

Metaphor outside Literature: A Case Study of Conceptual Metaphor in Social Sciences

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Abstract

There have been debates among metaphor theorists concerning the realization of metaphors both in literature and outside literature, including the continuity, or discontinuity between the two. The aims of this paper, however, are to examine the uses and functions of those types of metaphor on the basis of conceptual metaphor categories (i.e. orientational, ontological, and structural metaphors) identified in economics text as part of social sciences. This study adopts a theoretical framework which consists of two parts: (1) a cognitive approach, (2) a corpus-based approach. It is conducted by employing a qualitative method, particularly a textual analysis taking the form of a case study, including quantitative data in the form of frequencies of metaphor occurrence. Analyses of the uses and functions of conceptual metaphor in economics text are conducted using a monolingual corpus as data which is taken from some English economics textbooks (i.e. Micro- and Macroeconomics, Management, and Economic Development). WordSmith Tools version 5.0 is also utilized based on key words having higher Keyness Index for eliciting examples of metaphorical expressions existing in the study corpus. Research findings reveal that nineteen types of metaphor representing the three conceptual metaphor categories have been widely used in the economics text and function as alternative methods to explain, discuss, even argue those abstract concepts in economics, including economic realities, in more concrete ways. The findings also strongly support the debate that there is the continuity in terms of categorization (i.e. methodology) adopted in dealing with the types of metaphor existing in literature and outside literature.

Keywords: cognitive approach, corpus-based approach, economics text, literature, metaphor

Introduction

Metaphor realization in literature and outside literature is pervasive, however, functions differently based on context. In the case of metaphor in poetry as a form of literature (Lakoff and Turner, 1989; Steen and Gibbs, 2004), Semino and Steen (2008) argue that the uses and functions of metaphor in literature is *idiographic* in nature, in the sense that a selection of metaphors should be interpreted on the basis of their uses and functions within a particular text, or context (Stern, 2000; Kövecses, 2000, 2009). Semino and Steen (2008) raise the issues of *continuity* and *discontinuity* between literary and non-literary uses of metaphor, as seen in the following way:

In analyzing these metaphors, assumptions are made about more general patterns of metaphor in literature, which act as a background against which the metaphors under analysis are assumed to function and sometimes even stand out. With the accumulation of such idiographic studies, however, and with the clear presence of the two competing traditions of the continuity and discontinuity between literary and non-literary uses of metaphor, it has become increasingly important to address the general relation between metaphor and literature in a direct fashion.” (p. 241)

In terms of the continuity between metaphor in literature and metaphor outside literature and also in relation to the introduction of conceptual metaphor theory which is cognitive based (Lakoff and Johnson, 1980/1992), Semino and Steen (2008, p. 235) also pointed out that “the rise of cognitive metaphor theory has led to a re-evaluation of the role of metaphor in everyday, non-literary language, and to a new perspective on metaphor in literature.”

Following Swan’s idea (2002), Semino and Steen (2008) argue that the cognitive approach with its systematic structure should be applicable not only to the regular, invariant, and generalizable patterns of metaphorical instances but also to those specific examples of metaphors. According to the metaphor theorists, the approach should be context-based in nature in the sense that “when investigating authentic uses of metaphor, it is always important to consider both the specificity of individual expressions in context and their relationship with large, conventional patterns in a particular genre, discourse or language” (p. 238).

However, the use of metaphor in the case of economics text as part of social sciences is also pervasive, but rather from a cognitive point of view (McCloskey, 1994; Boers, 2000; Charteris-Black, 2000). According to the cognitive approach, metaphors are also closely linked to *human thought* and *actions*. In other words, the nature of human conceptual systems are essentially metaphorical (Lakoff and Johnson, 1980, p. 3; Johnson, 1995, p. 1). Other metaphor theorists (Newmark, 1981; Dobrzyńska, 1995; Goatly, 1997/2011; Lee, 2001; Samaniego-Fernández, 2002; Barcelona, 2003; Martin and Rose, 2003; Schäffner, 2004; Knowles and Moon, 2006) define the basic concept of metaphor as understanding one concept (i.e. *target domain*) in terms of another concept (i.e. *source domain*). This relation can conceptually be mapped (i.e. *conceptual mapping*), abbreviated as CM.

