A Corpus approach to figurative expressions of fear in business reports

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1. Introduction

1.1 Global financial crisis 2008

In the global financial crisis 2008, there was a dramatic downturn and tumult in the stock markets, as well as mass job cuts in various sectors worldwide. On September 15, the demise of Lehman Brothers led to upheaval in financial markets. The Dow Jones industrial average plunged by a massive 504 points in one day. While the major Asian exchanges were closed for a holiday, markets in India, Taiwan, Singapore and Australia all dropped sharply. The sluggish market resulted in dropping sales and surging jobless claims. The U.S. retail sales suffered from the greatest decline in December since records started almost 40 years ago, and the Jobless claims spiked to 626,000 in February 2009 (*The Washington Post*, February 5 2009). In news reports about the global financial crisis, some journalists claimed that they tried to tone down the emotion in the news reports.

> This year, the media have been accused of contributing to the collapse of both Bear Stearns and IndyMac, a large California thrift, so journalists are more aware of the risk of stoking fear and the risk of being blamed…In fact, 'panic' heads the list of words that major news organizations have avoided using because they are seen as potentially self-fulfilling. (*The New York Times*, September 22 2008).

But still, metaphorical expressions of negative emotion are found ubiquitous in the news discourse. If metaphor helps motivate the creation of emotion languages (Kövecses, 1995), the recurrent experiential domains relating to various emotion concepts such as fear and panic may provide implications of various conceptualizations and degrees of negative emotion. The current study will investigate the metaphorical expressions relating to emotion in financial news reports. In particular, two emotion concepts *fear* and *panic* under the target domain EMOTION would be in focus. The paper aims to examine how the different highlighting of aspects of emotion concept motivate the choice of source domains, and how different conceptualizations in a shared experiential domain differentiate the two lexemes. The paper is organized as follows: First, the literature review of metaphor and emotion studies provide the basis for this study, followed by a description of data and research methodology. Then, the data collected in this study are presented along with the findings, followed by a discussion of the selected experiential domains.

1.2 Metaphor and emotion

The cognitive theory developed by Lakoff and Johnson (1980) suggests that metaphor is a fundamental cognitive ability relating to the way humans think and speak. It is a pervasive phenomenon for explaining different kinds of experience in the theory in every day life. Because metaphor is a matter of thought and language, there is a clear distinction between linguistic metaphor and conceptual metaphor. The linguistic

metaphor refers to the linguistic expressions realizing the underlying metaphorical concept, conceptual metaphor. To link a specific area of experience and expressions, the conceptual structures from the source domain are metaphorically mapped onto the corresponding ones in the target domain. Different types of metaphors highlight and hide various aspects of the target domain (ibid.). Hence, investigating different highlights in source domains can help explain why one choice of metaphor is preferred to the others.

Through cross-mapping, a certain conceptualization helps explain or motivate a particular type of linguistic expression in recent years such as emotion language (Kövecses, 1995). There has been a growing body of work on emotion metaphors in different languages (Kövecses, 1986; Lakoff and Kövecses, 1987; King, 1989; Matsuki, 1995; Yu, 1995; Maalej, 2007). Lakoff and Kövecses demonstrated that the 'heat' metaphor, especially the HOT FLUID IN A CONTAINER metaphor is an important theme in the English metaphorical system of anger. Yu (1995) studied the counterpart in Chinese and found that Chinese tends to conceptualize anger in terms of gas rather than heat. Matsuki (1995) showed that the anger metaphors in Japanese focus on three main body zones *hara*, *mune*, and *atama* (belly, chest and head) which have an ascending level of anger, suggesting that there is more control of anger in Japanese than that the case in English. This line of studies supports the notion that metaphors help explain or understand human emotional experiences. However, it appears that there is a heavy focus on anger metaphors. The methods used could also apply to the investigation of other emotion concepts, such as fear.

Generally, fear is 'the motivation associated with a number of behaviors that normally occur on exposure to clearly threatening stimuli' (Blanchard, Blanchard, Griebel & Nutt, 2008, p.3). Unlike the other emotion types such as happiness, sadness, disguise, anger and surprise (Ekman, 1972), fear is a future-oriented emotion because of worries about an adverse future event (Ortony, Clore, & Collins, 1988; Lazarus, 1991; De Becker, 1997). Such worries motivate humans to escape from the unpleasant situation or trigger avoidance behavior. If fear is studied from a linguistic perspective, it would be useful to find out how metaphors relating to different lexemes expressing the emotion of fear show different conceptualizations, and how such discrepancies suggest different intensities of fear, as well as the implications for human behavior.

