORGANISM metaphors are utilized to conceptualize different degrees of negative emotion in news articles. For example, the CGFC data reveals that some of the ORGANISM metaphors associated with emotions focus on the reproduction of humans and animals (e.g. fear *begets* fear; *spawned* by trouble), some focus on human movement (e.g. fear *fled* the markets; fear *lurks*, stress is *creeping*), while others relate to the human mind or character (e.g. *irrational*; *vulnerable*). Table 5.2 shows that for the target domain of FEAR, metaphors

focusing on the aspect of high activeness (N= 15, relative frequency: 14.1%) and power (N= 14, relative frequency: 25.9%) have the highest frequency among different kinds of ORGANISM metaphors. These are manifested in expressions such as 'fear *fled* the markets' and 'fear *cripple* a bank'. This shows that metaphors were utilized to conceptualize the high intensity and the loss of control of fear in the financial market. The metaphor of power is also most recurrently mapped onto the domain of ANXIETY (25.9%) and the frequency is higher than that mapped onto the domain of FEAR (17%). For example, 'malaise *takes over* the financial market'. This suggests that anxiety is a more destructive emotion than fear. The difference in their conceptualizations will be discussed in Section 5.2.4. All in all, the attributes of reproduction, growth and action constitute a complete picture of how emotion in the financial market is aroused and heightened because of the occurrence of incidents such as bankruptcy or job cuts.

5.2.1.2 Flow chart of EMOTION IS ORGANISM

The results also show that metaphors of HUMAN are the most frequent in the CGFC among the three types of the sub-domains. Different metaphors captured various aspects of emotion concepts including intensity, passivity and control (Kövecses, 2000). Figure 5.2 summarized the conceptualizations in the source domain of ORGANISM. It reflects the fact that the various kinds of ORGANISM metaphors are intrinsically inter-connected and conceptualize the life span of an animal or a human. The conceptualization of different stages in the life of an organism provides various implications of emotions.



Figure 5.2. Flow chart of EMOTION IS ORGANISM

In Figure 5.2, there are two big circles. The conceptualizations in the left circle refer to the life stage of an organism. The first stage is reproduction. When the financial market plunged into crisis and many investment corporations encountered financial problems, the negative emotions of investors started to influence each other, as bacteria *multiply* very quickly, an animal *breeds* and *spawns*, or a plant is *sown*. These metaphors constitute the metaphor theme EMOTION IS BIRTH. They highlight the rapid spread of emotion, and carry the semantic prosody of 'rapid' and 'spread'. This stage relates to the change of scenario from 'Cau' to 'Emo' in Figure 5.1, meaning that the reproduction metaphors conceptualize the change in investors from a non-emotional state to an emotional one. After an organism is generated, it will go through the growth stage. In the CGFC, some metaphors such as *grow* and *feed* conceptualize the growth of emotion, showing EMOTION IS GROWTH. Concordance data shows that these kinds of metaphors are used when journalists describe how the intensity of investors' emotions increased in the worsening financial situation.

The collocations reflect that when the financial situation worsened and brought a great deal of problems such as company bankruptcies and job cuts, the negative emotions of investors increased. Their fear and anxiety are conceptualized as an organism at the maturity stage: *full-fledged* like a bird (e.g. *full-fledged* global panic) or *full-blown* like a flower (e.g. *full-blown* financial

panic). The growth and maturity stages conceptualize the change from scenario 'Emotion' ('Emo') to 'Control of emotion' ('Con') in the emotion schema (see Figure 5.2). The arrows from the reproduction to the maturity stage reflect the progressive increase of emotion intensity. The metaphor expressions in the reproduction, growth and maturity stages reveal that negative emotions could influence other investors very rapidly and on a large scale in the market. Different stages of ORGANISM are utilized to conceptualize different aspects of emotion.

The conceptualizations in the right circle refer to the activeness and power of an organism. There is a dashed arrow pointing from the left circle to the right circle, showing the increase in the energy level of the emotions. In the right circle, there is an increased level of energy from Low activeness to Power. The stages also reflect the change from 'Control of emotion' (Con) to 'Loss of control' (LoCon) in the emotion scenario (see Figure 5.2). Metaphors expressing various activeness levels conceptualize different durations and intensities of emotions. As for Low activeness, words co-occurring with negative investor emotions such as show up, linger, lurk or creep tend to focus on persistence. These kinds of linguistic expressions are more static, showing that the intensity of emotion is low. They also conceptualize the unpredictability of the financial situation. This may be because it was hard to predict how much worse the financial situation would become under the fluctuating stock prices and to predict the feasibility of government plans. We also find that the metaphors enhance the conveyance of unexpectedness in the news articles and may help enhance the news value.

When the negative emotions continue to grow, the conceptualizations of the metaphors convey the high activeness. Metaphors such as *jump* conceptualize emotion as an animal with high energy. In addition to the words describing the actions of feet, hand actions such as *grip* and *grapple* show that the emotion strongly 'holds' to investors. Such action verbs convey a sense of high activeness, revealing that the level of the negative emotion of investors increased. The data shows that when the intensity of emotions is even higher, emotions may bring a harmful influence to the financial market. Metaphorical expressions in the stage of power such as *ruin, destroy, kill* and *cripple* conceptualize EMOTION as a dangerous person who will harm the opponent or even cause his or her death. This kind of metaphor carries the semantic prosody of 'harmfulness'. Some concordance data reveals that this 'opponent' or 'inferior' is the financial market. When the intensity of emotions is heightened, it could affect the reasoning of investors. Hence, metaphorical expressions are used to describe how emotions affect trading activity in the financial market and disrupt it. This may result in panic selling. The results show that the stages of activeness and power reflect the move from controllable to uncontrollable emotions. The stages also convey a suggestion of the instability of investors' emotions and the devastating effect of emotions on the financial market.

The data also reveals that governments attempted to stop the increase and spread of negative emotions, for example by introducing rescue packages. Some metaphors show that the rescue plans of governments were successful and the negative emotions were reduced. Examples are 'fear *fled* the market', and 'with panic giving way to a series of stability'. On the other hand, some metaphors demonstrate that government actions failed to reduce the negative emotions of investors as in 'anxiety on economy win out' and 'the fear quickly returned'. Metaphorical expressions like *dominate* (e.g. fear is *dominating* people's behaviour) and the main driver (e.g. fear has taken over as the main *driver* of the crisis) conceptualize EMOTION as possessing a superior status over the investors, showing the semantic prosody of 'dominant', and manifesting the metaphor theme CONTROLLING AN EMOTION IS CONTROLLING A PERSON. Most of the ORGANISM metaphors fulfill the function of textual decoration and hyperbole. This is consistent with the view of Altheide (2002) that journalists of the popular press always emphasize persuasive value when writing news articles.

All the above examples show that personification is commonly used in describing emotions. This is in line with the view of Smith (1995) that personification of inanimate or abstract nouns is prominent in describing stock market activity. Lakoff and Johnson (1980) indicate the relationship between personification and metaphors, and point out, 'personification is a general category that covers a very wide range of metaphors, each picking out different aspects of a person or ways of looking at person' (p.34). From Figure 5.2, we
can see that different metaphors conceptualize the EMOTION as a person, and they highlight different aspects of the person including the stages of reproduction, growth, motion and attack. Figure 5.2 summarizes the conceptualizations in the source domain of ORGANISM, and also demonstrates the inter-relationships of the entailments in the source domain. As Lakoff and Johnson (1980) point out, entailments characterize a particular concept by linking all the related metaphorical expressions. The flow chart of EMOTION IS ORGANISM reveals the systematicity of metaphors with the source domain of ORGANISM. The conceptualizations are inter-connected rather than separate, and complement each other to bring the entailment of high intensity, rapidity, spread, harmful influence, and dominance in financial news discourse. This supports the view of Kövecses (2000) that ORGANISM metaphors capture the aspects of intensity and control, and suggests that metaphors can also capture the aspects of rapidity and spread.

The stages from reproduction to the highest activeness show the increased intensity of emotions and their control in the financial market. The findings are also in line with the five-stage emotion scenario suggested in Figure 5.1. REPRODUCTION metaphors capture the stage from Cause to Emotion, and carry the semantic prosody of 'rapid' and 'spread'. GROWTH metaphors capture the stage from Emotion to Control, and have the semantic prosody of 'intensified'. Metaphors of ACTIVENESS carry the semantic prosody of 'harmful' and reflect the change from Control of emotion to Loss of control. There are a great number of metaphor studies focusing on metaphor use with a specific target or source domain. However, it is relatively rare to see discussions of how metaphors under a source domain are inter-related. The findings here suggest that metaphors could be evaluated according to the strength of force conveyed by the linguistic expression. It is also suggested by the findings that investigating the inter-relations of entailments in a source domain could help identify the communicative purposes of different conceptual metaphors. The next section will compare metaphors of emotion in the ORGANISM domain. I will demonstrate that the intensity of emotion could be evaluated according to different conceptualizations of FEAR and ANXIETY.

5.2.2 Lowest intensity of emotion: Reproduction stage

The previous section discussed how different types of metaphor in the source domain of ORGANISM conceptualize the stages of reproduction, growth, maturity and activeness. In the CGFC, the metaphorical expressions of FEAR (N=32) and ANXIETY (N=34) which mapped with the stages of reproduction, growth and low activeness are recurrent, but no such source domains mapped onto the domain of ANGER. This may be due to the nature of the emotion of anger. In some cognitive literatures, anger is defined as an explosive emotion which will occur and be assuaged quickly (Kalat & Shiota, 2007). According to the Invariance Principle (Lakoff & Johnson, 1980), some aspects of metaphors are highlighted whereas some are hidden. Figure 5.2 shows that ORGANISM metaphors highlight the life span of a person or animal, and metaphors of reproduction, growth and low activeness tend to stress the persistence and spread of emotion. Thus, it appears, then, that it is far from suitable to utilize ORGANISM metaphors to conceptualize the emotion of anger given its explosive nature. This may best explain why the explosive emotion ANGER seldom mapped with the metaphors of reproduction, growth and low activeness. However, the findings reveal that some metaphors of high activeness implicitly convey the emotion of anger. The details will be discussed in Section 6.4. In the following analysis, I will discuss how the metaphors of FEAR and ANXIETY were used in conceptualizing the reproduction and activeness stages of an organism.

In the FEAR domain, lexical items like 'fear', 'alarm' and 'panic' are conceptualized as a human, an animal or a plant. The corpus data shows that 'fear' is conceptualized as an organism at the reproduction stage:

(5.1) This is *spawning* fears that major producers like China and India which vastly expanded production capacity in recent years... (Goodman, 2008)

In Example 5.1, the emotion of fear is conceptualized as fish eggs ready to be produced, whereas the financial market is implicitly described as the water the eggs arrive in. The use of the word *spawn* conceptualizes an animal which is in

the reproduction stage. It refers to the action by which eggs are released from the body of a fish. According to *Metalude* (2002), the word *spawn* brings two root analogies: ACTIVITY/PROCESS IS HUMAN BODY and DEVELOP IS GROW. In the CGFC, the root analogies suggest that the financial crisis is conceptualized as a human body, and the development of emotion is described as growth. The metaphor *spawn* implies that a great deal of fear is going to be aroused in the financial market, and such development is sudden and quick.

Another example conceptualizes the development of fear as plant growth:

(5.2) The crisis on Wall Street has *sown* fears that banks would hold tight to their dollars and starve the economy of capital, preventing businesses from securing finances to hire people and expand. (Goodman, 2008)

The metaphor *sow* conceptualizes fear as seed, and the underlying root analogy is FEAR IS PLANT. It stresses the spread of fear because a farmer usually sows a large number of seeds over a large area.

Both these metaphors, *spawn* and *sow*, imply that the emotion of fear is widespread and the intensity will become higher, in the same way as an organism develops. The widespread fear affects a large number of investors in the financial market. However, there are some differences in the entailments. In agriculture, there are some conditions necessary for the seeds to grow, including an abundant supply of sunlight and water. If the entailments are extended from the word *sow* in Example 5.2, we will find that the conditions for the emotion of fear to occur are the general uncertainty of the situation. Hence, the use of *sow* emphasizes the cause of the emotion whereas *spawn* does not. Also, there is an emphasis in the word *sow* that the seed is put by an agent, i.e., a farmer, onto the ground so that it will grow. The use of *sow* reveals that the financial crisis is an agent that causes the occurrence of fear about the actions of banks.

Kövecses (2000) claims that the NATURAL FORCE or PHYSICAL FORCE metaphors capture the aspect of passivity. However, the conceptual metaphor FEAR IS A PLANT shows that ORGANISM metaphors may also capture this aspect. This seems to confirm the importance of using naturally occurring data for the observation of metaphor use. Hence, it is found that even though PLANT and ANIMAL are sub-domains of ORGANISM, the entailments conveyed by the metaphorical expressions could be different. Future studies may have more discussions and comparisons of metaphors in the sub-domains to gain an understanding of the whole conceptual schemata generated by a source domain. The next section will compare the conceptualizations of ORGANISM metaphors which are associated with synonyms or near-synonyms in the same target domain.

5.2.3 Higher intensity of emotion: Activeness stages

The metaphors of activeness reported in Section 5.2.1.2 show the energy state of an organism from low activeness to high activeness. Different stages conceptualize the various intensities of negative emotions. Kövecses (2000) suggests that EMOTION IS FORCE is one of the most recurrent generic-level metaphors. He indicates that 'perhaps with the exception of pride and shame, all the emotion concepts described in the previous section make use of physical force as a source domain' (2000, p.37). Kövecses (2000) identified different kinds of source domain which are subsumed under the domain of FORCE such as INTERNAL PRESSURE, OPPONENT, WILD ANIMAL, NATURAL FORCE, INSANITY and FIRE. Among the force metaphors he suggested, I argue that the OPPONENT and SOCIAL SUPERIOR metaphors should be subsumed under the source domain of ORGANISM. This is because these two kinds of metaphors conceptualize different levels of activeness and power.

Kövecses (2000) applied the force metaphor suggested by Leonard Talmy (1988) onto the emotion domain to establish cognitive emotion models. In his model, there are two entities exerting the force, represented by Agonist and Antagonist. The Antagonist (the cause of emotion or the emotion itself) exerts the force on the Agonist (the self that will be emotional). Among the conceptual mappings that are indicated by Kövecses (2000), EMOTION IS AN OPPONENT likens the emotion to an enemy in a struggle (e.g. 'I was *gripped* by emotion').

The notion of 'holding on' is also conveyed by the reference to gripping, showing the metaphor theme CONTROL IS HANDLE. The source domain 'OPPONENT' indicate how emotion as a cause triggers the responses. In his study (1995), Smith found that opponent metaphors are pervasive in business discourse because business itself is often metaphorized as a war or a game. He points out that 'combat requires not only aggression, but a continuous supply of energy' (p.49). This shows the multivalency of opponent metaphors, that is, they can be used to conceptualize a war, a game or an emotion. When emotion is conceptualized by opponent metaphors, it is personified and is portrayed as possessing energy and struggling with people involved in the financial market. It is suggested that emotion itself is conceptualized as a cause (force) leading to some response. Table 5.4 shows the cognitive model EMOTION IS AN OPPONENT:

Metaphorical Mapping	Agonist's Force Tendency	Antagonist's Force Tendency	Resultant Action
Source	<i>Opponent 1</i> opponent 1's attempt to resist opponent 2	Opponent 2 opponent 2's attempt to cause opponent 1 to give in to his force	either opponent 2 wins or opponent 1 wins
Target	<i>Rational self</i> self's attempt to try to maintain control	<i>Emotion</i> the emotion causing the self to lose control	self either loses or maintains control

Table 5.4 The modified cognitive model EMOTION IS AN OPPONENT

In Table 5.4, Opponent 1 represents a person (i.e. stock market, financial institutions or the country) and Opponent 2 represents the emotion. The CGFC data shows that journalists often use opponent metaphors to describe the struggle between people and emotions, as in hobble, kill and cripple. This further supports the notion of Smith (1995) that OPPONENT metaphors are commonly found in financial news discourse. In the EMOTION IS AN OPPONENT metaphor, EMOTION is conceptualized as an opponent struggling with investors. In this struggle, the emotion either wins (causing the self to lose

control) or loses (self maintains control) by exerting force on the person (Kövecses, 2000). Hence in the metaphorical mapping, there are two opponents: Opponent 1 represents a person which exerts agonist's force whereas Opponent 2 represents the emotion which exerts antagonist's force. The exertion of agonist's force means that a person (opponent 1) attempts to resist the emotion (opponent 2), and at the same time, the force of the emotion (antagonist's force) tends to cause the person to give in to the emotion. The resultant action will either be that a person (opponent 1) wins or that the emotion (opponent 2) 'wins'. In the target domain, it means that a person attempts to maintain control but the emotion causes the person to lose control. As a result, a person will either lose or maintain control. The OPPONENT metaphor suggests that two parties have equal status and they have to struggle with each other for control, so it appears that this kind of metaphor highlights the aspect of struggle in the emotion.

As revealed in previous paragraphs, the corpus data shows that the emotions indicated in the news are generally possessed by investors in the financial market as a group rather than by an individual. The conceptualizations of OPPONENT metaphors show that the financial market is described as one of the opponents and so is personified. Hence if Kövecses's cognitive model (2000) is applied to interpret the use of metaphor in a financial context, Opponent 1 is the stock market, financial institutions or the country, whereas Opponent 2 is the emotion. In most of the trade days during the global financial crisis, EMOTION as the OPPONENT almost 'wins' in the struggles (N= 70 out of 72) because it caused changes such as the rise of interest rates, falls in the prices of fuel and commodities, and surging demand for domestic goods, as shown in the following example:

(5.3) Skittishness about lending money has *pushed up* the interest rates that large, highly rated companies pay to their highest compared with Treasuries with similar maturity dates in at least a decade, according to the Merrill Lynch U.S. (Krantz, 2008)

In Example 5.3, the metaphor *push up* suggests that the emotion of anxiety possesses a force which affects the stock market performance. The intensity of

the force conceptualized is strong and the metaphors carry the semantic prosody of 'unavoidable'. On the other hand, only a few examples from the corpus show that emotion is the loser in the global financial crisis, for example:

- (5.4) By recent standards, Tuesday was a placid day on Wall Street, with panic *giving way to* a sense of stability and light profit taking leaving the bulk of the stock market's huge gains from a day earlier intact. (Shell, 2008)
- (5.5) The European bank is likely to lower interest rates further at its next meeting on April 2, most analysts believe, having *overcome* qualms about pushing borrowing costs close to zero. (Dougherty, 2009)

In Example 5.4, the metaphor give way refers to the action of allowing a person to pass by. PANIC is conceptualized as an opponent (PANIC IS AN OPPONENT) who 'compromises' or 'surrenders' after the 'fight' with the stability of the financial market (FINANCIAL MARKET IS AN OPPONENT). This 'compromise' or 'surrender' derives from the huge gains in stock market on the previous day, resulting in the emotion of panic no longer controlling the financial market and influencing the investors. In Example 5.5, the European bank was conceptualized as competing for control with the emotion of anxiety. In order to rescue the economy, the European bank (BANK IS AN OPPONENT) fought and won against anxiety (qualms) about lowering interest rates. The findings reflects that in the context of finance, the Resultant Action of the mapping in Kövecses's model EMOTION IS AN OPPONENT focuses more on changes in investors' and business corporations' actions, and does not merely indicate how people lose or maintain control in the fight against emotion. Therefore, it seems that Kövecses's model may have room for improvement in the interpretation of metaphors in a financial news context. Since changes in investors' or business institutions' actions directly influence the performance of the market (Oborne, 2002; Sherman, 2002), the reporting of these aspects may enhance the news values of 'consonance' and 'reference to something negative'. 'Consonance', suggested by Galtung and Ruge (1973), includes 'predictability' and 'demand' and is related to whether people expect or want the event to happen.

In the source domain of OPPONENT, EMOTION is conceptualized as an opponent struggling with companies and investors. For example:

(5.6) All sectors finished lower, with bank stocks and consumer-oriented companies *hobbled by* worries about domestic spending and the health of the financial sector. (Healy, 2009)

The literal meaning of hobble refers to the action of strapping together the legs of an animal to prevent it from escaping (*Cambridge International Dictionary of English*, 1995). This brings the root analogy NO FREEDOM IS TYING/ BINDING as suggested in *Metalude* (2002). The use of the metaphor *hobbled* indicates the strong control that the *worries* have (WORRIES IS AN OPPONENT), so that the patient 'bank stocks and consumer-oriented companies' cannot escape (BANK IS AN OPPONENT). So the emotion has 'won' the fight. The dictionary entry suggests that *hobbled* often collocates with living animals such as horses, so the OPPONENT metaphor shows that the 'bank stocks and consumer-oriented companies' are conceptualized as horses. The recurrent use of personification of the financial market is in line with the findings of Oberlechner, Slunecko and Kronberger (2004) that 'Characteristics usually associated with living beings are attributed to a market perceived as an animated organism following its own rhythm' (p.143).

As illustrated in Table 5.3, metaphors expressing the highest activeness are more recurrently mapped onto the emotion of ANXIETY (relative frequency: 36.9%) than that of FEAR (relative frequency: 23.4%). Interestingly, compared to metaphors describing the high activeness stage, more metaphors of ANXIETY convey a sense of violence. Figures 5.3 and 5.4 below show how metaphors (with underline) conceptualize the activeness stage of ANXIETY and FEAR as an ORGANISM respectively.

fell 449.36 points, to 10,609.66. Worries over financial investments <u>hammer</u> mer-oriented companies <u>hobbled by</u> worries about domestic spending and the h s Selye, once wrote, "It's not stress that <u>kills</u> us; it is our reaction s here physical aspects to anxiety? Anxiety can <u>wreak havoc</u> on the body, said Figure 5.3. Concordance lines ANXIETY + metaphors of ORGANISM

themselves <u>caught in</u> the worldwide **panic**. This sharp turn has caught even the n the fear of asking questions. That **fear** is helping to <u>ruin</u> people and destro t the oil markets were <u>stricken</u> by **fear** that the problems of big financial i s a result, rumor, speculation and **fear** can <u>cripple</u> a bank with shocking sp after the close of stock trading, **fears** of sharply lower earnings \underline{drove} its Figure 5.4. Concordance lines FEAR + metaphors of ORGANISM

In Figure 5.3, there are examples of metaphors such as *hammer* and *hobble* which refer to actions of hitting and tying that may cause a person to be unable to walk. Metaphorical expressions like *cripple* and *kill* refer to actions which lead to the serious injury or death of an opponent. According to the definitions from the Cambridge International Dictionary of English (1995), fear is 'an unpleasant emotion or thought that you have when you are frightened or worried by something dangerous, painful or bad that is happening or might happen' whereas anxiety is 'an uncomfortable feeling of nervousness or worry about something that is happening or might happen in the future' and 'something that causes a feeling of fear and worry'. The dictionary entries suggest that the causes of anxiety and fear are quite similar in the sense that both arise from a negative feeling about things which are happening at present or will happen in the future. Fear can result from worry. This also seems to be in line with some psychological literature. Anxiety is aroused when a person thinks the situation is dangerously unpredictable and fears that they cannot control the situation. The emotion of anxiety usually persists longer and it requires more time to assuage, but the emotion of fear can be quickly assuaged once the 'threat' no longer exists (Ghinassi, 2010; Zeidner & Matthews, 2011). The negative emotion fear would become anxiety and finally turn into regret. Psychologist Lola Lopes (1987) suggests that there is an emotional time line for investment. The line starts from the investment decisions and ends at the goals. Above the line is about positive emotions such as hope whereas below the line is about negative emotions. My findings seem to support Lopes' notion that decisions of investors are influenced by the emotion of fear, and fear will, in time, become anxiety. Figures 5.3 and 5.4 show that the OPPONENT metaphors conceptualizing ANXIETY (e.g. kill) convey a stronger sense of violence than FEAR (e.g. *cripple* and *ruin*). Metaphors of FORCE are utilized to show the harm and intensity of the emotion of anxiety, and imply the uncontrollability of the financial situation. The effects arising from different types of emotion may be one of the factors in considering the choice of metaphorical expressions.

Therefore, it appears that the intensity of an emotion progressively increases with the degree of violence conveyed by the OPPONENT metaphors.

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The intensity of fear and anxiety can be evaluated by using the survey method. The results are summarized in the grid as shown in Figure 5.5.

		Emo Low	otion Inten	sity		>High
FEAR	strike		++			
	cripple			+++		
	ruin				++++	
	destroy					+++++
ANXIETY	hobble		++			
	hammer			+++		
	wreak havoc				++++	
	kill					+++++

Figure 5.5. Grid of emotion intensity of OPPONENT

Figure 5.5 exemplifies the spectrum of the intensity of fear and anxiety conveyed through OPPONENT metaphors. The metaphors mapped onto FEAR with words such as *strike*, *ruin*, *destroy*, and *cripple* all refer to forceful physical contact between the opponents'emotion' and 'financial market', but the intensity of the destructive force is on different level. According to the survey results (Appendix 8), all the respondents agreed that *strike* describes the lowest intensity of emotion among the four metaphors. More respondents (N=6) gave *strike* a rating of two rather than one. The second lowest intensity of emotion is described by the metaphor *cripple*, in which nine respondents gave it a rating of three. Most of the respondents (N=9) thought *ruin* describes a higher intensity of emotion than *cripple*, whereas only one respondent gave both metaphors *ruin* and *cripple* a rating of three. A majority of respondents (N=8) gave the metaphor *destroy* a rating of five, meaning that the metaphor describes the highest intensity of emotion.

The survey results suggest that there is an increase of emotional intensity from the word *strike*, *cripple*, *ruin* to *destroy* because *strike* specifies with a forceful blow, possibly with a weapon, whereas *ruin* and *destroy* involve largescale destruction. The metaphorical verb *cripple* refers to serious injury to a person. The harm expressed by *cripple*, *ruin*, and *destroy* is more definite and so these words convey a higher intensity of fear.

Similarly, in the target domain of ANXIETY, the intensity of anxiety increases from the metaphor hobble, hammer to wreak havoc. As shown in Appendix 8, most of the respondents (N=8) gave the metaphor kill a rating of five, which attributes to the highest intensity of emotion. The intensity of anxiety conveyed in *kill* is the highest because it refers to the death of the opponent. The second highest intensity of emotion conveyed is from the metaphor wreak havoc, which is agreed by seven respondents. Only two respondents thought kill describes a lower intensity of emotion than wreak havoc, whereas only one gave them the same rating of five. Most of the respondents (N=8) shared the view that hammer describes a higher intensity of emotion than hobble. From Figure 5.5, it is clear that the OPPONENT metaphors mapping onto the emotion of anxiety tend to be positioned at the right hand side of the grid, showing that the intensity of emotion and the sense of destruction conveyed are higher than for metaphors mapping onto the emotion of fear. It appears that emotion metaphor studies tend to focus on how the physiological influence of an emotion (e.g. anger causes the body temperature to heat up) affects the metaphorical use (e.g. ANGER IS A HOT FLUID IN A CONTAINER) (Lakoff & Johnson, 1980; Barcelona, 1986; Kövecses, 2000; Stefanowitsch, 2006; Lascaratou, 2007). If contextual factors are taken into consideration when examining metaphor choice, the understanding of a target or source domain may be more comprehensive.

Steen's three-dimensional model (2007) suggests the interconnectedness of the linguistic aspects, conceptual aspects and communicative functions of metaphor. It can be seen from the findings of this study that discursive factors affect the choice of metaphor, and metaphor choice in turn depends on the communicative function that journalists want to achieve by the use of metaphor in news texts. As indicated in Section 4.2, causes and effects in market activity are topics of concern in the financial crisis, and they carry high news values. The emotions of fear and anxiety are utilized as a tool to increase the negative perception of readers. This negative perception can be further enhanced by using OPPONENT metaphors. So it seems to suggest that the OPPONENT metaphor is utilized by journalists as a tool to produce more negative news with higher news value. There may be an implication that news of greater newsworthiness will easily arouse public attention and government awareness. As Goddard et al. (1998) points out, government plays a central role for economic health and stewardship in a country. The entailments conveyed in the OPPONENT metaphors may constitute an unavoidable force to urge government to take immediate action to rescue the economy.

5.2.4 Stage of Power: Highest intensity of emotions

Section 5.2.3 exemplified the metaphors manifesting EMOTION IS AN OPPONENT such as 'hobbled by worries', and showed how the forces of antagonist and agonist interact in metaphorical expressions. It is argued that Kövecses's EMOTION IS AN OPPONENT model does not apply in the context of financial news discourse. This is because concordance data demonstrates that the Resultant Action of the mapping emphasizes changes in investors' and business corporations' actions rather than how people lose or maintain control in the struggle against emotion. Other concordance data shows that EMOTION has a superior status over the financial market, as shown by terms such as the noun phrase *main driver* or the verb *rule*. This kind of metaphor is termed SOCIAL SUPERIOR. Compared with metaphors of OPPONENT, the SOCIAL SUPERIOR metaphor suggests that one party has a higher status than another, and so stresses the control and dominance of the emotion. It shows the metaphor themes CONTROL IS HEIGHT, EMOTION IS CONTROLLING A PERSON, THINKING IS CONTROLLING PEOPLE. This section will explore how the emotion is conceptualized as controlling the inferior with force.