The uses of metaphors in economics texts has long been a debated issue (White, 2003, p. 133). Their uses in the specific genre makes the economic discourse less abstract. The concepts ‘hope’ and ‘crisis’ in economics text, for instance, can be understood in a more concrete way through the following CM(s) — HOPE IS A BUILDING and CRISIS IS A CONTAINER as in *How Spain’s ‘guerrilla architect’ is building new hope out of financial crisis.*¹ To put simply, the uses of a

variety of metaphors in economics texts function as the basic model for understanding economic realities (Henderson, 1994; Backhouse, 1994; White, 2003).

Cognitive Linguistic Approaches: A Cognitive Approach to Metaphor

As one of the cognitive linguistic approaches, the cognitive approach is based on the cognitive metaphor theory. Kövecses (2005), as cited in Caballero (2007, pp. 1109–10), argues that it is built upon an assumption that both metaphor and culture are interrelated, either directly, or indirectly. Katan (2004, p. 27) also suggests that a cognitive approach could be adopted as an approach to study culture since it links with what people have in mind, how they perceive ideas and concepts, and connect them with other things, and then interpret them accordingly. This paper discusses the uses and functions of conceptual metaphors in economics textbooks because they have to do with cultural aspects.

Metaphorical expressions according to the cognitive approach are basically the realization, or manifestation of conceptual metaphors (Lakoff and Johnson, 1980). CMs are crucial in the conceptual metaphor theory reflecting the ontological relations between the source domain and the target domain. Several scholars (Kövecses, 2002; Croft and Cruse, 2004; Schäffner, 2004; Al-Hasnawi, 2007) share similar perspective.

To investigate the realization of conceptual metaphors in economics text, this study is based on the conceptual metaphor theory (also called a cognitive theory of metaphor, or the contemporary theory of metaphor), as pioneered by Lakoff (1993) and also supported by Gibbs (1994, 1999, 2008). Metaphors are defined as ways through which we are able to understand the target domain (i.e. the intended meaning of a metaphorical expression associated with a context) through the source domain (i.e. a literal meaning of a source domain vocabulary) which is easier to understand, or more easily to be recognized. In other words, metaphors are basically the cross-domain relationship in the human conceptual system (Lakoff, 1993, p. 203; Lee, 2001, p. 6; Kövecses, 2002, p. 4; Samaniego-Fernández, 2002, pp. 203–04; Croft and Cruse, 2004, pp. 193–203; Schäffner, 2004, pp. 1257–58; Deignan, 2005, p. 211).

In terms of categories of conceptual metaphors, Lakoff and Johnson (1980) and Lakoff (1993) divide them into three main categories: (1) *orientational metaphors* employed to explain those concepts, such as UP/DOWN, IN/OUT, FRONT/BACK, ON/OFF, NEAR/FAR, DEEP/SHALLOW, CENTRAL/PERIPHERAL (Lakoff and Johnson, 2003, pp. 14–21); (2) *ontological metaphors* used for explaining human activities, emotion, ideas through the concepts ENTITY and SUBSTANCE; (3) *structural metaphors* used for constructing a concept through another concept (Lakoff, 1993, p. 202–52). The link between the source domain and the target domain is intended to understand a metaphorical meaning (i.e. connotative meaning) and denotative meaning of a source domain vocabulary in a particular context.

A cognitive approach to metaphors is closely linked with a culture. According to Stienstra (1993), as cited in Schäffner (2004, pp. 1264–65), metaphors can be divided into three main categories: (1) *universal metaphors*; (2) *culture-overlapping metaphors*; (3) *culture-specific metaphors*. This approach is based on assumptions that most human experiences are basically universal in nature. Schäffner (2004) argues that it is the manifestation, or the realization of metaphors which are culture-specific, not the conceptual metaphor itself – “[...] it is not the conceptual metaphor that is culture-independent, but its linguistic realization” (p. 1265).

Methodology

In order to achieve the research objectives, this study adopts a methodology consisting of three components: *method*, *data*, and *data processing*. As for the first component, a qualitative method taking the form of textual analysis is adopted (Travers, 2001, pp. 4–5). This research limits its units of analysis to sentence-level as the context for conceptual metaphors based on the cognitive approach involving the study corpus.

Additionally, the previous method is also supported by a “quantitative method”, particularly the frequency of occurrences of a number of *key words* as the source domain vocabulary, or *image*, or *vehicle*,² as seen in Table 1 (Cameron, 2002; Stefanowitsch, 2006).

