Mapping business translation studies on metaphor. A bibliometric analysis español

Investigación sobre la metáfora en traducción económica. Análisis bibliométrico

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Abstract: The aim of this paper is to map research on metaphor in business translation in Spain and examine whether it is ahead of or lagging behind such research in other countries. Following a bibliometric analysis, we compare publications on the topic by Spanish and international authors. There are three steps involved: (1) finding publications on metaphor in business translation, (2) compiling and managing those publications, and (3) studying their bibliographical references. We have analysed our corpus according to different bibliographic and content elements, such as format, language, year, country, keywords, author and university productivity, co-authorship networks, and bibliographic coupling. Results show similarities, such as centre and author productivity, the most cited works and authors, and research interests. Among the main differences found, Spanish authors have more co-authored publications and more publications on translation, while international authors study more language pairs, have written more books and PhD theses on the topic, and collaborate more with researchers from other universities.
Keywords: Business translation; metaphor; research; bibliometrics.
Resumen: El objetivo de este trabajo es cartografiar la investigación sobre la metáfora en traducción económica y conocer en qué plano se sitúa la investigación española con respecto a la internacional. Mediante un análisis bibliométrico se comparan las publicaciones españolas e internacionales sobre el tema. El proceso consta de tres pasos: (1) identificación de publicaciones sobre el tema, (2) recopilación y gestión de dichas publicaciones, y (3) estudio de referencias bibliográficas. Se analiza el corpus desde distintos ángulos: contenido, formato, lengua, año, país,

palabras clave, productividad de autores y universidades, redes de coautoría y correferencias. Los resultados muestran similitudes, como en la productividad de centros y autores, obras y autores más citados e intereses investigadores. Entre las principales diferencias, mientras que los autores españoles tienen más publicaciones en coautoría y sobre traducción, entre los internacionales hay más pares de lenguas estudiadas, más libros y tesis doctorales. Además, colaboran más con investigadores de otras universidades.

Palabras clave: Traducción económica; metáfora; investigación; bibliometría.

INTRODUCTION

Business translation in the broad sense (including economics, finance, trade, etc.) is a burgeoning activity throughout the world. Market surveys, specialised courses in translation curricula, and scientific production, which is steadily gaining interest, are testimony to that.

A recent study by Gallego (2020) has showcased the importance of business translation research over time. He identifies, inter alia, some of the main interests and research areas: the use of translated works of great thinkers to reconstruct economic history; analysis and description of economic and financial text genres for practical or training purposes; business translation training/learning; market research; information needs analysis and creation of dictionaries; and translation problems at the microtextual level: terminology, phraseology, metaphor, interference, etc.

However, that attempt to map business translation research is limited to Spanish centres' scientific production, and therefore only represents a limited part of real scientific production.

The aim of this study is to make a small contribution to current international research on business translation, and studies of metaphor in that context. This paper document completes the abovementioned study with the scientific production of authors affiliated with international universities or centres, through a similar bibliometric analysis.

This may help to answer some unanswered questions. Overall, the objective may be simplified as addressing the question: what are the differences and similarities between Spanish and international research on

metaphors in business translation? Answering this question requires a parallel bibliometric analysis similar to Gallego's (2020), which is hardly feasible here. The present study therefore focuses solely on one of the main areas of research on business translation: the translation of metaphors.

Traditional theories considered metaphors to be merely decorative devices (Newmark, 1981; Pliego, 1993). However, Lakoff and Johnson (1980) and Lakoff and Turner (1989) laid the foundations of the Contemporary Theory of Metaphor, dismantling the traditional approach and labelling it false (Lakoff, 1993). This contemporary version asserts that metaphors are an integral part of our everyday life, and that our way of thinking and acting is metaphorical in nature (Lakoff and Johnson, 1980). It was in the 1980s that scholars first started to prove that business language has a strong metaphorical component (Henderson, 1982; McCloskey, 1983) and that metaphors are an essential tool for understanding specialised concepts. There has been an increase in works related to business metaphors since then, and there are areas of significant interest, such as English for Specific Purposes (Boers, 2000; Charteris-Black, 2000; Henderson, 2000) and Translation and Interpreting Studies.

1. BIBLIOMETRIC APPROACH

Bibliometrics can be defined as "the application of mathematics and statistical methods to books and other media of communication" (Pritchard, 1963). One of the authors who helped build its foundations, Eugene Garfield, refers to it as "the quantification of bibliographic information for use in analysis" (Garfield et al., 1983, p. 581). According to De Bellis (2009, p. 3), bibliometrics is a kind of metascience which, based on bibliographic data (titles, authors, citations, etc.), analyses, quantifies and measures the scientific production of a given discipline, creating formal representations of behaviour for explanatory, evaluative or administrative purposes.

Bibliometric analyses have been questioned on the grounds of researchers' lack of scientific and statistical training, the absence of a preliminary approach or an insufficient theoretical framework. However, interpreting results with the right standardisation and considering their limitations can be really beneficial for assessing scientific research activity.

To be of interest to bibliometrics, a discipline needs a great number of self-identifiable publications, as well as long-term continuity, for all

information to be analysed. In that regard, translation and interpreting studies increased dramatically until achieving consolidation in the last two decades of the 20th century. Another requirement is the availability of bibliographic repositories encompassing everything that has been studied. In this respect, specialised databases on translation, such as TSB (Translation Studies Bibliography) (Gambier and van Doorslaer, 2004-2022) and BITRA (Bibliography of Interpreting and Translation) (Franco, 2001-2022), help to ensure the relevance of Translation and Interpreting Studies to bibliometrics.

Bibliometric analyses on translation are relatively scarce and new. According to Rovira et al. (2020, p. 27), BITRA records more than 100 publications on this topic. In essence, such studies use either BITRA or TSB for entries such as author, title, date of publication, keywords, among others, or manually retrieve a bibliographic corpus. Researchers use bibliometric indicators to identify typical or unusual patterns in scientific production. Such indicators vary greatly, including, but not limited to: year, format, language, author's gender, citations, co-citations, co-authorship and keywords (Gile, 2015). Each indicator encapsulates one or more bibliographic characteristics by means of numeric data, whose interpretation can provide useful insights for research. For instance, Pöchhacker (1995) outlined a research overview of interpreting studies drawing on productivity, format and language indicators, among others. By quantifying work and author citations, Franco (2009) offered a descriptive and critical review of translation research, highlighting the most influential authors and theories. Li (2015) presented a scientometric analysis covering publication counting, citation, editorial board composition and word analysis from the publications of scholars from Mainland China. Zanettin et al. (2015) labelled fields or themes of study and research methodologies by extracting keywords and n-grams from abstracts. Rovira et al. (2020) discovered collaborative patterns in Translation and Interpreting Studies by exploiting co-authorship indicators, combined with format, year and citation indicators.