As with the source domain OPPONENT, SOCIAL SUPERIOR also refers to the specific-level emotion metaphors which conceptualize how emotions affect the reaction of a person (Kövecses, 2000). As Kövecses (2000) points out, 'a superior has long-term control over an inferior, whose behaviour is determined by the superior over a long period of time' (p.71). The metaphor expresses the fact that the emotion has a superior status over the person and has control (e.g. His whole life is *governed* by passion). It also relates to the metaphor theme CONTROL IS HANDLE. The cognitive model of EMOTION IS A SOCIAL SUPERIOR is illustrated as follows:

Metaphorical	Agonist's	Antagonist's	Resultant Action
Mapping	Force	Force	
	Tendency	Tendency	
Source	Social inferior	Social	inferior does what
		superior	superior wants him to
			do
Target	Irrational self	Emotion	self has no control
	self's attempt	the emotion	and acts according to
	to try to	causing the	emotion
	maintain	self to lose	CHIOUOII
	control	control	

 Table 5.5. The cognitive model EMOTION IS A SOCIAL SUPERIOR

In Table 5.5, the agonist is a social inferior whereas the antagonist is a social superior. The resultant action is that the inferior is under the control of the superior and does whatever the superior wants him or her to do. Hence if the metaphor is mapped onto the target domain, it means that a person (social inferior) attempts to control himself but the emotion (social superior) causes him to lose control. As a result, the person acts according to the emotion without any self-control.

Surprisingly, only the lexical items of FEAR mapped onto the target domain of SOCIAL SUPERIOR. This may be because of the characteristics of the emotion of fear. As Scherer (1997) points out, fear is an unexpected, unpleasant, externally caused and uncontrollable emotion. The emotion of fear cannot be controlled by anyone, but it 'controls' a person instead, as if it exercises power over the person. The emotion of fear is directly described as *driver* or *motivator*, or conceptualized as possessing *controlling* or *dominating* power. For example:

(5.7) Uncertainty and fear rule. (Stein, 2008)

(5.8) He said the drop was not 'irrational' and that the market is being *controlled* by 'fear and rumors'. (Hagenbaugh, 2008)

Interestingly, among the lexical items of FEAR ('alarm', 'panic', 'fear'), only the typical term 'fear' is used in the conceptualization of a social superior (FEAR IS A SOCIAL SUPERIOR) (see Section 5.2.4.2 for comparisons of synonyms).

The financial market is conceptualized as an inferior (FINANCIAL MARKET IS AN INFERIOR). In addition, as shown in Examples 5.7 and 5.8, when 'fear' is described as a superior, it is usually the case that the word co-occurs with words expressing other feelings or things like 'uncertainty' and 'rumors'. The conjunction 'and' in the examples indicates the mutual influence of 'uncertainty' and 'fear', as well as 'fear' and 'rumors' respectively. The association of words in the examples reveals that investors experience fear because of the uncertainty and rumors about the financial crisis situation. As Altheide (2002) points out, 'fear rests on the border between expectations and realizations, between hope and reality' (p.26). The emotion of fear will be generated when people have certain expectations towards the future financial situation, but have no clue as to the reality. Hence the effect of emotion results in panic selling by investors which causes the plunge of stock prices. In addition, the high intensity of fear will in turn produce more uncertainty and rumors in the financial market. This seems to provide further support for the findings in previous sections.

Given that uncertainty and rumors will worsen the financial situation and may create more negative news with higher news value, the findings further strengthen the notion that metaphor serves as a tool to intensify the negative emotions, and the emotion of fear may in turn act as a tool to drive the actions of investors. Also, the use of SOCIAL SUPERIOR metaphors may further emphasize the control and dominance of negative emotions. Since government is regarded as having a stewardship in the economy of the country (Goddard et al., 1998), the use of SOCIAL SUPERIOR metaphors in the news discourse seems to exert pressure on the government to take immediate action to remedy the situation.

5.2.4.1 The case of 'fear'

Among the lexical items in the field of emotion, the pattern of metaphorical expressions reflects the fact that the metaphorical expressions of members with the target domain of FEAR carry certain degrees of fixedness. For instance in the target domain of FEAR, 'fear' has more fixed collocations than the other words such as 'panic':

	Expression	Frequency	Example
Fear as Subject	Fear and X rule	2	uncertainty and fear <i>rule</i> fear and greed <i>rules</i>
	Fear and X grip	2	fear and shock <i>gripping</i> the country fear and uncertainty <i>grip</i> them
	Fear and Xdrive	1	fear and confusion have been <i>driving</i> consumer and investor behaviour
	Fear, X and Y cripple	1	rumor, speculation and fear can <i>cripple</i> a bank
	Fear and X take over	1	rumor and fear <i>take over</i>
Fear as Object/ Prepositional Object	X overcome Fear	1	greed overcoming fear
	Capitalize on Fear and X	1	<i>capitalizing on</i> fear and panic
	Controlled by Fear and X	2	<i>controlled by</i> fear and rumors

Table 5.6. Metaphorical expressions with 'FEAR and X' formula

The FORCE metaphor of 'fear' has a higher degree of fixedness as it always cooccurs with another kind of feeling or thing. Table 5.6 shows that 'fear' cooccurs with 'rumor' (N= 4), 'greed' (N= 2), 'uncertainty' (N= 2), 'shock' (N= 1), 'confusion' (N= 1), 'speculation' (N= 1) and 'panic' (N= 1). It is not the only agent which exerts force and affects the market. The use of the conjunction 'and' indicates that 'fear' affects the market but it is also combined with other things, e.g., rumor, greed and uncertainty.. In emotion literature, anxiety is a kind of emotion which mixes with others including distress, anger, sadness, guilt and fear (Ghinassi, 2010). However, from linguistic data, the co-occurrence of words of anxiety with other emotions is rare. This also shows that Oster (2010)'s notion about strong tendency in co-occurrence between emotion words and other words about feelings may not apply to every emotion concept.

The formula 'X *overcome* Fear' reveals that sometimes 'fear' is not the 'absolute dictator' but it may be conquered by other feelings like 'greed' (e.g. 'greed *overcoming* fear'). For example, investors buy more stocks because of 'greed' rather than selling the stocks because of 'fear'. There is one occurrence

of the FORCE metaphor of fear which demonstrates the association with other feelings or things:

(5.9) Everywhere, sometimes in the same sentence, beliefs and fears - what should happen and what might happen - were *in collision*, and *a deep well of* anger was, for almost everyone, just beneath the surface. (Johnson, 2008)

Example 5.9 illustrates the use of metaphor cluster - BELIEF IS AN OPPONENT, FEAR IS AN OPPONENT and ANGER IS WATER. The struggle between 'beliefs' and 'fears' is manifested with the expression *in collision*. These two concepts are opposite to each other. If a person has 'belief', he or she is confident that the financial situation will recover soon. However, if a person fears, he or she will be worried that the current situation may become even worse. Hence the 'fight' between belief and fear in the mind of people is conceptualized as a collision. This reveals that investors may try to be optimistic in a financial crisis, but the emotion of fear is difficult to expel.

The second sentence in Example 5.9 demonstrates that anger is conceptualized as water. The notion of *deep well* suggests that the 'supply' of water 'anger' is endless and abundant. More future studies could discuss various kinds of metaphor clusters and their difference in communicative function. Also, Cameron and Deignan (2006) noted that metaphorical expressions often have a fixed pattern. The above findings suggest that the lexico-grammatical structure with the target domain also has a particular fixed form and the form varies across different lexical items realizing the target domain. This further shows that investigation of the metaphors associated with lexical items with a target domain is preferred over the discussion of a lexical item which represents a particular target domain in traditional practice.

5.2.4.2 The case of synonyms or near-synonyms

As reported in Section 5.2.1.1, only three prototypical lexical members of FEAR are found to associate with metaphors. These are 'fear', 'panic' and 'alarm'. The corpus data shows that the conceptualizations of the synonyms 'fear' and 'panic'

are different, and this reflects the difference in intensity of the emotion. The comparison is indicated in Table 5.7:

(highest)				
	Stages	Metaphorical expression		
T	Power	'Fear': drive down, take over, rule, driver		
		'Panic': caught in, put downward pressure, exacerbate, drive steep		
	High activeness	'Fear': drag down, grip, cripple		
		'Panic': course through, grip		
	Low Activeness	'Fear': return, fled, show up, lurk, shake		
		'Panic': give way to		
	Maturity	'Panic': full-fledged, full-blown		
	Growth	'Fear': grow, feed		
		'Panic': grow, feed		
	Reproduction	'Fear': spawn, beget		

Table 5.7. The conceptualizations of near-synonyms 'fear' and 'panic'

(lowest)

Intensity

From Table 5.7, the collocations with the target domain of FEAR show that 'fear' is more conceptualized as an organism at the reproduction stage (e.g. *spawning* fear; *sowing* fear) whereas 'panic' is rather conceptualized as an organism at the maturity stage (e.g. *full-blown* financial panic'; *full-fledged* global panic). As discussed before, metaphorical expressions like *spawn* and *sow* highlight the rapid speed and large scale of reproduction, suggesting that 'fear' and 'alarm' have an infectious effect in the market which influences a considerable amount of investors rapidly. In contrast to 'fear', collocates of 'panic' such as *full-fledged* and *full-blown* specify the physical change of an animal or plant. The word *full-blown* conceptualizes 'panic' as a plant which is in bloom, whereas the word *full-fledged* conceptualizes 'panic' as a fully-developed bird. By referring to the full development of an organism, it is suggested that the intensity of panic may reach or has reached a maximum level.

The data also shows that when 'fear' and 'panic' are conceptualized as an animal, their activeness is different. Metaphorical expressions like *linger* and

lurk conceptualize 'fear' as an inactive organism (stage of lowest activeness). The use of linger and lurk suggests the uncertainty of investors about the future financial situation. The instability of investors' emotions may also be due to the Public's distrust of the decisions of politicians (see Section 4.2). Conversely, 'pani'c is conceptualized as a more aggressive person who harms investors, as in'*devastated* the local currencies' (stage of highest activeness). The choice of the metaphorical expressions above reveals that the level of fright is much higher in 'panic' than that in 'fear', and the expressions are more hyperbolic. Table 5.7 reveals that some metaphors in the stage of highest activeness also conceptualize the emotion of fear, but linguistic choices such as *rule* and *take over* conceptualize the emotion of fear as a dominant person but not an aggressive one. All the above findings reflect that the word 'fear' carries the semantic prosody of 'durative', 'uncertain' and 'dominant' whereas the word 'panic' carries the semantic prosody of 'devastative' and 'rapid'.

According to the *Cambridge International Dictionary of English* (1995), 'panic' refers to 'a sudden strong feeling of fear that prevents reasonable thought and action' while 'fear' means 'an unpleasant emotion or thought that you have when you are frightened or worried by something dangerous, painful or bad that is happening or might happen'. The dictionary entry stresses the suddenness of the emotion of panic. The findings about the associated organism metaphors above provide further support for the literal meaning of panic being a more intense emotion than that of fear, and the arousal of panic being quicker but the duration shorter. Although metaphors of panic convey a more intense and destructive force than that of fear, it is illustrated by Table 4.9 that the use of the word 'fear' (N= 492) is much more frequent than that of 'panic' (N= 172) in the news reports. This is probably because the lexical item 'fear' is the core lexical member of the semantic field FEAR.

Compared to the domain of FEAR, a greater variety of lexical items with the domain of ANXIETY is mapped with metaphors. These items include 'anxiety', 'trouble', 'stress', 'qualm', 'worry', 'uneasiness' and 'malaise'. In particular, it is found that metaphors mapping onto the near-synonyms 'anxiety' and 'worry' bring different conceptualizations, as shown in Table 5.8:



Table 5.8. The conceptualizations of synonyms 'anxiety' and 'worry'

Table 5.8 indicates that there is an increase of emotion intensity from the stage of Reproduction through Growth, Maturity, Low Activeness and High Activeness to Power. The word 'worry' is more conceptualized as an organism at the stage of highest activeness than 'anxiety'. Examples of associated metaphors are hammer, hobble, and wreak havoc. This shows that 'worry' tends to be conceptualized as an active organism. On the other hand, 'anxiety' is conceptualized as an organism at the stage of low activeness. The metaphor *come* reveals the low energy level which is conveyed by the word 'anxiety' and the metaphor *linger* stresses the uncertainty of the financial situation as in the case of fear. According to the Cambridge International Dictionary of English (1995), 'worry' is defined as 'the situation when you feel unhappy and afraid'. On the other hand, 'anxiety' is defined as 'an uncomfortable feeling of nervousness or worry about something that is happening or might happen in the future' and 'something that causes a feeling of fear and worry'. This means that when a person feels worried, he or she may not be anxious. However when a person feels anxious, he or she is often also worried. This seems to suggest that anxiety is an intense worry. However, the findings of associated metaphors above seem to violate the dictionary meanings of anxiety and worry. The

associated metaphors suggest that worry is more destructive than anxiety.

It appears from the above findings that the different conceptualizations of synonyms or near-synonyms with the same domain may bring various connotations and provide explanations for the denotation meanings. This supports the views of Stefanowitsch (2006) and Deignan (2006) that individual lexemes from the same semantic domain may have different metaphorical mappings. Although using a corpus-based approach has become a trend for metaphor research, many of the studies (e.g. White, 2003; Oster, 2010) tend to start with a search word which represents a particular target domain concept and then summarize the conceptual mappings. The findings here mean that the comparison of metaphorical expressions of several lexical items from the same target domain may help us understand the differences in conceptualizations. However, the results here are limited by the low variety of lexical items with the target domain of FEAR, and the low frequency of occurrences of lexical items with the target domain of ANXIETY. Future studies may explore the relationships of conceptualizations of various lexical items apart from 'fear' and 'panic' in the domain with the largest amount of corpus data.

5.2.5 Summary

The ORGANISM metaphor captures the stages of reproduction, growth, maturity, low activeness, high activeness and power. The stage of power is represented by the sub-source domains of ORGANISM, OPPONENT and SOCIAL SUPERIOR. Different stages in the life cycle of an organism carry various semantic meanings and bring different conceptual implications. Metaphors expressing the reproduction stage specify the rapid spread of negative emotions. The arousal of emotions will result in irrational reactions of investors and cause unexpected stock performance. This in turn generates more negative emotions and this suggests that the emotion scenario (Kövecses, 1990, 2000) should be regarded as cyclical and bidirectional rather than linear and unidirectional. Ideologically, ORGANISM metaphors may serve as a tool to exaggerate the financial situation and help generate more negative emotions. This may enhance the newsworthiness of the reports and spur the government to take immediate action

to prevent the spread of emotions. On the other hand, the activeness stage highlights the intensified and destructive aspects of emotions. The low activeness stage highlights the long-lasting aspect of emotions, while the destructiveness conveyed in the metaphors of HIGH ACTIVENESS seems to further intensify the negative emotions and increase the pressure on the government to undertake rescue measures. Also, the analysis of ORGANISM metaphors shows that the emotion of fear is more often used as a tool to raise the awareness of the public and government compared to the emotions of anger and anxiety.

In the conceptual dimension, the findings suggest that metaphors in a source domain can be further classified into sub-source domains according to the focus of each aspect. The conceptualizations of sub-source domains are intrinsically inter-connected and investigation of the inter-connections could provide a more complete picture for the whole source domain. For example, the source domain of HIGH ACTIVENESS is further classified into OPPONENT and SOCIAL SUPERIOR. The source domain of OPPONENT stresses the struggle between emotion and investors in the financial market, whereas the source domain of SOCIAL SUPERIOR highlights the control and dominance of emotions. From a lexical perspective, analysis of synonym or near-synonym pairs reveals that the emotion of panic is more intense than fear, and worry has a higher intensity than anxiety. The investigation of mixed metaphors demonstrates their function of enhancing the force and harm conveyed in the news discourse. Thus, it is suggested that rather than using the core lexical item to represent the whole target domain, future discussions should concentrate on the comparison of conceptualizations associated with different lexical items in a target domain. It is also suggested that studies of mixed metaphors and their communicative functions should be encouraged. These will strengthen the relationship between linguistic, conceptual and communicative functions of a metaphor as suggested in Steen's three-dimensional model.

5.3 EMOTION IS WATER and A FIRE

In the CGFC, a large number of conceptual metaphors of WATER and FIRE are mapped onto the target domain of emotions. Water and fire can become disasters if the force is intensified. Altheide (2002) claimed that there is a transformation of fear from the Middle Ages to contemporary society. In the Middle Ages, most of human fear stemmed from natural catastrophes and 'uncontrollable phenomena' in life (Altheide, 2002, p.27). However, nowadays people fear because of various societal problems such as crime and terrorism. It is agreed that people in contemporary society fear more things because of the transformation of society. However, the view of Altheide that people nowadays do not fear natural disasters is far from persuasive. I argue that one of the main human fears is still natural disasters. Briere and Elliott (2000) defined disasters as 'large-scale, stressful environmental events that adversely affect a significant number of people' (p.661). In recent years, the catastrophes happening worldwide seem to be more frequent and disastrous, for example the Japanese earthquake in 2011, the Si-Chuan earthquake in 2008, and the South Asian tsunami in 2004. Some studies show that emotions like fear, anxiety and anger are one of the psychological symptoms related to natural disasters (e.g. Shore, Tatum, & Vollmer, 1986; McFarlane, 1987; Green and Solomon, 1995). Hence it is inferred that the use of natural disaster metaphors to describe emotions in press reports of the financial crisis seems to remind people of the destructive nature and uncontrollability of the crisis. Before the discussion moves on, one should note that this study regards natural disaster as a kind of metaphor in the domain of NATURAL FORCE. The intensity of force will change a natural force to a catastrophe. For example, water is a substance. If the energy level is higher, and the water is in motion, it will become a natural force and even a catastrophe like a torrent or tsunami. The distribution of metaphors with the source domains of FIRE and WATER is indicated in Table 5.9:

	FEAR (N)	ANGER (N)	ANXIETY (N)	Example
WATER	19	8	4	Floating around the
				market were the usual
				fear, an <i>outpouring</i> of
				public anger, tensions
				<i>boiled over</i> , customers
				fears were <i>swirling</i>
				about troubles gripping
				financial companies
FIRE	14	2	3	stoke fears of
				Recession in Europe,
				<i>igniting</i> outrage in a
				country, <i>fan</i> fears
				among bank

Table 5.9. Distribution of metaphorical expressions of WATER and FIRE

Table 5.9 shows that among various types of natural force, figurative expressions of WATER and FIRE recurrently co-occur with emotion concepts. Interestingly, the fluctuations and movements in a financial market are often conceptualized as NATURAL FORCE (Charteris-Black & Ennis, 2001; Chung, Ahrens, & Sung, 2003; Oberlechner, Slunecko, & Kronberger, 2004). The CGFC data also shows that the financial market is described as a natural force or disaster including wind (e.g. like a Category 4 hurricane), water (e.g. financial tsunami, ocean of short-term debt), fire (e.g. ignited this firestorm) and storm (manage the economic storm). The metaphors hurricane and storm indicate the metaphor EMOTION IS WEATHER, and ocean manifests the metaphor QUANTITY IS WATER. This shows a close link between EMOTION IS SUBSTANCE and FINANCIAL MARKET MOVEMENT IS NATURAL FORCE. The SUBSTANCE and NATURAL FORCE metaphors conceptualizing the emotion may imply that the intensified negative emotions will increase the fluctuations of the market and worsen the financial situation. The conceptualizations of WATER and FIRE will be discussed in the following

sections.

5.3.1 Conceptualizations in the domain of WATER

The analysis of financial metaphors by Charteris-Black and Ennis (2001), and Oberlechner, Slunecko and Kronberger (2004) reveal that market movements are often conceptualized as water in the English language. Hence, it is understandable that the arousal of negative emotion in the financial market can also be conceptualized as water. The corpus data reveals the mapping of emotion with words such as 'rippling' (EMOTION IS CURRENT/WAVE) and 'floating' (EMOTION IS LIQUID). These words do not refer to an extremely forceful movement, yet waves are produced by a force in nature. According to Kövecses (2000), WATER and WIND are subsumed under his cognitive model of emotion EMOTION IS NATURAL FORCE. However, FIRE is excluded from his cognitive model of NATURAL FORCE and is explained by another cognitive model (see Section 5.3.2). It is suggested in the present study that water is a natural force only when it is in motion; otherwise it is a substance. Also, fire should be assigned to the model of NATURAL FORCE too. Hence to avoid ambiguity, Kövecses's cognitive model of EMOTION IS NATURAL FORCE is renamed as EMOTION IS WATER/WIND in this study. By using the term WATER/WIND, it is not meant that water has the same conceptualization as wind, but just that these two kinds of natural force share the same cognitive model suggested by Kövecses (2000). Given the low frequency of occurrences of the WIND metaphor mapping onto the emotion concepts, I will only discuss the conceptualizations of the WATER metaphor in the following.

In the cognitive model EMOTION IS WATER/WIND, the agonist is a physical object whereas the antagonist is the natural force. The natural force causes an influence on the physical object and the physical object attempts to remain unchanged. Usually, as a result, the physical object is forced to undergo some change. When this metaphor is mapped onto the target domain of emotion, the agonist's force is exerted by a rational self and the antagonist's force is exerted by the emotion. The person may continue to behave normally without being affected by the emotion, or alternatively, the emotion may cause the person to make some response. The resultant action will be that a person responds to the emotion passively. In short, the conceptual metaphor EMOTION IS WATER/WIND focuses on the aspect of passivity of the entity because it moves along with the motion of the natural force. Table 5.10 reveals the cognitive model of the conceptual metaphor EMOTION IS WATER/WIND and the modified resultant action:

Metaphorical Mapping	Agonist's Force Tondoney	Antagonist's Force Tendency	Resultant Action
Source	<i>Physical object</i> to keep being the same	<i>Natural force</i> to cause an effect in physical object	Physical object undergoes effect in a passive way
Target	Rational self to continue to behave as before the emotion	<i>Emotion</i> to cause the self to respond to emotion	Self responds to the emotion in a passive way

Table 5.10. The cognitive model EMOTION IS WATER/WIND

In Table 5.10, the agonist's force is instantiated by a physical object which tries to keep its shape, whereas the antagonist's force is instantiated by a natural force which causes an effect in the physical object. The resultant action of a natural force is that a physical object undergoes an effect in a passive way, and in a similar way a person will respond to the emotion passively. In fact, it is far from complete to state that 'the physical object undergoes an effect in a passive way' as the only resultant action. This is because the movement of the physical object may cause the movement of other objects nearby, or produce a wave and indirectly cause the movement of other objects. This assumption is supported by the corpus data showing that the person would also spread the emotion.

5.3.2 Low intensity of emotion

In the corpus data, WATER metaphors mapped onto all of the three emotion domains FEAR (N= 11), ANXIETY (N= 4) and ANGER (N= 9). The previous

sections show that ANXIETY and FEAR share a similar set of source domains. Surprisingly, however WATER metaphors are more recurrently mapped onto ANGER than those of ANXIETY. This may be due to the fact that ANGER is a more violent emotion. As Kalat and Shiota (2007) point out, anger is 'the emotional state associated with a desire to hurt someone or drive that individual away' (p.124). In other words, anger brings aggressive and detrimental behaviour. The consequences of rising anger are compared to those of natural forces, particularly catastrophes such as tornados that may cause massive destruction. The low frequency of WATER metaphors mapping onto ANXIETY can also be explained according to its characteristics. Compared with fear, the emotion of anxiety has a longer persistence as the emotion is usually triggered by no identifiable stimulus but rather the perception that something unpleasant may happen (Lazarus, 1991). Since natural forces like cyclones or torrents usually do not last long, this difference in nature may contribute to the infrequent mapping of WATER onto ANXIETY. The corpus data demonstrates that ANGER IS WATER focuses on the storage of water. For example,

- (5.11) Many possess a seemingly *inexhaustible wellspring* of anger; and few on either side see much worth in reaching out to those of differing views. ("Failure", 2008)
- (5.12) Everywhere, sometimes in the same sentence, beliefs and fears- what should happen and what might happen- were in collision, and a *deep well* of anger was, for almost everyone, just beneath the surface. (Johnson, 2008)

The basic sense of the words 'wellspring' and 'well' is a deep hole in the ground where water can be obtained. Their contextual sense in Examples 5.11 and 5.12 is an intensified level of anger. The anger of a great many investors is like the bountiful supply of water in a well. Given that the basic sense of 'wellspring' and 'well' is distinct from their contextual meanings, they are metaphors in Examples 5.11 and 5.12. The supply of water is usually unlimited because it comes naturally from under the ground. The deepness of the wellspring or well provides implications of the depth of ANGER. It is difficult to find the depth of a wellspring or well. Similarly, the depth of the wellspring or well suggests that

the 'supply' of ANGER is 'endless', implying that it is not easy for investors to resist the emotion. The suggestion appears to be that if the anger of investors is not assuaged, their anger will persist and become intensified. Hence, this is consistent with the analysis of ORGANISM metaphors that there is pressure on the government to take immediate action to rescue the situation.

FEAR does not have strong collocational patterns with NATURAL FORCE metaphors. However, a great variety of verbs associated with it such as *rippling* and *adrift* conceptualize FEAR as water:

- (5.13) Lehman sent a new wave of fear *rippling* through market. (Dash, 2008)
- (5.14) For most of Tuesday, stocks ambled from modest rise to modest fall, avoiding the triple-point swings that have become the trademark of a market *adrift* in uncertainty and fear. (Grynbaum, 2008)

The use of *adrift* refers to a buoyant state on the surface of the water. The metaphor *ripple* conveys a low energy level of water, implying that the fear spreads. This stems from the knowledge that ripples enlarge and then spread in all directions, implying that the anxiety of the investors could exert an influence on one another continuously in the market. However it should be noted that water in a well is more static than water which ripples and causes objects to adrift. From the previous findings relating to FEAR as ORGANISM, the emotion of fear seemed to have a strong influence on the activity of the financial market and it would not be assuaged in a short time. The metaphor implies that fear is aroused among a large number of investors and it will affect everyone quickly.

When an object is adrift in the water, it moves along without any direction. Thus, the time of reaching the shore is unknown. The metaphors emphasize the uncertainty in the market, which is in line with the findings relating to LOW ACTIVENESS metaphors (see Section 5.2.2). The findings here agree with *Metalude* (2002) that *adrift* also carries an entailment UNCERTAINTY IS INSTABILITY, implying that the financial situation is unstable and uncertain. However I suggest that the metaphor *adrift* also has an implication of PURPOSELESS IS DIRECTIONLESS. These metaphorical

expressions carry the semantic prosody of 'unpredictable', suggesting that it is perhaps hard to predict when the negative emotion will be eliminated from the market, and the financial problems are still yet to be resolved.

5.3.3 High intensity of emotion

In addition to the depth of emotion, ANGER IS WATER metaphors also focus on the spread of emotion. For example:

- (5.15) That anger *spilled* into public view in April at a meeting in Washington when the president and chief executive of The A.P., Tom Curley... (Pérez-Peña, 2008)
- (5.16) Frustration and anger kept *bubbling up* from other ends of the line.(Weisman, Cho, & Kane,2008)

Example 5.15 shows that ANGER 'spilled' into the financial market. The use of *spill* emphasizes the sudden release of emotion. When water spills out, it spreads to the surrounding area and floods things around it, and in the same way, anger may spread after spilling out. In Example 5.16, ANGER 'kept *bubbling up*' suggests that the energy level of the anger is getting very high and the water molecules are vibrating very violently. When they reach a critical energy level, the water will spill out. Both *spill* and *bubbling up* indicate that the increase of anger and similar emotions will affect one another in the financial market, and show the metaphor themes EXPRESSION IS OUTFLOW and EMOTION IS CURRENT/WAVE.

(5.17) The continuing volatility is sending *waves of* anxiety up and down the complex production... (Krauss, 2009)

In Example 5.17, the emotion ANXIETY is conceptualized as the surge of water (*wave*) triggered by the continuing volatility, manifesting AWARENESS IS HIGH.

In the target domain of FEAR, the NATURAL FORCE metaphors

conceptualize FEAR and PANIC as different energy levels of water. The metaphor *subside* shows the diminishing of panic:

(5.18) Morgan gathered his fellow financiers at his Manhattan mansion and hammered out a rescue plan. After a few rocky weeks, the panic *subsided*. (Lohr, 2008)

The metaphor *subside* is the opposite of *bubble up* and shows that the emotion has decreased to a lower level, manifesting DECREASE IS FALL.