The second component of the methodology is a monolingual corpus designed on the basis of *representativeness*, *size*, *sampling* and *text types and functions* (Baker, 1995; 1996; Zanettin, 2000; Bowker and Pearson, 2002; Olohan, 2004). The corpus having more than one million token (or 1,018,715 running words to be exact) is taken from three economics textbook.³

The electronic data (i.e. the monolingual corpus) is processed by utilizing a concordance programme, called *WordSmith Tools version 5.0* (Scott 2001, 2008), apart from Microsoft Excel (versi 2003). It is used for extracting samples of metaphorical expressions in the study corpus. The British National Corpus (BNC) that is widely used in corpus-linguistic research is also employed as a referent corpus for obtaining a list of *key words* as an indicator of *lexicalized metaphors* in the study corpus. In addition, Newmark (1988) also argues that “[...] *the figurative word used, which may be one-word, or 'extended over any stretch of language from a collocation to the whole text'*” (pp. 104–13). In other words, in the corpus-based research, a list of key words with its *Keyness Index* is considered as preliminary data used for extracting concordance lines associated with the realization of conceptual metaphor in the study corpus (Shuttleworth and Cowie, 1997; Bowker and Pearson, 2002).

Results and Discussion

Keyword is a tool that WordSmith Tools versi 5.0 provides for creating a list of key words in the economics text (i.e. *study corpus*). The list is produced by comparing a word list in the study corpus and another word list in BNC having the ratio 1:5 as commonly applied in corpus-based linguistic research. Sardinha (2006) argues that there is a “mutual relationship” between key words and metaphor in Corpus Linguistics as conveyed in the following quote “keywords are a useful means for metaphor identification because frequent keywords often signal an incongruity or tension between a word and its surrounding context (Deignan 2005), which in turn may indicate a metaphor ” (pp. 249–74). Tabel 1 presents quantitative data associated with the key words that in some cases may act as the source domain vocabularies.

Each key word has its own Keyness Index which reflects its importance in the study corpus (i.e. economics text). The higher the Keyness Index of a key word, the more important the key word is in a given text, or genre. Tabel 1 also shows the representativeness of key words that belong to the branches of economics. For example, the following key words such as PRICE, DEMAN, SUPPLY, MARKET, COST, INCOME are mostly used both in Microeconomics and Macroeconomics text; whereas the key words such as DEVELOPMENT, GROWTH, INCOME, POPULATION are widely used in Economic Development text; while the key words such as MANAGER, EMPLOYEE, MANAGEMENT, ORGANISATION, PERFORMNCE are frequently used in Management text.

By using the key words (mostly nouns) in Table 1 and other source domain vocabularies (i.e. verbs and adjectives), examples of metaphorical expressions are elicited before classifying

them into the three categories of conceptual metaphor (i.e. orientational, ontological, and structural), as well as types of metaphor (e.g. commodity metaphor, image metaphor, up-down metaphor, and entity metaphor).

Tabel 1. Some Key Words in Economics Text

N	Key word	Freq.	%	RC.		Keyness
				Freq.	RC. %	
1	PRICE	3041	0.29851	1096	0.021992916	6417.473633
2	DEVELOPMENT	2658	0.26092	969	0.019444466	5583.378906
3	GROWTH	2198	0.21576	509	0.010213863	5372.667969
4	INCOME	2260	0.22185	643	0.012902778	5189.268066
5	LABOR	1396	0.13704	6		4878.215332
6	DEMAND	2067	0.2029	592	0.011879385	4735.506348
7	SUPPLY	1770	0.17375	367		4457.139648
8	MANAGER	1416	0.139	311		3511.325928
9	GOODS	1368	0.13429	263		3510.791748
10	ECONOMY	1516	0.14881	553	0.01109679	3182.547607
11	MARKET	2247	0.22057	2052	0.041176517	2785.672852
12	EMPLOYEE	1113	0.10926	252		2736.822754
13	COST	1631	0.1601	1029	0.020648457	2619.715576
14	POPULATION	1242	0.12192	457		2598.172607
15	CAPITAL	1318	0.12938	560	0.011237256	2596.024658
16	TAX	1411	0.13851	923	0.018521406	2216.775391
17	EQUILIBRIUM	652	0.064	15		2175.161133
18	POVERTY	767	0.07529	144		1979.457031
19	TRADE	1419	0.13929	1113	0.022334047	1975.567505

Since concordance lines as seen in Table 2 operating at the sentence level only provide limited context for metaphorical uses, *WordSmith Tools* 5.0 also provides another feature that links each concordance line with its wider context (*co-text*) – the file where key word in context (KIC), such as *market*, *growth*, *development*, *management*, *cost*, are used. Linguistic expressions tend to appear in clusters before and after a key word as KIC. As a result, it is easier to identify metaphor on the level of paragraph, even on textual level.