2. METHODOLOGY: CORPUS AND BIBLIOMETRIC INDICATORS

Our bibliographic corpus contains publications that focus on metaphor analysis as part of studies on business translation (hereinafter, "translation studies") and cross-linguistic comparative studies of economic discourse that examine similarities and differences, frequency, conceptual

parallelism, etc. of metaphors in two or more languages (hereinafter, "comparative studies").

The corpus comprises 205 publications divided into two sub-corpora, one including publications by researchers with Spanish affiliations (hereinafter, "Spanish sub-corpus") and the other by researchers with non-Spanish affiliations (hereinafter, "International sub-corpus"). All corpus references can be found at http://t.ly/RU0h.

The Spanish sub-corpus contains 60 records corresponding to 42 authors. It includes the 46 works retrieved by Gallego (2020) and 14 new records, most of them published after 2016. It is important to clarify that not all the researchers in this sub-corpus are Spanish, but they are or have been affiliated with Spanish universities or centres. The International sub-corpus contains 145 records corresponding to 108 authors.

We compiled the corpus mainly with works from BITRA, but also from other databases such as WoS, Proquest and Google Scholar. Additionally, we retrieved new publications while recording the bibliographical references of works already included in the corpus. Finally, we contacted researchers by email to ask if they had other publications on business translation or comparative studies.

We recorded publications in a spreadsheet and indexed them using BITRA's keywords, as well as other metadata such as affiliation (in terms of the author's university or centre), the author's country and gender, language pair, etc.

We manually retrieved and recorded abstracts and bibliographical references, an essential step in citation and co-citation analyses. After excluding references that were not academic works (dictionaries, news articles, etc.), we ended up with approximately 2,200 registers (1,500 excluding repetitions) in the Spanish sub-corpus and more than 6,000 (3,800 excluding repetitions) in the International sub-corpus.

Our analysis encompasses six categories of bibliometric indicators: form, personal, productivity, collaboration, impact and content indicators (Ardanuy, 2012). In our study, form indicators include publication year, format (book, book chapter, article or PhD thesis) and language. Personal indicators focus on authors' gender and country. Productivity indicators measure scientific production, i.e., the number of publications per author, university or centre, and country. These indicators use any quantifiable item on the basis of which productivity can be measured and ranked. Collaboration indicators identify works signed by two or more authors. Co-authorship networks help to determine which pairs, groups or centres

have worked together. Impact or visibility indicators show the number of citations per work or author. These indicators are well known in bibliometrics due to their direct effect on researchers' careers (Ardanuy, 2012, p. 17). On the one hand, our analysis compares the most cited Spanish and international works and authors. On the other hand, it examines instances where two authors refer to the same third author in their works (bibliographic coupling). Lastly, content indicators show the language pairs studied, BITRA's keywords, the most frequent keywords in title publications, and the distribution between comparative and translation studies.

In addition to the spreadsheet, through which we obtained numerical data for each indicator, we used two other tools for co-authorship network design and bibliographic coupling: Bibexcel, for creating the net or vec data files necessary for map visualisation, and Pajek, which creates networks from the files in question and helps to display data.

3. RESULTS

3.1. Form indicators

The earliest publication in the corpus is by a Spanish author (Gómez, 1992). The earliest publication in the International sub-corpus is that of Boers and Demecheleer (1995). Overall, the most productive year is 2011, with four Spanish and sixteen international works. It is 2015 in the case of the Spanish sub-corpus and, again, 2011 in the case of the International sub-corpus (see figure 1).
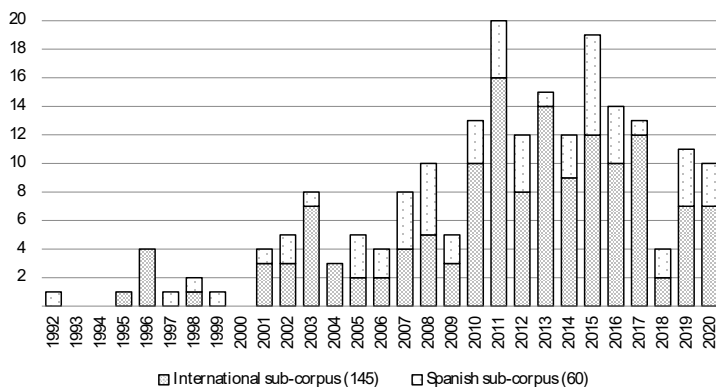

Figure 1. Publication year

Articles are the preferred format, closely followed by book chapters (see figure 2). There are three PhD theses from Spain and twelve from the rest of the world. There are no books by Spanish authors and nine by international authors.
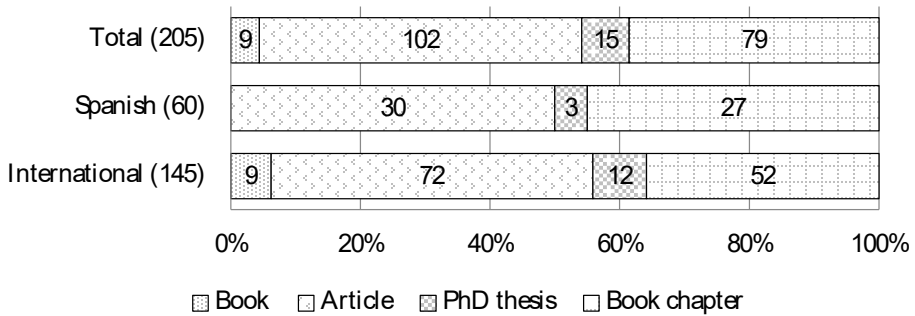
	Book	Article	PhD thesis	Book chapter
Total (205)	9	102	15	79
Spanish (60)		30	3	27
International (145)	9	72	12	52

