

Metaphors in financial analysis reports: How are emotions expressed?

Abstract

This study critically investigates the use of emotion metaphors in a corpus of BNP Paribas financial analysis reports produced during the credit crisis from 2011 to 2012. The corpus was examined to identify constituent words in the semantic category of 'Emotion'. Concordances for selected words in 'Emotion' were examined by adopting the Metaphor Identification Procedure in order to identify metaphors in the corpus. The emotion metaphors identified were then classified into different semantic domains, underpinned by Conceptual Metaphor Theory. The main findings of the study revolve around the conceptualisation of emotion words reflecting the market turbulence circa 2011. In addition, the findings show that BNP Paribas' corporate culture is revealed by the use of emotion metaphors in their financial analysis reports. The bank also uses varied metaphors to describe the emotions of investors. The study concludes that the identification of emotion terms for a conceptual metaphor analysis can be more effectively carried out by combining the methods of corpus linguistics, semantic annotation and Metaphor Identification Procedure. The study suggests important pedagogical implications for both ESP teachers and members of the financial services profession.

Keywords: Metaphor; BNP Paribas; Credit Crisis; Corpus Linguistics; Emotion; Financial Analysis Reports

1. Introduction

In the 21st century, financial services have increasingly become global business ventures. An important genre in the financial services industry is the financial analysis

reports, among others, such as annual reports, quarterly reports and SEC filings¹ (Ettredge, Richardson, & Scholz, 2001). Financial analysis reports present an assessment of economic performance and a forecast of future earnings (Orens & Lybaert, 2007), and often contain earnings forecasts and stock recommendations, drawing from a wealth of industry, business and economic trend information (Financial Industry Regulatory Authority (FINRA) Guide, 2009). Previous studies have found that financial analysts, especially those with less experience, often avoid making extreme predictions and recommendations and tend to make forecasts and recommendations with a large amount of optimism in spite of negative evidence (Amir & Ganzack, 1998; Cianci, 2000; Mayew, 2008). In times of financial change, stress, crisis and post-crisis, financial analysis reports perform more and varied communicative functions, enacting various discourses such as analyses, forecasts and justifications, and utilising different expert discursive resources to achieve personal, organisational, professional, institutional, and socio-cultural goals (Baker, et al., 2008; Huckin, 1997).

Financial analysts, who are in possession of organisational, institutional and discursive powers due to their control of “a social occasion, by means of the genre of a text, or by access to certain public spheres” (Baker, et al., 2008, p. 280), can signal power and ideologies by their deployment of particular linguistic forms in a text. Research has shown that the metaphor is an important linguistic means of constructing organisational identities, professional ideologies and social realities in the financial services sector (Charteris-Black, 2004; Koller, 2008; Morris et al., 2007; Rojo & Orts, 2010). To date,

¹ SEC filings are financial statements and other formal documents submitted by every public company to the U.S. Securities and Exchange Commission (SEC) (www.sec.gov/edgar.shtml).

studies have examined metaphors in a variety of financial services genres and discursive practices, including financial news reports (Charteris-Black, 2004; Chung, Ahrens, & Sung, 2003; Nicaise, 2010; Oberlechner, Slunecko, & Kronberger, 2004; Rojo & Orts, 2010; White, 2004) and financial market commentaries, TV programmes, economic textbooks and business periodicals (Henderson, 2000; Morris et al., 2007; Walters & Young, 2008; White, 2003).

Findings of metaphor studies of financial news reports include the use of SOLID (*suma redonda* “lump sum” and *bloque de dinero* “block of money”), LIQUID (*flujo de caja* “cash flow” and *Un goteo* “a trickle”) and GAS (*evaporar* “evaporate” and *volatilizarse* “to become volatile”) metaphors to describe stability, transferability and disappearance in money and finance (O’Connor, 1998); the pervasive use of military (e.g., *brutal internet price war; a real battle between Singapore and Tokyo*) and sports metaphors (e.g., *everybody becomes Mr Iron Man; the best scorer*), reflecting male dominance in financial markets (Koller, 2004; Oberlechner et al., 2004); and the association between DISASTER metaphors (e.g., *stormy* and *sweeping northwards*) and the words *turbulence* and *turmoil*, conveying a sense of crisis (White, 2004). Charteris-Black (2004, pp. 135–136) found that financial reporters, when predicting economic processes, use animate metaphors (e.g., *grow* and *recover*) when representing themselves as “expert authority”; they use inanimate metaphors (e.g., *swing* and *rollercoaster*) when representing themselves as “narrative commentators”. Charteris-Black and Ennis (2001) compared English and Spanish financial news reports about the October 1997 stock market crash. They found that English financial news reports exclusively use nuclear metaphors as in *meltdown* and *fallout* and Spanish financial news reports exclusively use

the DISASTER metaphor *derrumbe* (meaning “landslide”), revealing that cultural differences play an important role in metaphor choice. This, as the authors suggest, may pedagogically imply that the awareness of “culture and thought on language” would benefit translation teaching, economic and financial publications in a second language and ESP L2 learning of economics and finance (Charteris-Black & Ennis, 2001, p. 264).

In another study, Charteris-Black and Musolff’s (2003) corpus research examined reporting of the euro in the English and German financial press at its launch in 2000, and found that the euro was frequently conceptualised by the HEALTH/STRENGTH metaphors in both English and German reporting (e.g., *ailing euro*; *erholen* “recover”; *Schmerz* “pain”). An interesting difference is that the euro was depicted as a combatant in English reporting (e.g., *battered euro*, *beleaguered euro*), but as a passive entity in German reporting (e.g., *Vertrauensverlust für den Euro* “loss of confidence in the Euro”). Charteris-Black and Musolff’s study is useful for second language learners to understand how metaphors serve different “pragmatic and rhetorical functions” across languages (p. 154). In a recent study, Nicaise (2010) investigated how external factors such as language community, ideology and gender affect the choice of metaphor in financial news reports. His study showed the tendency for the Dutch-speaking press to use WAR metaphors, e.g., *Het is oorlog in de Europese telecomsector* (“It’s war in the European telecom sector”). The use of WAR metaphors shows the rhetorical strategy of free-market ideology. The French-speaking press tended to use more LOVE metaphors, e.g., *Deutsche Boerse ne se lasse pas de flirter avec le London Stock Exchange* (“Deutsche Boerse continues to flirt with the London Stock Exchange”), and more female journalists than their male counterparts use LOVE metaphors. Nicaise (2010) also found that both

the liberal and conservative press favour HEALTH metaphors, e.g., *Van alle Europese patiënten is Duitsland er duidelijk het zwaarst aan toe* ("Of all European patients, Germany is certainly the most heavily affected"), and that there was a lower proportion of HEALTH metaphors in summer probably because of "the reduced proportion of time that people spend in poorly-ventilated rooms" (p. 71). Nicaise (2010) concluded that the creation and selection of metaphors could link to a number of factors, including language, gender, conceptual content and time of year.