Tabel 2. Conkordance Lines for Some Key Words⁴

224 types of market structure. In a **competitive market**, each firm is so small
 225 supply and demand. In any **competitive market**, such as the market
 226 behind the supply curve in a **competitive market**. Not surprisingly, we
 227 we observe in the economy. **competitive market** a market in which the
 228, if ice cream is sold in a **competitive market** free of government
 229 the price in a perfectly **competitive market** always equals the
 656 development is defined in terms of **GDP growth** rates-an important
 657 into play. 5.9% annual **GDP growth** in the 1965-1980 But
 658 industrializing economy. Real **GDP growth** has averaged nearly 4.5%

659 a negative 2.4% rate of **GDP growth** in 1998 following the 1997 Asia
 660 real rate of per capita **GDP growth** of 3.2% in the 1990-2000 period
 661 remains uncertain. The 1997 real **GDP growth** rate of 6% turned to a
 675 relationship between low **GNP growth** and improved income
 676 as responsible for sluggish **GNP growth** as low rates of saving and
 677 the Philippines, low rates of **GNP growth** appear to have been
 678 Salvador, with similarly low **GNP growth** rates, managed to improve the
 679 . After registering 5% real **GNP growth** in 1985, low by traditional
 680 product its combination of **GNP growth** and the income growth of the
 974 can have significantly different **human development** indicators,
 980 countries on a scale of 0 (lowest **human development**) to 1(highest human
 984 according to their level of **human development**, including health and
 985 (0.50 to 1.799), and high **human development** (0.80 to 1.0).
 990 accomplish relatively little in **human development**. adult literacy
 993 nations ranked from low to high **human development** (column 3) along with
 688 the basics of strategy and **strategic management** you need look no
 689 Postal Service's CEO) used **strategic management** to help pinpoint
 690 action. Step 2 of the **strategic management** process is complete
 691 .2 Wal-Mart is good at **strategic management**, whereas Kmart
 693 BCG matrix, can be a useful **strategic management** tool. It provides a
 699 illustrate the value of **strategic management**. In this section, we
 181 paper firms will not consider the **full cost** of the pollution they
 182 noise. Dog owners do not bear the **full cost** of the noise and,
 183 have a high premium and cover the **full cost** of any accidents that occur
 184 , to make polluters pay the **full cost** of their anti-social
 185 here the government may pay the **full cost** of tuition and fees and even

Metaphors normally occur in the form of word combinations, phrases, or sentences, rather than in the form of word by word, or isolated ones. Such views are understandable because metaphorical meanings can partly be understood through their specific and immediate context (Halliday and Hasan, 1985; Goatly, 2011). To put it simply, by involving key words as a product of Corpus Linguistics, it is therefore much easier to carry out metaphorical analyses which rely on a cognitive interpretation.

Having categorized all types of conceptual metaphor in the study corpus, it reveals that there are around nineteen types metaphors occur in the corpus concerned, as seen in Tabel 3. It shows the top four types of conceptual metaphor in economics text having the frequency of occurrence of more than ten per cent. They represent the three categories of conceptual metaphor as put forward by Lakoff and Johnson (1980) — structural metaphor, orientational metaphor, and ontological metaphor. Commodity metaphor as one type of the structural metaphor category has the highest frequency of occurrence (22.22 %), followed by image metaphor as part of the same category (17.13 %), up-down metaphor that belongs to the orientational metaphor category (12.35 %), and entity metaphor categorised as part of the ontological metaphor category (11.42 %) respectively. In other words, structural metaphors, especially commodity and image metaphors, have been widely used in economics text in order to make those economics concepts and economic realities less abstract, or expressed in more concrete ways.

It is interesting to note that the TIME IS MONEY metaphor is rarely used in economics text. One of the reasons for this is due to the fact that such ontological metaphor has been so popular in the source culture and language and also in various genre, or text types. As a result of this, it is no longer consider as a metaphor (Newmark, 1988), including its use in economics text. Another reason is that it is commonly used in spoken text, rather in written text.