Figure 2. Format

English is the most used language in both sub-corpora (65%), followed by Spanish (16%) (see figure 3). English is the language of 73% of the publications in the International sub-corpus, but of just 47% in the Spanish sub-corpus. Spanish, meanwhile, is used in 43% of the publications in the Spanish sub-corpus, but in only 6% in the International sub-corpus. Regarding other languages, the Spanish sub-corpus has three publications in French, two in German and one in Galician. The International sub-corpus has seven works in French, four each in German, Russian and Slovak, three in Romanian, two each in Chinese, Italian and Serbian, and one each in Arabic, Korean and Indonesian.
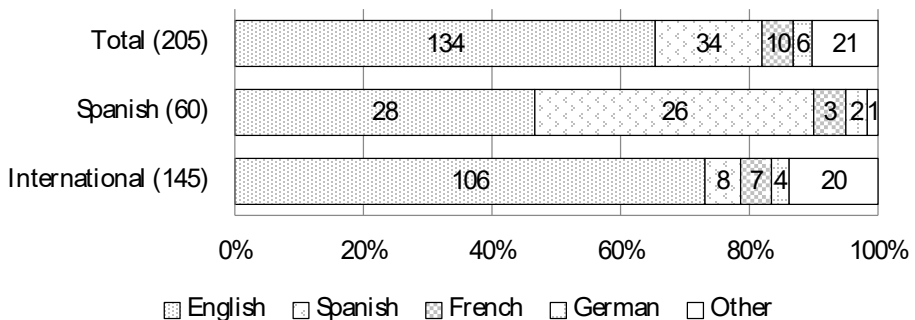
	English	Spanish	French	German	Other
Total (205)	134	34	10	6	21
Spanish (60)	28	26	3	2	1
International (145)	106	8	7	4	20

Figure 3. Language

As for accessibility, 29 of the 60 works (48%) in the Spanish sub-corpus and 94 of the 145 (65%) in the International sub-corpus are available online.

3.2. Personal indicators

The authors of the works in the corpus are 103 women (69%) and 47 men (31%) (see figure 4). The percentage of women is lower in the Spanish sub-corpus (64%) and slightly higher in the International sub-corpus (70%). The percentage of male authors in the Spanish sub-corpus and in the International sub-corpus is 36% and 30%, respectively.
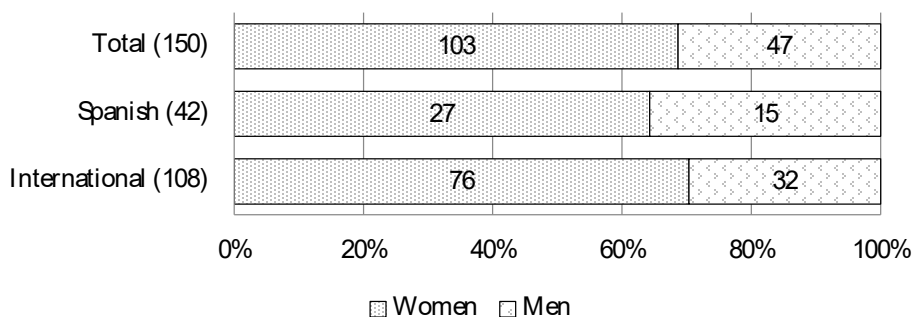
Figure 4. Authors' gender

Concerning countries, forty-two of the authors are from Spain. There are thirty-four countries represented in the International sub-corpus. Romania is in first position with thirteen authors, followed by China and the UK with ten authors each. Italy has eight authors, Germany seven, Russia six, Serbia five, and Taiwan four. Belgium, Denmark, Hong Kong, Iran, Lithuania and Poland have three authors each. Canada, Croatia, France, Palestine, Slovakia and South Korea have two authors each. The other countries, each of which has one author, are Argentina, Austria, Algeria, Hungary, Ireland, Jordan, Kazakhstan, Indonesia, Japan, New Zealand, Peru, Slovenia, Turkey and Vietnam.

Europe tops the list of continents with 107 authors (67 excluding Spanish authors), followed by Asia with 36. The Americas have four authors, and Africa and Oceania one each.

3.3. Productivity indicators

Regarding the most productive countries (see figure 5), Spain has sixty publications; Romania is in second place with thirty-four and Italy third with eighteen. They are followed by the UK with fourteen publications, Serbia with nine, Taiwan with eight, Russia and China with seven each, and Poland with five. Germany, Argentina, Denmark and Slovakia have four publications each. Belgium and Indonesia have three each. Canada, Croatia, France, Hong Kong, Lithuania and Palestine have two each. Every other country has one publication.
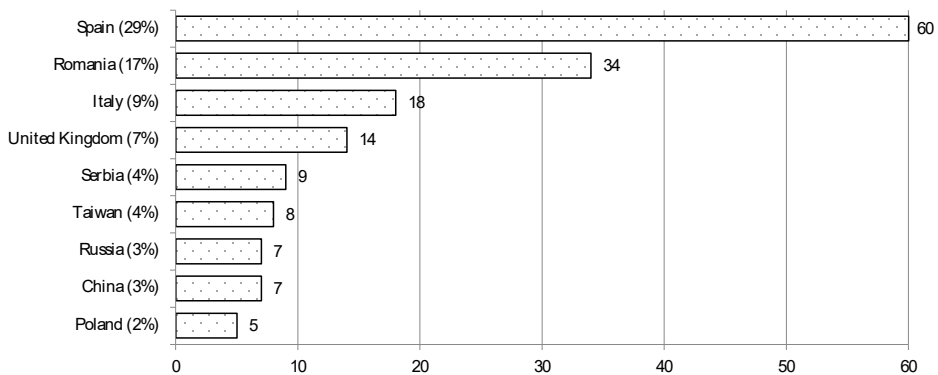

Figure 5. Most productive countries

The authors come from ninety-seven different universities or centres, nineteen of which correspond to the Spanish sub-corpus and seventy-eight to the International sub-corpus. There are twenty-one universities with more than three publications (see figure 6). Regardless of the smaller number of Spanish universities, university productivity is similar in both sub-corpora. The Universities of Alba Iulia, Valladolid and Vigo all have more than nine publications. The most productive universities in the Spanish sub-corpus are the University of Valladolid with ten publications, the University of Vigo with nine, and the University of Murcia and the Complutense University of Madrid with eight each. The University of Alicante has five publications and the University of the Balearic Islands, four. Finally, the Autonomous University of Madrid, Pablo de Olavide University and the University of Extremadura have three publications each. The most productive universities in the International sub-corpus are the University of Alba Iulia with fourteen publications, the University of