2. Corpus compilation and research methodology

This emotion study is centred around two lexemes: *fear* and *panic*. Defined by Cambridge Advanced Learner's Dictionary (2008), *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' (p.517) whereas *panic* is 'a sudden strong feeling of fear that prevents reasonable thought and action' (p.1028). To reflect the authentic metaphor patterns associated with fear and panic, a corpus-based approach is exploited in this study. The data comprise the news reports on the global financial market crisis in three American broadsheet newspapers, spanning a period of two months from 15 Sep 2008 to 15 Nov 2008. The data set includes *USA Today*, *The New York Times* and *The Washington Post*, and comprises approximately 694,270 words. In compiling the corpus, all the graphs and pictures were deleted to leave entirely plain texts. With the use of WordSmith Tools by M.Scott, a word list of 24053 unique words was created.

Deignan (1999) suggests that a corpus-based approach to metaphors could start by examining the collocational and semantic patterning. Hence, this analysis is based on Sinclair's 'five categories of co-selection' (2004, p.11), especially 'semantic preference' and 'collocation'. Semantic preference refers to 'the restriction of regular co-occurrence to items which share a semantic feature' (ibid.), controlling the 'collocational and colligational patterns' (p.34). Collocations are the word relations. They are 'the co-occurrence of words with no more than four intervening words' (ibid.). The two items are useful for distinguishing literal and metaphorical lines. The uncommon semantic preferences of *fear* and *panic* may imply that there is a metaphorical use of the lexemes. The other items include the 'core', 'semantic prosody', and 'colligation'. 'Core' refers to 'invariable, and constitutes the evidence of the occurrence of the item as a whole' (ibid., p.141). Semantic prosody is 'attitudinal' and 'has a leading role to play in the integration of an item with its surroundings' (ibid., p.34). It 'expresses something close to the 'function' of the item- it shows how the rest of the item is to be interpreted functionally' (ibid.). Colligation is 'the co-occurrence of grammatical phenomena'. Given that the evaluation of the keywords *fear* and *panic* is negative in nature, and this paper is a study of semantics rather than grammar, only 'collocation' and 'semantic preference' will be focused on.

There were two stages in the analysis. The first stage was to search all the concordance lines of the keywords fear* and panic* from the data by using WordSmith 5.0 (M. Scott). As Goatly (1997) points out, the abstract entities are considered as metaphorical once they are concretized. In his map of root analogies in the lexicon of English (ibid., p.48), EMOTION is a personifying abstract when it is described as HUMAN (ANIMAL). Hence, the two lexemes *fear* and *panic* in the concordance lines would be recognized as metaphorical when their use of describing human emotion is personified. From the concordance lines, hence, considering that the verbial and adjectival forms of *fear* and *panic* co-occur with nouns referring to humans which are in literal uses, the present study will only discuss the noun forms of *fear* and *panic*. In addition, collocational patterns and semantic preferences of the keywords were also investigated to identify all the metaphorical lines. The metaphors relating to the emotion lexemes were then classified into different conceptual domains. The second stage involved more in-depth analysis of the recurrent conceptual domains. The conceptual domains relating to *fear* and *panic* were compared, and differences in conceptualizations were discussed in detail.

3. Analysis

As explained in the last section, only the noun forms of fear and panic will be in focus. This paper will compare only metaphors of *fear(s)* and *panic(s)*, rather than the singular and plural forms of each. Future work may focus on the comparison of different inflectional forms.

3.1 Collocates and semantic preferences

In the financial corpus, *fear(s)* has 350 instances while *panic(s)* has 162 instances. With the investigation of collocational patterns and semantic preferences, literal uses of the emotion concepts are distinguished. As may be expected, there are collocates and semantic preferences of fear and panic showing the financial discipline. For example, *fear(s)* has a strong collocational pattern with noun such as *investors* (10

times) and *credit* (4 times) and *panic* is also preceded by nouns about financial sector like *market* (6 times) and *investor* (4 times). As for semantic preference, *fear(s)* is often associated with phrases such as *made banks reluctant* and *of killing their banks with*. This shows that *fear(s)* has the semantic preference of 'bank' (22.86 %, 80 out of 350). The other semantic preference is 'market' (28 %, 98 out of 350), as instantiated in the associated phrases such as *in the marketplace* and *in the credit market*. Similarly, *panic(s)* also has semantic preferences relating to the financial market, such as 'money' (23.46%, 38 out of 162), exemplified by associated phrases such as *forced selling by hedge funds* and *after a $700 billion bill*. These collocates and semantic preferences are expected to be found in a financial corpus and the associated literal lines are discarded.