Metaphor research has been conducted in financial services genres other than financial news reports. White (2003), for example, examined the use of *growth* in the British press, economics books and journals, observing that the concept of economy is typically understood via the GROWTH metaphor with collocations of *growth*, such as *revive*, *wither* and *falter*. White concluded that studying GROWTH metaphors could enhance native speaker students' and foreign language learners' understanding and argumentation of the growth concept in different contexts. Morris et al. (2007) surveyed undergraduates' prediction of price trends after they had read market commentaries, and conducted content analysis of the transcripts of the CNBC television programme Business Center. The survey supported their hypothesis that participants with exposure to agent metaphors are more likely to expect price trend continuance, and the content analysis showed that words relating to gains are more frequently co-selected with metaphors which indicate the actions of an agent in the clause, e.g., "*jumped 122 1/3rd points*" (p. 183) than with metaphors in the object position, e.g., "*it also got caught in the downdraft*" (p. 183). In another study, Walters and Young (2008) examined business

periodicals about the “FASB’s 1993 issuance of an exposure draft”² (p. 807). They found that metaphors help to frame the debate, and that different metaphors are deployed to conceptualise the change of attitudes towards stock options. For instance, when the exposure draft was first issued in 1993, stock options were conceptualised as good tools which can be a “‘fix’ for a ‘broken’ or ‘stalled’ American economy” (p. 813). However, later in 2004 stock options were conceptualised as a “misused” or “abused” tool as in “a heavy dose of options” (p. 821) and “abuses of stock options” (p. 821). The studies of White (2003), Morris et al. (2007) and Walters and Young (2008) have demonstrated the specific use and function of metaphors in various financial services genres. In addition, metaphor research would be useful for the ESP researcher and educator concerned with the financial sector.

2. The study of metaphors: Theory and procedure

Metaphor, as defined by Deignan (2005), 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” (p. 34). Metaphorical meaning is non-core as it indicates “a perceived relationship with the core meaning of the word, and in many cases between two semantic fields” (p. 34). The “perceived relationship” between two semantic fields is similar to the notion of “Ground” (Goatly, 2011a), which states that the comparison of two domains is made through analogy or similarity. The notion of “perceived relationship”, other than

² The Financial Accounting Standards Board (FASB) “has been the designated organization in the private sector for establishing standards of financial accounting that govern the preparation of financial reports by nongovernmental entities” (www.fasb.org/jsp/FASB/Page/SectionPage&cid=1176154526495). In 1993, the FASB issued an exposure draft on stock compensation, proposing that companies have to report to employees the stock options expense on their income statement (www.nysscpa.org/cpajournal/2005/1105/essentials/p38.htm). This fuelled an intense public interest and criticism by the accounting firms and corporations.

metaphor, is also an important factor in distinguishing such tropes as metonymies which are relationships “between meanings based on contiguity in experience, or, linguistically, on deletion rather than substitution” (Goatly, 2007, p. 15). The term “non-core use” in Deignan’s (2005) definition of metaphor is close to “basic meaning” in the Metaphor Identification Procedure (MIP) established by the Pragglejaz Group (2007), which is defined as “more concrete, related to bodily action, more precise and historically older” (p. 3).

According to the MIP, the lexical unit is metaphorical if “the contextual meaning contrasts with the basic meaning but can be understood in comparison with it” (Pragglejaz Group, 2007, p. 3). The MIP represents a set of steps that determines whether a lexical unit is used metaphorically in the context. Early cognitive linguistic studies using Conceptual Metaphor Theory (CMT) tended to use a top–down research approach to provide self-elicited linguistic examples using personal intuition (Kövecses, 1986, 1999; Lakoff & Johnson, 1980, 1999; Lakoff & Turner, 1989), and hence are regarded as lacking in empirical discourse evidence (Deignan, 2010; Zinken & Musolff, 2009), with the cognitive claims considered to be lacking in objectivity (Vervaeke & Kennedy, 1996). Gibbs (2010) remarked 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 (language, thought and communication) for metaphor research in discourse, compared with traditional theoretical metaphor models which focus only on the interaction between language (linguistic form) and thought (conceptual structure).

In metaphor studies of emotion, the importance of the analysis of empirical data is emphasised (e.g., Goatly, 2007, 2011a; Hsiao & Su, 2010; Lascaratou, 2007; Stefanowitsch, 2006). For instance, Goatly (2007, 2011a), informed by an online database of conventional and lexicalised metaphors (METALUDE³), observed that the claim that *“ANGER IS HOT LIQUID IN A CONTAINER”* (Kövecses, 1986) is not substantiated. Other findings concluded that instances of anger as boiling water, e.g., *“boiling with rage”*, *“the crowd was at boiling point”* and *“got very steamed up”*, are not necessarily associated with containers, but can refer to emotions, an example being stress, e.g., *“let off steam”*, *“good safety valve for stress”* and *“playing in the pressure cooker of the European Cup finals”* (Goatly, 2007, 2011a). Goatly’s work shows the advisability of employing empirical data in providing support for the postulation of conceptual metaphors.