Belgrade with eight, the "Dunarea de Jos" University of Galati with seven, Aston University with seven too, and the National Taiwan University with six. There are four publications from the University of Padua, Copenhagen Business School, the University of Argentine Social Museum, Czestochowa University of Technology and Academic Sinica. Lastly, the Bucharest University of Economic Studies and the Ural State Pedagogical University have three works each.
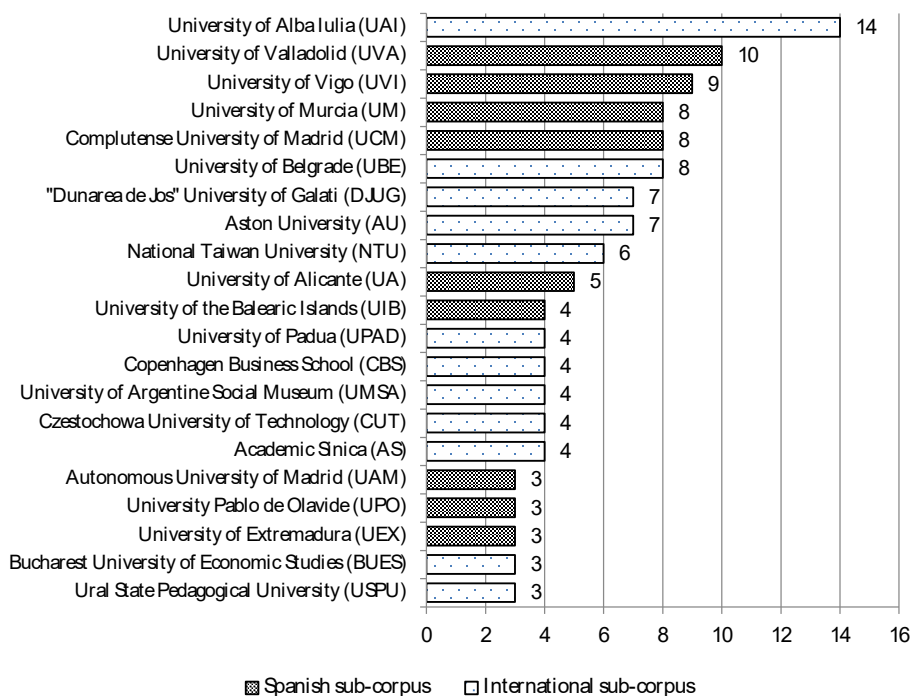

University	Value
University of Alba Iulia (UAI)	14
University of Valladolid (UVA)	10
University of Vigo (UVI)	9
University of Murcia (UM)	8
Complutense University of Madrid (UCM)	8
University of Belgrade (UBE)	8
"Dunarea de Jos" University of Galati (DJUG)	7
Aston University (AU)	7
National Taiwan University (NTU)	6
University of Alicante (UA)	5
University of the Balearic Islands (UIB)	4
University of Padua (UPAD)	4
Copenhagen Business School (CBS)	4
University of Argentine Social Museum (UMSA)	4
Czestochowa University of Technology (CUT)	4
Academic Sinica (AS)	4
Autonomous University of Madrid (UAM)	3
University Pablo de Olavide (UPO)	3
University of Extremadura (UEX)	3
Bucharest University of Economic Studies (BUES)	3
Ural State Pedagogical University (USPU)	3

⊞ Spanish sub-corpus   ☐ International sub-corpus

Figure 6. Centre productivity

There are thirty-two authors with more than three publications (see figure 7), thirteen of them corresponding to the Spanish sub-corpus and nineteen to the International sub-corpus. Popescu is the most productive author, with twelve publications. In the Spanish sub-corpus, Fuertes and Herrera have seven works each, Orts has six, and Galanes, Fernández and White have five each. Meiriño, Velasco and Amengual have four works each, while Muelas, Rojo, Corbacho and Gallego have three each. As for the International sub-corpus, Popescu has twelve publications, Silaški, Dobrota and Chung have eight each, and Luporini, Ahrens and Tcaciuc

have five each. Musacchio, Huang, Đurović and Ramacciotti have four works each. Rošková-Polčicová, Fusari, Salatova, Dălălău, Herteg, Maliszewski, Karnedi and Pecican have three each.

Interestingly, the University of Vigo is the only institution hosting three of the most productive authors (Galanes, Fernández, and Meiriño). Except for Luporini, all the authors with five or more publications have co-authored works. Collaboration patterns will be examined in the next section.
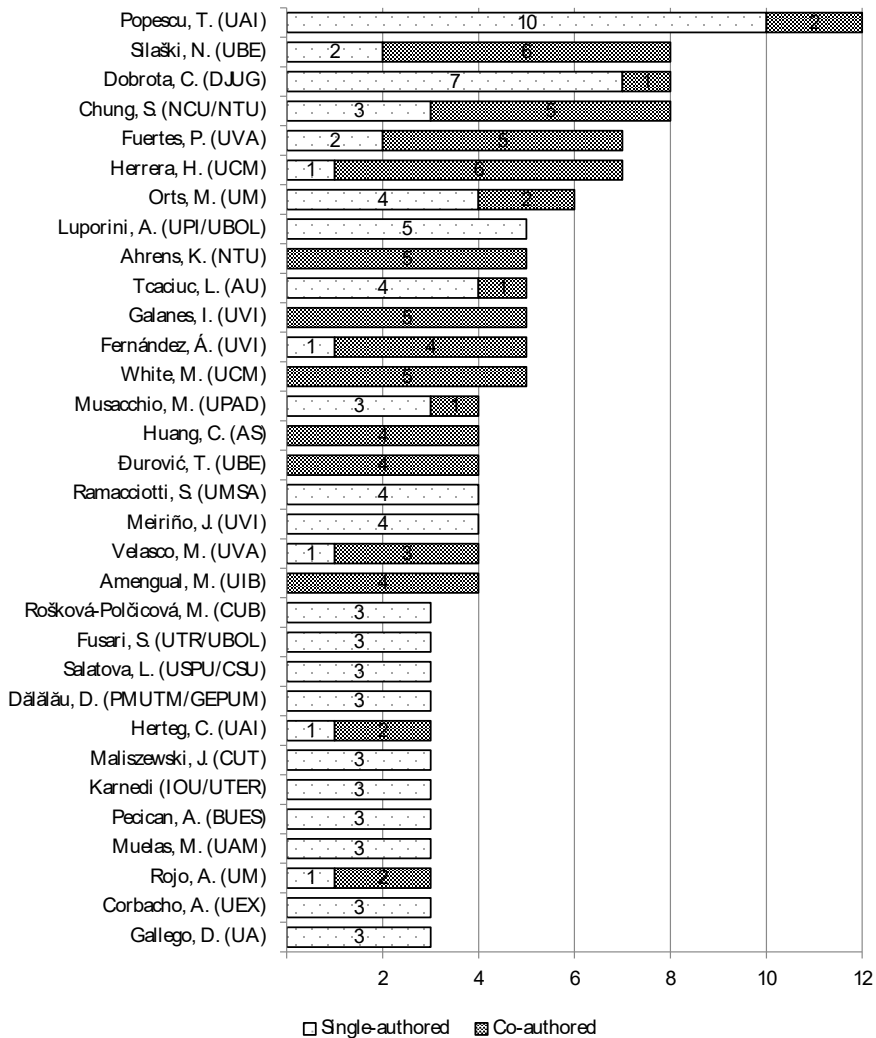