The metaphorical uses of *fear(s)* are realized in the verb expressing the intensity of fire, such as *stoke* (4 times), *incite* (3 times) and *spark* (3 times). *Fear(s)* collocates with the verb *stoke* as in the following.

Figure 3.11 Concordance lines for pattern 'stoke + fear(s)'
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tment banks further stoked investors' fear that a deep recession was on the
are more aware of the risk of stoking fear and the risk of being blamed.
bailout of financial markets, stoking fears of a deep, lingering economic
vise it on the restructuring, stoking fears that the companies could be push
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Panic(s) has a strong collocational pattern with verbs (42 times, 25.93%) as well. Similar to *fear(s)*, *panic(s)* is preceded by verbs about fire, such as *spark* (3 times) and *stoke* (2 times). What differs from *fear(s)* is that *panic(s)* follows verbs which are about stopping the flowing liquid, such as *stem* (6 times) and *stanch* (3 times). The examples of *panic(s)* collocating with the verb *stem* are shown below.

Figure 3.12 Concordance lines for pattern 'stem + panic'
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ted government struggling to stem the panic. Sound familiar? It does to Swed
and Brazil halted to stem an investor panic. It looks pretty ugly down the r
inancier was able to stem a financial panic. In 1907, amid bank runs, sinkin
ope that the AIG bailout would stem a panic in the financial markets was qui
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In addition to verb, *fear(s)* also has a strong collocational pattern with adjective (50 times, 14.29%) and noun (32 times, 8.57%) at N-1 position. The adjectives are used in describing organism, such as *growing* (5 times), *lingering* (2 times), *unrelenting* (1 time), revealing the metaphorical use. These collocate are shown as follows:

Figure 3.13 Concordance lines for pattern 'description of organism + fear(s)'
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pport the bill because of lingering fears that it will do too little to help
en be accelerating – as unrelenting fears of a worldwide credit freeze have
trading on Monday in Asia on growing fears about the health of European bank
 the world plunged Monday on growing fears of a global economy in trouble
n another signal of growing investor fear, gold prices rose $25.70, to $1,00
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Panic(s) is also preceded by adjectives of organism, including *full-fledged* (2 times) and *full-blown* (2 times).

Regarding semantic preference, *fear(s)* has a strong semantic preference of 'force' (6.29%, 22 out of 350), realized by the phrases such as *gripping Wall Street* and *driving the market down*. Here the exertion of force is granted to the unconscious being *fear(s)*, showing that there is a metaphorical use. In addition, *fear(s)* also has

semantic preference of 'liquid' (1.71%, 6 out of 350), exemplified by phrases including *floating around the market* and *rippling through the market*. By examining semantic preference and collocational patterns, the metaphors of fear and panic are categorized into a range of source domains. Although the occurrence of *fear** is nearly twice as that of *panic**, its metaphorical use (frequency=118, 33.71%) is similar to that of *panic** (frequency=52, 32.10%). The source domains are exemplified in table 1:

Table 1. Source domains associated with *fear** and *panic**

Source domain	Number of citations (fear*)	Number of citations (panic*)	Instances
FORCE	22	3	*panic is gripping producers*
ORGANISM	26	12	*fear fled the markets*
DISEASE	12	10	*alleviated panic*
LIQUID	6	11	*adrift in fear*
FIRE	8	5	*Set off so much fear*
MIXTURE	3	1	*Stirring wider panic*
COLDNESS	1	2	*froze in a panic*
SOUND	1	2	*trumped fear and panic*
COMMODITY	1	0	*fear-mongering*
LIGHT	1	0	*flashes of fear*

Overall, the findings of collocates and semantic preferences show that *fear* and *panic* have similar set of source domains. As Charteris-Black (2004) mentioned, 'liquid movements can be used as a basis for modeling the economy as a whole in terms of notions such as pump-priming, the injection of liquidity and floating exchange rates' (p.162). The domain of LIQUID associated with both *fear* and *panic* supports the notion that 'liquid' is one of the important conceptual domains in financial reporting. While LIQUID is manifested in collocates of *panic*, the domain is more manifested in the semantic preference of *fear*. Given that there is more noticeable difference in the use of ORGANISM and LIQUID metaphors between *fear* and *panic*, these two conceptual domains are selected for further discussion below.