Stefanowitsch (2006) started with a search of target domain vocabulary in the British National Corpus. His study aimed at comparing the corpus approach with the introspective method and evaluating their respective effectiveness in identifying metaphors. He analysed emotion-specific metaphors, primarily anger, fear, happiness, sadness and disgust, in the British National Corpus, and found that anger can *“well up”* and *“pour from eyes”* (p. 76), fear can *“haunt and can be irrational”* (p. 79), and joy can be *“unrestrained and generate warmth”* (p. 83). Stefanowitsch (2006) concluded that a corpus-based approach can help identify more emotion metaphors which are not

³ METALUDE is an online database containing over 9,000 conventional and lexicalised metaphors in English from several dictionaries, such as the *Cambridge International Dictionary of English*, *The Oxford English Dictionary*, *Collins COBUILD English Dictionary* and *The Encarta Dictionary*. Available at www.ln.edu.hk/le/cwd03/lnproject_chi/home.html

mentioned in the traditional metaphor literature. McFarland, Barlow and Turner (2009) focused on a chronic disease self-management course and examined how the lay-tutors, living with chronic diseases, identified and described the emotions they observed in the course participants who were also suffering from chronic illnesses. The course “utilises the tenets of self-efficacy theory providing mastery experience, role modelling, persuasion and reinterpretation of physiological and affective states to assist participants in making changes” (p. 256). Findings revealed that metaphors can bridge the communication between tutors and course participants, and aided their shared understanding of chronic disease (e.g., *emotional time bomb*). Metaphors could also help course participants release their negative emotions (e.g., *off-loading* and *pouring out*). In a recent study, Hsiao and Su (2010) investigated metaphors and hyperbolic expressions in Mandarin Chinese interactions, using several spoken and written corpora, for example the National Taiwan University Mandarin Corpus and the Balanced Silica Corpus. The former is a spoken corpus comprising naturally occurring Mandarin conversations, whereas the latter is a general corpus consisting of Modern Mandarin Chinese written texts. The research shows that metaphor has “analogical and imaginative capacities” (p. 1380), enabling speakers to interpret events in an exaggerative way. For example, *chao* (“excessively”) makes use of the image of ‘a container overflowing with emotion’, and *xin fensui* (“heart is broken”) conceptually associates emotion with destructive forces. Hsiao and Su’s study showed the importance of using naturally occurring data to analyse metaphor. The above studies show that an investigation into the expression and perception of emotion in language through the study of metaphors can reveal how metaphors function as a “basic scaffolding or tool for modulating affective text content”

(Goatly, 2011b, p. 7), and enable speakers to convey a richer and more vivid image and to capture a subjective experience.

3. The present study

The present study contends that metaphors can be used to depict and conceptualise abstract emotion concepts and that the objectivity of research into emotion metaphors in financial discourse can be enhanced by both considering the linguistic, conceptual and discursive functions of metaphors and defining the criteria for classifying conceptual domains. The objective of this study is hence to ascertain the ways in which emotion metaphors in financial analysis reports reveal linguistic, cognitive, affective and cultural contexts, constructing organisational identities, professional ideologies and social realities. This corpus-based discourse analytical study aims to address the research question: How do financial analysis reports produced by BNP Paribas, a European financial institute, between February 2011 and January 2012 describe and express emotions relating to the description, analysis and prediction of the financial situation and investment environment? To answer the research question, the metaphorical sense of emotion words identified in the BNP Paribas' financial analysis reports corpus was examined.

BNP Paribas has global headquarters are located in Paris and London, with over 200,000 employees from 80 countries, and retail and investment operations located in countries worldwide, including France, Italy, North Africa, New York and Hong Kong. It provides services in retail banking, corporate and investment banking, and investment solutions. With total assets of over US\$61 trillion, the bank was the world's biggest bank

in 2011⁴. The sovereign debt crisis was triggered in Europe and the financial analysis reports collected from the Paris headquarters website were published between February 2011 and January 2012. The period of study was particularly important from the perspective of financial analysts' discourse as the market situation, especially in Europe, was highly turbulent due to the on-going euro crisis. The onset of the Eurozone crisis was due to the global financial crisis of 2007–2008, real estate bubbles and mismanagement of the economy and the concealment of budgetary problems by the Greek authorities (De Grauwe, 2010). Fitch's downgrading of Greece during the sovereign debt crisis caused a rise in private and government debt levels in other countries (Baum et al., 2013). The crisis then culminated in a banking credit crisis, government debt crisis and competitiveness crisis (Shambaugh, Reis, & Rey, 2012).

As reported by *Bloomberg News* (Benedetti-Valentini, 2011), BNP Paribas, as the largest bank in France, "bought two of Italy's 10 largest lenders" and "held more Italian than French sovereign debt". This put BNP Paribas at risk and caused "more than double the 5.1 percent decline in the 49-member Bloomberg Europe Banks and Financial Services Index" (Benedetti-Valentini, 2011). The downgrading of debts in several European states, including Greece, Spain and Italy, undermined confidence in the entire financial system and worsened the euro crisis. It caused a number of problems, including higher borrowing costs, frozen bank lending and risk-shifting to taxpayers (Sivy, 2011). The heightening risk aversion also weakened the stability of the world economy as Mervyn King, vice chairman of the European Systemic Risk Board and Chairman of the

⁴ World's 50 Biggest Banks 2011 at www.gfmag.com/tools/best-banks/11382-worlds-50-biggest-banks-2011.html#axzz1jFNBzfle

Bank of England, commented, “the outlook for financial stability has “worsened” since the last ESRB meeting in September” (Hamilton & Thesing, 2011). Such negative effects are also described in the annual reports of BNP Paribas⁵.

4. Methods of study

The BNP Paribas Corpus (BNPPC) consisted of financial analysis reports collected from the BNP Paribas (BNPP) website from February 2011 to January 2012. The majority of the reports were written by in-house teams. The BNPPC comprised the bank’s four online publications in the Economic Research⁶ section, *Conjoncture*, *EcoFlash*, *EcoWeek* and *Economic and Market Monitor*⁷. Table 1 shows the number of reports and articles and the word counts of each sub-corpus in the BNPPC.

Table 1.

Content and word count of BNPPC

⁵ BNP Paribas 2011 Annual Report, [www.pdf-accessible.com /download/annual-report-2011-book-EN-light.pdf](http://www.pdf-accessible.com/download/annual-report-2011-book-EN-light.pdf)

⁶ BNP Paribas Economic Research, <http://economic-research.bnpparibas.com>. Retrieved March 2012.