Figure 7. Production by author

3.4. Collaboration indicators

The corpus encompasses 150 authors for 205 publications; 70 of these are co-authored. This represents a collaboration rate (average number of authors per publication) of 1.4, which drops to 1.34 for international authors and rises to 1.53 for Spanish authors. Overall, 69% of the publications are single-authored.

Of the 145 international publications, 105 are single-authored (72%), 30 are signed by two authors and ten are signed by three (see figure 8). Thus, almost 28% of the international publications are signed by two or more authors; specifically, 21% are signed by two and 7% by three. The distribution of single- and co-authored works is more balanced in the Spanish sub-corpus, with 36 single-authored publications (60%, 12 percentage points fewer than in the case of international authors) and 24 co-authored publications (40%, 12 more percentage points). Of the latter publications, 19 are signed by two authors, two by three authors, and three by four authors (there are no publications with four authors in the International sub-corpus).
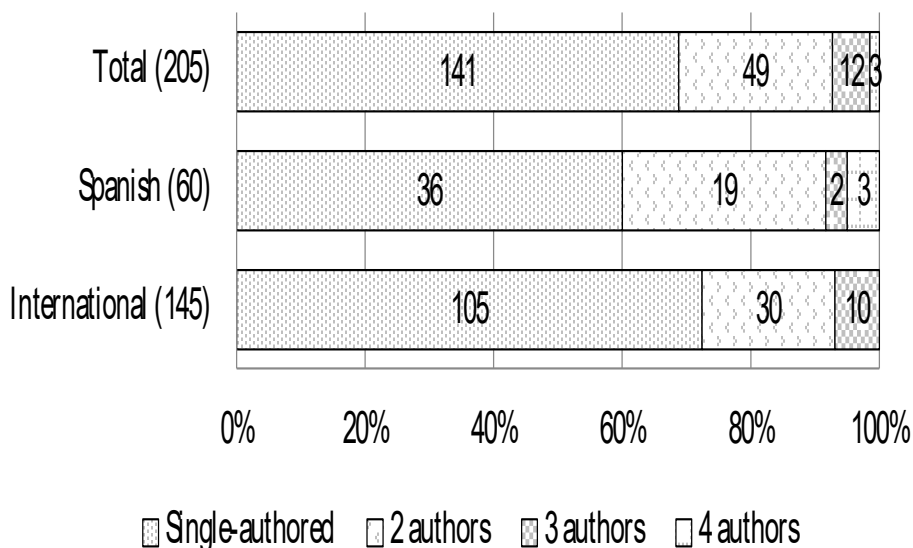

Figure 8. Co-authorships

Moving on to co-authorship networks (see figure 9), most collaborations involve authors from the same university (67% of co-authorships). In the Spanish sub-corpus, six out of 24 co-authored publications (25%) are signed by researchers from different universities. Two of these six publications include an author who works at an international university, namely Fuertes and Nielsen (2011), where the latter is from Aarhus University; and Galanes and Maria (2015), where the latter is from the University of São Paulo. The other four are those by Herrera et al. (2005, 2006, and 2007) and Herrera and Amengual (2008), where Amengual is from the University of the Balearic Islands and the other researchers from the Complutense University of Madrid. In the International sub-corpus, 15 out of 40 co-authored publications (37%, 12 more percentage points than in the case of the Spanish authors) are signed by researchers from different universities. Three of the 15 are by authors who work in different countries, one being that of Boers and Demecheleer (1995), who are from Canada and New Zealand respectively, and the other two are those of Silaški and Kilyeni (2011, 2012), who are from Serbia and Romania respectively. The remaining 12 publications are by authors working in the same country. Five are from Taiwan, where the National Taiwan University has worked with Academic Sinica (four times) and Association Christ's College. The other seven comprise one each from Germany, Hong Kong, Ireland, Italy, Romania, Turkey and the UK, with two different universities from the same country having collaborated in each case.

Focusing now on individuals, there are two salient networks in the Spanish sub-corpus, both of which could be attributable to the authors' universities. In the first, most of the authors work at the University of Valladolid. Nevertheless, only Velasco and Fuertes have collaborated on more than one occasion. In the second, most of the authors work at the Complutense University of Madrid. In this case, all the authors have published together on at least two occasions.