Table 3. Conceptual Metaphors in Economics Text

No	Types (Categories) of Conseptual Metaphors	Frequency	%*
1.	Commodity Metaphor (<i>Structural Metaphor</i>)	131	22,22
2.	Image Metaphor (<i>Structural Metaphor</i>)	111	17,13
3.	Up-down Metaphor (<i>Orientalional Metaphor</i>)	80	12,35
4.	Entity Metaphor (<i>Ontological Metaphor</i>)	74	11,42
5.	Containment Metaphor (<i>Ontological Metaphor</i>)	45	6,94
6.	Building Metaphor (<i>Structural Metaphor</i>)	31	4,78
7.	Machine Metaphor (<i>Ontological Metaphor</i>)	30	4,63
8.	Product Metaphor (<i>Structural Metaphor</i>)	26	4,01
9.	Object Metaphor (<i>Structural Metaphor</i>)	25	3,86
10.	Journey Metaphor (<i>Ontological Metaphor</i>)	22	3,40
11.	War Metaphor (<i>Ontological Metaphor</i>)	15	2,31
12.	Resource Metaphor (<i>Structural Metaphor</i>)	12	1,85
13.	Brittle Object Metaphor (<i>Ontological Metaphor</i>)	12	1,85
14.	Game Metaphor (<i>Ontological Metaphor</i>)	10	1,54
15.	Physical Force Metaphor (<i>Structural Metaphor</i>)	8	1,23
16.	Money Metaphor (<i>Structural Metaphor</i>)	6	0,93
17.	'Time is Money' Metaphor (<i>Ontological Metaphor</i>)	4	0,62
18.	Plant Metaphor (<i>Structural Metaphor</i>)	3	0,46
19.	Food Metaphor (<i>Structural Metaphor</i>)	3	0,46

* n = 638

Below are some cognitive analyses of the uses and functions of the four types of conceptual metaphor in economics text. Text used as examples in this part are taken from the three economics textbooks (i.e. the study corpus) mentioned earlier.

Commodity Metaphors

The realization of commodity metaphors in economics text is reflected through their occurrences in the study corpus which is amounting to 22.22 per cent. As pointed out by Goatly (2011, p. 109), the use of such metaphors functions as an alternative to explain those economics concepts (e.g. finance, management team, venture selling, labour market, global market, 'invisible hand' of the market, social project values, and employees as valuable assets) as valuable commodities traded in economic activities as the source domain.

Below are some examples of the metaphorical expressions that belong to the commodity metaphor used in the study corpus. The word *package* as the source domain vocabulary (Deignan, 2005, 2008) in example (1), for instance, creates a metaphorical expression like *A financing package of stabilization policies* (CM: ECONOMIC POLICIES ARE COMMODITIES) which means 'a set of financing regulations specially designed for domestic economic stabilization' as

the target domain. This metaphorical meaning is actually an extended meaning of the literal meaning of a sentence like: *They bought a package of goods from the store*. This is what the cognitive metaphor theorists (Lakoff and Johnson, 1980; Gibbs, 1994) mean by *cross domain relationship* — between the source domain and the target domain, or between the literal meaning and the intended meaning.

The cognitive approach to the commodity metaphor makes the concept of ‘a financing package’ in association with ‘stabilization policies’ more concrete, or less abstract. This will help the readers (e.g. university students of economics) understand the concept easily (Henderson, 1986; McClosekey, 1994; White, 2003; Mankiw, 2003).

- (1) A financing **package** of stabilization policies is an agreement among the IMF, the debtor country, and private commercial banks designed to prevent default through the restructuring⁵ of macroeconomic policy and the gathering of new capital. (ED, Chapter 14)

Another realization of the commodity metaphor can be seen in example (2) where the source domain vocabulary *market* is used metaphorically as in the phrase *the market for teenage labor* (i.e. CM: LABOUR IS A COMMODITY). In terms of the target domain, the metaphor means ‘an abstract place where there is a demand for teenage labour’. This extended meaning (i.e. the target domain) derives from the literal meaning (i.e. the source domain) of a sentence like *Vegetables are sold in the market*. As for the function, the commodity metaphor is used to explain the relationship between the concept *minimum wage* and *labour market*, particularly teenage labour. This device helps the readers to follow the explanation, or discussion easily as the example (2) becomes less abstract.