Other metaphorical expressions such as *stem* and *stanch* also conceptualize how the flow of panic is stopped. Figure 5.6 shows that 'panic' tends to follow the verb *stem*, conceptualizing 'panic' as flowing water:

ted government struggling to <u>stem</u> the **panic**. Sound familiar? It does to and Brazil halted to <u>stem</u> an investor **panic**. It looks pretty ugly down the inancier was able to <u>stem</u> a financial **panic**. In 1907, amid bank runs, ope that the AIG bailout would <u>stem</u> a **panic** in the financial markets was hed the salvage effort and <u>stemmed</u> the **panic**: "This is the place to stop the **Figure 5.6. Concordance lines 'PANIC IS WATER'**

(5.19) ...the Federal Reserve and five other central banks marshaled their combined firepower to cut interest rates but failed to *stanch* the global financial panic. (Andrews & Landler, 2008)

As shown in Figure 5.6 and Example 5.19, the panic was assuaged by business institutions (e.g. 'financier') and the government (e.g. 'government') through the bailout plans or other actions. The verbs *subside* and *stanch* conceptualize panic as water, showing QUANTITY IS WATERFLOW. It is inferred from this type of verb that the negative emotion of investors has reached a high and uncontrollable level which needs to be alleviated. Altheide (2002) points out that fear is 'a general orientation that harm is imminent and that steps should be taken to avoid the source of fear or to attack the object of fear' (p.188). Hence, it is not hard to predict that under uncontrollable fear, there may be some massive actions in the market, such as short-selling or protests. The conceptualizations in WATER metaphors further support the findings relating to OPPONENT metaphors that some actions (*stem* or *stanch*) by financial institutions or the

government may have to be implemented immediately to stop the situation from getting more disastrous. It also further supports the finding in Section 5.2.4.2 that the difference in conceptualizations reveals that 'panic' is more intense its synonym pair 'fear'.

From the above findings, only the WATER metaphors mapping onto the target domain FEAR imply that action must be taken to stop the spread of the emotion. This may suggest that the arousal of panic has a serious effect on the market so actions must be taken to stop it immediately, whereas the arousal of anger or anxiety may not be as serious as that of fear. This further strengthens the view that the emotion of fear may enhance news values more effectively than the other two emotions. The spread of fear may be regarded as a tool to prompt the government to be more decisive in introducing rescue packages.

In addition, the findings relating to WATER metaphors cannot be fully explained by using Kövecses's cognitive model EMOTION IS WATER/WIND. Kövecses suggests that the resultant action of a natural force is that a physical object undergoes an effect in a passive way, and in a similar way a person will respond to the emotion passively. However from the CGFC data, it is found that the main importance does not lie in the passiveness of the person. Rather, the large scale and widespread effect of the natural force are focused on. The metaphor theme EFFECT IS IMPACT shows that the physical object not only undergoes an effect in a passive way but also affects the other objects and changes their movement. Hence, the resultant action in Kövecses's cognitive model is modified and it is proposed that the resultant action will cause the person to spread the emotion to others.

5.3.4 A suggested diagram for evaluating intensities of WATER metaphors

The findings reveal that when FEAR terms are described as water spilling out, there are no implications of heat or energy as in the case of ANXIETY and ANGER (e.g. *boiled over* and *bubbling up*). This is quite consistent with some metaphor studies in which ANGER IS A HOT LIQUID IN CONTAINER (Kövecses, 1995). On the other hand, only FEAR terms are associated with

words about stopping the arousal (e.g. stem and stanch). Hence, it is deduced from the data that when journalists use WATER metaphors to describe the increasing level of an emotion, they highlight the vigor of ANXIETY and ANGER, and focus more on actions to stop the spread of FEAR. This is in line with the findings relating to the ORGANISM metaphor (see Section 5.2) that metaphors are utilized to highlight the violent aspect of ANXIETY. Goatly (2011b) suggests that EMOTION IS WATER brings associated sub-metaphors including EMOTIONAL EXPRESSION IS OUTFLOW, EMOTION IS MOVEMENT, EMOTION IS FLUID, CAUSE EMOTION IS STIR and EMOTION IS CURRENT/WAVE. The above findings are consistent with the themes EMOTIONAL EXPRESSION IS OUTFLOW, EMOTION IS MOVEMENT and EMOTION IS CURRENT/WAVE. I suggest that the sub-metaphors can also be connected in terms of vertical and horizontal dimensions. The overview of the conceptualization of emotion as water could be summarized in Figure 5.7:



Figure 5.7. Degree of EMOTION IS WATER metaphor in the market

In Figure 5.7, the two arrows refer to vertical and horizontal dimensions. The horizontal dimension depicts the degree of emotion. Metaphors such as *ripple*,

adrift in, float, pool and *wellspring* all highlight the volume of the water. They imply that a negative emotion can spread and extend to others in the financial market. The dashed lines show the link between the lexical items with the metaphor themes. For example, *float, adrift in* and *ripple* relate to EMOTION IS WAVE, and *wellspring* relates to EMOTIONAL EXPRESSION IS OUTFLOW. The solid arrow pointing from the metaphor *float* to *wellspring* demonstrates the increase in energy level of the emotion and the loss of control of investors (from EMOTION IS MOVEMENT to EMOTION IS WAVE).

The dashed arrow refers to the vertical dimension about the energy levels of water. Different metaphors express different energy levels of water. For example, the metaphor *bubble up* depicts a higher energy level of water because of the vibration of the molecules. Bubble up and course through belong to EMOTION IS MOVEMENT. Once investors can no longer tolerate the financial situation, the energy level of emotion rises as if water is boiling over. This is realized in the metaphors *boil over*, stem and stanch that represent the metaphor theme EMOTIONAL EXPRESSION IS OUTFLOW and QUANTITY IS WATERFLOW. The energy level of emotion is highest when the flow of water becomes a wave. Figure 5.7 shows that the intensity of metaphors can be evaluated and metaphor themes can also be compared in terms of scale. From the above diagram we can also see how the interrelations of metaphor themes constitute multivalency, that is, different target domains FEAR, ANGER and ANXIETY can be conceptualized by the use of the same source WATER. Goddard et al. (1998) points out that government plays a crucial role in maintaining economic health. In the context of the financial crisis, metaphors help strengthen the reporting of negative emotions and this may in turn trigger irrational reactions by investors. This may produce more negative emotions among investors. These kinds of negative emotion may force the government to rescue the economy.

5.3.5 Summary

WATER metaphors are frequently utilized to conceptualize negative emotions. They stress the aspects of destruction, irresistibility, and unpredictability, reminding people that the financial situation is disastrous, uncontrollable and unpredictable.

The liquidity of WATER is often utilized to compare the movement of cash and market movements, showing the metaphor theme MONEY IS LIQUID. MONEY IS LIQUID is an important theme in financial discourse. According to Metalude, many metaphors manifest the theme such as *cash dispenser*, cashflow, credit squeeze and current account. The present study shows that WATER metaphors also relate to the intensity, uncertainty and spread of negative emotions. WATER metaphors are more recurrently mapped onto ANGER than the other two EMOTION domains, showing the destructive aspect of the emotion of anger. This study suggests that, if we take discursive factors into account, there needs to be some modification of Kövecses's cognitive model EMOTION IS WATER. The difference in conceptualizations mapped onto the domains of FEAR, ANGER and ANXIETY suggests that the spread of fear serves as a media tool to prompt the government to be more decisive in implementing rescue packages. The WATER metaphor conveys the same idea as the ORGANISM metaphor, that the government may need to take immediate and feasible action to rescue the economy. To show the systematicity in the source domain, it is proposed that WATER metaphors could be evaluated in vertical and horizontal dimensions, reflecting the progressive increase of energy and spread of emotions.

5.4 Conceptualizations in the domain of FIRE

Negative emotions are also conceptualized as fire. The findings in this research further support the notion that the force of emotion would cause investors to carry out irrational actions and influence one another. The spread of emotion is not only manifested with the use of the WATER metaphor, but also the FIRE metaphor. In Kövecses's EMOTION IS FIRE model (2000), metaphors of FIRE could conceptualize emotion as a cause that produces certain responses (e.g. he was *on fire* with EMOTION). Table 5.11 shows the cognitive model of EMOTION IS FIRE:

Metaphorical Mapping	Agonist's Force	Antagonist's Force	Resultant Action
11 8	Tendency	Tendency	
Source	Thing	Igniting Fire	Thing burning is
	<i>burning</i> To remain unchanged by fire	to cause thing to burn	changed by fire
Target	Investors in emotional state To remain unchanged by emotion	<i>Emotion</i> To cause stronger arousal of emotion in financial market	Person's behaviour changed by emotion

Table 5.11. The cognitive model EMOTION IS FIRE

As shown in Table 5.11, the agonist's force is exerted by the thing which attempts to remain unchanged by fire, whereas the antagonist FIRE causes the thing to undergo some influence. As a result, the thing being burnt is changed under the influence of fire. The model (see Table 5.11) suggests that a person may try to remain unchanged (agonist's force) under the influence of emotion, but the emotion causes the person to undergo some influence (antagonist's force). As a result, the person's behaviour is changed by the emotion. Hence when the FIRE metaphor is mapped onto the EMOTION domain, it actually produces the resultant action that the behaviour of a person changes, for example by becoming energized or dysfunctional.

5.4.1 FEAR IS FIRE

Like WATER metaphors, FIRE metaphors are found to describe all three emotions. FIRE metaphors mapping onto the FEAR domain are the most frequent (N= 13). Interestingly, the variety of emotion terms mapping with FIRE metaphors is relatively low, i.e., all are the representative ones, e.g. 'fear', 'panic', 'anger' and 'anxiety'. Though FIRE metaphors are not frequent in the corpus, there are still some differences in conceptualization worth discussing. In the target domain of FEAR, three kinds of FIRE metaphors including *stoke*, *spark* and *fuel* highlight the arousal of FEAR. Among these, *stoke* occurs most frequently (N= 6):

bank had ample capital. Bleak Numbers <u>Stoke</u> Fears of Recession in Europe eposed bailout of financial markets, <u>stoking</u> fears of a deep, lingering e to advise it on the restructuring, <u>stoking</u> fears that the companies could nt and American taxpayers. The potential for **panic** is <u>stoked</u> by Asian news d investment banks further <u>stoked</u> investors' fear that a deep recession was Figure 5.8. Concordance lines FEAR+ stoke

According to the *Cambridge International Dictionary of English* (1995), the meaning of *stoke* is 'to add fuel to a large closed fire and move the fuel around with a stick so that it burns well and produces a lot of heat'. The use of *stoke* in the concordance lines implies that the emotion of fear is already aroused in the financial market. Some actions of the government (e.g. 'proposed bailout of financial markets') or a media organization (e.g. 'Asian news organization') or the worsening situation of financial companies (e.g. 'on the restructuring', 'vaporization of a \$46 billion company') heightened the intensity of fear in the financial market as if making a fire burn more strongly. Kövecses (2000) also points out that the prepositions 'with' and 'by' often appear in metaphorical expressions of FIRE to indicate the link between emotion and emotional responses. However in all the concordance lines of the corpus, prepositions occurring with FIRE metaphors are rare, suggesting that metaphorical expressions with the same source domain may have different grammatical patterns across genres.

5.4.2 ANXIETY IS FIRE

With the ANXIETY domain, FIRE metaphors describing the arousal of emotion are frequent, such as *flare* (N=1), *spark* (N=1) and *ignite* (N=1). For example,

(5.20) Stocks plunged Wednesday as anxieties on Wall Street *flared* again amid a weaker-than-expected retail sales report. (Lohr, 2008)

In Example 5.20, 'anxieties' are described as a fire which is already there smouldering and intensifies, indicating that the emotion is intensified. According to the *Cambridge International Dictionary of English* (1995), 'flare' means 'to burn brightly either for a short time or not regularly'. This metaphor implies that the anxiety starts without any control. This is consistent with the view of Ö hman (2000) that the emotion of anxiety is more uncontrollable or

unavoidable than that of fear. The metaphor *explode* indicates that the arousal of ANXIETY is sudden. Though the emotion is not long-lasting, its arousal can be violent. This is in line with the findings relating to ORGANISM and WATER metaphors that the violent aspect of anxiety is highlighted. However in addition to the aspect of violence, the FIRE and WATER metaphors also imply that the time for assuaging the emotion of anxiety is more unpredictable.

5.4.3 ANGER IS FIRE

The emotion of anger is an intense emotion, so it is assumed that there will be a high frequency of FIRE metaphors. Surprisingly, however, the frequency of FIRE metaphors mapping onto ANGER is only 1:

(5.21) In the Senate, Republican support for release of the funds has *evaporated* in the face of public anger over the Bush administration's management of the program. (Cho, Appelbaum, & Montgomery, 2009).

In Example 5.21, support for release of the funds is described as water that turns to gas under the heating of anger. The use of *evaporated* indicates that the intensity of anger is very strong, so that it can evaporate the support. The metaphor links metaphors of fire/heat and water.

5.4.4 Comparison of conceptualizations

From the above examples, it can be seen that FIRE is conceptualized with different intensities when mapping onto the target domains of different emotions, showing the different functions of the metaphor. When FIRE is used to conceptualize the emotion of fear or anxiety, it usually refers to the arousal stage of emotion (Cau→Emo, see Figure 5.1); with anger, on the other hand, FIRE metaphors are used to highlight the intensity of the emotion and its influence in the financial market (LoCon→Inf, see Figure 5.1). It is generally believed that the universal physiology affects human cognition and language, and so affects metaphor choice for a particular target domain (e.g. Gibbs, 2006; Kövecses, 2000; Lascaratou, 2007). For example, Kövecses (2000) maintains that the
source domains of heat or fire only apply to the emotions of anger, love and lust. It is argued that the choice of source domains mapped onto the emotion concepts also depend on the type of genre and the target domain. Kövecses (2000) and Lascaratou (2007) both give examples of how the psychological condition of a person is conceptualized as in 'his anger is *smoldering*'. However this study's findings show that when fire is mapped onto the emotion of fear, the financial market is not conceptualized as a person. Rather, the emotion belongs to the whole group of investors in the financial market. Hence, physiological condition may not be a necessary factor in deciding the choice of source domain for emotion concepts when applied to a financial news context.

The above examples reveal that different emotion terms have different dominant lexico-grammatical positions when mapping with the source domain FIRE. The lexical items relating to ANXIETY tend to act as the subject or agent (e.g. anxiety *flared* again) in the clause, but the words relating to FEAR serve as the object (e.g. stoke the fear). This further supports the finding that FIRE metaphors focus on the trigger of ANXIETY and FEAR. By contrast, with ANGER, the metaphors indicate the intensity and influence of the emotion, yet this has to be supported with more data. The mappings of FIRE onto the domains of ANGER and ANXIETY are more related to the physiological changes they produce. Anger is perceived as an aggressive emotion and feeling anger will cause an increase of body heat (Kalat & Shiota, 2007). This links to the experientialist hypothesis suggested by Kövecses (2000) that all emotion metaphors have physiological origins. For instance, FEAR IS COLD is based on the physiological phenomenon of change in body temperature, so a drop in body temperature stands for FEAR; ANGER IS HEAT is based on a change in body temperature as well, so a rise in body temperature can stand for ANGER. Anxiety is deemed to be a secondary emotion which is a mixture of emotions including anger (Ghinassi, 2010). Hence, it is not difficult to understand why FIRE metaphors map onto ANGER and ANXIETY, and the FIRE metaphors capture the intensified state of the emotion. However, when FIRE metaphors map onto the FEAR domain, the causes of the emotion usually occupy the subject position. The lexico-grammatical position of lexical items relating to FEAR shows that FIRE metaphors capture the cause of FEAR.

Kövecses (2000) claims that FIRE metaphors describe an emotion resulting in a response. On the basis of the elicited data, Kövecses argues that most of the metaphors of FIRE conceptualize emotion as the cause that triggers responses (emotion=>response). However in the corpus data, it is found that FIRE metaphors (16 out of 18 occurrences) rather tend to be conceptualized as the cause which triggers the arousal of an emotion (i.e. cause=>emotion). In other words, FIRE metaphors in the corpus tend to describe the cause of emotion rather than how people react. When the financial crisis worsens, it adds fuel to the fire (EMOTION) so that the emotion 'burns' more and produces a considerable amount of heat. Therefore, the collocations show that some phenomena of fire including *stoke*, *fuel* and *flare* cannot be explained by using Kövecses's cognitive model EMOTION IS FIRE. I argue that it is important to make metaphor claims based on naturally-occurring data.

5.4.5 Summary of FIRE metaphors

The analysis of conceptualizations and grammatical structures demonstrates that the mapping of the FIRE metaphor onto the emotion concepts reflects different elements of the emotion scenario. The FIRE metaphor highlights the arousal stage of FEAR and ANXIETY. The conceptualizations of the FIRE metaphor mapping onto the target domain of ANXIETY reveal that the arousal of anxiety is rapid, and this emotion is more uncontrollable and unavoidable than that of fear. Based on the corpus data, it is proposed that FIRE metaphors tend to describe the arousal of emotion but not the reaction of people as suggested in Kövecses's cognitive model EMOTION IS FIRE. It is also suggested that Kövecses's model needs to be modified for interpreting metaphors in a financial news context. In these cases, I stress the importance of using naturally-occurring data and considering discourse as a factor in the investigation of metaphor use.

5.5 Link between ORGANISM, SUBSTANCE and NATURAL FORCE metaphors

The above findings relating to the ORGANISM, SUBSTANCE and NATURAL FORCE metaphors reveal that different kinds of sub-metaphors are utilized to

conceptualize various intensities of the negative emotions fear, anger and anxiety. The inter-relations between the sub-metaphors in these two source domains are presented as follows:



Figure 5.9. Branches of EMOTION IS ORGANISM, WATER and NATURAL FORCE

Figure 5.9 summarizes the conceptual metaphors of EMOTION IS ORGANISM and EMOTION IS SUBSTANCE and NATURAL FORCE. The metaphor themes have the support data from Metalude (Goatly, 2002). The sub-metaphors are manifested by the focus on different attributes of a living organism that are projected onto the concepts of fear, anger and anxiety. Under the top hierarchy of EMOTION IS ORGANISM is EMOTION IS HUMAN/ANIMAL and EMOTION IS PLANT. The aspect of reproduction conceptualizes the arousal of emotions (AROUSAL OF EMOTION IS BIRTH); the aspect of growth conceptualizes the intensifying of emotions (DEVELOPMENT OF EMOTION IS GROWTH). The figure clearly reveals that DEVELOPMENT OF EMOTION IS GROWTH builds a link between EMOTION IS PLANT and EMOTION IS HUMAN. The aspect of activeness implies the great influence of emotions on the activities of the financial market (INTENSIFIED EMOTION IS MOVEMENT) and the struggle of investors with financial problems (BAD EMOTION IS HURT/INJURY). The aspect of power describes the loss of control of the emotions (STRONG EMOTION IS CONTROLLING FORCE). By comparing the number of sub-metaphors for emotion description, we can see that EMOTION IS HUMAN/ANIMAL describes negative emotions more effectively than EMOTION IS PLANT.

Under the top hierarchy EMOTION IS SUBSTANCE and NATURAL FORCE, the layers of sub-metaphors of EMOTION IS WATER are more than that of EMOTION IS FIRE. The metaphor of a wave describes the spread of negative emotions (EMOTION IS WAVE). The movement of WATER is used to describe the higher intensity of emotions (INTENSIFIED EMOTION IS MOVEMENT). The phenomenon of the intensity of negative emotions reaching an unbearable level is described by the sub-metaphor EMOTION IS OUTFLOW. Among the FIRE metaphors, the arousal of emotion is described as ignition (AROUSAL OF EMOTION IS IGNITION). This is the aspect that the WATER metaphors cannot describe. The intensified emotion can also be conceptualized by the movement of fire, so there is also a link of INTENSIFIED EMOTION IS MOVEMENT between the WATER and the FIRE metaphors. The conceptual map shows that EMOTION IS WATER and EMOTION IS FIRE play different roles in describing the stages of negative emotions in news reports: the metaphor EMOTION IS FIRE can describe the arousal of negative emotions, whereas EMOTION IS WATER describes the spread and the high intensity of the emotions. Since negative emotions in the financial market are intensified and widespread, the conceptualizations of EMOTION IS WATER can describe the financial situation more effectively.

As illustrated in Figure 5.9, the link between EMOTION IS ORGANISM and EMOTION IS NATURAL FORCE lies in the sub-metaphor INTENSIFIED EMOTION IS MOVEMENT. Both conceptual metaphors can describe higher degrees of negative emotions. However, the findings in Sections 5.2 and 5.3 reveal that ORGANISM metaphors are more recurrent than the other types. The variety and frequency of the NATURAL FORCE metaphors directly describing negative emotions are less than those of ORGANISM metaphors. The FIRE and WATER metaphors are more frequent than the other types of NATURAL FORCE metaphors. But even so, the frequency of FIRE metaphors is not that significant. In addition, the WATER and FIRE metaphors fail to conceptualize the harmful consequences of emotions and the control of the emotions. Although WATER metaphors (i.e., DISASTER) can describe the disastrous influence of emotions, it is rare to find the target-term present WATER metaphors that describe negative emotions in the news texts. The findings are in line with the view of Oberlechner, Slunecko and Kronberger (2004) that ORGANISM metaphors highlight the mood, thoughts and intentions of a person, whereas NATURAL FORCE metaphors indicate the unpredictability and irresistibility of a natural disaster. Because ORGANISM metaphors emphasize the intentions and motion of a person, the metaphors can be used to imply that the spread of negative emotions has a direct harmful influence on the activities and performance of the financial market. It suggests that government should not overlook the consequences of the public's emotions and should take immediate rescue actions. It also implies that the financial problems can be resolved. Therefore, it is concluded from the above findings that the ORGANISM metaphors describe the emotions of fear, anger and anxiety in the news reports more effectively than the NATURAL FORCE metaphors. The ORGANISM metaphors fulfil a higher degree of vividness, hyperbole and ideology in describing negative emotions.

To sum up, this chapter has discussed the conceptualizations in target-term present emotion metaphors related to ORGANISM and the NATURAL FORCE metaphors. It is revealed by the findings that the metaphors help describe different stages of negative emotions, and possess various communicative functions in financial news discourse. The findings also show that there are inter-connections between different sub-source domains within each source domain, and between different source domains. The next chapter will discuss how target-term absent emotion metaphors related to disaster or opponent can further express negative emotions and fulfil other metaphor functions in financial news reports.

5.6 Summary

In brief, this section has shown the multivalency and diversification of emotion metaphors, that is, how different target domains FEAR, ANGER and ANXIETY are conceptualized differently by the same source domain WATER or FIRE, and how the source domains WATER and FIRE conceptualize each emotion concept differently. NATURAL FORCE/SUBSTANCE metaphors stress the aspects of destruction, irresistibility and unpredictability, reminding people that the financial situation is disastrous, uncontrollable and unpredictable. Among the metaphors, the EMOTION IS WATER metaphor highlights the aspects of intensity, uncertainty and range. It is more recurrently mapped onto ANGER than the other two EMOTION domains, showing the destructive aspect of the emotion of anger. This study provides some suggestions about Kövecses's cognitive models, particularly that discursive factors should be taken into account. The difference in conceptualizations mapped onto the domains of FEAR, ANGER and ANXIETY suggests that the spread of fear serves as a media tool to prompt the government to

be more decisive in implementing rescue packages. The WATER metaphor provides support for the idea conveyed in the ORGANISM metaphor that the government may need to take immediate and feasible action to rescue the economy. To show the systematicity in the source domain, it is proposed that WATER metaphors could be evaluated in vertical and horizontal dimensions, reflecting the progressive increase of intensity and spread of emotions.

As for FIRE metaphors, they highlight the intensity and rapid arousal of emotions. The analysis of conceptualizations and grammatical structures demonstrates that the mapping of FIRE metaphors onto the emotion concepts reflects different elements of emotion scenarios. The corpus data suggests that FIRE metaphors describe the arousal of emotion rather than the reaction of people as proposed in Kövecses's cognitive model EMOTION IS FIRE. It appears, then, that his model needs to be modified for metaphor interpretation in a financial news context. Therefore, it is important to use naturally-occurring data and take discourse into consideration when investigating metaphor use.

Chapter 6 Conceptualizations of target-term absent emotion metaphors

In Chapter 5, I discussed conceptualizations of the emotions fear, anger and anxiety. The method of investigation was to start by finding the target domain words (i.e. EMOTION) with the aid of Wmatrix, and identifying metaphors associated with them in each of the concordance lines using WordSmith tool 5.0. This method is useful for finding target-term present emotion metaphors, as suggested by Stefanowitsch (2006). The target domain EMOTION and the source domains have a direct and explicit link in the news texts. However given that metaphors help enrich the vividness of news texts, it is assumed that journalists will make good use of figurative language to convey negative emotions in a more implicit way. As discussed in Chapter 2, Goatly suggests that some metaphorical expressions without an explicit indication of emotion are useful in expressing and describing emotions, therefore they are the target-term absent emotion metaphors. Emotion in such a case is a connotative ground but not a target. This is different from the target-term present emotion metaphors that emotion is a target. In this chapter, we will start by looking at the target domain of FINANCIAL CRISIS and identify metaphors co-occurring with financial terms. I will discuss how different metaphors of DISASTER and WAR further intensify the severity of the global financial crisis, and how they implicitly convey negative emotions in the news texts.

6.1 Top twelve keywords in the CGFC

To investigate target-term absent emotion metaphors, WordSmith tool 5.0 (Scott, 2008) was used to assess the keyness of words in the CGFC. As explained in Chapter 2, keyness refers to how unexpectedly frequent a word is in the corpus compared to a reference corpus. As Scott and Tribble (2006) explains, keyness indicates 'a quality words may have in a given text, suggesting that they are important. The values enable the analyst to see which

words are used significantly more frequently in the specialised corpus than in the reference corpus, reflecting what the text is really about and avoiding trivia and insignificant detail' (p. 55). In other words, a word will be regarded as highly important if it has a high keyness value. After generating a word list, the BNC Sampler was used as a reference corpus in WordSmith Tools 5.0 to create a keyword list of the 30549 unique words in the CGFC. Table 6.1 reveals the top twelve key words in the CGFC.

Lexical item	Frequency in 1mil words	Keyness
financial	4325	18445.5
banks	3063	15721
bank	2939	10472
investors	1674	9465
crisis	1859	8527.11
economy	2170	8426.18
markets	1696	7500.7
market	2692	6590
investment	1364	4097
money	2385	4561.82
companies	1619	3979.4
economic	1627	3272.33

Table 6.1. The frequency and keyness of the lexical items in the CGFC

As shown in Table 6.1, the word with the highest keyness is 'financial' (Keyness=18445.5), followed by 'banks' (Keyness=15721), 'bank' (Keyness= 10472) and 'investors' (Keyness=9465). All the words belong to the financial discipline and would be expected to have high frequency given the text types of the CGFC. Comparatively, the word 'market' (Keyness= 6590) and its inflection 'markets' (Keyness= 7500.7) have lower keyness. This reflects the fact that the banking industry and investors play a crucial role in the media coverage of the global financial crisis.

6.2 Metaphors mapping with the top 12 key words

To identify metaphor use, the next step is to do manual searching in each concordance line associated with the top 12 keywords outlined in Section 6.1. The purpose of using key words is to identify the metaphors which express the emotions in the news texts, which is based on the assumptions that the highly frequent financial terms, such as 'banks' and 'companies', are often used as metonymies to stand for people, and that people are usually the entities who 225

experience emotions. Like the method of finding target-term present emotion metaphors in Chapter 5, the identification of metaphorical lexis followed the Metaphor Identification Procedure (See Chapter 4 for more details). The following excerpt serves as an example:

(6.1) At issue are the vast holdings on Japanese banks' balance sheets, which have been *battered* amid the recent market sell-off (Tabuchi, 2009).

The co-selection items collocation, colligation, semantic prosody and semantic preference were used to identify metaphors associated with the keywords. In the above excerpt, the contextual meaning of the verb 'battered' means 'the stock is struck'. The agent for the action is hidden but the patient suffering from this action is the noun phrase 'Japanese banks' balance sheets'. According to the *Cambridge International Dictionary of English* (1995), the action of 'battered' refers to the action of striking repeatedly with strong force. The contextual sense of 'battered' is more abstract than that of the basic sense and the contextual meaning of the word 'losses on investment' can be understood through the comparison. Therefore, 'battered' is regarded metaphorical in the text.

After the procedures, metaphors were mapped into various source domains such as WAR, BUILDING, WEATHER, GAME, HUMAN, MACHINE, WATER and FOOD. To ensure that this part of the analysis only focused on the use of target-term absent emotion metaphors, metaphorical expressions explicitly indicating emotion words (e.g. *stanch* the financial panic) were removed from the concordance lines. Table 6.2 shows some of the source domains associated with the key words.

Source domain	crisis	economic	economy	financial	market	investor	bank	companies	investment	money
HUMAN	69	38	190	131	109	5		2	1	5
PLANT	17	87	46	4	5					2
ANIMAL	1	1	1	1	2					1
WATER	23	4	11	8	24	2				53
FORCE			10	13	12					
WEATHER/ DISASTER	1	45	8	170	71		1			
FIRE		1	2	3	1					1
LIGHT	2									
MACHINE	1		13		4					
BUILDING		10	10	8	29					
SCENERY		4								
FOOD				1		7				
GAME				3		1				
LAND				12						
MAGIC				4						
CHEMICAL			1	1	1					12
Total number of metaphorical lines	116/1873	190/1627	298/2170	363/3772	260/4505	15/1657	4/213	2/84	1/58	80/2385
Frequency of occurrence (%)	6.2	11.7	13.7	9.6	5.8	0.9	1.9	2.38	1.72	3.35

Table 6.2. Source domains associated with lexical items in the CGFC

Among high-frequent lexical items in the CGFC, the key words 'economy', 'economic' and 'financial' have a relatively higher proportion of metaphorical association with 13.7%, 11.7% and 9.6% respectively. Among 3772 concordance lines of the adjective 'financial', 363 are found to have collocations that are used metaphorically (Relative frequency= 9.6%). The word has obvious negative semantic prosody in the corpus as it is surrounded by words such as *disaster*, *crisis*, *breakdown*, *crunch* and *downturn*. Some collocations belong to the source domain of DISASTER, as in 'financial *earthquake*', 'financial *tsunami*' and 'financial *storm*'. Others relate to the source domain of HUMAN, as in '*ailing* financial firm' and 'financial *health*'. Similarly, 11.7% of collocates to the right of the word 'economic' are also associated directly with metaphors (N= 190 out of 1627), as in 'economic *collapse*', 'economic *catastrophe*', 'economic *maelstrom*' and 'economic *calamity*'.