Regarding pairs, Fernández and Galanes have collaborated on three works, Rojo and Orts on two, and Espunya and Zabalbeascoa on another two. In the International sub-corpus, there is a salient network from the National Taiwan University, where Chung has collaborated at least four times with Ahrens and Huang. Silaški, meanwhile, has written four articles with Đurović and two with Kilyeni. There are four other pairs with two publications each: Herteg and Popescu, Milić and Vidaković, Cesiri and Colaci, and Lan and Bilbow.
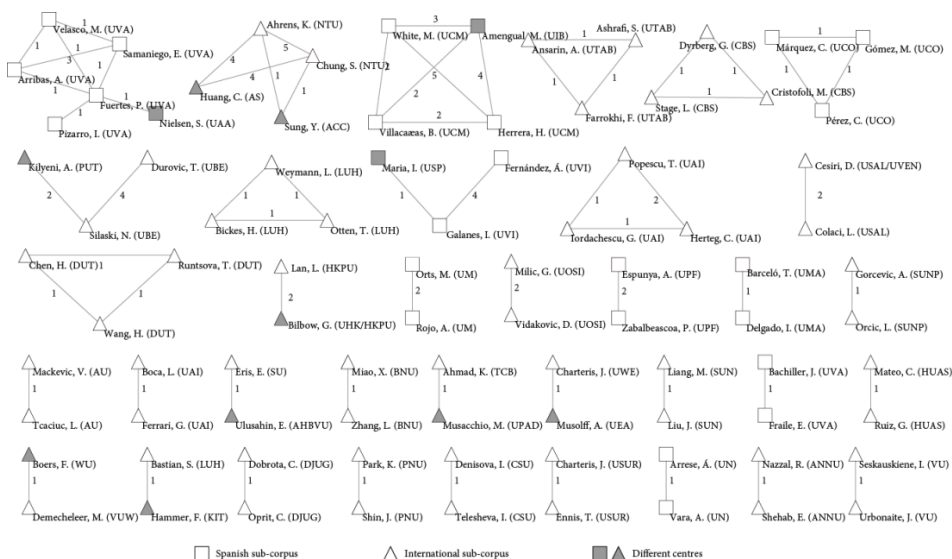
Figure 9. Co-authorship networks

3.5. Impact indicators

The data below (see table 1) show the twenty-seven most cited publications in the corpus, which date from the period between 1936 and 2010. Twelve of them are books, another twelve are articles (six from the *English for Specific Purposes* journal), and three are book chapters. Lakoff and Johnson's book (1980) tops the list with 119 citations. It is cited in 67% of the publications in the Spanish sub-corpus and 54% of those in the International sub-corpus. The most cited publications are theoretical studies of metaphor, some of them in economic discourse. There are only three books on translation studies (Newmark, 1981, 1988; Snell, 1988), three publications on metaphor translation (Dobrzynska, 1995; Schäffner, 2004; Serón, 2005, the last of the three being on financial metaphors), and two comparative studies of financial metaphors (Charteris-Black and Ennis, 2001; Charteris-Black and Musolff, 2003). The last three publications mentioned are part of this study's corpus.

There are no major differences between the sub-corpora. The Spanish sub-corpus contains more citations of Dobrzynska (1995) and Serón (2005), while the International sub-corpus contains more citations of Lakoff (1993), Goatly (1997), Schäffner (2004), and Henderson (2000).

AUTHOR	YEAR	TITLE	TOT	INT	SP
Lakoff, G. & Johnson, M.	1980	Metaphors we live by	119	79	40
Charteris-Black, J. & Ennis, T.	2001	A comparative study of metaphor in Spanish and English financial reporting	43	23	20
Lakoff, G.	1993	The contemporary theory of metaphor	43	30	13
Henderson, W.	1982	Metaphor in Economics	32	14	18
Charteris-Black, J.	2004	Corpus approaches to critical metaphor analysis	32	18	14
McCloskey, D.	1985	The Rhetoric of Economics	31	14	17
Lakoff, G. & Turner, M.	1989	More than cool reason: A field guide to poetic metaphor	31	18	13
Stefanowitsch, A. & Gries, S.	2006	Corpus-based approaches to metaphor and metonymy	29	17	12
Deignan, A.	2005	Metaphor and Corpus Linguistics	26	14	12
Charteris-Black, J.	2000	Metaphor and vocabulary teaching in ESP economics	25	12	13
White, M.	2003	Metaphor and economics: the case of growth	25	12	13
Charteris-Black, J. & Musolff, A.	2003	Battered hero' or 'innocent victim'? A comparative study of metaphors for euro trading in British and German financial reporting	23	12	11
Newmark, P.	1981	Approaches to translation	21	12	9
Boers, F.	2000	Enhancing metaphoric awareness in specialised reading	21	13	8
Pragglejaz Group	2007	MIP: a method for identifying metaphorically used words in discourse	21	14	7
Newmark, P.	1988	A textbook of translation	20	12	8
Richards, I.	1936	The Philosophy of Rhetoric	19	12	7

Goatly, A.	1997	The language of metaphors	19	17	2
Schäffner, C.	2004	Metaphor and translation: Some implications of a cognitive approach	19	17	2
Dobrzynska, T.	1995	Translating metaphor: Problems of meaning	17	3	14
Kövecses, Z.	2010	Metaphor. A practical introduction	17	8	9
Toury, G.	1995	Descriptive Translation Studies and Beyond	16	9	7
Henderson, W.	2000	Metaphor, economics and ESP: Some comments	15	13	2
Snell-Hornby, M.	1988	Translation Studies. An integrated Approach	14	5	9
Serón, I.	2005	La traducción de la metáfora en los textos financieros: estudio de caso	13	3	10
Boers, F. & Demecheleer, M.	1997	A few metaphorical models in (Western) economic discourse	13	5	8
White, M.	2004	Turbulence and turmoil in the market or the language of a financial crisis	11	2	9

Table 1. Works with more than ten citations

As for the most cited authors (see figure 10), there are many similarities with the above-mentioned data. The authors with more than a hundred citations are, in descending order, George Lakoff, Mark Johnson, Jonathan Charteris-Black, and Zoltan Kövecses. In the Spanish sub-corpus, George Lakoff, Jonathan Charteris-Black, Mark Johnson and Michael White have more than forty citations. In the International sub-corpus, the same applies to George Lakoff, Mark Johnson, Zoltan Kövecses, Jonathan Charteris-Black, Alice Deignan, Teodora Popescu and Christina Schäffner. Of the twenty-seven most cited authors in the corpus, only nine do not appear in Table 1. Four of them are Spanish: Eva Samaniego, María Teresa Cabré, Pedro Antonio Fuertes Olivera and Gloria Corpas. The rest are international authors: Teodora Popescu, Lynne Cameron, Mona Baker, Siaw-Fong Chung and Kathleen Ahrens. Additionally, about half of the twenty-seven authors have at least one