- (2) The minimum wage has its greatest impact on the **market** for teenage labor. [POE, Chapter 6]

The third realization of the commodity metaphor can be seen in example (3). As the source domain vocabulary, the phrase *a marketplace* is used metaphorically in the expression *a competitive global marketplace*. The metaphorical meaning as the target domain can be regarded as an extended meaning of the literal meaning (i.e. the source domain) of the sentence *People sell and buy goods from a local marketplace*. The use of such a commodity metaphor in example (3) is aimed (i.e. the metaphor function), as raised by Semino and Steen (2008), to explain one of the market strategies (i.e. *borderless management*) adopted by companies in coping with the competitive international marketplace. The use of the commodity metaphor will make the economics text in example (3) easier to understand.

- (3) Borderless⁶ management is an attempt by organizations to increase efficiency and effectiveness in a competitive⁷ global **marketplace**. [MAN, Chapter 4]

Below are some uses and functions of image metaphors in the study corpus.

Image Metaphors

Image metaphors are the second frequently used metaphors in the study corpus. This is indicated by the use of a number of source domain vocabularies (Deignan, 2005; Stefanowitsch, 2005/2006; Stefanowitsch and Gries, 2006/2007) such as *clear*, *blurred* as in sentence (4), *picture* as in sentence (5), *point of view* as in sentence (6), *transparent*, *see*, *outlook*, *point out*, and *insightful* which create a CM: UNDERSTANDING IS SEEING having 17.13 per cent of

occurrences, places the second after the commodity metaphor. As for their functions, those image metaphors are used to explain, or to make the readers understand the economic concepts (e.g. value chain management), relationship (e.g. between managers and nonmanagerial employees), process, as well the world through vision (Goatly, 2011). Take example (4), for instance, the phrase *the clear lines of distinction* in which the literal meaning of the phrase *a glass of clear water on the table* (as the source domain) has been extended in the metaphorical expression which means ‘a meaningful distinction between the two concepts’ as the target domain.

- (4) The **clear** lines of distinction between managers and nonmanagerial employees have been **blurred**. (MAN, Chapter 1)

The second example of image metaphor is shown in example (5), especially the use of the phrase *a better picture of* as in the sentence ... *managers need a better picture of how well this value is being created* The literal meaning of the sentence *a picture of the tallest tower* as the source domain has been extended in the metaphorical expression which means ‘a good understanding of’ as the target domain. The image metaphor functions as a device to provide an illustration, or explanation for the concept of ‘value chain management’.

- (5) Because the goal in value chain management is meeting and exceeding customers' needs and desires, managers need a better **picture** of how well this value is being created and delivered to customers. [MAN, Chapter 19]

The third realization of similar type of metaphor can also be seen in example (6) as realized through the phrase *from the investor's point of view* where the word *view* as the source domain vocabulary is used metaphorically. Again, the meaning of the word *view* as in a phrase like *green view tea plantations* as the source domain has been metaphorically extended which means ‘based on the investor's opinion’ as the target domain.

- (6) From the investor's **point of view**, investing in the stock markets of "emerging" countries (as some LDCs are called in the financial community) permits them to increase their returns while diversifying their risks. [ED, Chapter 15]

Below is a cognitive analysis of the uses and functions of up-down metaphors in the study corpus.

Up-down Metaphors

Up-down metaphors have the third highest frequency of occurrence (12.35%) in the study corpus. The concept of UP-DOWN is normally used to describe economic realities partly relating to *share prices, cost, income, tariffs* that might fluctuate at a point in time. This section deals with several types of up-down metaphors.

To begin with, CM: MORE IS UP; LESS IS DOWN is realized through example (7). The use of two source domain vocabularies (i.e. *rise* and *fall*) in that sentence have produced two metaphorical expressions — *the share of the bottom fifth rose* ... and ... *the share of the top fifth fell* ... respectively. In the case of the former metaphor (i.e. CM: MORE IS UP), it means ‘*The price of the share of the bottom fifth increased* ...’ as the target domain. This metaphorical meaning is extended from the literal meaning of a sentence like *She rose from her bed* as the source domain;

whereas the latter metaphor (i.e. CM: LESS IS DOWN) as in *the share of the top fifth fell*) means ‘*the price of the share of the top fifth decreased*’ as the target domain, which is an extended meaning of a sentence like *He fell from the tree* having a denotative meaning. Moreover, the two metaphors function as an alternative way of giving an illustration in terms of statistics as to the rise and decrease of income of the bottom fifth family and the top fifth family respectively.