HUMAN is the most recurrent source domain for 'economy' (N= 190 out of 298) and 'market' (N= 190 out of 2601). Metaphors in this source domain exploit different aspects of a person such as health and physical state. These are manifested by expressions such as '*weak* economy', 'economy is *bleeding*', '*crippled* economy', 'the bond market *recovers* soon', '*strained* capital market', '*paralyzed* credit market' and '*rescue* the housing markets'. Metaphors are also found that convey the idea of a human action. Examples are 'economy *wrestles with* its first recession', 'economy *teetering on* the edge of a recession', 'the economy *tumbled*' and 'markets *climb on* upbeat housing report'. As for the word 'crisis', it is also construed in terms of human attack as in *fights, battle,* and *combat*. The outbreak of the financial crisis is also conceptualized by FIRE metaphors such as *fuel* and *spark*. The findings support the view that WAR and WATER are some of the recurrent source domains in financial discourse (Charteris-Black, 2004), as in 'battered by the credit crisis', 'combat a crisis', 'economic hardship ripples', 'economic stagnation'.

As illustrated in Table 6.2, the other four top keywords, 'bank', 'investor', 'companies' and 'investment' co-occur much less frequently with metaphors. Less than 2.5% of them respectively co-exist with metaphors (i.e., bank 1.9%, investor 0.9%, company 2.38% and investment 1.72%). One possible reason is that 'bank', 'investor' and 'companies' are often used metonymically to stand for people, and so are less likely to be used with metaphors. As for the lexical item 'investment', the concordance lines reveal that it often co-exists with nouns such as 'bank' (16 out of 58), 'strategists' (6 out of 58), and 'banker' (2 out of 58). These types of nouns refer to people and hence reduce the metaphoricity of word 'investment'. The ambiguity between metaphors and metonymies may explain why the human being terms are less likely to co-occur with metaphors. As indicated by Goatly (2007), metonymies are 'relationships between meanings based on contiguity in experience, or, linguistically, on deletion rather than substitution' (p.15). For instance, in 'a financial *whirlwind* tore through Wall Street', the turbulence in the financial market is substituted with the disaster metaphor *whirlwind*. However 'the European Bank is resisting the rush to adapt those banking policies' is a shorthand for 'the president of the European Bank is resisting the rush to adapt those banking policies'. The deletion is based on the fact that the European Bank is the company that the president is working for, so the concepts are contiguous in human experience. A human being is the entity most likely to be experiencing emotion, so it is reasonable that the terms like 'strategists' and 'banker' are less likely to be used with emotion metaphors.

From the above findings, we can see that metaphors from various source domains occur and tend to carry a negative sense rather than a positive sense, showing the severity of the financial situation. As stated earlier in this study, the research aim is to investigate negative emotions depicted in news reports of the financial crisis. By examining the metaphorical expressions found in each of the source domains, it is found that metaphors of WEATHER, DISASTER and the subdomain of HUMAN, OPPONENT are more able to describe and express the negative emotions aroused in the financial market. In addition, these source domains are also recurrent as shown in Table 6.2. Hence, metaphors of WEATHER, DISASTER and OPPONENT were chosen for discussion in the following sections.

To identify more conceptual metaphors mapping onto the target domain of financial crisis, two further steps were taken: first, metaphors of DISASTER and OPPONENT that associate with the top ten keywords were further searched for in the concordancer WordSmith tool 5.0; second, lexical items that are classified by Wmatrix tool 2.0 into the semantic fields of <u>HUMAN</u> and <u>WEATHER</u> were also examined. In this way, more metaphors were identified and then categorized into various source domains. Before going on with the discussion, it should be noted that the analysis of target-term absent emotion metaphors is able to show how the connotative ground and negative emotions, are expressed and described in the news reports. However, given the absence of an emotion word in the metaphorical expression, it may not be easy to describe which kind of emotion each DISASTER or OPPONENT metaphor is construing.

6.3 FINANCIAL CRISIS IS A DISASTER

Disasters are closely related to human life. As defined by Briere and Elliott (2000), disasters are 'large-scale, stressful environmental events that adversely affect a significant number of people' (p. 661). Several types of human emotions can be related to natural disaster, including fear (see, for example, Green and Solomon, 1995) and depression (see, for example, Green et al. 1992). People experience negative emotions because of the undesirable effects brought about by natural disasters, such as death, injury and harm to property (Briere and Elliott, 2000). From Chapter 5 we can see that the public's emotions about a particular incident are often socially constructed through the news media. Hence, by investigating target-term absent emotion metaphors, we could infer that disaster metaphors are widely used to generate and convey negative emotions such as pain, panic, frenzy and fear.

The following sections will discuss metaphors of unspecified disaster, weather and specified disaster.

6.3.1 Metaphors of unspecified disaster

This study followed Charteris-Black (2004) in classifying disaster metaphors into specified and unspecified types. Unspecified disaster terms usually do not focus on whether the destructive event is caused by humans or nature, but refer to massive damage as a whole. The description 'unspecified' indicates that no explicit analogy is made. Examples of unspecified disaster terms are shown in Table 6.3:

Item	Frequency in 1 mil words	Example
Turmoil	202	financial turmoil, market turmoil
Crash	108	stock market crash, housing crash
Disaster	56	financial disaster, stave off the disaster
Calamity	22	financial <i>calamity</i> , stock market <i>calamity</i>
Destruction	16	mass destruction, massive wealth destruction
Catastrophe	16	economic catastrophe, credit catastrophe

Table 6.3. Frequency of unspecified DISASTER terms

As shown in Table 6.3, unspecified disasters such as *turmoil* and *calamity* all indicate a large scale and sudden occurrence of damage. However, it should be noted that only *crash*, *turmoil* and *disaster* are disaster metaphors in the financial context. Nouns represent the crisis, as in 'financial *tsunami*' and verbs realize changes and processes as in '*weather* the financial storm'. This shows that different grammatical forms of metaphors perform various functions in the news discourse. The collocational frequency for metaphorical expressions reveals different patterns. The term *turmoil* has stronger collocations with the words 'financial' (financial *turmoil*: 39 hits) and 'market' (market *turmoil*: 38 hits). Figure 6.1 shows the concordance lines associated with the pattern 'financial + turmoil':

lconcerns that the impact of the **financial** <u>turmoil</u> will be severe on business p 2et have hard data about how the **financial** <u>turmoil</u> of the last few weeks may h 3companies will come through the **financial** <u>turmoil</u> in good shape helped by a go 4looks rosy when set against the **financial** <u>turmoil</u> elsewhere. Although it lacks 5Globe reported on Saturday. The **financial** <u>turmoil</u> has caused credit markets to **Figure 6.1. Concordance lines 'financial+turmoil'**

In Figure 6.1, phrases such as 'the impact of the financial *turmoil* will be severe' (line 1) and 'the financial turmoil has caused credit markets to stop lending' (line 5) reveal that the metaphor *turmoil* is used to describe the seriousness of the financial situation. The severity of the situation is due to the instability of market prices and causes lack of confidence for investors and lenders (see Section 4.2).

Co-occurrences of the word 'market' and the disaster metaphor *crash* are highly frequent (16 hits) compared with the occurrence of *crash* with 'financial' (financial crash: 2 hits) and 'economic' (economic crash: 1 hit). In contrast, the word 'market' scarcely collocates with disaster terms such as *calamity*, *destruction* and *catastrophe*. These kinds of metaphors tend to collocate with nouns that refer to particular aspects of investment or a particular corporation such as 'price *destruction*' and 'credit *catastrophe*'. Figure 6.2 shows the concordance lines of *destruction*:

1Monday and sending another wave of **wealth** <u>destruction</u> washing over American househo 2mics in Washington, D.C. "The **asset price** <u>destruction</u> and uncertainty that we are s 3hs. Indeed, spooked by the **massive wealth** <u>destruction</u> on Wall Street and the uncert 4sme lending that was a major cause of the <u>destruction</u> of **capital** in the American ba **Figure 6.2 Concordance lines of** *destruction*

As shown in Figure 6.2, the unspecified metaphorical expression *destruction* has a semantic preference for wealth. This is probably because mortgage and housing loans were one of the main causes of the global financial crisis of 2008 (Shiller, 2008).

The above findings reveal that the metaphors *turmoil* and *crash* are often associated with the words 'financial' and 'economic' to depict the deterioration of

the whole financial situation. However, metaphors like *destruction* tend to specify a particular financial problem such as asset price. This may suggest that unspecified disaster expressions perform different communicative functions in the news discourse, depending on the aspects of financial activities that journalists attempted to focus on. As mentioned in Section 5.2, the emotion words 'fear', 'panic' and 'distress' are often preceded by the words 'financial' and 'economic' to describe an intensified negative emotion aroused in the financial market. By comparing these two parts of the findings, we can see that there are links between lexicogrammatical choices and the communicative functions of lexical items in the financial news discourse.

6.3.2 Specified disaster and weather metaphors

Unlike non-specified disaster expressions, specified disaster expressions usually focus on a particular type of disaster such as a hurricane, earthquake or torrent. This study considers most of these metaphors of DISASTER to be a sub-domain of WEATHER metaphors (EMOTION IS WEATHER). This is because when the weather is getting worse and the energy level goes up, it is highly likely to become a natural disaster. Table 6.4 illustrates the examples of WEATHER and specified DISASTER metaphors:

Type of disaster	Item	Frequency in 1 mil words	Example
Wind	Hurricane	14	Like a <i>Category 4 hurricane</i> , A <i>hurricane</i> Tuesday afternoon
	Tornado	1	In the middle of a <i>tornado</i>
	Whirlwind	8	Financial <i>whirlwind</i> , <i>whirlwind</i> couple of weeks
	Wind	9	An <i>ill wind</i> worldwide, twist in the market <i>winds</i>
	Headwind	4	Facing headwinds, gruesome headwinds
	Tailwind	2	<i>Tailwinds</i> of lower gas prices, emerging <i>tailwinds</i>
	TOTAL	38	
Snow	Avalanche	8	Avalanche of selling, avalanche of

Table 6.4. Frequency of WEATHER and specified DISASTER metaphors

			layoffs
	Flurry	6	A <i>flurry</i> of bank rescues, a <i>flurry</i> of
			meetings
	TOTAL	14	
Thunder	Thunder	4	Thundering herd
Water	Flood	26	Flood banks with cash, flooded the
			market
	Turbulence	16	Five days of <i>turbulence</i> , market
			turbulence
	Torrent	2	<i>Torrent</i> of similar sales, <i>torrent</i> of
			panicky trading
	Deluge	3	Deluge of bad publicity, deluged
			Washington headhunters
	Rain	2	Sheets of <i>cold rain</i> , <i>rains</i> pennies from
			heaven
	Drought	1	Credit <i>drought</i>
	TOTAL	55	
Storm	Tempest	2	Tempest in a teapot, caught in tempest
	Storm	65	Storm-tossed world, economic storm,
			stormy industry
	TOTAL	67	
Quake	Earthquake	7	Financial earthquake, massive
_	-		earthquake
	Aftershocks	5	Economic aftershocks
	Quake	3	Banking system quaked, Wall Street
			quake
	TOTAL	15	
Haze	Hazy	1	Strategy remained hazy
Fog	Fog	3	Fog of investment bank, fog of war
Cloud	Cloud	6	<i>Cloud</i> of disbelief and disgrace, 2009
			outlook is <i>cloudy</i>
Meltdown	Meltdown	127	Wall Street meltdown, credit market
			meltdown

Table 6.4 shows that ten types of WEATHER and SPECIFIED DISASTER metaphors were found in the CGFC. The most recurrent source domain is WATER (55 hits), followed by WIND (38 hits) and QUAKE (21 hits). Each category has several types of linguistic metaphors. For instance, in the source domain of WIND, there are different types of wind of different energy levels as in *hurricane*, *whirlwind*, *tornado* and *wind*. In the source domain of WATER, metaphors such as *flood*, *turbulence* and *deluge* are used to conceptualize different kinds of problems in the financial crisis. At the same time, judging from the examples shown in Table 6.4, the metaphors *flood* and *torrent* also carry the metaphor theme MONEY IS LIQUID.

This is because the word *flood* in '*flood* banks with cash' and *torrent* in '*torrent* of sales' conceptualize the movement of cash and sales as water. This shows the multivalency of metaphors in which MONEY IS LIQUID can merge with EMOTION IS LIQUID. Turbulence refers to violent movement of water, but it can also be applied to air and gas which have unsteady movement. Although the co-text does not give a clue as to whether 'turbulence' refers to water, air or gas, the metaphor interpretation is still the same, indicating the sudden fall in stock prices. Interestingly, the metaphors of RAIN are more descriptive and sarcastic as in 'sheets' of cold rain' and 'rain pennies from heaven'. 'Cold rain' is the antonym within ENTHUSIASM IS HEAT, and the phrase 'rain pennies from heaven' was famously used in a song called 'Pennies from Heaven'. Metaphors of HAZE and CLOUD specify the obscurity of the financial future or financial plans, as in 'hazy strategy' and 'cloudy outlook', which is relevant to the metaphor themes UNDERSTAND IS SEE and INCOMPREHENSIBLE IS NOT CLEAR. The metaphor 'meltdown' refers to an accident in the core of a nuclear reactor like the Fukushima nuclear disaster. In CGFC, it is used to conceptualize the severity of the financial crisis:

1thus far they have prevented a **market** <u>meltdown</u>, Mr. Gertler said. At the dram 2ize and severity of the credit **market** <u>meltdown</u>, which has left lenders unable 3ne even anticipated that this (market <u>meltdown</u>) would happen." In a research r 4January because of the housing **market** <u>meltdown</u> and the rise in gas prices he s 5 raising fears of a cascading **market** <u>meltdown</u> as oil prices sank and investors Figure 6.3. Concordance lines 'market+meltdown'

In Figure 6.3, phrases such as 'severity of the credit market *meltdown*' (line 2) and 'cascading market *meltdown*' (line 5) reveal that the metaphor *meltdown* is used to reflect how serious the financial situation was. As with *financial turmoil*, the severity of the situation is seen as coming from the unstable market prices which cause lack of confidence for investors and lenders. However by using a specific disaster metaphor, the seriousness of the financial situation is conveyed in an even more concrete way.

The collocations show that journalists made use of different types of WEATHER metaphor to achieve different purposes in the news reports. In the following section,

we are going to discuss metaphors of WIND, SNOW, WATER, STORM and QUAKE, because of their higher frequency and greater variety.

6.3.3.1 Conceptualizations of wind

In the CGFC, it is found that several types of wind were used by journalists to describe the financial crisis. This includes hurricanes (18 hits), tornados (1 hit), whirlwind (8 hits), winds (9 hits) and headwinds (4 hits). We can see that there is a descending level of energy from hurricanes to headwinds, and they reflect different levels of severity of the financial crisis. Figure 6.4 shows the associated concordance lines:

lefore the full force of the credit **hurricane**) slowed the world's thirst for oil 2ecline was theoretical because the **hurricane** had not hit. The underlying mortga 3 night 10 days ago, as a financial **whirlwind** tore through Wall Street, someone 4 book if you win. The Wall Street **Whirlwind** 4th-Quarter Forecast: More Turbulen Figure 6.4. Concordance lines of WIND metaphors

As shown in Figure 6.4, the collocations associated with hurricane and whirlwind are related to the field of finance, as in 'credit' (line 1), 'financial' (line 3), 'Wall Street' (line 4) and 'Market' (line 5). Metaphors such as hurricane and whirlwind conceptualize the global financial crisis as a disaster. The findings show that both metaphors possess a hyperbolic function in the news discourse. According to the Cambridge International Dictionary of English (1995), hurricanes and whirlwinds are violent winds which sweep across the surface of land or sea in a circular way. Within the circular movement, the wind is likely to cause mass destruction such as blowing away buildings and roads, and numerous deaths. Also, the path of a hurricane or whirlwind is unpredictable. The destructiveness conveyed by the metaphors is used to give an idea of the widespread and disastrous effects of the stock price change and financial decisions. The metaphors also carry the notion 'active and intense', and imply that it is hard to predict how serious the situation will become and how long it will continue. Hence, in addition to the hyperbolic function, the metaphors hurricane and whirlwind also help convey information compactly and decorate the news texts.

One interesting finding is that, when the words 'hurricane' and 'whirlwind' are used metaphorically, they may change to adjective forms. The adjective forms are used as modifiers for noun phrases referring to periods of time (Examples 6.2-6.3):

- (6.2) Shares in Singapore Telecommunications, one of South Asia's largest communications companies, were down 1.72 percent in Singapore, while shares of airline Cathay Pacific Airways were down 1.36 percent in Hong Kong. Hong Kong was preparing for *a hurricane Tuesday afternoon*. ("Stocks fall", 2008)
- (6.3) Mr. Yingling, not surprisingly, has had *a whirlwind couple of weeks*. The association is one of the largest trade groups in Washington, representing practically every bank in America (Wayne, 2008).

As shown in Examples 6.2 and 6.3, *hurricane* is used to modify the noun phrase 'Tuesday afternoon' and *whirlwind* serves as a modifier for the noun phrase 'couple of weeks'. In Example 6.2, the journalist described Hong Kong as having a 'hurricane Tuesday afternoon' due to the sudden drop in shares of Cathay Pacific Airways. Such a change in share price might cause panicked selling-off by investors and changes in other stock prices. In Example 6.3, the word *whirlwind* is also used to imply the negative emotions of the executive of the American Bankers Association, Mr. Yingling. This is because the Treasury Department suggested that investors could have unlimited financial guarantees against losses in money market funds. This policy might cause investors to drain their deposit savings accounts from banks. This finding supports the view of Goatly (1997) that literal nouns often take the form of adjectives through adjectivalization or verbs through verbalization when used metaphorically. The motivation for the word-formation by derivation is to fill the lexical gap, so the results are lexicalized and the metaphors appear to be inactive.

While the metaphors *hurricane* and *whirlwind* are employed to describe the uncertainty and severity of the changes in the stock market and financial policies, the metaphor *wind*, which conveys a lower energy level, generally refers to repetitive movements in the stock market:

Ishowing a new willingness to brave the winds of the stock market. The standard 2steady as others bow to the prevailing winds. As its peers in the United States 3, are being left to twist in the market winds. With the need for stimulus to dea 4atinty. "To people who worry about the winds of change today, we'd like to say 5er Declining world trade is taking the wind out of the global export boom that Figure 6.5. Concordance lines of wind(s)

The concordance lines show that the metaphor *wind* is used to conceptualize trends in financial activities and changes in financial decisions, manifesting the metaphor themes CHANGE IS MOVEMENT and EXPERIENCE/SITUATION IS WEATHER. Unlike *hurricane* and *whirlwind*, which are negative, the metaphor *wind* can carry a negative or positive sense. The negative sense of wind simply refers to drops in stock prices as exemplified in phrases such as 'brave the *winds* of the stock market' (line 1). The collocation of 'brave' implies that the public needs to endure the tough situation. In terms of the neutral sense, *wind* refers to trends in the stock market as in 'bow to the prevailing winds' (line 2). For example, the co-text in line 2 indicates that there is a trend for the banks in the United States, Britain and Japan to prop up the economy by printing money, but the European banks resist following this trend (Dougherty, 2009). As for the positive sense, *wind* can refer to financial activity that is beneficial to the economy. For instance, in line 5, the trillion-dollar trade of nations like China and India is described as *wind* as it helped solve the problem of poverty in recent years. Therefore, when the financial crisis caused the world trade to slump, the situation is like 'taking the wind out of the global export boom' (Faiola & Cha, 2008). In sum, these linguistic choices of different intensities of wind show that metaphors perform various functions in describing or exaggerating the global crisis in the financial news reports.

The metaphor *headwind*, derived from the source domain OPPOSING FORCE, often refers to a situation which is the opposite of what people want or expect, as revealed in the following concordance lines:

Ito recession. Japan is also facing **headwinds** as its currency appreciates rapidl 2ilwinds as opposed to the gruesome **headwinds** that kept them on the sidelines in 3ore confidence, there are some new **headwinds**. The price of oil rose to a four-m Figure 6.6. Concordance lines of *headwinds*

As shown in Figure 6.6, the currency of Japan saw a rapid rise despite the global recession (line 1) and the price of oil went up even if investors only regained a bit of confidence (line 3). Such metaphor use accords with the literal sense of 'headwind' which is a wind blowing in the opposing direction to the one a person is moving in (*Cambridge International Dictionary of English*, 1995). What is worth noticing is that some instances reveal that the metaphor *headwind* is used antonymously with the metaphor *tailwind*:

1At some point after mid-2009, the **tailwinds** of lower gas prices, fiscal stimulu 2focus their attention on emerging **tailwinds** as opposed to the gruesome headwind Figure 6.7. Concordance lines of *tailwinds*

In Figure 6.7, the metaphor *tailwinds* refers to factors which favour the financial situation. In line 1, for instance, the writer regards the lower gas prices and fiscal stimulus, and increasing demand for shares as good developments in the financial crisis. In line 2, the 'emerging tailwinds' refer to the rising stock values which will create a demand for shares. By contrast, the metaphor *headwinds* is associated with undesirable factors influencing the financial situation. This finding seems to disagree with some studies showing that literal antonyms do not have antonymic relationships to each other when used with a metaphorical sense (e.g. Deignan, 2005; Stefanowitsch, 2006). Rather, this finding suggests that some source domains could still retain antonymic relationships in terms of conceptualizations. This also suggests that the antonymic relationships of metaphors may depend on types of target or source domains, and also the discourse topic. Indeed, Metalude data (Goatly, 2002) also shows that a lot of metaphors have antonymic relationships, as

in UNFRIENDLY IS COLD and ENTHUSIASM IS HEAT, as well as GOOD IS WHITE and EVIL IS DARK/BLACK. There is clearly a need for more metaphor studies on antonymic relationships in target domains and the related source domains in a particular discourse.

6.3.3.2 Conceptualizations of snow

In addition to wind, lexical items of snow such as 'avalanche' and 'flurry' are also found in the CGFC. They contribute to the textual decoration in the news discourse. According to the *Cambridge International Dictionary of English* (1995), the word 'avalanche' refers to a mass of snow that falls rapidly downhill, whereas the word 'flurry' refers to a swirling mass of snow. What is worth noticing is that these two words carry rather different senses. The word 'avalanche' carries the sense of sudden and large quantity. On the other hand, the word 'flurry' also carries the sense of sudden, but the occurrence is short. Figure 6.8 shows the associated concordance lines for the metaphorical use of 'avalanche':

1 one regulator characterized as an 'avalanche' of withdrawals. On Wednesday nig 2 rokers say they have yet to see an avalanche of high-end sales, they do say th 3und) for a bounce." There's been an avalanche of "forced selling" by big privat 4d favourites are getting hit with an avalanche of selling. The iShares Dow Jones 5 causing some traders to predict an avalanche of selling that could test new ma 6tage points from a year earlier. An avalanche of layoffs is sparing no state an Figure 6.8. Concordance lines of avalanche

As shown in Figure 6.8, the metaphor *avalanche* frequently occurs in the pattern 'an avalanche of'. It is used to describe financial activities such as selling (line 3 to 5), withdrawals (line 1), high-end sales (line 2) and layoffs (line 6). The metaphor possesses hyperbolic function which implies that these financial activities occurred in large quantities and occurred under the influence of the financial crisis. This shows that the metaphor helps with the informativeness in the news discourse. This also seems to show a link between DISASTER metaphors and negative emotions. As mentioned in Section 4.2, the investors and traders were fearful and worried that the financial situation would get even worse. These negative emotions caused sudden withdrawals from funds or stocks, and rising unemployment.

The compactness of information can also be seen in the metaphorical expression *flurry*. Unlike *avalanche*, *flurry* is a WEATHER metaphor. Figure 6.9 illustrates the concordance lines of the metaphor *flurry*:

1." Mr. Paulson acknowledged that the **flurry** of emergency steps had done little 2 The Group of 7 session was one of a **flurry** of meetings in conference rooms fro 3.p from 3.72% in early 2007. After a **flurry** of bank rescues organized this week 4.1 Wall Street. By Friday, despite a **flurry** of meetings on Capitol Hill and lat 5. the last hope to buy Lehman. But a **flurry** of conversations with Barclays' Bri 6.acement consulting firm, called the **flurry** of layoff announcements "a perverse **Figure 6.9. Concordance lines of** *flurry*

Interestingly, as seen from Figure 6.9, the metaphor *flurry* also tends to occur in the collocational pattern 'a/the flurry of'. However the nouns following 'a/the *flurry* of' are entirely different from those following 'an *avalanche* of'. The nouns mostly refer to the actions aimed at rescuing the economic situation or a company during the financial crisis. These include 'emergency steps' (line 1), 'meetings' (lines 2 and 4), 'bank rescues' (line 3), 'conversations' (line 5) and 'layoff announcements' (line 6). This shows that different sectors tackled the financial problems in different ways. Governments saved the banks by injecting money; the consulting firm Challenger, Gray & Christmas announced layoffs to save their resources, and Barclays attempted to rescue Lehman Brothers through merger and acquisition. The findings show that the metaphorical use of *flurry* carries semantic prosodies which are consistent with those in its literal sense, that is, sudden and short.

6.3.3.3 Conceptualizations of water

Decorativeness and compactness of information are not only realized in metaphors related to wind disasters, but also water-related disasters. In the CGFC, metaphors of WATER are related to DISASTER and WEATHER. Examples of DISASTER are *flood*, *turbulence*, *torrent*, *drought* and *deluge*. *Flood* and *deluge* refer to the overflowing of a large amount of water. *Torrent* describes a rapidly-moving and uncontrollable stream of water. *Turbulence* refers to the unsteady and violent moment of water or air. *Drought*, on the other hand, refers to a prolonged shortage

of rainwater. However as mentioned earlier, many WATER metaphors like *flood* and *torrent* also merge with another metaphor theme MONEY IS LIQUID. As illustrated in Table 6.4, there is a great difference in the frequency of occurrences of metaphors relating to water-related disasters and metaphors relating to weather like rain. This shows that metaphors of WATER are mainly used to indicate the movement of funds, and also highlight the rapid and disastrous aspects of the problems or activities occurring in the financial market. In the following sections, I will discuss conceptualizations related to *flood*, *deluge*, *turbulence* and *torrent*. The findings show that their metaphorical uses carry different implications in the news discourse.

6.3.3.3.1 Flood

Among the occurrences of *flood*, most are used in the prepositional phrase 'a flood of' (17 hits). Figure 6.10 shows this pattern:

lindling demand and competition from **a flood of** foreclosed properties. The buyi 2re reducing spending while watching **a flood of** euro- and dollar-rich tourists 3 sells those assets. *It could stop **a flood of** bank failures. If the government 4prompting a drop in home prices and **a flood of** foreclosures that rippled throug 5, adding that the shares succumb to **a flood of** sellers far exceeding buyers. "T fore sure to climb higher, based on **the flood of** newly laid-off workers seeking b Figure 6.10. Concordance lines of *a/the flood of*

From Figure 6.10, we can see that the prepositional phrase 'a flood of' or 'the flood of' associates with words relating to the undesirable effects that are caused by the financial crunch. This is manifested by phrases such as 'foreclosed properties' (line 1), 'bank failures' (line 3) and 'foreclosures' (line 4). In addition, the prepositional phrases of *flood* also co-occur with person nouns such as 'sellers' (line 5) and 'newly laid-off workers' (line 6). As discussed in Section 6.3.3.2, the phrase 'an *avalanche* of' is used to describe a sudden large quantity of financial activities whereas 'a *flurry* of' describes ways of tackling the financial problems. Comparatively, the phrase 'a *flood* of' is also used to indicate a large number as in QUANTITY IS WATERFLOW, but it also emphasizes how great the effects of the

financial crisis are. Hence, the metaphors *flood*, *avalanche* and *flurry* play entirely different functional roles in the news discourse.

Another significant finding from the concordance lines is that line 5 shows the use of extension of WATER, *flood* and *ripple*. As discussed in Chapter 5, *ripple* refers to small waves and carries the semantic prosody of 'spread'. *Flood*, as discussed, refers to a large amount of water. However, since there can be small waves on the surface of a flood, the use of *flood* and *ripple* is more due to the inactivity of the metaphor. This shows that when these two metaphors are used together, the spread implied by the word 'ripple' and the large amount implied by 'flood' are chosen and highlighted. The smallness of the waves indicated in the metaphor 'ripple' is hidden. This finding supports the view of Lakoff and Johnson (1980) that metaphorical expressions show particular highlighting and hiding of aspects of source domains. This also suggests that there seems to be a 'negotiation' between the two metaphors on highlighting and hiding of aspects. More findings will further support this notion and future studies can contribute to this research area.