publication in our bibliographic corpus, which means that, compared to the most cited publications, there is a more balanced distribution of theoretical studies of metaphor and translation studies. There are two authors who are cited in only one sub-corpus: Popescu (fifty-four citations in the International sub-corpus), and Corpas (eleven citations in the Spanish sub-corpus).
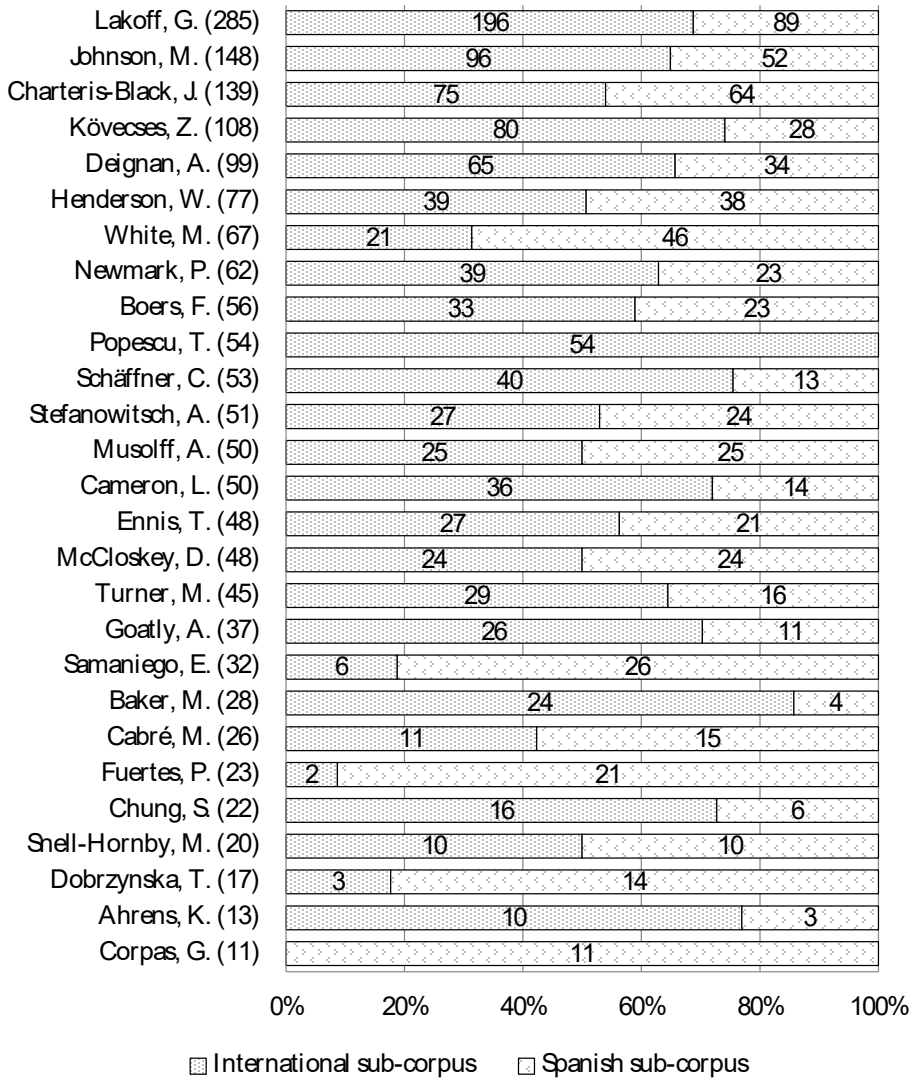
Author	International sub-corpus	Spanish sub-corpus
Lakoff, G. (285)	196	89
Johnson, M. (148)	96	52
Charteris-Black, J. (139)	75	64
Kövecses, Z. (108)	80	28
Deignan, A. (99)	65	34
Henderson, W. (77)	39	38
White, M. (67)	21	46
Newmark, P. (62)	39	23
Boers, F. (56)	33	23
Popescu, T. (54)	54	
Schäffner, C. (53)	40	13
Stefanowitsch, A. (51)	27	24
Musolff, A. (50)	25	25
Cameron, L. (50)	36	14
Ennis, T. (48)	27	21
McCloskey, D. (48)	24	24
Turner, M. (45)	29	16
Goatly, A. (37)	26	11
Samaniego, E. (32)	6	26
Baker, M. (28)	24	4
Cabré, M. (26)	11	15
Fuertes, P. (23)	2	21
Chung, S. (22)	16	6
Snell-Hornby, M. (20)	10	10
Dobrzynska, T. (17)	3	14
Ahrens, K. (13)	10	3
Corpas, G. (11)		11

Figure 10. Authors with more than ten citations

Bibliographic coupling examines instances where two authors refer to the same third author in their works. Significant frequency entails that publications belong to the same area of expertise, even if they are not co-authored works. The network below (see figure 11) shows publications that have at least ten references in common. It features 78 of the publications in the corpus, 50 from the International sub-corpus (represented by triangles) and 28 from the Spanish sub-corpus (represented by squares). There are 42 comparative studies (28 and 14 respectively) and 35 translation studies (21 and 14 respectively).

Regarding the graph's layout, there is a big group with three subdivisions that revolve around Muelas (2018), and five isolated connections. The top left subdivision of the main group is formed by works from the Spanish sub-corpus. It confirms the influence of Serón (2005) on Spanish authors. Nearly all the works in the biggest subdivision are from the International sub-corpus, with a few Spanish exceptions (Muelas, 2016, 2019; Velasco, 2009; Orts, 2020a, 2020b; and Arrese and Vara Migueal, 2016). The third subdivision, located at the bottom left, comprises works by Teodora Popescu.

The graph, however, does not show the number of references that are common to two given publications. Dobrota's PhD thesis (2006), revised book (2016) and English translation (2017) share just over 150 references. Muelas's PhD thesis (2018) and article (2019) share 59 references. Luporini's PhD thesis (2013) and book (2019) share 57 references. The rest of the pairs have less than 50 matches. Most connections are works by the same author, implying that they are consistent and often use similar references. For instance, of the 12 pairs with more than 30 references in common, only four comprise different researchers: Muelas (2018) and Chow (2010) with 43 matches, Luporini (2013) and Chow (2010) with 32, Meiriño (2013) and Serón (2005) with 31, and Luporini (2019) and Muelas (2018) with 30.