⁷ *Conjoncture* is a monthly publication that discusses the main economic issues and structural problems. *EcoFlash*, published daily, provides analysis of data releases and economic policy decisions. *EcoWeek* is a weekly publication that explores specific and controversial economic issues occurring mainly in the United States, the Eurozone, the United Kingdom, Japan and China financial markets. *Economic Market Monitor* focuses on the OECD (Organisation for Economic Co-operation and Development) countries and discusses the respective regional financial and economic issues.

Corpus	Publications	Number of reports and articles (percentage of the corpus)	Number of words
BNP Paribas Corpus (BNPPC)	<i>Conjoncture</i>	24 (5.5%)	124,098 (21.88%)
	<i>EcoFlash</i>	360 (82.8%)	148,119 (26.11%)
	<i>EcoWeek</i>	46 (10.6%)	214,478 (37.81%)
	<i>Economic and Market Monitor</i>	5 (1.1%)	80,496 (14.20%)
	Total	435 (100%)	567,191 (100%)

The corpus-based approach was combined with the MIP (Pragglejaz Group, 2007) to identify metaphors associated with emotion terms in the BNPPC. The MIP involves “reading the entire text-discourse” to “establish a general understanding of the meaning” (Pragglejaz, 2007, p. 3). This corpus study instead examined the concordance lines of identified emotion words. However, additional context was needed when a concordance line did not indicate the context of a word and when the word meaning was ambiguous.

The corpus search program *Wmatrix 3.0* (Rayson, 2008), using the UCREL Semantic Analysis System (USAS), was adopted to analyse the semantic category of the words in the BNPPC. The first step was to upload the text files onto *Wmatrix 3.0* by using Tag Wizard in the software. The words in the corpus were automatically classified by the software into different discourse fields, based on the *Longman Lexicon of Contemporary English* (McArthur, 1981). As the study aims to explore emotion-oriented metaphors, the discourse field of 'Emotion' was selected for further examination. The discourse field of Emotion consists of six main semantic categories: 'Emotional Actions, States And Processes General', 'Liking', 'Calm/Violent/Angry', 'Happy/Sad', 'Fear/Bravery/Shock' and 'Worry/Concern/Confident'. It should be noted that annotation of words in the BNPPC was not fully accurate as occasionally the software was unable to identify the semantic meaning of the words in a particular context. Hence, to remedy the above limitation, concordance lines associated with each emotion word were carefully scrutinised to remove wrongly assigned words.

Another corpus search program, *ConcGram 1.0* (Greaves, 2009), was then used to generate the concordance for each of the emotion words identified by *Wmatrix 3.0*. All the concordance lines of each word were read and analysed, following the MIP. For instance, in "*financial market tensions could spill over to the real economy*" (BNPPC), the agent for the action of the phrasal verb *spill over* is the noun *tensions*. In the *Concise Oxford English Dictionary* (2011), the meaning of *spill over* refers to the overflowing from the edge of its container, involving physical movement. However, an analysis of the co-text of *spill over* in the BNPPC shows the meaning of widespread influence, which is abstract, and hence describing the spread of emotion as water flowing out from a

container. As the lexical unit *spill over* has a more basic meaning in other contexts compared to the current context in the BNPPC, and the contrast between the basic sense and the contextual sense of *spill over* can be understood through comparison, *spill over* is regarded as metaphorical in the context.

Next, the metaphorical senses, identified from the MIP, were classified into various source domains in order to identify the conceptual mappings, in line with Conceptual Metaphor Theory (Lakoff & Johnson, 1980). For example, *spill over*, *sweeping* and *contagion* were first classified into the source domains of liquid, force and disease respectively. It is often a problem for metaphor researchers to decide how linguistic metaphors are assigned to source domains. To tackle this, the labelling of source domains and interpretation of metaphorical meanings were checked against the METALUDE online database. For instance, it was confirmed that *spill over* belongs to the source domain of liquid, and *contagion* belongs to disease. However, for the metaphor *sweeping*, METALUDE shows that there can be three source domains, namely BUILDING (e.g., *he's a new broom that sweeps clean*), MOVEMENT/TRAVEL (e.g., *there is a wave of patriotism sweeping the country*) and PROXIMITY (e.g., *Powell swept aside any questions*). It was decided that from these alternatives, MOVEMENT is the most relevant source domain for *sweeping* in the excerpt “the pressures on crude oil prices primarily reflect the geopolitical tensions sweeping the Arab world” (BNPPC).

5. Findings and discussion

The study aims to examine the way in which the genre of financial analysis reports produced by BNP Paribas between February 2011 and January 2012 describes

and expresses emotions relating to the description, analysis and prediction of the financial situation and investment environment. Findings are discussed in terms of the relative distribution of semantic categories of “Emotion” and the most frequent words in each category in the BNPPC (5.1.) and metaphors expressed by means of emotion words (5.2.).

5.1. Semantic categories of ‘Emotion’

Analysis of the discourse field of ‘Emotion’ in the BNPPC has identified fifteen semantic categories (Table 2). The negative sign in the semantic tag (e.g., E4.1- ‘Sad’) indicates that the words in the semantic category are antonyms of those in the same semantic tag with a positive sign (e.g., E4.1+ ‘Happy’). The more plus signs, the higher intensity the emotion has.

Table 2.

Semantic categories of ‘Emotion’ in BNPPC.