In addition to its noun use, the metaphor *flood* can also be used as a verb:

As seen from Figure 6.11, the verb form of *flood* co-occurs frequently with nouns relating to the world of finance such as 'U.S. banks' (lines 1 and 4), 'the financial system' (line 3) and 'markets' (line 5). The phrases following the co-occurrences are related to money and include the words 'cash' (lines 1, 4 and 5), 'dollars' (line 2) and 'billions' (line 3), showing the metaphor theme MONEY IS LIQUID. This shows that the verb form of *flood* is used to describe the bailout plan of the U.S. government by which it tried to rescue the economy through the injection of

¹ has taken aggressive steps to try to **flood** U.S. banks with cash. Last Wednesda 2 d the actuality of the Fed's plan to **flood** the world with dollars. But the U.S 3 ced over the weekend that they would **flood** the financial system with billions 4 d again seek to calm nerves. Plan B: **Flood** Banks With Cash By FLOYD NORRIS Pub 5 t by making it easier for the Fed to **flood** markets with needed cash without un **Figure 6.11. Concordance lines of the verb forms of** *flood*

billions of dollars. Hence, we can see that the verb form of *flood* has different metaphor functions compared with its noun form in 'a flood of'.

6.3.3.3.2 Deluge

According to the *Cambridge International Dictionary of English* (1995), 'deluge' refers to a very large amount of rain or water, or a flood that results from heavy rain. As with the metaphor *flood*, both the noun and verb forms of *deluge* are used metaphorically in the corpus. Figure 6.12 compares the use of noun and verb forms:

Itsunami of e-mails and phone calls that **deluged** the offices of House members on 2High-ranking White House loyalists have **deluged** Washington headhunters with ple 3r and the turmoil at A.I.G. The nonstop **deluge** of bad publicity for American in Figure 6.12. Concordance lines of *deluge*

Figure 6.12 shows that the metaphor *deluge* can be used in noun form as in '*deluge* of bad publicity' (line 3). It can also be used in verb form as in 'deluged the offices of House members' (line 1) and 'deluged Washington headhunters' (line 2). The co-texts show that *deluge* is associated with people such as 'White House loyalists' (line 2), or metonyms of people as in 'e-mails and phone calls' (line 1). Although the two metaphors *flood* and *deluge* have similar literal meanings, the findings reveal their functional difference in financial news discourse. The former is used to conceptualize a large amount of money that the government injected to save the economy whereas the latter describes a quantity of things or people that happen or arrive at the same time. Nevertheless, both of these words are used hyperbolically in the texts. The concordance lines show the extension of WATER metaphors. Extension happens when the source domain terms belong to the same semantic field but they are not repetitive, and so do the target domain terms (Goatly, 1997). In line 1, e-mails and phone calls received by the office of House members are construed as a tsunami. The construal of the metaphor tsunami is consistent with that of *deluge* in that both describe a vast amount of water. Hence, this may suggest that the metaphor tsunami helps further intensify the effect that results from the metaphor *deluge* in the news discourse. The extension of metaphors is important for textual structuring because the image or schema described is consistent due to the

connection of metaphors (Goatly, 1997). It also fulfils the function of decorativeness and enhance the persuasive value of the texts to a high degree. This further supports the view of Altheide (2002) that journalists of the popular press tend to emphasize persuasiveness in writing news articles.

6.3.3.3.3 Turbulence and torrent

While the metaphors *flood* and *deluge* conceptualize the large quantity of financial activities, solutions and people in the news discourse, the metaphor *turbulence* plays a rather different functional role in the texts. As defined by the *Cambridge International Dictionary of English* (1995), 'turbulence' refers to movements of water and air which are violent and unsteady. This difference in literal meanings compared to the meanings of 'flood' and 'deluge' may lead us to expect that the metaphorical uses will also be different. Figure 6.13 illustrates the associated concordance lines:

As seen from Figure 6.13, the metaphor *turbulence* frequently collocates with the word 'market' (lines 2, 4-6). The financial problem being conceptualized is fluctuations in the stock market. This is manifested by expressions found in the cotext such as 'deep declines', 'the deepest losses on the Dow' and 'the markets closed down'. The unsteadiness of turbulence is used to highlight the fluctuations in financial markets, conveying the notion 'UNCERTAINTY/UNRELIABILITY IS INSTABILITY'. This shows that the metaphor *turbulence* perform different functions compared to the other WATER metaphors.

Ir analyst at Aite Group. The recent **turbulence** highlights how commercial banks, 2ket lows. As if last month's market **turbulence** wasn't historic enough, investors 3er partners in the coming days. The **turbulence** was widespread through U.S. and 4g-term damage that financial market **turbulence** could do to their endowments. A 5and are seeking shelter from market **turbulence**. GM, considered the weakest of t 6ent bonds as a hedge against market **turbulence**. After briefly trading in negati 7ed reflection of a broader economic **turbulence** Like many Washington neighborhoo Figure 6.13. Concordance lines of *turbulence*

By contrast, 'torrent' refers to a fast-moving stream of water. Hence, it is expected that rapidity would be highlighted in the metaphorical expressions.

- (6.4) Some thought that Merrill Lynch's sale of \$30.6 billion worth of mortgage-related securities in July to the private equity group Lone Star for \$6.7 billion (75 percent of which was provided as a loan by Merrill) would unleash a *torrent* of similar sales. (White & Anderson, 2008)
- (6.5) German regulators are scrutinizing the *torrent* of panicky trading, but it is not clear if they will act. (Story, De la merced, & Dougherty, 2008)

From Examples 6.4 and 6.5, we can see that the metaphor *torrent* occurs in the prepositional phrase 'a *torrent* of'. The associated words are 'sales' (in Example 6.4) and 'panicky trading' (in Example 6.5). Both words show that the tradings are sudden and rapid due to the financial crisis, revealing the metaphor theme CHANGE IS MOVEMENT. This conceptualization is quite similar to the case of *avalanche* (See Section 6.3.3.2). However, the metaphor *avalanche* emphasizes the great quantity of the financial activities. Judging from the difference in frequency between the use of *torrent* and *avalanche*, we can see that the word *avalanche* is more conventionally used to describe the sudden occurrence of financial activities. It is reasonable to infer that the sudden change of financial activities would arouse negative emotions in people.

6.3.3.4 Conceptualizations of storm

A storm is an extreme and violent weather condition with strong winds and often rain, thunder or snow. Since different kinds of DISASTER metaphors perform various functions in news discourse, as discussed in previous sections, we can expect that metaphors of STORM would be used to describe the whole financial situation. Figure 6.14 shows the associated concordance lines:

lished: September 19, 2008 AS the financial **storm** on Wall Street intensified las 2on Saturday of how to manage the financial **storm**, the French president, Nicolas

3sp for security in the face of a financial **storm** that at least so far has affec 4 g politicians to face the city's economic **storm**. The crisis, Mayor Bloomberg h 5 Asian economies may weather the economic **storm** and help the global economy re 6art of Americana seeks to weather economic **storm** Health care, pension costs may 7 Again, if you think you can withstand the **storm** if the government does nothing 8tions also reported they could weather the **storm**. Virginia officials said Frida 9g to Clean Up After A Category 4 Financial **Storm** Section:, A01 You know you're 10e teeth of what may be a once-in-50-years **storm**, Steven P. Jobs calmly keeps t 11wngraded from a Category 5-type financial **storm** to a still-dangerous but poten **Figure 6.14. Concordance lines of** *storm*

Like the non-specified disaster *turmoil* (See Section 6.3.1), the metaphor *storm* frequently occurs with adjectives such as 'financial' (lines 1-3, 9, 11) and 'economic' (lines 4-6). The financial situation as a whole is best described by using the metaphor storm. This is because a storm is a violent disturbance of the atmosphere, and weather like rain, snow, thunder and strong winds often happens at the same time. This is similar to the financial crisis being described in that a number of economic problems have arisen such as bankruptcies of companies, fluctuations in the stock market and rising unemployment. The severity of the financial situation is further intensified by using numerical modifiers, as in 'a category 4 financial storm' (line 9), 'a category 5-type financial storm' (line 11) and 'a once-in-50-years storm' (line 10). Category 5 is used to conceptualize the seriousness of the credit crisis ("Stock soar", 2008) and category 4 conceptualizes the large amounts that the Federal government spent to rescue Bear Stearns and AIG (Wayne, 2008). The categories of the storm imply that the financial situation is urgent, destructive and unendurable. What is different from the metaphorical use of 'turmoil' is that the metaphor storm co-occurs with verbs at the left position in the concordance line. The verbs express the meaning of resistance as in 'manage' (line 2), 'weather' (lines 5-6, 8) and 'withstand' (line 7), showing the opposing force. These collocational patterns imply that the financial situation is a violent and serious one which needs to be withstood. Interestingly, however, a literal storm is a kind of natural disaster so it is hard for people to resist or avoid. Therefore, the metaphors seem to convey an implication that the financial situation is unavoidable, and people can only attempt to resist or survive it so what the people can only do is to pay effort to resist.

6.3.3.5 Conceptualizations of earthquake

Earthquakes are a natural disaster that has happened frequently worldwide in recent years, for example the New Zealand and Japanese earthquakes in 2011. According to the *Cambridge International Dictionary of English* (1995), 'earthquake' refers to the sudden violent shaking of the Earth's surface which may cause massive damage. The word 'quake' is a synonym of 'earthquake'. Like the storm metaphor, the earthquake metaphor is used to describe the financial situation as a whole. Figure 6.15 reveals the associated patterns:

1w hesitation even before the financial **earthquake** of the last week. Now, a war 2 days late on your mortgage, that's an **earthquake**, and if you are one month lat 3lations straightened out." Nor was the **earthquake** that rocked U.S. financial ma 4ckly moved from Ike to the Wall Street **quake** last week. I'm hearing from friend 5 From N.Y. to D.C. After Wall Street's **Quake**, Manhattan Braces for Financial T

Figure 6.15. Concordance lines of *earthquake* and *quake*

As seen in Figure 6.15, *earthquake* or *quake* co-occurs frequently with words such as 'financial' (line 1) and 'Wall Street' (lines 4 and 5), conceptualizing upheavals in the financial market, manifesting CHANGE IS MOVEMENT. The conceptualization accords with that of *storm* and highlights the aspects of violence, rapidity and destruction in the changes in the financial situation. However the difference is that *earthquake* may imply more massive damage affecting, for example, the whole U.S. financial system (line 3).

In real life, aftershocks always happen after an earthquake. Aftershocks are smaller earthquakes following the first main shock of a quake. Figure 6.16 illustrates the associated concordance lines:

lpe by the national and global economic **aftershocks**. These aftershocks would ste 2ago to work for a Dutch retailer. Now, **aftershocks** from a credit crunch that be 3sing investors to worry there are more **aftershocks** coming from the credit binge 4ce-booming country has been pounded by **aftershocks** from the global financial cr 5are not, and it is the less understood **aftershocks** that could damage our world Figure 6.16. Concordance lines of *aftershocks*

As discussed in earlier sections, the global financial crisis in 2008 was triggered by a series of problems such as a housing bubble and bankruptcies of financial firms in the United States. These problems had a serious effect on the global economy. Figure 6.16 shows that these effects of the financial crisis were construed as *aftershocks*. This is manifested by expressions such as 'from *a credit crunch*' (line 2), 'coming from *the credit binge*' (line 3), 'from the *global financial crisis*' (line 4). As suggested in the co-texts of the concordance lines, the tightened credit had a great many effects including closure of factories, diminishing retail sales and slumping of housing markets. Like a storm, an earthquake is a kind of natural disaster that cannot be avoided. This suggests the helplessness of people in resisting the financial crisis. This is consistent with the findings relating to target-term present emotion metaphors with the source domain of NATURAL FORCE (see Section 5.3).

6.3.4 Semantic grid of disaster metaphors

The above findings show that different disasters have various intensities. Not only do disaster metaphors carry various communicative functions in the news texts, but they also help describe and express negative emotions. Hence, this study suggests that there is a relation between disaster and emotion. The intensity of DISASTER metaphors can be illustrated in the form of a semantic grid⁵ as in Figure 6.17.

		Emotion Intensity Low	>High
DISASTER	Wind	+	
	Whirlwind	++	
	Storm	++	
	Tornado	+++	
	Hurricane		++++
	Tsunami		+++++

Figure 6.17. Grid showing the intensity of emotion conveyed by words

⁵ Ten native speakers were asked to rate the relative intensity of metaphors. For more details, please see p.118 and 117. Appendix 8 shows the survey results.

Figure 6.17 reveals the relationship between emotion intensity and the source domain of DISASTER. The higher the danger, the more emotion will be generated. More '+' signs are used to represent the intensified emotion conveyed by the words. The survey results (Appendix 8) show that all the respondents gave *tsunami* a rating of five, *hurricane* a rating of four and *tornado* a rating of three. This reveals that the intensity of emotion described descends from tsunami, hurricane to tornado. The metaphors tsunami, hurricane and tornado convey strong negative emotions in the texts because they are large-scale and destructive events. Also, all the respondents agreed that wind, with the rating of one, describes the lowest intensity of emotion. It carries the lowest emotion intensity because it is merely a form of weather. However, when the force of the wind gets strong enough to become whirlwind, it may bring damage to the surroundings, and so the arousal of negative emotions like fear goes up. A whirlwind or storm is bound to cause much more pain and fear than the wind. In fact, as seen from the survey results (Appendix 8), the intensity of emotions described by *whirlwind* and *storm* are the most disputable. Four respondents gave the rating of two to both metaphors whirlwind and storm, three respondents thought whirlwind (rating: 3) describes a higher intensity of emotion than storm (rating: 2), and three respondents thought storm (rating: 3) is a stronger metaphor than *whirlwind* (rating: 2).

The results of this study show that journalists tend to intensify the emotions of the market in a financial crisis by using different types of linguistic metaphors. As discussed in Section 2.5.5, there are two types of hyperbole: auxesis and meiosis. Auxesis means the exaggerated intensification of an entity whereas meiosis refers to the exaggerated reduction of it (Smith, 1657). The findings show that journalists prefer to use hyperbolic metaphors for auxesis more than for meiosis. As shown in Table 6.2, DISASTER is a recurrent source domain mapping onto financial crisis. In fact, disaster metaphors are often used as hyperbole in financial news reports to intensify the severe impact of the financial situation. In this way, metaphors can also serve as a tactic to influence the emotion of investors. As suggested by Charteris-Black (2004), 'by using metaphors of natural catastrophe

drawing on domains such as earthquakes, financial reporters are in fact playing upon the worst fears of investors and assisting their worst predictions to become reality' (p.156). This contributes to the great occurrence of disaster metaphors in the financial corpus.

6.3.5 Summary

This section has discussed the conceptualizations of non-specified disasters and specified disasters. Different kinds of DISASTER metaphors are used to perform various communicative functions in the financial news discourse. Many of the metaphors also serve as hyperbole in the news discourse to intensify the seriousness of the financial situation. The metaphors also serve the functions of decorativeness and informativeness in the news reports. Non-specified disasters such as turmoil construe the seriousness of the financial situation. Destruction specifies problems related to mortgages and loans. As for specified disasters, whirlwind and hurricane are used to reflect the destructive effect of changes in stock prices and financial decisions. The metaphor avalanche conceptualizes a sudden large quantity of financial activities, whereas *flurry* depicts the solutions that were quickly introduced to solve the financial problems. Water and earthquake also showed different communicative functions - EMOTION IS WEATHER and EMOTION IS LIQUID for water, and CHANGE IS MOVEMENT for earthquake. The verb form of flood refers to the injection of billions of dollars to rescue the economy, while deluge construes the large number of investors. The unsteadiness of turbulence helps construe the fluctuations in the stock market. The destructiveness of the financial crisis is highlighted by different categories of storm. Metaphors of DISASTER convey the notion of helplessness of the public in resisting the financial crisis. Unlike DISASTER metaphors, WEATHER metaphors like wind can refer to positive things such as financial activities which favour the financial market, as well as to negative things such as undesirable stock market performances. In the case of nearly all of the disaster or weather metaphors discussed above, they also
help describe and express the negative emotions reported in the news articles. What matters is the difference in intensity of the emotions conveyed.

In addition to the communicative functions, the findings show that the major function is reconceptualization in which we can perceive our experience from a different perspective by using various kinds of WEATHER and DISASTER mtaphors. Results also provided insights into the linguistic analysis of metaphors. The opposing conceptualizations of headwinds and tailwinds show that lexical items may retain antonymic relationships even when they are used metaphorically. On the other hand, there may be a change in word form when the disaster terms such as *whirlwind* are used metaphorically. The seeming contradiction between ripple and flood in the mixed metaphor shows that the highlighting and hiding aspects of metaphors are not limited to individual metaphors, but also happen in mixed metaphors. Also, journalists do not only use hyperbolic disaster metaphors, but also intensify their effect by adding numerical modifiers like category of storm, or using extension of metaphors like *tsunami* and *deluge*. All these findings reveal that there is a link between the lexico-grammatical choices for metaphors, choices of source domains and the nature of disasters. The nature of disasters influences the choice of source domains and linguistic expressions which manifest the metaphors. Hence, the nature of disasters helps assign the communicative functions of metaphors in financial news discourse.

6.4 FINANCIAL CRISIS IS AN OPPONENT

In Section 6.3, I have discussed how different types of disaster metaphors play various functional roles in the news reports and help express different intensities of negative emotions. This section will discuss the findings relating to another recurrent source domain, OPPONENT. As explained in Section 6.1, this study regarded OPPONENT as a sub-domain of HUMAN. There are various aspects of HUMAN found to be used metaphorically in the news reports, such as health, physical state and attack. After manual scrutiny of the concordance lines, it was

found that metaphors of OPPONENT are more able to convey negative emotions in the news reports. Hence, this source domain was chosen for the discussions in this section.

As discussed in Chapter 5, a large number of lexical items related to fighting were classified by Wmatrix tool 2.0 into the semantic field of <u>ANGER</u>. Since the metaphors do not contain the target term, I regard these lexical items as target-term absent emotion metaphors. As Feshbach (1986) suggests, anger is a sign that an animal is provoked and the emotion will cause the animal to physical attack. Judging from the bodily experience of physical fighting, it is also reasonable to posit that the emotion conveyed through OPPONENT metaphors is anger. The metaphors also realize the theme EFFECT IS IMPACT because of the negative effect conveyed from the metaphors. Together with the OPPONENT metaphors that mapped onto the top ten keywords in the corpus, the findings show that different kinds of attack were used to construe various aspects in the financial crisis. Most of them indicate the efforts of government, institutions and investors to combat or cope with the financial crisis. Negative emotions are expressed through a description of a battle between the financial crisis and the people. Table 6.5 shows the classification of these OPPONENT metaphors:

Aspect	Frequency	Example
	in 1 mil wds	
War	320	hit, kill, attack, batter, beleaguered,
		assault, bloodbath
Action by poison	116	poison, toxic
Action by hands	15	spike, stab, smack, clobber, wallop,
		grapple, claw, slap, pummel, slug,
		punch, pelt, chest-thumping
Action by weapons	5	whack, bludgeon
Action by legs	3	kick, trample, rampage

Table 6.5. Distribution of OPPONENT metaphors

As revealed in Table 6.5, the most recurrent OPPONENT metaphors refer to a general type of attack in which the use of body parts is not specified (445 hits). These include hit (e.g. the Asia-Pacific region will be worst hit), attack (e.g. some stock to attack), batter (e.g. battered financial system), beleaguered (e.g. beleaguered giant Citigroup) and assault (e.g. assault by waves of selling). The second most recurrent metaphors refer to death and killing by using poison (e.g. *poison* the economy). The other metaphorical expressions specify the body part or the weapon that is used for attack. For instance, some lexical items describe handrelated actions such as *stab* (e.g. taken a *stab* at many extraordinary efforts), *slap* (e.g. get *slapped* by financials) and *chest-thumping* (e.g. *chest-thumping* Wall Street bankers). Other words describe leg-related actions such as kick (e.g. kick us out into the winter cold), trample (e.g. trampled on debtors) and rampage (e.g. a year of rampage). Weapon-related actions are also used, such as whack (e.g. Wall Street is whacked out). The high frequency of occurrences of the metaphors support the view of Smith (1995) that OPPONENT metaphors are pervasive in financial news discourse.

6.4.1 Aspects of War

Some metaphors without the target term do not specify the body part used for attack. Rather, they indicate a general forceful attack. Examples are *batter*, *hit*, *beleaguer* and *attack*. These metaphors personify the financial crisis and financial problems. The intensity of anger expressed through these metaphors shows a progressive increase:



Figure 6.18. Anger expressed in the lexis

As shown in Figure 6.18, the metaphors can be classified into two types according to the description of the agent or the patient. The second most intensified anger is conveyed through the metaphor *assault* as it implies a violent attack. The metaphor conveying the mildest anger is *hit* since it only refers to a cause of harm and does not imply intense force or a number of opponents. On the other hand, the metaphors *beleaguered* and *battered* are utilized to describe a victim being attacked. The emotion of anger conveyed through *beleaguered* is more intensified than that of *battered* because *beleaguered* refers to a city being surrounded by an army. The concordance lines of the metaphors are shown in Figure 6.19:

```
1cted to tumble further this year, hitting developers hard. But the Cheung Kong
2 n and the strength of the yen is hitting Japan more severely than expected. "I
3 o the global financial crisis is hitting Britain , and of what many see as its
4ational commerce. With recessions hitting the United States, Europe and Japan a
5 orn and soybeans -- and that is hitting this country's export-dependent econo
6m is one part of the government's attack to <u>thaw credit markets</u> and prop up the
7he six percent matching. Should I attack my other debt, student loans, expand
8ress approved in October. It will attack the core issue facing banks: the toxic
90 focus on measures that directly attack the source of the crisis, which is unw
10period of time." Geithner's plan attacks the credit crisis on several fronts.
11red relatively strong came under assault by waves of selling. Investors were
12ced to call off their relentless assault-at least temporarily-under the new
13nytime soon. But the shift is an assault on Goldman's culture and the core of
14panel, began the hearing with an assault on Mr. Fuld's pay, bringing out a ha
15Friday. Many analysts blamed the assault on the two stocks on so-called short
16some sign of a turnaround in the battered financial system. The Treasury's 10
17ain, which has been additionally battered by the crisis in the financial sctor
18estors hunted for bargains among battered financial stocks and cheered the pro
19. Parts of the company have been battered by the credit crisis. But many of it
200 million to prop up some of its battered <u>investors</u> in its fixed-income funds.
Figure 6.19. Concordance lines of metaphors focusing on the scale of an attack
```

As shown in Figure 6.19, collocations co-occurring with *hit, assault* and *battered* show that the 'attacker' is the global financial crisis and the selling. This is manifested by expressions such as 'the global financial crisis is *hitting* Britain' (line

3) and ' *battered* by the credit crisis' (line 19). The 'victims' under 'attack' from the financial crisis are countries (e.g. hitting the United States, line 4), business institutions (e.g. assault on Goldman's culture, line 13), and the stock (assault on the two stocks, line 15). This is consistent with the findings in Section 4.2 that the financial crisis had a serious impact on the activities and performance of the financial market. An interesting point is that the collocations associated with *attack*, on the other hand, show that the 'attackers' are the government and investors rather than the financial crisis as in the cases of *hit* and *assault*. This is manifested by expressions such as 'Should I attack my other debt' (line 7) and 'Geithner's plan attacks the credit crisis' (line 10). These reveal that the 'victims' or 'opponents' are the credit crisis, problems affecting financial institutions and personal debts. One possible reason for the difference in conceptualizations between attack, hit and assault is that attack carries the semantic prosody of opposing. This semantic prosody enables the metaphor to construe the rescue of the economy as a defence. It also implies that the government and investors made huge efforts to tackle the financial problems. The personified uses of metaphors supports the view of Oberlechner, Slunecko and Kronberger (2004) that attributes of living things are always used to depict different aspects in the financial market.

6.4.2 Hand-related and leg-related actions

Corpus data reveals that journalists use more expressions associated with hands than leg-related expressions to talk about the financial crisis in terms of an attack. This may derive from the difference in the conceptualizations. As shown in Table 6.5, there are different ways of attacking using hands including *slap*, *smack*, *wallop*, *whack*, *pummel*, *grapple*, *slug* or *punch*. These metaphors without target term describe the emotion of anger and imply its violent and destructive nature. This great variety of metaphors helps contribute to the function of decorativeness in the texts. It is also reasonable to posit that different ways of attacking may help convey different kind of information compactly in the financial news discourse. The metaphors *slap* and *smack* specify an attack using the flat inside part of the hand, whereas *wallop*, *punch* and *pummel* describe an attack using the fist. Figure 6.20 shows concordance lines with the metaphor *grapple*:

In the gloomiest in decades as they **grapple** with <u>massive layoffs</u>, slumping home 2s they are in good company as they **grapple** with what a <u>Lehman bankruptcy</u> means 3rp pivot comes as European leaders **grapple** with <u>a financial crisis</u> that has des 4ubts that the European Union could **grapple** collectively with <u>a common crisis</u>. " 5inuing the practice as it tries to **grapple** with <u>a rapidly deteriorating economy</u> Figure 6.20. Concordance lines of 'grapple'

The *Cambridge International Dictionary of English* (1995) indicates that 'grapple' is the action of fighting. As revealed in Figure 6.20, the metaphor *grapple* collocates with words like 'massive layoffs' (line 1), 'Lehman bankruptcy' (line 2) and 'a rapidly deteriorating economy' (line 5), implying that people were trying hard to handle with the situation (CONTROL IS HANDLE).

In addition to the metaphor *grapple*, some other hand-related metaphors also imply the struggle of investors to survive in the financial crisis. According to the *Cambridge International Dictionary of English* (1995), *slap* means 'to hit someone with the flat part of the hand or another flat object' and *smack* means 'to hit someone or something forcefully with the flat inside part of your hand, producing a short loud noise'. Although the meanings of these two words are similar, the conceptualizations are different. *Slap* is utilized to conceptualize the force of imposing a regulation, but *smack* is used in describing how problems affect different sectors. For example,

(6.6) *The dark skies* ahead can't be anything but a recession. *Sheets of cold rain* have already been *smacking* the retail sector. (Stross, 2008)

In Example 6.6, the recession is conceptualized as a gloomy sky. The metaphorical expression about the falling rain implies that there have been problems in the economy. The smack on the retail sector reflects that the problems have been affecting sales in the retail sector, so the sector has to try hard to earn revenue. The use of the OPPONENT metaphor *smack* indicates the violence and reflects the

vigorous aspect of the emotion ANGER, manifesting the theme EFFECT IS IMPACT. This further supports the cognitive literature that anger is often regarded as a vigorous emotion and triggers aggressive and detrimental behaviour (Kalat & Shiota, 2007). The metaphors the dark skies and sheets of cold rain belong to the same source domain WEATHER so metaphor extension is achieved. The layering of metaphors also occurs because dark sky comes in first before the rain. There is also a mixing of source domains WEATHER and OPPONENT (i.e., smack) metaphors. As Goatly (1997) indicates, metaphorical mixing is related to 'the strength of syntactic bonding and syntactic proximity' between the two source domain terms and 'the degree of activity of the metaphor' (p.270)'. It is traditionally known that raining is an uncontrollable natural phenomenon. People can predict it but cannot control the time of raining or the quantity of rain. Hence, the metaphorical expression may imply that the problems arising and affecting the retail sales are unavoidable. The use of the NATURE metaphor seems to create an atmosphere of pessimism and enhance the negative force conveyed in the NATURAL FORCE and OPPONENT metaphors. We can see that there is a progressive increase in force from the NATURE metaphor to the OPPONENT metaphor as shown in Figure 6.21:



Figure 6.21: Force conveyed in the mixed metaphors NATURE + NATURAL FORCE + OPPONENT

In Figure 6.21, the arrow from the sign '-' to '+' demonstrates the increase of force conveyed in the progression from NATURE through NATURAL FORCE to OPPONENT. The NATURE metaphor 'dark sky' captures the pessimism of investors and manifests the theme PESSIMISM IS DARK. The force conveyed is the lowest.

The metaphorical expression with the source domain of NATURAL FORCE 'sheets of cold rain' relates to the theme EXPERIENCE IS WEATHER, and shows that the process of raining is dynamic and so the force conveyed in this metaphor is stronger. The metaphor smack involves an attack on the opponent 'retail sector' and so the force conveyed is the strongest.