3.2 EMOTION AS ORGANISM

ORGANISM is one of the recurrent conceptual domains associated with *fear* and *panic*. With more than 10 types altogether in the corpus, the organism metaphors reflect different stages of growth and levels of activeness, conceptualizing different degrees of negative emotion. In mid-September 2008, when the financial market plunged into crisis and many investment corporations were suffering from financial problems, the investors' negative emotions started to influence each other, just as bacteria *multiply* very quickly, an animal *breeds* and *spawns*, or a plant can be *sown*. Once the financial situation was getting worse, the degree of investors' negative emotions started to increase which *grew* or underwent a *feeding* stage. If the level of negative emotions reached a peak, they were conceptualized as a mature organism: as *full-fledged* as a bird or as *full-blown* as a flower. This was because of the all-time fluctuating stock prices and a great many job slashes that investors could not endure the situation.

In the corpus, both fear and panic are conceptualized as an animal (human are included) or plant, but the metaphors relating to these two emotion concepts focus on different aspects. Fear is conceptualized as an organism at the reproduction stage:

(1) This is *spawning fears* that major producers like China and India which vastly expanded production capacity in recent years. (*The New York Times*, October 31 2008)

(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. (*The New York Times*, October 15 2008)

By contrast, the associated phrases show that panic is rather conceptualized as an organism at the mature stage:

(3) German officials said their decision to guarantee all deposits was made to avoid a *full-blown financial panic* and had nothing to do with Hypo. (*The Washington Post*, October 7 2008)

(4) A significant financial crisis has been allowed to morph into a *full-fledged global panic*. (*The New York Times*, October 31 2008)

The choice of the metaphorical expressions above seems to suggest that the intensity of the fright regarding *panic* is much higher than that regarding *fear*. For this reason, the finding here provides good evidence for the literal meaning of fear and panic in dictionary entries (refer to Section 2). Another observation is that the difference in conceptualizations leads to the various connotations of the lexemes. The metaphorical expressions like *spawn* and *sown* highlight the rapid speed and large scale of reproduction, suggesting that *fear* has an infectious effect in the market. This negative emotion could influence a large number 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. This may suggest that the intangible nature of emotion has taken shape and it is not difficult to find the panicked investors in the market. This kind of metaphor could also express the idea of an unbearable financial situation. Some actions are going to be taken by government or investors to change the situation.

There are some types of metaphorical expressions describing the activeness of an animal, highlighting the instability of investors' emotion and the devastating effects on the market. The emotions of investors may *run* like a person or *course* like a horse. If the level is getting even higher, the emotions could act as an *irrational* person and become the *main threat* of humans, and become *devastating* and by which the situation are *stricken*. The rescue packages implemented in different countries may help *calm* these negative emotions. As a consequence, the negative emotions are either removed by *fleeing the market* or *giving way to a series of stability measures*, or some could not be removed as they *win out*.

The data show that when fear and panic are conceptualised as an animal, their activeness is in discrepancy. Metaphorical expressions like *lingering* and *lurks* conceptualise fear as inactive organism:

(5) In separate interviews, the two said they struggled to support the bill because of *lingering fears* that it will do too little to help working-class constituents facing home foreclosure. (*The Washington Post*, October 4 2008)

This kind of phrase also suggests the uncertainty of investors towards the future financial situation. The instability of investors' emotions is also due to the distrust of the political decision. Conversely, *panic* is conceptualised as a more aggressive animal which would harm the investors such as *took the biggest toll* and *devastated the local currencies* as in the following.

> (6) The dollars surge seems counterintuitive. Previous financial *panics* in Asia, Russia and Mexico *devastated* **t**he local currencies, as foreign investors stampeded for the door. (*The New York Times*, October 5 2008)

Again, these differences in linguistic metaphors support the dictionary entries that the intensity of emotion related to *panic* is higher than that to *fear*. In addition, the connotation of panic, the devastating effect, suggests that there will be some actions from the side of the government or the public.