Semantic tagset	Semantic category	Word frequency (per million)
E6-	Worry	1533.9
E6+	Confident	1001.4

E3-	Violent/Angry	758.1
E5-	Fear/Shock	573.0
E1	Emotional Actions, States And Processes General	366.7
E4.1-	Sad	400.2
E4.2-	Discontent	283.9
E2+	Like (++)	179.8
E3+	Calm	119.9
E2+	Like	112.8
E4.1+	Happy	125.2
E4.2+	Content	42.3
E2-	Dislike	15.9
E2	Liking	10.6
E5+	Bravery	10.6

Among all emotion categories, 'Worry' (E6-) is the most recurrent (0.16%), followed by 'Confident' (E6+) (0.11%), 'Violent/Angry' (E3-) (0.08%) and so on. In 'Worry', concordance analysis of *investor* or *investors* shows that the word co-occurs with inflectional forms of *worry* (4.3%), e.g., *crystallises investor concern*, *investors are really worried* and *markets will remain nervous*. In 'Confident', *confidence* co-occurs with *consumer(s)* (16.7%), e.g., *a further fall in consumer confidence*; with *business* (12.8%), e.g., *high levels of business confidence*; and with *household* (10.3%), e.g., *erosion in household confidence*. The words in the semantic category of 'Sad' (0.04%) are found to be associated with particular countries (10.6%), e.g., Mexico (*Mexico suffered a severe economic recession*), Spain (*Spain is likely to suffer from the slowdown in growth in the eurozone*) and Greece (*Greece was not suffering a liquidity crisis*). These findings suggest that after the Eurozone crisis broke out, different agents – for instance, country, business institution, investor and consumer – convey various types of emotions. Overall, 'Confident' is the most lexicalised semantic category which features twelve types of emotion-oriented lexical words, including *reassurance*, *reassure* and *hawkish*, whereas 'Bravery' and 'Liking' are the least lexicalised semantic categories. Trust being the metric measured by banks in a financial analysis report, it is not surprising that BNP Paribas' main focus is to describe whether confidence, or trust, is rising or declining, stabilising or destabilising, using varied lexical terms.

Another finding is that the BNPPC contains a sizeable proportion of negative emotion words (2,222 out of 3,139, 70.1%) about anger, fear and anxiety, which are commonly regarded as negative emotions (Fredrickson, 2003; Lindquist et al. 2006) as

they are unpleasant to experience and can trigger distinct autonomic nervous responses, including *escape* and *attack*. All these findings show the importance of analysing concordance lines and semantic categories. They also support the view of Lischinsky (2011) that using a corpus approach allows us to identify “routine patterns of lexical and co-textual distribution” (p. 6).

5.2. Metaphors

Analysis of the BNPPC shows that only the words in four semantic categories, namely ‘Worry’, ‘Fear/Shock’, ‘Confident’ and ‘Emotional Actions’, carry metaphorical senses but this is not the case with others, such as ‘Sad’, ‘Discontent’, ‘Like’, ‘Like’ (++), ‘Liking’, ‘Calm’, ‘Happy’, ‘Content’, ‘Dislike’, ‘Violent/Angry’ and ‘Bravery’. Table 3 shows the metaphors, which are in italics, for the target domain WORRY. A total of nine source domains are mapped onto WORRY, namely HEAT, GROWTH, LIQUID, WAVE, DEPTH, RISE, MOVEMENT, FIGHTING and CONTRACTION.

Table 3.

Metaphors for the target domain WORRY.

Source domain	Metaphors in BNPPC (Frequency)
HEAT	<i>fuelling</i> tensions (1)

GROWTH	<i>growing</i> concern (3), <i>growing</i> worries (2), <i>growing</i> tensions (1), <i>growing</i> concerns (3), <i>growing</i> anxiety (2)
LIQUID	tensions <i>spill over</i> (2)
WAVE	new <i>wave</i> of concern (1)
DEPTH	<i>deep</i> trouble (1)
RISE	<i>rising</i> concerns (1), tensions <i>mount</i> (1), tensions <i>rose</i> (1), <i>surging</i> concerns (1), tensions <i>build up</i> (1), tensions <i>building up</i> (1)
MOVEMENT	tensions <i>sweeping</i> (1), tensions <i>are</i> <i>hampering</i> (1)
FIGHTING	<i>hit by</i> concerns (1), <i>fierce</i> tensions (1)
CONTRACTION	tensions <i>erode</i> confidence (5)
Total count	35

In the BNPPC, the target domain WORRY tends to be manifested by the lexical items *tensions* and *concern*, with 22 of the 245 (9%) instances of *tensions* being

conceptualised by metaphors, and 37 of 870 (4.3%) instances of *concern* co-occurring with metaphors, such as *growing* and *hit*. Metaphors, such as *spill over* and *sweeping*, conceptualise the emotion of worry as liquid (“*WORRY IS LIQUID*”) and movement (“*WORRY IS MOVEMENT*”), according to METALUDE (2002). In addition, the phrasal verb *spill over* (N=2) carries the metaphorical meaning of ‘spread’, implying that the emotion of worry spreads in the financial market; the lexical word *sweep* (N=1) indicates that the spread of worry is fast. These metaphors help to describe the widespread and negative influence of the emotion. Metaphors such as *hit* and *fierce* (FIGHTING) personify the emotion, and *build up* denotes rise (“*INCREASE IS RISE*”), highlighting the intensification of the emotion. The intensification of worry is achieved by using the source domains GROWTH, RISE and DEPTH. For instance, *growing* in *growing concern* conceptualises the intensification of concern, highlighting the aspect of emotion intensification. Such intensification is also described by RISE metaphors, such as *rising* (*rising concern*) and *mount* (*tensions mount*), and DEPTH metaphors, with *deep* (*deep trouble*) as an example. The GROWTH, DEPTH and RISE metaphors are conventional metaphors which serve the function of filling the lexical gap in the financial discourse. According to Goatly (2011a), some metaphors serve the function of filling lexical gaps as they help to convey ideas which are not easy to express in literal language. It is almost impossible to avoid using the GROWTH, DEPTH and RISE metaphors to describe the intensification of worry.

As with the target domain WORRY, the words in FEAR/SHOCK co-occur less frequently with metaphors. Out of 326 instances in the BNPPC, only 13 words in

FEAR/SHOCK co-occur with metaphors. Table 4 shows the metaphors, presented in italics, for the target domain FEAR/SHOCK.

Table 4.

Metaphors for the target domain FEAR/SHOCK.