The use of metaphor extension is found in Example 6.7:

6.7. Moving to *shield battered* domestic manufacturers from foreign imports, Indonesia is *slapping* restrictions on at least 500 products this month, demanding special licenses and new fees on imports. (Faiola & Kessler, 2008)

In Example 6.7, the metaphor *slap* implicitly conveys a sense of anger and carries the semantic prosody of imposition. In order to boost the economy, Indonesia demanded special licenses and new fees on imports. The use of *slap* implies that the demand is forceful and may even make it difficult for importers to run their businesses. The schema conveyed is consistent due to the metaphor extension from WAR to OPPONENT. The source domain of WAR is manifested by the metaphorical expression '*shield* battered domestic manufacturers'. The metaphor *shield* shows that the Indonesian government acted as a warrior and protected the victim 'domestic manufacturers'. On the other hand, the metaphor *slap* conveys a method of attack, so the force conveyed in this metaphor is stronger than that of *shield*. The progressive increase of force is illustrated in Figure 6.22:



Figure 6.22. Force conveyed in the metaphor extension WAR + OPPONENT

The use of source domains in Examples 6.6 and 6.7 suggests that the function of metaphor extension is to show the progressive increase of intensity in the target domains for enhancing the decorative function of metaphor. It clearly reveals that the journalist has thought about combining different metaphorical expressions to fulfil the purpose of textual decoration in the news discourse. Therefore, this finding agrees with the view of Goatly (1997) that the extension of metaphors can help structure the text.

The previous examples demonstrate that metaphorical expressions in the corpus involving hands usually describe strong attempts by institutions or investors to overcome financial problems and survive in the financial crisis. However, metaphorical expressions involving legs are utilized to conceptualize the irresistible plunge of the financial market or the collapse of institutions. For example,

- (6.8) European ministers promised to avoid another bankruptcy like that of Lehman Brothers, which *kicked* the crisis *into high gear* on September 15. (Landler, 2008)
- (6.9) Koji Hirano said his "mind went blank" with disbelief when he and other workers at a Canon digital camera factory in this southern city were suddenly called into a cafeteria in late October and told they were being laid off...'They were going to *kick* us out into the winter cold to die,' said Mr. Hirano, 47. (Fackler, 2009)

In Example 6.8, the financial crisis is conceptualized as a machine with a high gear. According to the *Cambridge International Dictionary of English* (1995), 'high gear' is 'a gear that causes a wheeled vehicle to move fast, due to a high ratio between the speed of the wheels and that of the mechanism driving them'. When an object is put into a high gear, it is supposed that the object will move speedily along. Hence, the metaphorical expression in the example can be interpreted as: The financial crisis worsened rapidly after the bankruptcy of Lehman Brothers, as if the corporation had exerted a strong force on the financial crisis which put it into a high gear. The kicking of crisis into high gear also suggests the passivity of the financial crisis. It did not occur autonomously; there had to be factors like the bankruptcy of Lehman Brothers to trigger it.

As for Example 6.9, the Canon digital camera factory laid off the workers and some of them described the job cuts as a way to '*kick* them out into the winter cold to die', There is a mixed use of source domains OPPONENT (*kick*), WEATHER (*winter cold*) and DEATH (*die*). The metaphors show a progressive increase of the harm conveyed as illustrated in Figure 6.23:



Figure 6.23. Force conveyed in the mixed metaphor OPPONENT + WEATHER + DEATH

The metaphor *kick* implies the passivity and helplessness of workers in accepting the job cuts. As for the WEATHER metaphor *the winter cold*, it seems to suggest the struggle of the workers, because people usually find it hard to walk on the street during winter because of the chilly wind. The worker describes the financial crisis as a great challenge to investors, corporations and the general public, as if they are suffering in the winter cold. By using *'kick* into *the winter cold'*, the worker conveys that the layoff is like pushing them out on the street and there are no walls to protect them from the freezing cold, i.e., they have to suffer the cold directly. This shows that UNFRIENDLY IS COLD and FEAR IS FEELING COLD. The hyperbole *die* is utilized to exaggerate the seriousness of the situation. The use of mixed metaphors suggests that the financial crisis seriously affects the workers

6.4.3 Semantic grid of OPPONENT metaphors

The above findings show that different forms of physical attack or use of body parts effectively help conceptualize different aspects of the financial crisis. The metaphors also help construe negative emotions according to different intensities. The intensity of negative emotion conveyed by the metaphors of OPPONENT can be represented in the form of a semantic grid⁶:

		Emotion Intensity Low>High				
OPPONENT	Hit	+				
	Punch		++			
	Attack			+++		
	Assault			+++		
	Batter				++++	
	Bludgeon					+++++

Figure 6.24. Grid showing the intensity of emotion conveyed by words

In the source domain of OPPONENT, metaphorical verbs such as *hit*, *spike*, *punch*, *batter*, *assault* and *bludgeon* have a similar meaning. All of them refer to physical contact with force between opponents, but the intensity differs. Figure 6.24 exemplifies the relationship between emotion intensity and the source domains of OPPONENT. As with group 3 metaphors, all the respondents agreed on the three strongest metaphors: *bludgeon* (rating: 5), *batter* (rating: 4) and *assault* (rating: 3). The word *bludgeon* indicates the repeated hitting of someone using a weapon and would cause possible serious injury to the victim. Therefore, the intensity of emotion conveyed in this word is the highest. However, six respondents gave *attack* the rating of three point five, whilst the other four gave it the rating of three. *Attack* and *batter* are more specifically used to depict war, which is a large-scale fight. However *assault* describes a violent attack, so it conveys a higher intensity of

⁶ Ten native speakers were asked to rate the relative intensity of metaphors. For more details, please see p.118 and 187. Appendix 8 shows the survey results.

negative emotion than *attack*. Most of the respondents (N=9) gave *punch* the rating of two and *hit* the rating of one, so *hit* describes the lowest intensity of emotion. Only one respondent thought *hit* and *punch* are equally weak (rating: 1). The word *hit* carries the basic meaning of striking someone, but no idea of how violent the fight is, so the emotion intensity conveyed is the lowest.

6.4.4 Summary

In summary, journalists used a large number of OPPONENT metaphors with a negative sense to describe the global financial crisis. The personified uses of metaphors possess a hyperbolic function to intensify the control of emotion and imply the struggle between investors and the emotion. As was found with DISASTER metaphors, OPPONENT metaphors are used hyperbolically in terms of auxesis rather than meiosis. Different kinds of OPPONENT metaphors are used to depict different aspects of the financial situation during the economic crisis. The conceptualizations focusing on the actions of hand and leg highlight the destructiveness of anger. Hand-related metaphors focus on how the non-sensible investments bring about problems in financial market such as bankruptcy of financial institutions and mass elimination of jobs. This type of metaphor also implies that in order to survive the financial crisis, institutions or investors have to make a great deal of effort to eradicate the financial problems. Leg-related metaphors focus on the quick and irresistible occurrence of the financial crisis and the layoff of financial institutions. Like metaphors of DISASTER, OPPONENT metaphors are also useful in reconceptualization, decorating the texts, expressing informativeness, and hyperbole in the financial news discourse.

Stefanowitsch (2006) claims that metaphors without the target domain word as an indicator should be avoided because it is difficult to distinguish which target domain element the metaphor expresses. However, it is argued that the news text can be more vivid and the message conveyed from the expressions is stronger if metaphor extension or mixed metaphors is used. As shown in the above examples, OPPONENT metaphors imply a sense of violence, and convey the anger of the public, investors or business institutions in the news reports. This force is strengthened through the use of metaphor extension and mixed metaphors.

In addition to the implication of struggle and violence, OPPONENT metaphors also imply that the arousal of negative emotions may not be spontaneous. As Oberlechner, Slunecko and Kronberger (2004) point out, 'As a living being a market does not function according to fixed rules but depends on its mood, thoughts, and intentions (p.144)'. The OPPONENT metaphor conceptualizes emotion as a human being. It highlights human attributes such as will, thought and mood which are absent in other types of metaphors (e.g. SUBSTANCE/ NATURAL FORCE, see Section 5.3). Some studies (e.g. Tetlock, 2007, Tetlock et al., 2008, Peress, 2008) also show that media coverage strongly correlates with the reactions of investors. Therefore, it is reasonable to infer that the negative emotions are irrational. The spread and intensification of negative emotions in the financial market may be intentional. I argue that the use of large numbers of negative emotion words and metaphors with a negative sense is probably due to the intention of journalists to intensify the negative emotions. The intensified negative emotions in the reporting may lead to irrationality in the actions of investors, or serve as a tool to raise the awareness of the government of the need to rescue the economy immediately. This may in turn help produce more news of high news value and maximize the profits of news organizations.

Chapter 7 Complementary roles of target-term present and targetterm absent emotion metaphors

Chapters 6 and 7 discussed how the financial crisis is conceptualized by metaphors that conceptualize and express negative emotions. The crisis metaphors reflect various concepts such as OPPONENT, WATER, FIRE, WEATHER and DISASTER. The difference in dominance of source domains mapping onto various concepts in the field of finance provides implications about metaphor choices by journalists. It also shows how emotion is intensified in the financial news reports. Stefanowitsch (2006) argues that the study of target-term present emotion metaphors should be more encouraged than that of target-term absent emotion metaphors as they contain elements clearly indicating the target domain. As he indicates,

For metaphorical expressions that do not constitute metaphorical patterns, it is often difficult to determine which precise target-domain we are in fact dealing with...presumably, this depends to some degree on the context in which they are used, but some uncertainty always remains. (p.66-67)

Yet Goatly (2011b) asserts that target-term absent metaphors expressing and describing emotions are equally important. Hence, this chapter will compare the communicative functions and the intensity of negative emotions expressed by the target-term present and target-term absent emotion metaphors which have been discussed in previous chapters.

7.1 Metaphors in the media coverage of global financial crisis

From the findings in Chapters 5 and 6, we can see that metaphors of different source domains perform various communicative functions in the news discourse. In fact, target-term present emotion metaphors and target-term absent emotion metaphors play a complementary role to each other in the discourse. In the following sections we will compare the communicative functions of target-term present and target-term absent emotion metaphors.

7.1.1 Communicative functions of target-term present emotion metaphors

With target-term present emotion metaphors, the focus of different aspects in the source domains helps depict various stages of emotion, and various focuses in the reporting of the financial crisis. Table 7.1 illustrates the associated roles:

Source domain	Focus of aspect in the source domain	Focus of the emotion stage	Function	Focus in the reporting of the financial crisis
ORGANISM	Reproduction	Arousal Spread	Decoration Reconceptualization	Outbreak of financial problems
	Growth	Intensification	Filling lexical gap Reconceptualization	Worsening financial situation
	Maturity	Intensification	Decoration Reconceptualization	Worsening financial situation
	Low activeness	Influence	Decoration Informativeness Reconceptualization	Unpredictability of the financial situation
	Social superior	Control	Decoration Informativeness Reconceptualization	Uncontrollability of the financial situation and investors' actions
(OPPONENT)	Attacks	Intensification Influence	Decoration Hyperbole Informativeness	Uncontrollability of the financial situation

Table 7.1. Communicative functions of target-term present emotion metaphors with different source domains

			Expression of emotion Reconceptualization	Changes in investors' and business firms' decisions
	-	-		
SUBSTANCE/ NATURAL FORCE	Water	Spread Intensification	Decoration Informativeness Expressiveness Reconceptualization	Unpredictability and Unbearableness of the financial situation
	Fire	Arousal Intensification	Decoration Expressiveness Reconceptualization	Unbearableness of the financial situation

Table 7.1 reveals that target-term present emotion metaphors with the source domains of ORGANISM and SUBSTANCE/NATURAL FORCE have different focus in the emotion intensity and news reporting angles. Indeed the major function of all these metaphors is reconceptualization. The use of different source domains, ORGANISM, SUBSTANCE and NATURAL FORCE enables us to view our experience from different perspectives. In addition, most metaphors in the source domain of ORGANISM possess a decorative function. The metaphors conceptualizing the reproduction stage indicate the arousal and spread of emotions (e.g. *spawn* and *multiply*). The conceptualizations help depict the outbreak of the financial crisis in the news reports. The metaphors describing growth (e.g. *grow*) are conventionalized and seldom evoke the cross-domain mappings in readers' minds. Yet they serve the function of filling lexical gaps and depict the worsening of financial situation. Metaphors conceptualizing maturity such as *full-blown* and *full-fledged* depict the intensification of emotions. They are decorative and help describe the worsening of the financial situation.

The function of decorativeness in the texts is performed by metaphors which express low activeness of an organism such as *creep* and *lurk*. This function is also fulfilled in the use of social superior metaphors like *rule* and *dominant*. The function of informativeness involves compactly conveying ideas in the news articles such as the unpredictability and uncontrollability of the financial situation. The hyperbolic function is seen in metaphors such as *cripple* and *kill* which describe the action of attacking. These metaphors depict the intensification of emotions and their influences on financial activities such as changes in investors' and business companies' actions. It is also implied from some of these metaphors in the news discourse that the government should take immediate action to rescue the economy.

The source domain of NATURAL FORCE help depicts different aspects in the media coverage of the global financial crisis. The metaphors of WATER possess the function of decorativeness and informativeness. Metaphors such as *ripple* indicate the spread of emotions and metaphors such as *spill* emphasize their intensification. They help describe the unbearableness and unpredictability of the financial situation, and have the implication that emergency steps need to be taken to tackle the problems. Metaphors of FIRE such as *stoke* describe the arousal of emotions and metaphors such as *flare* describe their intensification. Like metaphors of WATER, metaphors of FIRE help convey that the financial situation is dangerous and unbearable

7.1.2 Communicative functions of target-term absent emotion metaphors

As discussed in Section 2.5, metaphors perform various kinds of communicative functions in news discourse such as filling lexical gaps, explanation and modeling, reconceptualization, argument by analogy, decoration and hyperbole, and enhancing informativeness, as well as expressing emotional attitudes (Goatly, 2011a). The function of expressing emotions will be discussed in Section 7.2. Some emotion metaphors with the source domains of DISASTER and OPPONENT do not indicate the elements of the target domain EMOTION. These figurative expressions without target term only express emotions, so it may not be easy to trace which stage of emotion they are used to depict. Kövecses (2000) suggests that metaphors can capture various aspects of emotion concepts including intensity, passivity and

control. It seems that only target-term present emotion metaphors are able to do this because they contain a direct link to an emotion. Nevertheless, target-term absent metaphors of DISASTER and OPPONENT effectively express negative emotions and describe different aspects in the news reports. The associated functions that were discussed in Chapter 5 and 6 are summarized in Table 7.2:

Source Focus of aspect in Function Focus in the reporting domain the source domain of the financial crisis DISASTER Non-specified Filling lexical gap Severity of whole financial situation/ of particular financial problems Wind Decoration Widespread effect of Informativeness stock price change and financial decisions Hyperbole Expressiveness Affect Snow Decoration Sudden mass of Informativeness financial activities/ solutions Expressiveness Affect Water Decoration Large cash injections/ Sudden mass of people Informativeness Hyperbole Expressiveness Affect Storm Decoration Changes in the financial Informativeness situation Hyperbole Expressiveness Affect Earthquake Decoration Massive effect on the Informativeness financial system Hyperbole Expressiveness Economic problems Affect arising from financial crisis **OPPONENT** Scale of fight Decoration Public effort in Informativeness overcoming the crisis Expressiveness Affect

Table 7.2. Communicative functions of target-term absent emotion metaphors in different source domains

Attacks	Filling lexical gap	Public effort in
	Decoration	overcoming the crisis/
	Informativeness	Action of businesses
	Expressiveness	
	Affect	

The target-term absent emotion metaphors have rather specific functional roles in the news discourse. In the source domain of DISASTER, non-specified disaster metaphors such as *turmoil* describe the severity of the whole financial situation. As for the metaphor *destruction*, it is revealed by the collocates that the seriousness of a particular aspect of the field of finance such as housing or mortgages is depicted. Given the conventionality of these metaphors, they are not deliberately used in the news reports. It is also not easy to find alternative terms to replace the words *turmoil* and *destruction*. Thus, these metaphors possess the function of filling lexical gaps. The specified disaster metaphors perform an affect function which is one of the major functions of metaphor (Goatly, 1997). For instance, metaphors of wind disaster such as *hurricane* and *tornado*, the intensity and destruction of the disaster helps convey the widespread impact of the changes in stock price and financial decisions. Therefore, they could induce fear in human beings. They also contribute greatly to the functions of decorativeness, hyperbole and ideology, and information transfer.

In addition, metaphors related to snow such as *avalanche* and *flurry* indicate the sudden mass occurrence of financial activities like short-selling, or quick solutions to tackle the financial problems. The notions of sudden and mass quantity in the metaphors express informativeness. As for disaster related to water, metaphors like *flood* and *deluge* describe the large cash injections to prop up the economy, or a large number of people performing the same financial actions. The metaphors are hyperbolic and help convey information compactly in the discourse. Storm metaphors vividly describe changes in the financial situation and convey the idea that the changes are destructive. As for the metaphors related to earthquake, they are also used to portray the massive impact of the financial crisis. The metaphors also help imply that the problems arising are harmful to the financial system. An earthquake can cause massive damage and numerous deaths so the metaphor also expresses negative emotion.

Metaphors of OPPONENT reflect different kinds of physical attack. The metaphors expressing the scale of an attack, such as *batter* and *assault*, and hand-related forms of attack, such as *smack* and *punch*, help depict the public's effort to cope with the financial crisis. They convey the idea that this effort was tough and it was hard to predict when the crisis would be over. Leg-related actions like *kick* are used to depict businesses' decisions to cut jobs. The use of the metaphor implies that this action added to people's burdens during the financial crisis.

7.1.3 Complementary roles in performing communicative functions

If we compare the above findings about target-term present emotion metaphors and target-term absent emotion metaphors, we can see that they are complementary to each other in the financial news discourse. Target-term present emotion metaphors clearly specify the stages of emotions which help depict the different stages of the financial crisis from outbreak to worsening, and to the influence on the decisions of investors, government and business institutions. Most of the metaphors serve the functions of decorativeness and compacting information. However, the target-term present emotion metaphors tend to describe the financial situation as a whole rather than specifying a particular aspect of crisis. Hence, most of them convey the idea that the overall financial situation was unpredictable, non-bearable and uncontrollable.

Target-term absent emotion metaphors with the source domains of DISASTER and OPPONENT do not directly co-occur with emotion words such as 'fear' and 'anger'. However, it seems that without the indication of target domain elements, the metaphors can have a greater flexibility to convey negative emotions and depict the financial situation. Therefore, most of them are hyperbolic and can effectively describe and express negative emotions in the news reports. Because of

the greater flexibility, metaphors are also able to specify various issues in the financial crisis including the impact of financial decisions and investors' actions, the government's cash injections, changes in financial situations, actions of business institutions and the effort of the public to cope with the financial problems. Therefore, from the findings, this study suggests that the range of source domains is interconnected with the metaphors underlying various communicative functions in the financial news discourse. An important role of target-term absent emotion metaphors is to complement the target-term present emotion metaphors in performing communicative functions in the news reporting.

7.2 Expressing negative emotions in the news discourse

Section 7.1 discussed the different functional roles that target-term present emotion metaphors and target-term absent emotion metaphors perform in financial news discourse. My findings seem to disagree with the view of Stefanowitsch (2006) that only target-term present emotion metaphors should be investigated. In addition to their functional roles, metaphors are also useful in describing and expressing negative emotions in financial news discourse. Goatly (2011b) suggests that metaphors can describe or express emotions, or fulfil both functions. Target-term present emotion metaphors including target domain elements clearly depict the negative emotions fear, anger and anxiety. They highlight different stages of the emotions, so this shows that target-term present emotion metaphors are very capable of describing negative emotions. By contrast, target-term absent emotion metaphors do not directly indicate the type of emotion. Yet from the findings in Chapter 6 and Section 7.1, we can see that metaphors of DISASTER and OPPONENT are highly hyperbolic. They are useful in expressing negative emotions in news reports. In fact, the force of negative emotions expressed by target-term present emotion metaphors is rather different from the force expressed by targetterm absent emotion metaphors. Table 7.3 compares the lexico-grammatical choices for the two types of metaphors.

Source domain	Aspect	Lexico-grammatical choices		
		Target-term present emotion metaphors	Target-term absent emotion metaphors	
ORGANISM	Reproduction Growth Maturity Low activeness	grow, spawn, multiply, feed, creep		
	Attacks (OPPONENT)	cripple, kill, hammer, hobble, take toll, destroy	hit, kill, hammer, destroy, spike, plunge, beleaguer, batter, attack, bludgeon	
	_	-	-	
	Non-specified		turmoil, crash	
	Wind		hurricane, whirlwind	
NATURAL	Snow			
DISASTER	Water	Ripple, wave, wellspring, adrift, flow, spill	tsunami, flood, deluge, turbulence, torrent	
	Storm		storm	
	Earthquake		quake, aftershock, earthquake	
	Fire	Stoke, flare		

Table 7.3. Lexico-grammatical choices of negative emotion metaphors

Before discussing this table, one important thing worth noticing is that it only compares the lexico-grammatical choices for target-term present and target-term absent emotion metaphors. Some linguistic expressions such as *ripple* and *flow* and wave do not occur in the corpus as target-term absent emotion metaphors associated with the top ten keywords, so they are not shown in the table above. Hence, these kinds of target-term absent emotion metaphors were beyond the discussion in this study.

Although target-term present emotion metaphors can describe negative emotions in the reports, not all of them are able to express emotions. As revealed by Table 7.2, in the source domain of ORGANISM, metaphors describing the aspects of growth, reproduction, maturity and low activeness are not quite able to convey negative emotions. Metaphors like *grow*, *spawn* and *creep* can only describe the arousal and intensification of negative emotions. However, since they more or less carry a neutral sense rather than a negative sense, the force of negative emotion conveyed by these metaphors is far from strong. Therefore, only metaphors showing the aspect of physical attack show strong negative emotions. This is manifested by expressions like *kill*, *beleaguer* and *attack*. As for the source domain of NATURAL FORCE, target-term present emotion metaphors related to water and fire show the spread and intensification of emotions. However, for target-term absent emotion metaphors describing negative emotions, the metaphors of NATURAL FORCE are more related to disasters. The findings also show that metaphors related to various types of natural disasters can be found in news discourse. However, it is relatively rare to find expressions of natural disasters in target-term present emotion metaphors. Metaphors like *tsunami*, *hurricane* and *earthquake* definitely convey stronger force than target-term present emotion metaphors such as *ripple*, *wave* and *spill*.

7.3 Summary

This chapter has discussed the communicative functions of target-term present emotion metaphors and target-term absent emotion metaphors which conceptualize and convey negative emotions in the media coverage of the financial crisis. Targetterm present emotion metaphors contain emotion words, so they conceptualize emotions. Target-term absent emotion metaphors do not have emotion words, so they express emotions. It is revealed by the findings that target-term present and target-term absent emotion metaphors are complementary in depicting aspects of the financial crisis and expressing negative emotions. Target-term present emotion metaphors help describe the various stages of emotions, which the target-term absent emotion metaphors fail to do. The target-term present emotion metaphors tend to depict the overall financial situation and describe how investors, the public and governments implement actions under the influence of emotions. Hence, the metaphor functions of decoration, compacting information, and ideology are fully performed in the news discourse. However, in terms of expressiveness, most of the target-term present emotion metaphors are weak in expressing negative emotions in the news reports due to their rigid forms. On the other hand, target-term absent emotion metaphors related to disaster and opponent do not indicate the target domain of emotion. Hence, they give no clue as to which stages of emotions they depict. However, target-term absent emotion metaphors related to disaster and physical attack have great variety. By referencing different types of disaster or physical attack, these metaphors can be used to specify various aspects of the financial situation including the implementation of financial decisions, changes in financial situations and the harmful impact of the financial crisis. By the different intensities of disasters and physical attacks, the target-term absent emotion metaphors also convey stronger force of negative emotions in the news reports compared to the target-term present emotion metaphors. Therefore, target-term present emotion metaphors are complementary to each other in financial news reporting.

Chapter 8 Conclusion and Recommendations

This study has achieved the following research objectives: 1. Identify the metaphors used by journalists in reporting the global financial crisis of 2008; 2. Investigate the communicative functions of metaphors describing the emotions of fear, anger and anxiety; 3. Examine the force of negative emotions expressed by the metaphors. The findings relating to target-term present emotion metaphors and target-term absent emotion metaphors show links between lexico-grammatical choices, choices of source domains and the nature of emotions. The nature of the source domains in turn helps identify the communicative functions of metaphors in financial news discourse. The interrelations of metaphor themes constitute multivalency, showing that different target domains FEAR, ANGER and ANXIETY can be conceptualized by the use of the same source ORGANISM, WATER and FIRE. Different types of ORGANISM, SUBSTANCE and NATURAL FORCE metaphors in the corpus help realize functions of reconceptualization, decorativeness, informativeness, hyperbole and expressiveness in the news texts, as well as describing and conveying different degrees of negative emotions. These linguistic choices provide insights into the socio-cultural involved in the economic crisis. All in all, the present study shows that journalists deploy a wide range of target-term present and target-term absent emotion metaphors to conceptualize and express negative emotions in reporting the global financial crisis. The conclusions and implications of this study will be discussed one by one in the following sections, followed by a discussion of the limitations of the study and suggestions for further research and improvements to the analytical software.

8.1 Summary and implications

This study provided four main conclusions and implications that relate to the metaphors used by journalists, conceptualizations of emotion, the communicative functions of metaphors and analytical methodology.

8.1.1 Different agents and different reasons for negative emotions

It is revealed by the corpus data that different agents have various reasons for being fearful, angry and anxious. The causes of emotions are inter-related among the different agents such as investors, governments of different countries and the general public. The negative emotions caused the agents to carry out different actions. Investors and consumers feared the bankruptcies of businesses which would further worsen the economy and also felt fear about the feasibility of rescue plans. This fear made them reluctant to borrow, spend and invest. The series of bankruptcies also caused the banks to be fearful of lending money to the public and banks. Experts like economists and analysts felt fearful because of a lack of confidence about the government's rescue plans. As with governments, their fear and worries were due to the possible impact of the economic problems including tightened credit, diminished spending, declining public confidence, growing joblessness and social unrest. The collocations show that the emotions of fear and anxiety had a direct impact on movements in the financial market and on the actions of investors and business institutions.

The findings also show that the general public and political parties were rather angry during the financial crisis. The public anger was due to the unfairness of spending taxpayers' money to deal with the crisis, whereas the anger of political parties stemmed from the enormous costs involved in buying toxic assets and reducing mortgage payments. Yet some supporters of the rescue package were angry about the indecisiveness of government about implementing the plan. The emotion of anger stemmed from the negative impacts of the economic crisis and the struggle of people with financial problems.

8.1.2 The nature of negative emotions

This study innovatively compared target-term present emotion metaphors with the target domains of ANXIETY, FEAR and ANGER. The findings show that the physiological effects of the emotion do have an impact on metaphor choice in financial news discourse. The absence of direct conceptual mapping between OPPONENT metaphors and the emotion of anger supports the cognitive literature that anger is a more violent emotion than fear or anxiety. Comparatively, OPPONENT metaphors co-occur more frequently with words relating to ANXIETY than words relating to FEAR, suggesting that anxiety is a more destructive emotion than fear. The recurrence of SOCIAL SUPERIOR mapping onto the target domain of FEAR further supports the cognitive literature that fear is an unexpected and uncontrollable emotion. Although target-term present OPPONENT metaphors with the target domain ANGER are relatively rare, the findings relating to target-term absent emotion metaphors show that a great variety of OPPONENT metaphors are useful in expressing the emotion of anger in financial news discourse.

8.1.3 The usefulness of target-term present emotion metaphors in describing different stages of negative emotions

Target-term present emotion metaphors show the direct conceptual link between the target domain elements of EMOTION and source domains like ORGANISM or NATURAL FORCE. Hence the metaphors are capable of capturing different stages of emotions. The results show that the degree of negative emotion described and its destructive impact progressively increase from the aspect of reproduction through growth, maturity, low activeness, and high activeness to power. Different aspects of metaphors in the source domain of ORGANISM represent various stages of emotions in the news texts: reproduction metaphors describe the arousal of emotions and

imply their rapid spread; growth and maturity metaphors depict the intensification of emotion; low activeness metaphors indicate the influence of emotions and show that it is hard to assuage the negative emotions; high activeness is conveyed through OPPONENT metaphors. SOCIAL SUPERIOR metaphors focus on the aspect of power, which specifies the control of the emotion over the actions of investors and government. The hyperbolic metaphors also depict the intensification of emotions and imply the negative impact of the emotions on the activities of the market.

Similarly, the intensity and impact of negative emotions can also be compared by classifying WATER metaphors according to vertical and horizontal dimensions. The vertical dimension focuses on the increase in energy level of the emotion whereas the horizontal dimension is the spread. The WATER metaphors imply the irresistibility and unpredictability of the financial situation. The metaphors also point to the instability of investors' emotions and the harmful effect of emotions on the performance and activities of the financial market. However, the harmful effects and the control of the emotions are described more effectively by ORGANISM metaphors.

Target-term present emotion metaphors are useful for describing various stages of emotions in news discourse. Yet the negative emotions conveyed by this kind of metaphor are not as strong as those conveyed by target-term absent emotion metaphors. Hence, the function of expressiveness needs to be complemented through the use of target-term absent emotion metaphors in the discourse. Nevertheless, knowledge of the link between emotion intensity and different levels of submetaphors help provides insights into the writing of financial news articles and into how to enhance vividness and informativeness in news writing.