3.3 EMOTION AS LIQUID

LIQUID is another important conceptual domain in financial reports. The analysis of financial metaphors by Charteris-Black and Ennis (2001), and Oberlechner, Slunecko and Kronberger (2004) reveal that market movements are often conceptualised as water in the English language. Hence, it is understandable that the arousal of negative emotion following the flow in the market would also be conceptualised as liquid. In the corpus, there are altogether 10 types of liquid metaphors relating to *fear* and *panic*. When the level of negative emotion is low, it is conceptualised as *rippling water*, *floating water* or *waves*, with a low energy level. Once the arousal is getting higher, the emotion is conceptualised as s*wirling* or *spilled* liquid. Some actions such as *stem* or *stanch* are taken to stop the flow, as if the negative emotion is prevented from getting higher.

In the corpus, the metaphors conceptualise fear and panic as different energy levels of liquid. The collocational pattern (Figure 3.12 in section 3.1) shows that *panic* tends to follow the verb *stem*, conceptualising panic as a flowing liquid. In addition, *panic* is also found to be associated with nouns like *torrent* and *flood*, suggesting the rapidity of the arousal of panic and the possible danger arising from the emotion. Other metaphorical expressions such as *stanch* and *subside* also conceptualise panic as flood water:

> (7) Morgan gathered his fellow financiers at his Manhattan mansion and hammered out a rescue plan. After a few rocky weeks, the *panic subsided*. (*The New York Times*, October 6 2008)

> (8) This new interest in direct investment in banks comes after yet another tumultuous day in which the Federal Reserve and five other central banks marshaled their combined firepower to cut interest rates but failed to *stanch* the global financial *panic*. (*The New York Times*, October 9 2008)

It could be inferred from this type of verb that the negative emotion of investors has reached a high and uncontrollable level. Under this uncontrollable situation, there may be some massive actions in the market, such as selling the stocks or protest. As a result, some actions (*stem* or *stanch*) from the aspect of financial institutions or

government has to be implemented immediately to stop the situation from getting more disastrous.

Fear does not have strong collocational patterns with liquid metaphors. However, the great variety of verbs associated such as *float*, *rippling* and *adrift* conceptualizes *fear* as more static liquid:

(9) Lehman sent a new *wave of fear rippling* through market. (*The New York Times*, September 16 2008)

(10) *Floating* around the market were the usual *fears* about recession and corporate earnings. (*The New York Times*, September 27 2008)

(11) 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*. (*The New York Times*, September 24 2009)

In addition to the notion of low energy level, this kind of phrase also carries an implication of the widespread influence of *fear*, especially the use of *rippling*. This stems from the knowledge that ripples will enlarge and then spread in all directions, implying that the fear of one investor could exert an influence on another one continuously in the market. The use of *float* and *adrift* emphasizes the uncertainty in the market, which is in line with the finding of organism metaphors regarding fear. When an object is floating in the water, it is directionless and the time of reaching the shore is unknown. These metaphorical expressions likely suggest that the financial crisis is unpredictable. For this reason, fear of investors is aroused and it is hard to predict when the negative emotion can be eliminated from the market.

Overall, the conceptualisations in the ORGANISM and LIQUID domains help explain the differences between the emotion concept fear and panic. In the ORGANISM domain, the growth and physical shape of the organism suggest that the intensity of fright relating to panic is higher than that relating to fear. The difference in activeness implies the widespread influence of fear and disastrous effects of panic in the financial market. On the other hand, the energy level of water in the LIQUID domain suggests that the arousal of panic is rapid and uncontrollable, triggering the actions of investors and government. Fear is conceptualized as a lower energy level of water which spreads easily, implying that this emotion is infectious and investors are uncertain about the future of the financial crisis.

4. Conclusion

This paper has discussed the conceptualisations of fear and panic in financial news reports. The source domains ORGANISM and LIQUID relating to fear and panic were chosen for the comparison. The two source domains have similar highlights of the target domain EMOTION. Both highlight the intensity, stability and influence of emotion. But additionally, ORGANISM also specifies the generation of emotion, providing evidence that how fear and panic are generated differently. A larger amount of data would help reflect a more comprehensive picture of highlights in difference source domains associated with fear and panic.

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