Source domain	Metaphors in BNPPC (Frequency)
OBJECT	fears seem <i>misplaced</i> (1)
GROWTH	fears <i>grow</i> (1), <i>growing</i> fears of the business (1)
RISE	fears of an oil crisis <i>mount</i> (2)
BIG	<i>large</i> shock (1)
HEAT	<i>kindle</i> fears (1)
DISEASE	<i>immune</i> to the shocks (1), <i>contagion</i> fears (1), timid <i>recovery</i> (1)
WAVE	<i>shock wave</i> (1), <i>shock waves</i> (3)
Total count	14

As shown in Table 4, the intensity of fear and shock is expressed by metaphors from different source domains, such as GROWTH (e.g., *grow* and *growing*), RISE (e.g.,

mount) and BIG (e.g., *large*). The source domain DISEASE is used for describing the spread and influence of fear and shock, as manifested by such metaphors as *immune* and *contagion*. RISE and GROWTH metaphors also conceptualise the emotion of fear and shock. For instance, the market participants (see Appendix A for a sample of concordance lines of ‘fears’ in the BNPPC) feared that the sovereign debt crisis in Greece would spread to other European countries, including Spain and Italy (e.g., *fears grew that the sovereign debt crisis could spread to Spain*). They also feared the oil crisis in Libya, Bahrain and Yemen (e.g., *Global fears of an oil crisis mounted with intensifying tensions*). These metaphors are used so conventionally that they are not easy to be evoked from the literal sense of the word (see Deignan, 2005). On the other hand, the DISEASE metaphor *immune* shows how the Central and Eastern European countries attempted to resist the negative impact potentially caused by the emotion of fear/shock, as in “it has been striking to note that the CEECs have, to date, appeared largely *immune* to the shocks affecting their neighbours” (Vincent, 2011). Resistance to a negative impact of emotions is necessary as emotions can influence market activities, as the chief market strategist at ConvergEx Group, Nick Colas, commented: “Human emotions can drive things off the rails” (Craft, 2012).

The above discussion shows that in the BNPPC a great variety of metaphors conceptualise the emotions of worry, fear and shock. As with the target domain FEAR/SHOCK, the target domain WORRY is associated with more source domains. The metaphors help to create a vivid image in the financial analysis reports as they configure information regarding the intensification, spread and influence of the emotions, and this seems to support the Vividness Hypothesis (Gibbs, 1994), which postulates that through

metaphors a speaker can convey a more vivid and richer image to capture a subjective experience.

The market turbulence during 2008–2011 has weakened the confidence of investors worldwide. Metaphors in the BNPPC also conceptualise confidence (Table 5). As most of the metaphors identified can be found in METALUDE (Goatly, 2002), the labelling of source domains in METALUDE was adopted.

Table 5.

Metaphors for the target domain CONFIDENCE.

Source domain	Metaphors in BNPPC (Frequency)
CONTRACTION	<i>erode confidence</i> (23), <i>eroding confidence</i> (10), <i>confidence erode</i> (7), <i>erosion of confidence</i> (7)
PLACE	<i>restore confidence</i> (11), <i>restoring confidence</i> (2), <i>confidence was restored</i> (1)
MOVEMENT	<i>confidence is shaking</i> (1), <i>confidence crisis sweeping</i> (1)
OBJECT	<i>confidence is fragile</i> (1)

HEALTH	<i>hurts</i> confidence (1), confidence is <i>on the mend</i> (1), <i>confidence recovered</i> (1)
GROWTH	confidence is <i>growing</i> (1), <i>growing</i> confidence (1)
LIQUID	confidence <i>evaporates</i> (1), confidence <i>spill-overs</i> (1)
FIGHTING	confidence <i>hit</i> (1), <i>hit</i> confidence (1)
RISE	<i>confidence rose</i> (1), <i>confidence keep on building up</i> (1), <i>heighten confidence</i> (1)
FALL	confidence <i>falls</i> (11), confidence is <i>falling</i> (3), <i>confidence fell</i> (5)
Total count	96

Table 5 shows the ten source domains that are mapped onto CONFIDENCE in the BNPPC, with 99 out of 568 instances (17.4%) of *confidence* used with metaphors. The phenomenon of worsening confidence is found to be construed by different metaphors in the corpus: CONTRACTION, HUMAN, LIQUID, RISE and FALL. In addition to worsening of confidence, the phenomena of increasing confidence and shaking confidence are found via MOVEMENT, DIVISION and GROWTH metaphors. This again reflects that the metaphors are used in the BNP Paribas financial analysis reports to describe and evaluate the emotions of various stakeholders in the financial market.

In the BNPPC, the word *confidence* co-occurs with the CONTRACTION metaphor *erode* (CONFIDENCE IS CONTRACTION). Concordance analysis of the metaphor *erode* indicates that the confidence of investors is reduced slowly (Appendix B), with the co-text providing information about the agents that worsen the confidence of investors. Concordance analysis of the collocations of *eroding* and *confidence* shows that *eroding* serves as a transitive verb, and that the confidence of investors worsens because of the European debt crisis and other feelings and sentiments, as realised in such expressions as *Eurozone crisis*, *market tensions*, *high uncertainty* and *pressures*. This finding supports the observation that there is a strong tendency for emotion words to co-occur with other words about feelings (Oster, 2010).

Another example of *eroded*-related word co-occurrence, *eroded* and *confidence*, was analysed (Appendix C). As with *eroding* and *confidence*, where the causes of weakening confidence are more related to the feelings of tensions and uncertainties, the analysis of concordance lines of *eroded* and *confidence* reveals other causes that are related to economic problems, as in *the exacerbation of the sovereign debt crisis*, *less favourable environment* and *the increase in consumer prices*. The co-occurrence of *confidence* and *eroded* is found to be associated with numerals and figures, e.g., *manufacturing PMI dropped to 52.6 in August*, and *confidence eroded sharply with the INSEE composite index shedding 3 points*, suggesting that the metaphor *eroding*, followed by the word *confidence* (object of the verb), gives a clue as to the influence of market performance on feelings, and that the metaphor *eroded* co-occurring with *confidence* in the clause shows the impact of financial problems.