8.1.4 The effectiveness of target-term absent emotion metaphors in specifying aspects of the financial crisis and expressing negative emotions

Target-term absent emotion metaphors do not explicitly indicate the target domain. Yet from the high frequency of occurrences of target-term absent metaphors related to DISASTER and OPPONENT, we can see that these metaphors are often used to express negative emotions in the texts. Compared to target-term present emotion metaphors, their linguistic forms are less rigid and so they are able to convey a stronger force of negative emotions in the financial news discourse. A greater variety of metaphors related to natural disasters were found in the corpus including earthquake, hurricane, tsunami, turbulence, storm and avalanche. Because of the different natures of disasters, they are useful for specifying various aspects of the financial crisis. Non-specified disasters such as *turmoil* depict the severity of the financial situation. Destruction specifies mortgage and loan problems. In terms of specified disaster, whirlwind and hurricane are used to reflect the negative impact of the changes in stock price and financial decisions. The snow metaphor avalanche depicts a sudden large quantity of financial activities, whereas *flurry* describes the immediate introduction of solutions to rescue the economy. Water-related disasters like *tsunami* or *flood* help depict the government's action of cash injections into the economy. Storm and earthquake are useful for describing the serious impact of the financial crisis on different parts of the financial system.

Target-term absent emotion metaphors related to OPPONENT are also recurrent in the financial news discourse. The metaphors focus on different types of physical attack including hand-related, leg-related or general forceful attack. Different focuses are able to conceptualize the struggle of investors and the public in coping with financial problems, or the cruelty of businesses in cutting jobs during the financial crisis. Compared to target-term present emotion metaphors with the source domain of OPPONENT, target-term absent emotion metaphors convey a stronger intensity of physical attack. Therefore, while target-term present emotion metaphors are important in describing negative emotions and specifying their different stages, target-term absent emotion metaphors are highly useful in describing different aspects of the financial crisis and expressing negative emotions. Target-term absent emotion metaphors are complementary to target-term present emotion metaphors in financial news discourse.

8.1.5 Various communicative functions of target-term present and target-term absent emotion metaphors in financial reporting

Target-term present emotion metaphors and target-term absent emotion metaphors various communicative functions in These include perform discourse. reconceptualization, lexical gap filling, decorativeness, hyperbole and informativeness. In the source domain of ORGANISM, metaphors focusing on the aspects of growth, reproduction and social superior are conventionalized. They serve the function of filling lexical gaps in the news discourse. Metaphors of social superior reflect the loss of control of the financial situation, implying that immediate action should be taken. However, metaphors representing low activeness, maturity and physical attack are more deliberately used in news texts. In target-term present emotion metaphors, this range of metaphors personifies negative emotions. Targetterm absent emotion metaphors personify the financial crisis. Together with the personification, different aspects of physical attack help enhance the vividness of financial news reports. In addition, metaphors related to low activeness reveal the unpredictability of the financial situation, which helps convey the idea that it is hard to decide the next step in tackling the financial problems. The struggle of investors is also conveyed in target-term absent metaphors and this fulfils the function of informativeness.

In addition, the source domains WATER and FIRE also fulfil different functions in the news discourse. Metaphors of WATER and FIRE serve the functions of decorativeness and informativeness. Metaphors of water-related disaster convey the unbearableness and unpredictability of the financial situation more effectively, and imply that emergency steps need to be taken to rescue the economy. These, together with metaphors associated with other kinds of disaster such as earthquake, hurricane and avalanche, produce hyperbolic effects and contribute to the vividness of the financial news articles. The different aspects of the global financial crisis that the metaphors focus on, such as change in financial situation, number of investors and financial decisions, also illustrate the function of expressing informativeness. By comparison, metaphors related to non-specified disasters are more conventionally used and so rather serve the function of filling lexical gaps. All in all the unavoidable and destructive nature of natural disasters conveys the idea that the financial crisis was hard to cope with, and the financial problems arising from it were harmful to the financial system.

From the study we can see that target-term present emotion metaphors and target-term absent emotion metaphors related to ORGANISM, SUBSTANCE and NATURAL FORCE serve different communicative functions in news articles. This could be one way for journalists to enhance the news value of their reports and attract the attention of readers to maximize their newspapers' profits.

8.1.6 Corpus linguistics as an effective tool in analyzing metaphor use

This study has also made contributions to the research methodology of metaphor studies. Conceptual Metaphor Theory stresses the cognitive basis of metaphors and the systematicity of metaphors. However, this traditional cognitive linguistic practice of using self-elicited data and neglecting discursive factors is often controversial. This study used the annotation software suite Wmatrix tool 2.0 to classify lexical items into different semantic fields to exhaustively extract lexical items for the emotions of fear, anger and anxiety. To investigate the metaphors expressing negative emotions, in addition to the use of Wmatrix, the present study also identified the metaphorical uses associated with the top twelve keywords in the corpus. A number of implications have arisen from the lexico-grammatical choices associated with metaphors.

The corpus data shows that emotion lemmas have particular collocational patterns with certain agents. For example, in the semantic field <u>ANXIETY</u>, the words 'jittery' and 'nervous' are often used to describe the investors. The phrase 'jittery investor' also tends to co-occur with words referring to the action of assuaging. The words 'anxiety' and 'distress' are often modified by the adjectives 'financial' and 'economic'. However, the word 'worry' is preferred when describing the emotion of interviewees. In the semantic field <u>FEAR</u>, the lexical item 'fear' tends to co-occur with the phrase 'in the market' to show widespread emotion. Comparatively, the word 'panic' is often followed by action verbs expressing the idea of assuaging and preceded by the adjective 'financial'. As for the semantic field <u>ANXIETY</u>. The findings have provided us with insights into the different reasons for emotions, and the lexical-grammatical choices of particular emotion lemmas in financial news reporting.

Collocations show that synonyms and near-synonyms of emotion words have certain fixedness and focus of conceptualizations. In terms of fixedness of expression, the corpus approach shows that the lexical item 'fear' has a higher degree of fixedness compared with other synonyms or near-synonyms. 'Fear' tends to co-occur with another kind of feeling including greed, uncertainty, shock, confusion and panic. The use of the conjunction 'and' shows that the emotion of fear has an impact on the market but other feelings are also involved. This further supports the notion that emotion words have a strong tendency to co-occur with other words relating to feelings.

Synonyms or near-synonyms of emotion words showed different conceptualizations. With metaphors related to reproduction, the findings reveal that 'fear' tends to be conceptualized as an organism at the reproduction stage whereas 'panic' is conceptualized as an organism at the maturity stage. The metaphors also suggest that 'fear' and 'alarm' have a connotation of infection in the market which could immediately affect a considerable number of investors. In terms of activeness, 'panic' is conceptualized as a more aggressive person who harms investors compared to 'fear'. The metaphor choices show that the word 'panic' is able to describe a higher degree of fright than 'fear'. Findings relating to ORGANISM metaphors show that the word 'fear' carries the semantic prosody of 'duration', 'uncertainty' and 'dominance' whereas the word 'panic' has the semantic prosody of 'devastative' and 'rapid'. The metaphors show that there is a link between metaphor choices and the nature of emotions. In the target domain of ANXIETY, the word 'worry' is more conceptualized as an organism at the stage of highest activeness than 'anxiety', suggesting that 'worry' conveys a stronger sense of anxiety. This finding is different from the dictionary entries that anxiety is intense worry, suggesting that 'worry' conveys a stronger notion of destructiveness than anxiety.

As for target-term absent emotion metaphors related to OPPONENT, the collocations show that metaphors like *assault* and *batter* conceptualize the financial crisis as attackers. However, the metaphor *attack* shows that the governments and investors fight against the financial crisis. The different conceptual roles of near-synonyms show that the word 'attack' carries the semantic prosody of opposing, implying the effort that investors and governments of countries need to make in order to survive the economic crisis. All these findings show that individual lexemes from the same semantic domain may have various metaphorical mappings and bear different semantic prosodies. The comparison of conceptualizations of synonyms or near-synonyms greatly contributes to the systematicity of metaphors. Future studies may explore the relationships of conceptualizations of different kinds of synonyms or near-synonyms.

The corpus findings also reveal that metaphor extension is useful in textual restructuring and in intensifying the force of emotions. Extended metaphors of both kinds - target-term present emotion metaphors and target-term absent emotion metaphors - serve the function of enhancing the force of emotions described and conveyed in the news discourse. Compatible domains such as WAR and OPPONENT further enhance the destructive notion they both convey, restructuring the text and

heightening the vividness of the news articles. Another importance of metaphor extension is that there are specific rules for highlighting and hiding aspects without causing misunderstanding. Therefore, future studies should focus more on the textual analysis of metaphor extensions and their communicative functions. This will further strengthen our understanding of the relationship between the linguistic, conceptual and communicative functions of a metaphor as suggested in Steen's three-dimensional model.

On the basis of the corpus findings, this study also suggests that the scenarios in Kövecses's cognitive model of emotion have a cyclical relationship in financial news discourse. Metaphors conceptualizing emotion in news reports tend to refer to the arousal of negative emotions and their effects on the activity and performance of the market rather than the triggering of a behavioural response. Hence, this study proposes that Kövecses's cognitive model of emotion should take discursive factors into account. Also, the collocational patterns associated with lexical items of emotion demonstrate that the causes of fear, anger and anxiety are the same as their influences, that is, the negative emotions affect the reactions of investors and so stock market performance. The downward stock market performance can further intensify the negative emotions. Thus, this study suggests that Kövecses's five scenarios of emotion have a cyclical relationship.

8.2 Limitations of Wmatrix

The present analysis started with the annotation tool Wmatrix 2.0, which classified different single words or short phrases into various semantic fields. This tool undoubtedly offers great convenience for researchers in conducting semantic analysis or metaphor study through identification of metaphor uses in concordance lines of words. Yet the researcher is fully aware of limitations related to the software suite.

First, the software suite can generate concordance lines only when a corpus size is smaller than 200,000 words, so a big corpus has to be split up. Also, the annotation of words in the corpus is not fully accurate. In some situations the software is unable to identify the semantic meaning of the words in a particular context. Given the polysemous nature of lexical items, some carry the notion of emotion in a literal sense, whereas some carry meanings other than emotion in the context. However, polysemous words which are assigned to semantic fields can be miscategorized. Another limitation of the software is that, although it appears that the function of semantic annotation can enhance the comprehensiveness of the analysis, the findings reveal that when words in the corpus are assigned to semantic fields, a number of words with similar semantic meanings may be left out. Some weather-related words from the corpus were classified as belonging to the semantic field of FEAR, but it is surprising to find that a great number of disaster-related words were left out in this semantic field. This is probably because in the English lexicon, we have EMOTION IS WEATHER but not EMOTION IS DISASTER. In addition, a number of opponent-related words were assigned to the semantic field of ANGER, but some words related to physical attack were left out in this semantic field. Hence, to remedy the above limitations, concordance lines associated with each emotion word were carefully scrutinized to remove wrongly-assigned words. Also, the study further examined the collocations associated with the top ten keywords in the corpus. By finding co-occurring collocations, more metaphors related to DISASTER and OPPONENT were identified and these contribute to the area of how target-term absent emotion metaphors help express negative emotions in financial news texts.

8.3 Recommendations

The present study offers a few suggestions in relation to emotion metaphor study, economic metaphor study and the software suite Wmatrix.

8.3.1 Suggestions for emotion metaphor study

Future research can contribute to the area of mixed metaphors. It would be useful to investigate how different types of source domains help intensify the force of one another in different types of discourse. More studies of metaphors in different genres will also further prove the cyclical relationship in Kövecses's five-stage emotion scenario and the importance of discursive factors in his cognitive model of emotion.

In addition, emotion metaphor study should also break with the tradition of examining the primary emotions and conceptual mappings with the emotion terms relating to these primary emotions. Future emotion study could investigate other secondary emotions or feelings such as anxiety, hatred and shock through the corpus-based approach. It would be useful to understand the whole emotion concept by comparing metaphors associated with different kinds of primary and secondary emotions. Future emotion metaphor study can also further contribute to the link between target-term present emotion metaphors and target-term absent emotion metaphors. This line of study will be useful in finding out how target-term present emotion metaphors and target-term absent emotion metaphors complement each other in describing and expressing emotions in texts.

8.3.2 Suggestions for economic metaphor study

Future economic metaphor studies can be conducted from a wide range of perspectives. For example, researchers could consider conducting diachronic studies. It would be interesting to compare the conceptualizations of metaphors in different financial crises such as the Great Depression of 1930 and the Asian financial crisis of 1997. The synchronic study of economic metaphors would also be useful. Future research could compare news reports of the global financial crisis written in countries apart from the United States, such as Middle Eastern countries. This would be a great contribution to studies of finance. In terms of metaphor use, the preference
of particular types of source domains for conceptualizing the financial crisis will also offer cultural significance.

8.3.3 Suggestions for Wmatrix

As discussed in Section 6.3.2, one of the problems of Wmatrix tool 2.0 is that it can classify NATURAL FORCE metaphors into semantic fields of emotion like <u>FEAR</u> and <u>ANGER</u>, but it is not completely accurate. Polysemic words can have meanings in different semantic fields. In fact, it is hard to classify words from other semantic fields into the field of emotion. From the list of metaphors describing and conceptualizing emotions that are suggested by Goatly (2011a), it is also concluded that emotion is a complicated semantic domain to be annotated because lexical items of different semantic fields can be utilized to describe emotions. Therefore, to provide a complete word list for fear, anger and anxiety and to prevent confusion, I suggest that Wmatrix tool 2.0 should exclude all disaster and warfare terms from the semantic word lists of fear and anger. Rather, disaster and warfare terms should be more fully classified into another sub-category of the semantic field emotion: General (E1). Future techniques may solve these technical problems to enhance the convenience of using the software.

Word	Semtag	Frequency	Relative
			Frequency
hit	E3-	320	0.03
turmoil	E3-	207	0.02
toxic	E3-	105	0.01
aggressive	E3-	89	0.01
anger	E3-	62	0.01
angry	E3-	62	0.01
threat	E3-	62	0.01
battered	E3-	60	0.01
fallout	E3-	51	0.01
force	E3-	50	0.01
attacks	E3-	44	0.00
threatened	E3-	43	0.00
aggressively	E3-	41	0.00
attack	E3-	39	0.00
hitting	E3-	33	0.00
threatening	E3-	32	0.00
unrest	E3-	32	0.00
threatens	E3-	27	0.00
outrage	E3-	22	0.00
violence	E3-	21	0.00
beleaguered	E3-	20	0.00
violent	E3-	20	0.00
tumult	E3-	19	0.00
grappling	E3-	18	0.00
tumultuous	E3-	18	0.00
abuse	E3-	16	0.00
fierce	E3-	16	0.00
threaten	E3-	15	0.00
brutal	E3-	14	0.00
vicious	E3-	14	0.00
pinch	E3-	12	0.00
whip	E3-	12	0.00
disruptions	E3-	11	0.00
hits	E3-	11	0.00
come at	E3-	10	0.00
kick in	E3-	10	0.00
pummeled	E3-	10	0.00
tailspin	E3-	10	0.00
abusive	E3-	9	0.00
angered	E3-	9	0.00
clobbered	E3-	9	0.00
disruption	E3-	9	0.00
pinched	E3-	9	0.00

Appendix 1. Wmatrix annotation list: Anger (E3-)

attacked	E3-	9	0.00
furious	E3-	9	0.00
mayhem	E3-	9	0.00
punch	E3-	9	0.00
threats	E3-	8	0.00
assault	E3-	7	0.00
clash	E3-	7	0.00
revenge	E3-	7	0.00
abuses	E3-	6	0.00
battering	E3-	6	0.00
beaten_up	E3-	6	0.00
grapple	E3-	6	0.00
outraged	E3-	6	0.00
rampant	E3-	6	0.00
rebellion	E3-	6	0.00
combative	E3-	5	0.00
comes_at	E3-	5	0.00
crimp	E3-	5	0.00
disturbances	E3-	5	0.00
rage	E3-	5	0.00
riots	E3-	5	0.00
smacks	E3-	5	0.00
spiked	E3-	5	0.00
came_at	E3-	4	0.00
crimping	E3-	4	0.00
grappled	E3-	4	0.00
incensed	E3-	4	0.00
kicks_in	E3-	4	0.00
lashed_out	E3-	4	0.00
slapped	E3-	4	0.00
agitation	E3-	3	0.00
angrily	E3-	3	0.00
bloodbath	E3-	3	0.00
clashes	E3-	3	0.00
clout	E3-	3	0.00
cruel	E3-	3	0.00
disruptive	E3-	3	0.00
exasperation	E3-	3	0.00
fiercer	E3-	3	0.00
tury	E3-	3	0.00
galling	E3-	3	0.00
hotly	E3-	3	0.00
KICK	표3-	3	0.00
KICKING	王 3 -	3	0.00
muscled	표3-	3	0.00
polson	ビス- モン	3	0.00
recriminations	E3-	3	0.00

slapping E3- 3 0.00 swat E3- 3 0.00 vexed E3- 3 0.00 vexing E3- 3 0.00 wrath E3- 3 0.00 Cross E3- 2 0.00 afire E3- 2 0.00 angering E3- 2 0.00 anoyed E3- 2 0.00 assaulted E3- 2 0.00 black-and-blue E3- 2 0.00 boisterous E3- 2 0.00 coming_at E3- 2 0.00 coming_at E3- 2 0.00 crimped E3- 2 0.00 disturbance. E3- 2 0.00 ferocious E3- 2 0.00 fight_back E3- 2 0.00 fight_off E3- 2 0.00 force_firms E3- 2 0.00 furiously E3-
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fight_backE3-20.00fight_offE3-20.00flaringE3-20.00force_firmsE3-20.00furiouslyE3-20.00grapplesE3-20.00
fight_offE3-20.00flaringE3-20.00force_firmsE3-20.00furiouslyE3-20.00grapplesE3-20.00
flaring E3- 2 0.00 force_firms E3- 2 0.00 furiously E3- 2 0.00 grapples E3- 2 0.00
force_firms E3- 2 0.00 furiously E3- 2 0.00 grapples E3- 2 0.00
furiously E3- 2 0.00 grapples E3- 2 0.00
grapples E3- 2 0.00
In a mood $E3-2$ 0.00
infuriated E3- 2 0.00
invasive E3- 2 0.00
irritability E3- 2 0.00
irritated E3- 2 0.00
irritating E3- 2 0.00
irritation E3- 2 0.00
kicked E3- 2 0.00
kicked in E3- 2 0.00
knocked out E3- 2 0.00
muscling E3- 2 0.00
nip E3- 2 0.00
peeved E3- 2 0.00
pinching E3- 2 0.00
poisoned E3- 2 0.00
poisonous E3- 2 0.00
pummel E3- 2 0.00
punches E3- 2 0.00
punching E3- 2 0.00
raged E3- 2 0.00
rankles E3- 2 0.00
rattled E3- 2 0.00

retaliation	E3-	2	0.00
rioted	E3-	2	0.00
savaged	E3-	2	0.00
seethed	E3-	2	0.00
smack	E3-	2	0.00
sock	E3-	2	0.00
socked	E3-	2	0.00
sore point	E3-	2	0.00
stab	E3-	2	0.00
strife	E3-	2	0.00
struck_out	E3-	2	0.00
to-do	E3-	2	0.00
tussling	E3-	2	0.00
unrest.	E3-	2	0.00
vehement	E3-	2	0.00
vengeance	E3-	2	0.00
vengeful	E3-	2	0.00
whack	E3-	2	0.00
whacked	E3-	2	0.00
wrangle	E3-	2	0.00
acrimonious	E3-	1	0.00
aggressiveness	E3-	1	0.00
altercations	E3-	1	0.00
angers	E3-	1	0.00
angrier	E3-	1	0.00
angriest	E3-	1	0.00
angry.	E3-	1	0.00
annoyance	E3-	1	0.00
annoying	E3-	1	0.00
annoys	E3-	1	0.00
apoplectic	E3-	1	0.00
bait	E3-	1	0.00
bash	E3-	1	0.00
bashing	E3-	1	0.00
batter	E3-	1	0.00
beat-up	E3-	1	0.00
bedeviled	E3-	1	0.00
belligerent	E3-	1	0.00
belting	E3-	1	0.00
bludgeon	E3-	1	0.00
bludgeoned	E3-	1	0.00
booted	E3-	1	0.00
brawl.	E3-	1	0.00
bristled	E3-	1	0.00
brutality	E3-	1	0.00
brutally	E3-	1	0.00
bugging	E3-	1	0.00

bullied	E3-	1	0.00
cantankerous	E3-	1	0.00
clashed	E3-	1	0.00
clashing	E3-	1	0.00
claw	E3-	1	0.00
clawed	E3-	1	0.00
clobbering	E3-	1	0.00
countermove	E3-	1	0.00
crimps	E3-	1	0.00
cruelest	E3-	1	0.00
cruelty	E3-	1	0.00
disturbance	E3-	1	0.00
driving_crazy	E3-	1	0.00
dust-up	E3-	1	0.00
embittered	E3-	1	0.00
enraged	E3-	1	0.00
exasperated	E3-	1	0.00
feuds	E3-	1	0.00
fiercest	E3-	1	0.00
force_companies	E3-	1	0.00
fracas	E3-	1	0.00
harass	E3-	1	0.00
indignation	E3-	1	0.00
infuriating	E3-	1	0.00
irascible	E3-	1	0.00
ire	E3-	1	0.00
irked	E3-	1	0.00
kicks	E3-	1	0.00
knocked_around	E3-	1	0.00
lashing_out	E3-	1	0.00
livid	E3-	1	0.00
losing_his_temper	E3-	1	0.00
losing_patience_with	E3-	1	0.00
lubber	E3-	1	0.00
morose	E3-	1	0.00
mutiny	E3-	1	0.00
nipped	E3-	1	0.00
pelted	E3-	1	0.00
persecuted	E3-	1	0.00
pesky	E3-	1	0.00
petulant	E3-	1	0.00
pique	ビ ス 一	1	0.00
poisoning	ビ ス 一	1	0.00
роке	ビス- ロン	1	0.00
рокеа	ビ ス 一	1	0.00
pugnacious	ビ ス 一	1	0.00
quarreis	년 3 -	Ţ	0.00

rages	E3-	1	0.00
ram	E3-	1	0.00
rampage	E3-	1	0.00
rebellions	E3-	1	0.00
recrimination	E3-	1	0.00
retribution	E3-	1	0.00
rigors	E3-	1	0.00
rioters	E3-	1	0.00
run over	E3-	1	0.00
sadistic	E3-	1	0.00
seething	E3-	1	0.00
showdown	E3-	1	0.00
showdowns	E3-	1	0.00
slap	E3-	1	0.00
slug	E3-	1	0.00
smacked	E3-	1	0.00
smacking	E3-	1	0.00
snit	E3-	1	0.00
spite	E3-	1	0.00
storm-tossed	E3-	1	0.00
strong-arm	E3-	1	0.00
take_out_on	E3-	1	0.00
temperamental	E3-	1	0.00
threat.	E3-	1	0.00
threatened.	E3-	1	0.00
thumping	E3-	1	0.00
tortured	E3-	1	0.00
torturing	E3-	1	0.00
tough	E3-	1	0.00
trampled	E3-	1	0.00
tussle	E3-	1	0.00
vehemently	E3-	1	0.00
venom	E3-	1	0.00
violently	E3-	1	0.00
wallop	E3-	1	0.00
walloped	E3-	1	0.00
walloping	E3-	1	0.00
whacks	E3-	1	0.00
wild	E3-	1	0.00
wrangled	E3-	1	0.00

Word	Semtag	Frequency	Relative
	-		Frequency
fear	E5-	308	0.03
panic	E5-	156	0.02
fears	E5-	154	0.02
fearful	E5-	50	0.01
feared	E5-	45	0.00
afraid	E5-	35	0.00
scared	E5-	33	0.00
scary	E5-	28	0.00
spooked	E5-	22	0.00
alarm	E5-	21	0.00
panicked	E5-	21	0.00
frightened	E5-	20	0.00
alarming	E5-	19	0.00
fearing	E5-	18	0.00
alarmed	E5-	16	0.00
frightening	E5-	16	0.00
scare	E5-	16	0.00
panicky	E5-	13	0.00
panics	E5-	11	0.00
shy	E5-	10	0.00
terror	E5-	9	0.00
angst	E5-	8	0.00
formidable	E5-	6	0.00
panicking	E5-	6	0.00
chilling	E5-	5	0.00
daunting	E5-	5	0.00
nerve-racking	E5-	5	0.00
fear.	E5-	4	0.00
terrified	E5-	4	0.00
trepidation	E5-	4	0.00
dread	E5-	3	0.00
panic-stricken	E5-	3	0.00
panic.	E5-	3	0.00
scaring	E5-	3	0.00
taken_aback	E5-	3	0.00
timid	E5-	3	0.00
alarmingly	E5-	2	0.00
eerie	E5-	2	0.00
flinch	E5-	2	0.00
frighten	E5-	2	0.00
funk	E5-	2	0.00
horrified	E5-	2	0.00

Appendix 2. Wmatrix annotation list: Fear (E5-)

intimidation	E5-	2	0.00
psyches	E5-	2	0.00
quake	E5-	2	0.00
scare off	E5-	2	0.00
scariest	E5-	2	0.00
shake up	E5-	2	0.00
terrifying	E5-	2	0.00
alarmist	E5-	1	0.00
awestruck	E5-	1	0.00
chicken	E5-	1	0.00
cowardice	E5-	1	0.00
cowards	E5-	1	0.00
dastardly	E5-	1	0.00
eye-opener	E5-	1	0.00
eye_opener	E5-	1	0.00
foghorn	E5-	1	0.00
foreboding	E5-	1	0.00
freaking_out	E5-	1	0.00
freaks_out	E5-	1	0.00
fright	E5-	1	0.00
frighteningly	E5-	1	0.00
frightens	E5-	1	0.00
horrifying	E5-	1	0.00
horrors	E5-	1	0.00
intimidated	E5-	1	0.00
menace	E5-	1	0.00
nightmarish	E5-	1	0.00
panic_situation	E5-	1	0.00
panicked.	E5-	1	0.00
pent-up	E5-	1	0.00
quaked	E5-	1	0.00
quaking	E5-	1	0.00
scared.	E5-	1	0.00
scared_stiff	E5-	1	0.00
scares	E5-	1	0.00
scarily	E5-	1	0.00
scary.	E5-	1	0.00
shaken_up	E5-	1	0.00
shakes_up	E5-	1	0.00
shied	E5-	1	0.00
shies	E5-	1	0.00
shying	E5-	1	0.00
stunning	E5-	1	0.00
take_their_breath_away	E5-	1	0.00
timidity	E5-	1	0.00
took_my_breath_away	E5-	1	0.00
traumatized	E5-	1	0.00

Word	Semtag	Frequency	Relative
			Frequency
troubled	E6-	357	0.04
worried	E6-	228	0.02
concerns	E6-	180	0.02
concern	E6-	165	0.02
concerned	E6-	140	0.01
trouble	E6-	126	0.01
worry	E6-	116	0.01
worries	E6-	105	0.01
troubles	E6-	104	0.01
distressed	E6-	100	0.01
stress	E6-	89	0.01
anxiety	E6-	81	0.01
nervous	E6-	62	0.01
distress	E6-	39	0.00
anxious	E6-	36	0.00
under_pressure	E6-	29	0.00
worrying	E6-	24	0.00
care	E6-	21	0.00
troubling	E6-	21	0.00
worrisome	E6-	20	0.00
jittery	E6-	18	0.00
unease	E6-	14	0.00
unnerved	E6-	13	0.00
tension	E6-	11	0.00
jitters	E6-	10	0.00
nervousness	E6-	10	0.00
skittish	E6-	10	0.00
tensions	E6-	9	0.00
malaise	E6-	8	0.00
on_edge	E6-	8	0.00
stresses	E6-	8	0.00
tense	E6-	8	0.00
desperation	E6-	7	0.00
anxieties	E6-	6	0.00
hard-pressed	E6-	6	0.00
qualms	E6-	6	0.00
uneasy	E6-	6	0.00
wrenching	E6-	6	0.00
concerned_with	E6-	5	0.00
fretting	E6-	5	0.00
insecure	E6-	5	0.00
bother	E6-	4	0.00

Appendix 3. Wmatrix annotation list: Anxiety (E6-)

stressed	E6-	4	0.00
worried.	E6-	4	0.00
anxiously	E6-	3	0.00
apprehension	E6-	3	0.00
apprehensions	E6-	3	0.00
concern.	E6-	3	0.00
edgy	E6-	3	0.00
uneasiness	E6-	3	0.00
afflicts	E6-	3	0.00
apprehensive	E6-	3	0.00
carefree	E6-	3	0.00
cares	E6-	3	0.00
caring	E6-	3	0.00
disheartening	E6-	3	0.00
dismay	E6-	2	0.00
disturbing	E6-	2	0.00
nervously	E6-	2	0.00
rack	E6-	2	0.00
racked	E6-	2	0.00
roiled	E6-	2	0.00
stressful	E6-	2	0.00
unnerves	E6-	2	0.00
unnerving	E6-	2	0.00
unsettle	E6-	2	0.00
unsettling	E6-	2	0.00
afflicted	E6-	1	0.00
afflicting	E6-	1	0.00
anguish	E6-	1	0.00
antsy	E6-	1	0.00
bothering	E6-	1	0.00
bothers	E6-	1	0.00
brooding	E6-	1	0.00
concerned.	E6-	1	0.00
consternation	E6-	1	0.00
disconcerting	E6-	1	0.00
disconcerting.	E6-	1	0.00
dismayed	E6-	1	0.00
disturbing.	E6-	1	0.00
dogged	E6-	1	0.00
exasperating	E6-	1	0.00
faze	E6-	1	0.00
finicky	E6-	1	0.00
flustered	E6-	1	0.00
fretful	E6-	1	0.00
hang-ups	E6-	1	0.00
jitteriness	E6-	1	0.00
jumpiness	E6-	1	0.00

jumpy	E6-	1	0.00
looked worried	E6-	1	0.00
looking worried	E6-	1	0.00
malaise.	E6-	1	0.00
perturbed	E6-	1	0.00
skittishness	E6-	1	0.00
stress-related	E6-	1	0.00
stressed_out	E6-	1	0.00
suspense	E6-	1	0.00
trouble.	E6-	1	0.00
unhinged	E6-	1	0.00
unnerve	E6-	1	0.00
world_on_his_shoulders	E6-	1	0.00
worrier	E6-	1	0.00
worrywart	E6-	1	0.00