- (7) The share of the bottom fifth **rose** from 4.1 to 5.5 percent, and the share of the top fifth **fell** from 51.7 percent to 40.9 percent. [POE, Chapter 20]

Apart from the previous CM(s) (i.e. MORE IS UP and LESS IS DOWN), the CM: HAVING CONTROL OR FORCE IS UP is also regarded as part of orientational metaphor category. As far as metaphor functions are concerned, the metaphor is widely used in economics text to describe which parties, or economic players control the existing resources. The manifestation of the CM can be seen in example (8) – *powerful multinational corporations can gain control over local assets and jobs*. The concept ‘control’ in economic realities is partly indicated by the ways in which multinational companies operating in certain areas have more power to control local assets, including job opportunities. They might even have political influence on decision-making, as realized through example (8).

- (8) Finally, at the political level, the fear is often expressed that powerful multinational corporations can gain **control** over local assets and jobs and can then exert considerable influence on political decisions at all levels. [ED, Chapter 15]

Similar use of the CM: HAVING CONTROL OR FORCE IS UP can also be seen in sentence (9) where the phrase *superior performance* has a metaphorical meaning ‘greater performance than others’ as the target domain; while the literal meaning (i.e. the source domain) of the source domain vocabulary *superior* is manifested in a sentence like *Employees always report to their superior officers*. Within the context of Management Science, managers in competitive businesses are able to improve the quality of their performance by analyzing, if necessary, by copying the effective methods used by other successful leaders in various sectors (i.e. *benchmarking*).

- (9) This is the search for the best practices among competitors or noncompetitors that lead to their **superior performance**. [MAN, Chapter 9]

Unlike the CM in sentence (9), CM: BEING SUBJECT TO CONTROL OR FORCE IS DOWN can also be seen in example (10). The metaphorical expression shows a cross domain relationship between the target domain ‘lower outcome’ as in *the inferior outcome* and the source domain as in *an inferior place*. The use of this type of metaphor functions as a device to give a less abstract illustration of the consequences that both countries suffered from due to the arms race.

- (10) Thus, each country [the Soviet Union and the United States] chooses to continue *the arms race, resulting in the inferior outcome* in which both countries are at risk.⁸ [POE, Chapter 16]

The following cognitive analysis deals with the uses and functions of entity metaphors in the study corpus, as well as their relationship with literature-based approach towards metaphors, especially *personification*.

Entity Metaphors

The term *personification* is used in literature as opposed to the term *entity metaphor* (i.e. human and nonhuman entities) in the cognitive approach to metaphor. This phenomenon again shows a close relationship, or the continuity between researching metaphor in literature and the study of metaphor outside literature – the cognitive approach (Semino and Steen, 2008). Having categorized the conceptual metaphors in the study corpus, several evidences of the use of entity metaphors in the study corpus having 11.42 per cent of occurrences are conceptually mapped as follows: (1) INFLATION IS A PERSON/INFLATION IS AN ADVERSARY; (2) INFLATION IS AN ENTITY; (3) THEORIES ARE ENTITIES; (4) POVERTY IS AN ENEMY.

Lakoff and Johnson (1980, pp. 33–34) argue that since the use of personification with human entities, particularly CM: INFLATION IS A PERSON as in *inflation erodes living standards*, is inadequate, the use of CM: INFLATION IS AN ADVERSARY as in *the public dislikes inflation* therefore proves to be more effective as it deals with economic and political measures that the government needs to take in order to eradicate inflation; one of its manifestations can be seen in example (11).

- (11) It is true that **the public dislikes inflation**, but the public may be misled into believing the inflation fallacy-the view that **inflation erodes living standards**. [POE, Chapter 36]

The metaphorical meanings (i.e. the target domain) in example (11) are basically extended from the literal meanings (i.e. the source domain) of the following sentences respectively: *10 Things that Employees Dislike most about their Boss* and *Waves eroded the shore*. The two metaphors of the same type function as a rhetorical device to give arguments, or debate over how the public perceives inflation against its negative impact on the standard of living, which is rather emotional (Goatly, 2011, pp. 153–77).

Unlike the previous human entity metaphors, example (12) provides an illustration for nonhuman entity metaphor.