Apart from the metaphor *erode*, other metaphors in the BNPPC also conceptualise different stages of confidence-related emotions, e.g., *fall* and *slip* describe the worsening of confidence. Goatly (2011a) suggests that “to some extent all metaphors are hyperbolic because they give extra weighting to those features of similarity...which are negligible in conventional linguistic classification” (p. 174). When the degree of confidence is further worsened or eroded, the phenomenon is hyperbolically conceptualised with the LIQUID metaphor *evaporate* which implies the disappearance of (positive) emotion.

All these metaphors in the BNPPC – *erode*, *restore*, *shake*, *sweep*, *fragile*, *hurt*, *evaporate*, *hit* and *fall* – are found to depict the weakening of investor, business and household confidence during 2011. Confidence in the ability of the Eurozone political leaders to overcome the economic crisis was low, as reported in *The Australian*:

There is little confidence that the Eurozone political leaders are able to solve the continent’s devastating crisis of sovereignty that has already seen seven governments fall in less than a year and pushed the entire European project to the edge of extinction (Stevenmayews, 2011)

This observation is corroborated by the BNP Paribas’ 2011 Annual Report which describes the influence of the financial and economic crises between 2008 and 2011 on the confidence of their bank customers:

The distrust that has been shown towards banks since the 2008 crisis and intensified in 2011 is not confined to the markets. Civil society, public opinion,

and some customers currently look upon financial institutions with mistrust and sometimes even hostility. (*BNP Paribas Annual Report*⁸, 2011, p. 8)

Customer confidence is regarded as particularly important in the BNP Paribas corporate culture. CEO Jean-Laurent Bonnafé⁹ points out that trust is essential in the relationship between a bank and its customers. Hence it is important for the bank to bolster customer confidence especially in a financial and economic crisis. BNP Paribas stresses the speediness of assessing new situations and developments and efficiency of making decisions and taking action. The bank also encourages commitment to customer service and collective accomplishment¹⁰, and hence the metaphoric expressions of confidence carry the notion of 'regained'. Increasing confidence is described with RISE and GROWTH metaphors, as in *heighten* and *grow*. The higher intensity of confidence is hyperbolically conceptualised by using the LIQUID metaphor *spill over*, which conveys a hyperbolic effect in the BNPPC, by exaggerating the worsening or the gaining of investor confidence.

Regarding the target domain of ANGER, no words in the BNPPC directly describe this emotion (Table 6).

Table 6.

Metaphors for the target domain ANGER.

⁸ A responsible bank. In *BNP Paribas Annual Report 2011*. Available at <http://annualreport.bnpparibas.com/2011>

⁹ Interview with Jean-Laurent Bonnafé. In *BNP Paribas Annual Report 2011*. Available at <http://annualreport.bnpparibas.com/2011>

¹⁰ Same as endnote 3.

Source domain	Metaphors in BNPPC (Frequency)
PHYSICAL ATTACK	<i>hit</i> (69), <i>fierce</i> (2)
HEALTH	<i>toxic</i> (10)
Total count	81

The words in the BNPPC classified as ‘anger’ are mostly related to physical attack and violence (*hit*, *violent* and *fierce*). In addition to the source domain of physical attack, the BNPPC contains co-occurrences of *toxic*, e.g., *toxic assets*, *toxic banking* and *toxic derivatives*. Concordance analysis shows that these phrases co-occur with the institution *National Asset Management Agency*, which was adjudged by analysts as failing to restore market confidence in Ireland’s banking system. Goatly (2011b, p. 24) suggests that a metaphorical expression in which no words indicate the target domain may describe and express the emotion. For instance, in *this is my darkest hour*, although no words indicate the target domain of SAD, *darkest* conceptualises and expresses the speaker’s sadness, and hence the words related to physical attack and violence can be regarded as metaphors which indirectly conceptualise the emotion of anger (Goatly, 2011b).

In the BNPPC, the verb *hit* is often used in the passive voice (see Appendix D for concordances for *hit/by*). Syntactically, the targets of the passive action are the countries (e.g., *creditworthy member states*, *countries*), the financial industry (e.g., *ECB*, *industry*)

and the public (e.g., *households*). Concordance analysis shows that *hit* indirectly describes the emotion of anger.

6. Discussion

This study has shown that when the impact of market and economic performance on investors is reported, the emotions of worry, confidence, fear and shock play an important role, setting the scene for financial analysts to present their economic assessments and earnings forecasts. The study has also demonstrated how various kinds of emotions can be effectively portrayed with the use of metaphors in financial analysis reports. As shown, the words of the target domains of WORRY, CONFIDENCE and FEAR/SHOCK are associated with metaphors more often than other domains, such as SAD, DISCONTENT, CALM, HAPPY and DISLIKE, suggesting that the feelings of worry, confidence and fear are more specifically conceptualised by means of metaphor use in the context of financial analysis, and these feelings and sentiments are found to be pervasively reported in 2011, with the occurrence of European financial and economic crises. The report of these feelings and emotions may be more related to the actions of stakeholders, such as investors, consumers, business institutions, governments and the general public of different countries, so they are highlighted by metaphors in the financial analysis discourse. While the BNP Paribas financial analysts used metaphors to conceptualise worry, confidence and fear of people directly, they seldom report the anger of people directly, but instead use physical attack expressions such as *hit* and *fierce*.

Findings also show that spread and influence of worry are highlighted in the corpus. The spread of worry is personified by MOVEMENT metaphors (e.g., *tensions*

are hampering) and is conceptualised as liquid (e.g., *tensions spill over*) or wave (e.g., *new wave of concern*). The intensification is expressed by metaphors of GROWTH (e.g., *growing tensions*) and RISE (e.g., *tensions mount*). The influence of worry is conceptualised with FIGHTING (e.g., *hit by concerns*) and CONTRACTION (e.g., *tensions erode confidence*) metaphors. The deployment of all these source domains seems to suggest that in reporting market worries in the financial analysis reports, the BNP Paribas adopts an evaluative approach by using metaphors to imply the spread and influence of worry in the financial market.