Appendix 4a. Concordance lines: FEAR with the source domain HUMAN

1. September. Dow Gains 401 Points in Day of Wild Swings For once, fear fled the markets at 3 p.m. An hour that has become known for its hea 2.ort President Barack Obama's efforts to repair the economy because fear is dominating people's behavior, and the economy has basically foll 3.ing market swings. A rising VIX is usually regarded as a sign that fear, rather than greed, is ruling the market. The higher the VIX goes, 4.ss of fear" that must be broken to reverse the economic downturn. "Fear begets fear," Lawrence Summers, the president's director of the Nat 5.tners, investors or customers. As a result, rumor, speculation and fear can cripple a bank with shocking speed. That has reporters and edit 6., °Band make this better. ® Nation Is Financial Industry Gripped by Fear By BEN WHITE and JENNY ANDERSON Published: September 14, 2008 Fear 7. act like I do." Danger lies in the fear of asking guestions. That fear is helping to ruin people and destroy our economy. Many sophisticat 8. roadside diner here, Gus Thermenos can hear and feel the financial fear gripping his customers. They stop in less often these days, he said 9. he economy." Sieminski said that the oil markets were stricken by fear that the problems of big financial institutions would start to spre 10.e market is a real mess right now, fundamentals do not count, and fear and greed rules. ® Big Financiers Start Lobbying for Wider Aid By J 11. side the great banking houses, those high temples of capitalism, fear came to the fore this weekend. As Lehman Brothers, one of oldest na 12.tter to be liquid now. But then again, maybe not. Uncertainty and fear rule. Frankly, I don°¶t know the answer. I just know that for a lon 13. an initial sense of relief swept markets in Asia and Europe, the fear quickly returned. Tensions remained so high that the Federal Reserv 14. figure has told us not to spend. But people are scared, and that fear is showing up in lower sales on all sorts of big-ticket items, from 15.ich banks hold how much in unwanted asset-backed securities. "The fear is universal and indiscriminate. Investors are making the panicky, 16.our stock" and that "we're in the midst of a market controlled by fear and rumors, and short sellers are driving our stock down," accordin 17. investors are by a series of events unlike any they can remember. Fear of Deflation Lurks as Global Demand Drops As dozens of countries sl 18.heir daily operations. Some economists worry that a psychology of fear has gripped investors, not only in the United States but also in Eu 19.bal Security Research Institute at Keio University in Japan, said fear had taken over as the main driver of the crisis. The current situat 20.ck in people's pockets that they can spend on something else." As Fear Gripped Markets, Even Reliable Mutual Fund Strategies Didn't Work B 21.of offering concrete steps to backstop bank lending on a day when fear tightened its grip on investors from Wall Street to Hong Kong. Trea 22.if either firm couldn° It pay money they owed °X or do both. It was fear, not greed, that was driving everyone's actions. Breaking the Buck 23. Up to Japan° Is Economy TOKYO °X A new emotion is gripping Tokyo: fear. The world's second-largest economy had seemed enviably immune from 24. hope to financial markets and investors. "Freed from such stark fears, such as depression or something like it, stocks should rise," Lor 25. Alvaro Uribe. This week at the United Nations, he sought to calm fears among foreign leaders. On Wednesday, however, press secretary Dana 26. ns of ending -- and could even be accelerating -- as unrelenting fears of a worldwide credit freeze have stocks in the grasp of one of th 27. two said they struggled to support the bill because of lingering fears that it will do too little to help working-class constituents faci 28.1y got worse, as worries about Eastern European banks gave way to fears that the United States would have to take over major financial ins 29.nd, like J. P. Morgan himself, he is capitalizing on the fear and panic that can grip the markets to expand his banking empire. Mr. Dimon 30.to 22%. The key underpinning of this outlook is a belief that the panic that gripped investors around the globe last year will begin to ea 31.w was the time to send a stronger signal to restore confidence in **panic**-stricken financial markets. Reports in the Japanese media earlier 32.d speculators and said there was not much OPEC could do. But now, panic is gripping producers as prices drop. Oil is down by half since Ju 33.y recent standards, Tuesday was a placid day on Wall Street, with panic giving way to a sense of stability and light profit taking leaving 34. vestors. °BThere is no reason to be frightened and to give in to panic,' the governor of the Bank of France, Christian Nover said in an i making money. "It's a very savvy strike by Buffett into a very panic-stricken marketplace," says Jeff Matthews, a hedge fund manager, b 35. 36. that °Breal estate transactions have stagnated. °® The sense of panic has fed a new urgency on the part of government. Prime Minister Ta

Appendix 4b. Concordance lines: FEAR with the source domain PLANT

1. ahead and sell some more.; In another signal of growing investor fear, gold prices rose \$25.70, to \$1,001.80 an ounce, as investors ran 2.here we need to be right now. ® The crisis on Wall Street has sown 3.point where bank-to-bank lending nearly ceased. There were growing fears that banks would hold tight to their dollars and starve the econom 4.kets fall Stock markets around the world plunged Monday on growing fears of a global economy in trouble: NationIndexChange RussiaMICEXv 18. 5. market suffered its worst rout in seven years Monday amid growing fears that the credit crunch is entering a more dangerous phase. With a 6.presentatives rejected a rescue for the financial industry Monday, fears grew that more banks, particularly small and midsize lenders, coul 7. commodity exporters are potentially subject to currency crises.; Fears are growing that a much broader group of countries will plunge int 8. fellow financiers at his Manhattan mansion amid growing financial panic and declared, 'This is where the trouble stops.' Last weekend, one 9.11 personal bank deposits was made to avoid a full-blown financial panic and had nothing to do with Hypo, which has no retail branches and 10.omies vowed Saturday to work together to stop a growing financial panic, but they failed to offer a systemwide answer to a credit crisis t 11. countries, however, are watching the falling prices with growing alarm. The president of OPEC, Chakib Khelil , told Algerian television i 22. and European stock markets were down sharply Monday amid growing alarm, parsing their words with unusual care. So in most of the news, st

Appendix 4c. Concordance lines: FEAR with the source domain ANIMAL

1.ptcy. Around the world, fears of recession have <u>fed a stock market</u> panic, as worries about toxic assets spread from the financial sector t 2.ancial crisis has been allowed to morph into a <u>full-fledged global</u> panic. It's a very dangerous situation. The danger is that instead of h

Appendix 4d. Concordance lines: FEAR with the source domain WIND

1. ress gallery, the debate was in full swing. It was clear that the **fear** <u>sweeping Wall Street</u> had finally reached Congress. Fear [°]X fear o 2.At 3. p.m., Mr. Paulson alled a meeting to brief the participants. **Fears** were <u>swirling</u> about troubles gripping financial companies. A.I.G

Appendix 4e. Concordance lines: FEAR with the source domain FIRE

1.ornia thrift, so journalists are more aware of the risk of <u>stoking</u> fear [°]X and the risk of being blamed. Journalists say there is a narrow 2.y of contagion [°]X that the Lehman bankruptcy might <u>set off</u> so much fear among investors that the market [°]Bwould pivot to the next weakest 3.an: "Like the Iraq war and the Patriot Act, **this bill** is <u>fueled on</u> 4. rnia thrift, so journalists are more aware of the risk of <u>stoking</u> fear [°]X and the risk of being blamed. Journalists say there is a narrow 5. first time that his country would tumble into recession, <u>sparking</u> fear [°]X and the risk of being blamed. Journalists say there is a narrow 6.en off remarkably. [°]® Bank Limits Fund Access by Colleges, <u>Inciting</u> fears that also helped drive the euro to \$1.28, a two-year low. That i 6.en off remarkably. [°]® Bank Limits Fund Access by Colleges, <u>Inciting</u> fears By SAM DILLON and KATIE ZEZIMA Published: October 1, 2008 In a mo 7.ed the public that the bank had ample capital. Bleak Numbers <u>Stoke</u> fears of Recession in Europe By DAVID JOLLY Published: October 14, 20 8.h bankruptcy experience to advise it on the restructuring, <u>stoking</u> fears of a deep, lingering economic slump that would stifle energy dem 10.iant AIG. Some experts say the failure to rescue Lehman <u>set off</u> a 11.for months, meaning its fall was less likely to **spark** a financial **panic**. And Lehman has had access to funds from the Fed under a lending 12. is overseeing the vaporization of a \$46 billion company, **stoking panic** through the economy and putting taxpayers on the hook, Lehman Br 13.ting a demand for shares that has been absent since the financial **panic** <u>broke out</u> last fall. Richard Bernstein, chief investment strateg 14.hether the government is able to dismantle AIG without **sparking** a **panic**. Second, it's a question of whether it can do so without losing

Appendix 4f. Concordance lines: FEAR with the source domain WATER

1.sses and the constant drone of 24-hour cable news shows instilling fear, if not outright panic, in even the stoutest of hearts, economist 2.. On Friday, the uncertainty surrounding Lehman sent a new wave of fear rippling through the markets. Federal Reserve officials convened 3.at have become the trademark of a market adrift in uncertainty and fear. With half an hour to go in the session, it looked as if Wall Str 4. ave that "is out of control." He says the incidents have instilled fear among his employees. "It's not just about the money," he says. "W 5. make the investment to develop their fields to full potential for fear of flooding the market (another reaction to low prices). For simi 6.elaying passage of the rescue plan, which in turn may stir renewed fear in the markets. Treasury Secretary Henry M. Paulson Jr. was worki 7.full faith and credit of the United States government can stem the fear. Why did the magic wrought by J. P. Morgan (the banker, not the b 8.rrhaging jobs. A market-oriented government struggling to stem the panic. Sound familiar? It does to Sweden. The country was so far in ho 9. sion and hammered out a rescue plan. After a few rocky weeks, the panic subsided. In 1907, Morgan was not only committing some of his mo 10. involvement in the economy. But it hasn't been enough to stem the Panic of 2008. Thursday, in its seventh consecutive decline, the Dow s 11. other hand, even financial boy scouts can be caught off guard as panic and broken trust continue to ripple through global markets and a 12.day, with trading in Russia and Brazil halted to stem an investor panic. 'It looks pretty ugly down the road,' said Simon Johnson, an ec 13.1-emerging problem. The government's actions **stemmed** the market's **panic** in the fall, but it did not succeed in stabilizing the industry, 14., this much was clear: Any hope that the AIG bailout would stem a panic in the financial markets was quickly dashed as the stock market 15.s failed, ordinary people stood to lose huge sums, stirring wider panic. Meanwhile, shares of Morgan Stanley and Goldman Sachs Group, th 16.had a central bank, a lone financier was able to stem a financial panic. In 1907, amid bank runs, sinking stock values and recession, J. 17. sued the verdict that launched the salvage effort and stemmed the panic: "This is the place to stop the trouble then." Ron Chernow, Morg 18.s. A hedge fund manager in New York bluntly conveyed the sense of panic that has coursed through Wall Street in recent weeks. Essentiall 19.t didn°¶t matter what you had °X you sold. ® Frustration, and then panic, coursed through the markets. Investors feared the decision in W

Appendix 4g. Concordance lines: FEAR with the source domain OBJECT

1.downward pressure on economic activity in two ways. First, they put fear into the hearts of depositors. Many people concluded that cash in 2.d was at the heart of today° Is market paralysis. "That's where the fear builds in and makes for totally illiquid markets," he said. "Where 3.ca. Some local governments have also benefited. Summers: <u>'Excess of</u> fear' about economy must be broken Updated 3/13/2009 WASHINGTON (AP) P 4.'t really understand; I'd better act like I do." Danger lies in the fear of asking questions. That fear is helping to ruin people and dest 5. rose to 0.1 percent, although this remained near last week°Is lows. Fear was much <u>less pronounced</u> in the stock market, where investors see 6.Management. °BThe government plan is about tamping down Wall Street fear and bringing back Wall Street greed to pursue profit-making opport 7.n the way many of its candidates campaigned this year, substituting fear-mongering for sound ideas. And it is evident in the difficulty th 8.r says the crisis in the financial sector has led to an "excess of fear" that must be broken to reverse the economic downturn. "Fear bege 9.Fear By BEN WHITE and JENNY ANDERSON Published: September 14, 2008 Fear and greed are the stuff that Wall Street is made of. But inside t 10.st with the failing Wachovia Bank, told Myrick: "I have never seen fear in people's eyes that I see now, except when I was in the World 11. this through. It would have been scandalous," he said yesterday. 'Fear in People's Eyes' That night, Senate Majority Leader Harry M.Reid

12.hore up the credit markets. "The only thing we have to fear is the **fear-mongering**," said Rep. Louis Gohmert (R-Tex.), who voted against t 13.ht never trust a money market fund again."Stocks dive: **Snowballing fears on Street** set us up for a fall 17 Sep 2008 By Adam Shell, Matt K

Appendix 4h. Concordance lines: FEAR with the source domain SOUND

1.ndicitis, °® he told Mr. Shiller. All around me, I hear the sounds of panic. Some things, it turns out, never change. Investing Like Buffet,

Appendix 4i.Concordance lines: FEAR with the source domain EXPLOSION

1.Los Angeles. After a stock market rout in Asia and Europe, an early panic erupted in U.S. trading. "There's absolutely no industry right no

Appendix 4j. Concordance lines: FEAR with the source domain MIXTURE

1.gton area business school professors and students said <u>a mixture of</u> fear, confusion, outrage and nervous hope has swept lecture halls and 2.istinctions. From Europe; s former Communist bloc to South America, fear and disbelief mingled with frustration that a breakdown in the U

Appendix 4k. Concordance lines: FEAR with the source domain DISEASE

1.y is merely needed to balance the books. They are now **plagued by** the **fear** that the borrowing banks simply lack money. "Are you borrow mone 2overnor now at Stanford Financial Group, says there is a **contagion of fear** as people realize it's not just the U.S. economy that is in trou 3or **most people** is that they are driven by **contagious** emotions (greed, **fear**, attachment to stocks) rather than by reason. It may work well f 4 The value of Hungary's rescue package has not been specified. Still, **alarm** about Hungary and Ukraine has **infected** Poland. A week ago, peop

Appendix 5a. Concordance lines: ANXIETY with the source domain HUMAN

1.J and MICHAEL M. GRYNBAUM Published: September 24, 2008 A new bout of anxiety gripped the credit markets on Wednesday as banks hoarded cas 2a, JPMorgan Chase and Citigroup °X fell more than 10 percent Monday as anxiety gripped markets. Goldman Sachs and Morgan Stanley, which tran 3.iqns of progress on the government° Is bailout. While stocks rose, the anxiety gripping the credit markets barely abated. Banks continued to 4.. It remains at a level that suggests the economy is in recession.New Anxiety Grips Russia; |s Economy By ANDREW E. KRAMER Published: Octob 5 te February 2008 as a repair specialist for Apple, but Verna says her anxiety has lingered. "There were times when you went to sleep think 6.PETER S. GOODMAN Published: March 8, 2009 As the world is seized with anxiety in the face of a spreading financial crisis, the one place h 7. about failing banks and falling real estate prices, and that has fed anxiety in Asian markets. An outflow of Western investment has also 8.entific research company, °Bbut the rest of them go along with them. ® Anxiety on Economy Wins Out By JOE NOCERA Published: October 3, 2008 9. one of oldest names on Wall Street, filed for bankruptcy protection, anxiety over the bank's fate and over what might happen next gripped 10.at George Washington University, who has started to see the economic anxiety show up in his practice. "Younger kids tend to be all-or-not 11.ts of wild swings including the worst single-day loss in two decades **anxiety** still **lingered** among investors who are worried about credit 12.e giants won't fix the credit crunch overnight. Euphoria gave way to anxiety Tuesday amid growing uncertainty as to whether Lehman Brothe 13.h? Mr. Bernanke could not say. That uncertainty added to the gnawing worry gripping the economy. ^oBUltimately, the trajectory of economic 14.d lower, with bank stocks and consumer-oriented companies hobbled by worries about domestic spending and the health of the financial sect 15. 20, 2009 The week on Wall Street started bad and only got worse, as worries about Eastern European banks gave way to fears that the Unit 16.ide a tax agency response by next year. Markets today: Lehman, other worries could wreak havoc 15 Sep 2008 By John Waggoner and Sue Kirch 17. with strong gains on Wednesday morning, but the rally lost steam as worries returned about the extent of harm to the global financial sy 18. lose in New York. But the Asian rally quickly began to lose steam as worries returned about the extent of harm to the global financial st

19.s broke. The assumption was that the banks really would be fine when **worries went away**, and they had to be helped over that temporary hum 20. expected to report a multibillion-dollar loss. The **return** of credit **worries** resulted in the stock market's steepest decline in nearly 19 21.. The Dow Jones industrial average fell 449.36 points, to 10,609.66. **Worries** over financial investments **hammered** even the well-regarded W 22.cent, or 119 points, capping a week in which stocks were **battered by concerns** that parts of the banking sector would be nationalized. Sha

Appendix 5b. Concordance lines: ANXIETY with the source domain PLANT

1. rcent of Americans are worried about paying monthly bills, and the anxiety is growing. Those who are "very worried" about paying their b 2.ng to speak -- not whisper -- the word "depression." In a sign that anxiety is growing, 33% of 1,011 adults surveyed over the weekend by 3. nded from its midday lows Monday, there was no mistaking a growing worry that events now are in the saddle, and may be bound for an unat 4. nt would backstop their obligations. "I think there may be growing concerns about the ability of the government to keep doing all these 5. 350 points in afternoon trading, reflecting Wall Street's growing concerns about the government's ability to revive the banking industr 6. Ilen to the lowest level in five years, unemployment is a growing concern, and scores of factories are closing in the country's export 7. weak credit has lost it. The guy with good credit is paying more." Concern is growing that even if Congress acts, it will take weeks to 8. o hold up in a deteriorating global economic landscape and growing concern over the lack of a coordinated plan to clear the financial sy 9., cautioned the risks of investing in such loans included "growing concern about housing bubbles." Noting the firm could face "higher cr 10. ors Service said it would adjust its ratings to reflect a growing concern that lending practices had become too risky. "Lehman always h 11. ds TSB and the Royal Bank of Scotland. In a sign of their growing concern, the chief executives of these banks met earlier this week wi 12.e federal government might buy into the besieged firm. The growing concern over the fate of Morgan Stanley was evident in the stock mark 13.nce Minister Christine Lagarde said, according to Reuters. Growing worries about European banks put pressure on the euro, which suffered 14. the year, so ... it's a pretty significant finding," Harter says. Worries grew steadily in 2008 before a sharp drop in December, likely 15. Americans' physical, emotional and economic well-being, found that worries about money grew sharply as 2008 progressed: 14 million more 16.to maintain a strong currency during high-level talks this week as worries grow in the United States that Beijing may be exacerbating th 17are. Two weeks ago, shares of Citigroup dropped briefly below \$1 as worries grew about the solvency of major banks and their ability to w 18.ie efforts to break free of the American orbit, there is a growing nervousness that once again Latin America cannot escape the globalize

Appendix 5c. Concordance lines: ANXIETY with the source domain ANIMAL

1.es was relieved when her husband was spared. But she cannot keep her worries <u>at bay</u>. "Of course, whenever he tells me someone got laid of 2. ve been awfully busy in recent days. After all, uncertainty **breeds anxiety**. This week alone, we witnessed the market plunge on Monday, a

Appendix 5d. Concordance lines: ANXIETY with the source domain FIRE

1.nue to increase pressure on businesses far from Wall Street, <u>fueling</u> concerns of reduced spending and future layoffs. "Companies don't ha 2.ould hurt the sustainability of earnings. That could add to <u>earnings</u> concerns <u>ignited</u> by the revelation that Barclays was among the benef 3. 15, 2009; Page D01 NEW YORK, Jan. 14 -- Stocks plunged Wednesday as **anxieties** <u>flared</u> again on Wall Street over slumping retail sales, ri

Appendix 5e. Concordance lines: ANXIETY with the source domain WATER

1. in **a new wave of** bank losses, foreclosures, job losses and **economic anxiety**, Schiff says. Further deterioration in the outlook for econo 2.Today, SEP 23, 2008 Item: J0E426248177908 Buffett **dives into pool of anxiety** Show of confidence could pay off, too Section: Money, Pg. 03 3.r Iraq invaded Kuwait. The continuing volatility is sending <u>waves of</u> **anxiety** up and down the complex production and investment chains of 4. promoted a plan they said would put taxpayers' money at less risk. **Tension** over the competing plans **boiled over** during the White House m

Appendix 5f. Concordance lines: ANXIETY with the source domain OBJECT

1.1 in doubt, and a protracted political battle brewing over its fate, worries are building in the credit markets. Investors took little 2.hat the government had stepped in sooner to stem the crisis. There's nervousness, but people believe in the long-term strength of Fair 3.h100 conservative lawmakers. In an effort to tamp down rank-and-file concerns, Paulson spoke by phone with Hensarling. Hours later, Hensa 4.udget cut proposals are being hashed out. Gandhi sought to tamp down concerns yesterday, saying the budget gap was "not a big deal" and n

Appendix 6a. Concordance lines: ANGER with the source domain FIRE

1.roughly 250 client names, avoiding a criminal indictment but <u>igniting outrage</u> in a country where bank secrecy or bank privacy, as the S 2.ce that has roiled some members of Congress and further <u>stoked</u> public <u>anger</u>. Executives say the payments are justified because few peop

Appendix 6b. Concordance lines: ANGER with the source domain WATER

1.roubled assets from financial institutions generated <u>a wave of</u> public <u>outrage</u> and political maneuvering that nearly derailed the deal t 2.ital into the banks has not yet worked, even if it has <u>stirred</u> public <u>outrage</u> over high pay and perks for the bankers who got us into t 3.rline crackpots; many possess a seemingly <u>inexhaustible wellspring</u> of anger; and few on either side see much worth in reaching out to t 4.n fixed-income and asset management units. Upheaval on Wall St. <u>Stirs</u> Anger in the U.N. UNITED NATIONS - Wall Street and the Bush admin 5.lunt (R-Mo.) led the conversation for two more hours. Frustration and <u>anger</u> kept <u>bubbling up</u> from other ends of the line. Conservatives 6.r its brand, Republican strategists fear that <u>an outpouring of</u> public <u>anger</u> generated by Congress's struggle to pass a rescue package f 7.o serve us,; said Benjamin J. Marrison, editor of The Dispatch. That <u>anger</u> was, for almost everyone, just beneath the surface. "The thi

Appendix 7. The designed survey

Rating of emotion intensity

The aim of this survey is to collect views of native English speakers on a list of metaphors describing emotions.

Each of the following groups consists of a set of statements and a grid. In the sentences, different metaphors (underlined) are used to conceptualize different intensities of emotions. Please read the each sentence and rate the relative emotion intensity described by the metaphor in the grid. Number 1 represents the lowest emotional intensity whereas number 5 represents the highest emotional intensity.

Thank you for your participation in the survey.

Group 1.

a. Strike:

Sieminski said that the oil markets were <u>stricken</u> by fear that the problems of big financial institutions would start to spread and hurt other industries.

b. Ruin:

Danger lies in the fear of asking questions. That fear is helping to <u>ruin</u> people and destroy our economy.

c. Destroy

Danger lies in the fear of asking questions. That fear is helping to ruin people and <u>destroy</u> our economy.

d. Cripple

Each day presents new evidence that finance companies are uniquely vulnerable to a loss of confidence among creditors, trading partners, investors or customers. As a result, rumor, speculation and fear can <u>cripple</u> a bank with shocking speed.

	Emotion Intensity Low>Hiş				
a. strike	1	2	3	4	5
b. ruin	1	2	3	4	5
c. destroy	1	2	3	4	5
d. cripple	1	2	3	4	5

Group 2.

a. Hobble

All sectors finished lower, with bank stocks and consumer-oriented companies *hobbled* by worries about domestic spending and the health of the financial sector.

b. Hammer

Worries over financial investments <u>hammered</u> even the well-regarded Wall Street firms of Goldman Sachs, whose shares fell nearly 14 percent, to \$114.50, and Morgan Stanley, whose shares dropped more than 24 percent, to \$21.75.

c. Wreak Havoc

Markets today: Lehman, other worries could wreak havoc.

d. Kill

"It's not stress that <u>kills</u> us; it is our reaction to it."

	Emotion Intensity Low>High								
a. hobble	1	1 2 3 4 5							
b. hammer	1 2 3 4 5								
c. wreak havoc	1	2	3	4	5				
d. kill	1	2	3	4	5				

Group 3.

a. Wind

U.S. turmoil churns up an ill wind worldwide

b. Whirlwind

It has been a *whirlwind* year for the financial world, with some of the nation's most iconic institutions falling from distinction to extinction.

c. Storm

At the same time, other European leaders pointed to efforts under way to shelter Europe from *the storm*.

d. Tornado

"How do you forecast unemployment in the middle of <u>a tornado</u>?" asks Richard Yamarone, director of research at Argus Research, noting that he rapidly is becoming more pessimistic given inaction in Congress and the worsening credit crunch.

e. Hurricane

"Yesterday it looked like <u>a Category 4 *hurricane*</u>," said Henk Potts, equity strategist at Barclays Wealth in London.

f. Tsunami

A.I.G. had written \$441 billion in credit insurance on mortgage-related securities whose values have declined; if A.I.G. were to fail, all the institutions that bought the

insurance would have been subject to enormous losses. The ripple effect could have turned into <u>a *tsunami*</u>.

	Emotion Intensity							
	Low>High							
a. Wind	1	2	3	4	5			
b. Whirlwind	1	2	3	4	5			
c. Storm	1	2	3	4	5			
d. Tornado	1	2	3	4	5			
e. Hurricane	1	2	3	4	5			
f. Tsunami	1	2	3	4	5			

Group 4.

a. Hit

While the Asia-Pacific region will be the worst <u>hit</u>, forecast to lose \$1.7 billion this year, airlines in North America were expected to turn a \$100 million profit.

b. Punch

Already one prominent U.S. economist, Dani Rodrik, has pointed out on his blog that the Obama administration's planned economic stimulus would pack a greater <u>punch</u> if the U.S. raised import tariffs to make sure the money is spent here and not on goods from abroad.

c. Attack

Also the Fed so far has wanted to focus on measures that directly <u>attack</u> the source of the crisis, which is unwillingness of financial institutions to lend.

d. Batter

Analysts noted that I.B.M. was well positioned to withstand cyclical swings in business conditions that might <u>batter</u> other companies.

e. Assault

We know that US taxpayers are going to be stuck with the bill for these bailouts, and that it is the middle class, whose jobs have been under <u>assault</u> from Wall Street for 2 decades, which pays the bulk of these taxes.

f. Bludegon

It's highly unlikely that lawmakers will try to extend curbs on financial CEO compensation to other industries. "Congress should nudge the free market, not <u>bludgeon</u> it," Reda says.

	Emotion Intensity							
- TI:4								
a. Hit	1	Z	3	4	5			
b. Punch	1	2	3	4	5			
c. Attack	1	2	3	4	5			
d. Batter	1	2	3	4	5			
e. Assault	1	2	3	4	5			
f. Bludgeon	1	2	3	4	5			

Thanks again for taking time to answer this survey! $\textcircled{\odot}$

Appendix 8. Survey results

A total of ten native speakers were asked to fill in the survey (Appendix 7). The surveys were collected and the ratings of metaphor intensity for each group of words were counted as shown in the following Tables.

Group 1

	Number of respondents (Total =10)						
Intensity Metaphor	1 (lowest)	2	3	4	5 (highest)		
Strike	4	6					
Ruin			1	9			
Destroy			1	1	8		
Cripple			9		1		

Group 2

	Number of respondents (Total =10)						
Intensity Metaphor	1 (lowest)	2	3	4	5 (highest)		
Hobble		8	2				
Hammer		2	8				
Wreak havoc				7	3		
Kill				2	8		

Group 3

	Number of respondents (Total =10)					
Intensity	1 (lowest)	2	3	4	5 (highest)	
Metaphor						
Wind	10					
Whirlwind		7	3			
Storm		7	3			
Tornado			10			
Hurricane				10		
Tsunami					10	

Group 4

	Number of respondents (Total =10)						
Intensity Metaphor	1 (lowest)	2		3	4	5 (highest)	
Hit	9	1					
Punch	1	9					
Attack			6	4			
Batter					10		
Assault				10			
Bludgeon						10	

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