- (12) **This theory** [theory of advertising] **can explain why** firms pay famous actors large amounts of money to make advertisements that, on the surface, appear to convey no information at all. [POE, Chapter 17]

The metaphorical expression *This theory* [theory of advertising] *can explain why* can conceptually be mapped as CM: THEORIES ARE ENTITIES (i.e. nonhuman entities). The use of such metaphor has to do with human characters and the activities that humans normally do. It has a function to rhetorically explain those relevant economic theories and concepts as entities to the readers. This can be used as a basis, or reference to understand various economic phenomena, or activities. To summarize this section, the last two examples (11 and 12) give empirical evidences, as Semino and Steen (2008) pointed out, that there is the continuity between metaphor-related research in literature (i.e. personification) and outside literature (i.e. entity metaphors) as already identified in the economics text.

As a keyword in economics text with the Keynes Index of 1979.46, especially in Economic Development as part of Economics (i.e. the study corpus), POVERTY is often expressed metaphorically as in example (13). *To combat poverty* metaphorically means ‘to deal with, or to overcome poverty’ as the target domain as opposed to the sentence *The troops involved in a fierce combat* with a literal meaning (i.e. *a fierce battle*).

- (13) Opponents of the minimum wage contend that it is not the best way **to combat poverty**. [POE, Chapter 06]

The use of such metaphors as *to alleviate poverty*, *poverty alleviation*, *to attack poverty*, *to combat poverty*, *to eliminate poverty*, *to eradicate poverty*, *to escape poverty*, *to fight poverty*, *to lower poverty*, *to reduce poverty* produce CM: POVERTY IS AN ENEMY. The economics textbook writers make use of such metaphors in order to raise the readers' awareness that poverty as a social issue need to be the concern of all; more importantly, how to reduce the poverty ratio.

Conclusión

Metaphors play significant roles in economics text. In terms of functions, the uses of metaphors in the study corpus are partly intended, as alternative methods, to explain economics abstract concepts (i.e. explanation) and also to offer arguments (i.e. pros and against), including for expressing emotional attitudes towards economics realities and the measures taken by policy makers and economic players.

As far as the conceptual metaphor categories are concerned, structural metaphors are widely used in the study corpus in comparison with the other two categories (i.e. orientational and ontological metaphors). Commodity and image metaphors are the first two types of conceptual metaphor that are most frequently used in the study corpus, followed by up-down metaphors (i.e. orientational metaphor) and entity metaphors (i.e. ontological metaphor). The uses of these types or categories of metaphors help readers of the economics text to easily understand those economics notions, arguments, and realities. This is due to the fact that the cognitive approach to metaphors with its CM(s) adopted in this study relates the target domain and the source domain in a given context. This cross-domain relationship is parallel with human thought and action, which is metaphorical in nature.

To conclude, this study also reveals some empirical evidences that there is the *continuity* (rather than the *discontinuity*), at least in terms of metaphor categorization (i.e. methodology), between the literature-oriented approaches to metaphors and the approaches to metaphors adopted outside literature, particularly in economics text as part of social sciences.

Endnotes

¹ Taken from *Guardian*. Available online <http://www.theguardian.com/cities/2014/aug/18/santiago-cirugeda-guerrilla-architect-spain-seville-financial-crisis>, accessed on 21 August 2014.

² The term *point of similarity* between both the source domain/*vehicle* and the target domain/*topic* is used in the traditional approach dealing with the changes to something from the pervious conditions to better conditions.

³ *Principles of Economics, 3rd Edition* (Mankiw, 2003), *Economic Development, 8th Edition* (Todaro, 2003), and *Management, 7th edition* (Robbins and Coulter, 2003).

⁴ Those concordance lines produce various CM(s): **competitive market** (CM: MARKETS ARE A GAME), **GDP growth** (CM: GDP ARE PLANTS), **GNP growth** (CM: GNP ARE PLANTS), **human development** (CM: DEVELOPMENT IS A PERSON), **strategic management** (CM: MANAGEMENT IS WAR), and **full cost** (CM: COSTS ARE CONTAINERS).

⁵ A source domain vocabulary through which a building metaphor can be created (CM: ECONOMIC POLICIES ARE BUILDINGS).

⁶ A source domain vocabulary that creates a journey metaphor as in *borderless management* (CM: MANAGEMENT IS A JOURNEY).

⁷ A source domain vocabulary that creates a game metaphor as in *a competitive global marketplace* (CM: MARKETS ARE GAMES).

⁸ A source domain vocabulary (i.e. *risk*) based on which a war metaphor can be produced (CM: ARGUMENT IS WAR).

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