As for the emotions of fear and shock, their intensity is clearly evident in the corpus and is expressed by metaphors of GROWTH (e.g., *growing fears of the business*), RISE (e.g., *fears of an oil crisis mount*) and BIG (e.g., *large shock*); the spread and influence of fear and shock are conceptualised by metaphors of DISEASE (e.g., *immune to the shocks* and *contagion fears*). Confidence is conceptualised in terms of a great variety of metaphors, confirming that customer confidence is indispensable in the BNP Paribas corporate culture. The worsening of confidence is expressed by the metaphors of CONTRACTION (e.g., *eroding confidence*), HUMAN (e.g., *confidence is on the mend*), LIQUID (e.g., *confidence spill-overs*), RISE (e.g., *confidence rose*) and FALL (e.g., *confidence fell*), whereas the increase and the shaking of confidence are described by MOVEMENT (e.g., *confidence is shaking*), DIVISION (e.g., *confidence is fragile*) and GROWTH (e.g., *growing confidence*) metaphors. As Charteris-Black (2004) pointed out, the animate metaphor that describes economic processes indicates expert authority and the inanimate metaphor reflects narrative commentary. The findings of this study suggest that in describing the emotions of financial market stakeholders, the BNP Paribas

financial analysts take themselves to be both experts and commentators. All these source domains, RISE, GROWTH and LIQUID, together with BIG, HEAT, DISEASE, WAVE and DEPTH, are inanimate, whereas the source domains about HUMAN, such as FIGHTING, GROWTH and HUMAN, are animate. As observed by Charteris-Black (2004), “a system of inanimate metaphors is used” when financial reporters “lack full knowledge of the variables affecting the market” (pp. 135–136). However, findings of this study reveal that as a group of experts, the bank’s financial analysts actually deploy more inanimate metaphors than animate metaphors in describing the emotions of worry, fear, shock and confidence. This suggests that financial analysts play a dual role as expert authority and narrative commentators in financial analysis reports (Charteris-Black, 2004), which is consistent with the observation that the professional practice of financial analysts includes reporting the influence of market performance on investors in addition to assessment and forecasts of economic performance.

7. Conclusion

The study confirms the importance of financial discourse as a vehicle in deploying metaphors. Different metaphors conceptualise various aspects of emotions in the BNP Paribas’ financial analysis reports: MOVEMENT metaphors conceptualise the spread of emotion; FALL, FIGHTING and CONTRACTION metaphors depict the influence and worsening of emotion; and GROWTH, RISE and BIG metaphors conceptualise the intensification of emotion. The use of metaphors can create vividness or fill the lexical gap in the financial analysis reports.

Another conclusion is that the authors of the financial analysis reports play a dual role as expert authority and narration commentators. Financial analysis reports, therefore, do not only provide an assessment of economic performance and earnings forecasts, but also commentaries about how different emotions, and their different levels of intensity, are related to economic performance. Metaphors are hence used in the financial analysis reports not only to describe various types and extent of emotions but also to evaluate the influence of emotions in relation to the financial markets.

The study also shows how manifestations of corporate culture, often found in corporate annual reports, could be reflected in the use of metaphors in one of the staple genres of the financial sector, namely financial analysis reports. Metaphor use is found to be a strategy, consciously or not, for BNP Paribas to motivate the bank's customers to engage in market activities and to build trust with the bank.

Methodologically, contemporary conceptual metaphor research using corpus linguistic methods tends to search target domain words or source domain words in the corpus. However, it remains a question as to which words should be allocated to a particular source domain, and particularly where the boundaries of source domains lie. Analysis of how the words in a corpus are grouped into semantic categories by using *Wmatrix 3.0* and METALUDE has proved to be a more effective approach for the study of conceptual metaphors, compared to "the traditional corpus method of concordancing pre-selected expressions" (Sun & Jiang, 2014, p. 7).

It is noted that *Wmatrix 3.0*, which enables researchers to conduct semantic analysis, may have missed some metaphorically used words that describe emotions because these words may not occur alongside a target domain word. It is also noted that

some of the source domains labelled in METALUDE, such as GROW and CONTRACT, are verbs, and hence they are replaced by the nouns GROWTH and CONTRACTION to remain consistent in the labels for source domains. It endorses the view that if metaphors enable humans to express abstract concepts in terms of more concrete concepts (Lakoff & Johnson, 1980), more concrete labelling should be applied to the target and source domains. Nevertheless, the present study shows that the method of combining corpus linguistics, semantic annotation and the MIP can identify the target domain terms more exhaustively, which is extremely useful for a conceptual metaphor analysis.

This study underscores the value of the use of emotion metaphors in financial analysis reports. Future studies may compare the conceptualisations of different types of emotions in different kinds of discourse and genre, written or spoken, in other disciplines or professions which will provide insights into the systematicity of the target domain of EMOTION, and hence contribute to what Gee (1990) calls “big D” Discourses as systems of knowledge and beliefs.

8. Pedagogical implications

The findings of the study have important implications for ESP teachers and members of the financial services profession, particularly those who author financial analysis reports for investment institutes. Pedagogical materials could highlight the dual role of the authors of financial analysis reports and the employment of various linguistic devices and strategies, with metaphors being an important device, in the writing of financial analysis reports.

ESP teachers of written business and professional genres could include the topic of metaphors, with the emotion metaphor as one category, in their instructional materials

and tasks. Research findings such as those of the present study could serve as authentic and contextualised examples for awareness raising and as illustrations of the use of specific linguistic devices; in this case, conceptualisations of emotion words in a corpus of financial analysis reports, to serve different economic and corporate communicative functions. Discussion tasks could be based on reading relevant sections of the reports or selected concordances to understand the kinds of metaphors employed, and how and why they are employed.

As for professionals in the financial services, continuing professional development (CPD) seminars could be organised jointly with relevant professional associations to enable delegates to understand the prevalent use of metaphors, and the kinds of metaphors employed in financial analysis reports, whether conscious or not, as well as which kinds of metaphors are chosen, how and why they are used, and what kinds of impact, if any, professionals perceive as a result of their use in financial analysis reports. In addition to seminars, professional writing workshops, both in-house or conducted by professional associations, could be organised for the authors of financial analysis reports to examine and discuss the emotion metaphors identified in the study. They could then examine their own financial analysis reports to identify any instances of metaphor use and discuss the reasons for the use or non-use of metaphors.

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