The graph does hint at the works with most connections (the different centres of the graph). There are ten publications linked to at least ten other works. Seven of those publications are PhD theses or books and would thus be expected to share more references. Muelas (2018) shares at least ten references with 35 works, which explains why it is the centre of the three subdivisions. Chow (2010) has 29 connections, Luporini (2019) has nineteen, Luporini (2013) has eighteen, Rodríguez (2010) has fifteen, Popescu (2016) and Karnedi (2011) have thirteen, Meiriño (2013) has twelve, Serón (2005) has eleven, and Dobrota (2017) has ten.

Every isolated connection feature works by the same author and its references differ from those of most of the publications in the corpus. This could be due to a difference in methodology, subject matter or language pair, among other aspects. In the Spanish sub-corpus, the connection corresponding to Herrera et al. focuses on metaphor translation in press headlines, and Corbacho's connection compares Spanish and German metaphors. In the International sub-corpus, Ramacciotti's connection features a strong theoretical methodology for metaphor translation, Nazzal's addresses English-Arabic metaphor translation, and Musacchios's compares original and translated Italian metaphors.
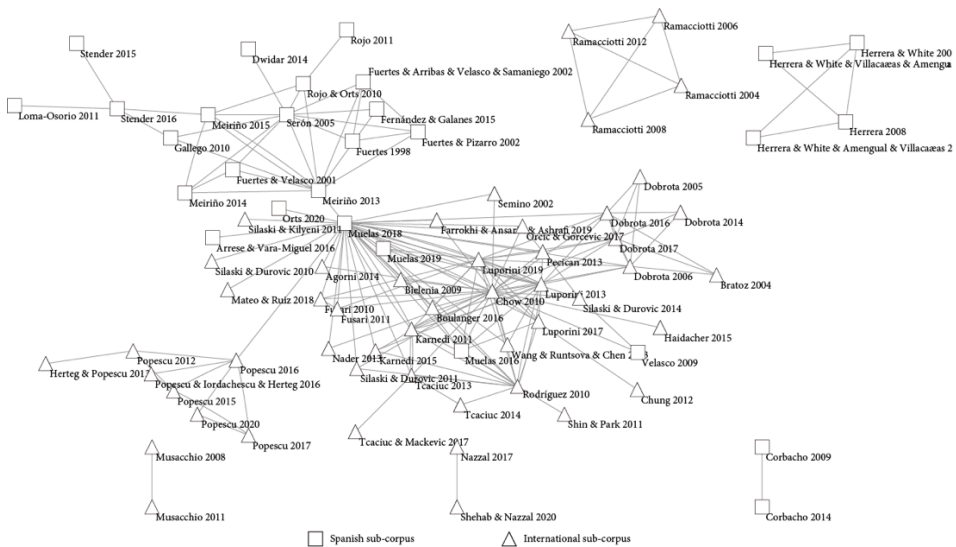

Figure 11. Bibliographic coupling

3.6. Content indicators

The most studied language pairs (see figure 12) are English with Spanish, Romanian, Chinese and Italian. The Spanish sub-corpus contains studies of Spanish with English (60%), French (10%) and German (8%). The remaining 22% of its publications either study three or more languages (including Arabic, Italian and Portuguese) or do not focus on any specific language. The International sub-corpus covers a great variety of combinations. English-Romanian takes first place with 35 works (24%). Other relevant combinations are English with Chinese (10%), Italian

(10%), Russian (5%), German (5%), Serbian (5%), Arabic (4%) and Spanish (4%). However, there are 48 other combinations (33%): English is studied with Indonesian on three occasions, with Croatian, French and Lithuanian twice each, and with Danish, Japanese, Korean, Persian, Slovenian and Turkish in one publication each. Regarding non-English combinations, there are four works on German-Slovak. French is studied with German (twice), Danish, Dutch, Romanian, Spanish and Vietnamese. Spanish is studied with Italian and Romanian. There is a work on Italian-Danish and another on Russian-Vietnamese. The rest of the publications in the sub-corpus include three or more languages or do not focus on any specific language.
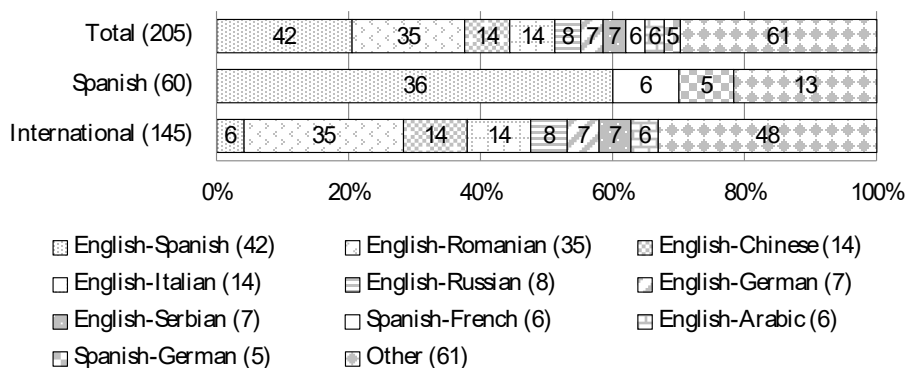

Figure 12. Language pairs

BITRA's keywords are useful for browsing the database content (see figure 13). All the publications in the corpus are indexed using the keywords "Business", "Technical", "Genre", "Problem" and "Metaphor". The most used keyword in the corpus is "Journalism", which appears in about 61% of the publications, rising to 81% in the Spanish sub-corpus and dropping to 53% in the International sub-corpus. "Corpus" and "Research" are the next most used keywords, with 37 instances (18% of the publications), reflecting great interest in studying business metaphors in the press, generally using a corpus-based approach. "Terminology", "Phraseology", "Dictionaries", "Teaching" and "Interference" are fields of study with five to 12 occurrences (2% to 5% of the publications). There are some keywords that only appear in one sub-corpus, an example being the American economist "Paul Krugman", whose work is studied in three publications in the Spanish sub-corpus. "Linguistics", "Tourism",

"Abbreviations", "Pragmatics", "Paroemia" and "Grammar" are other keywords only present in the Spanish sub-corpus. In the International sub-corpus, "European Union" is an interesting case, with seven instances. Other keywords that only appear in the International sub-corpus are "Ideology", "Advertising", "Rhetoric", "Pun", "Humour" and "Culture".

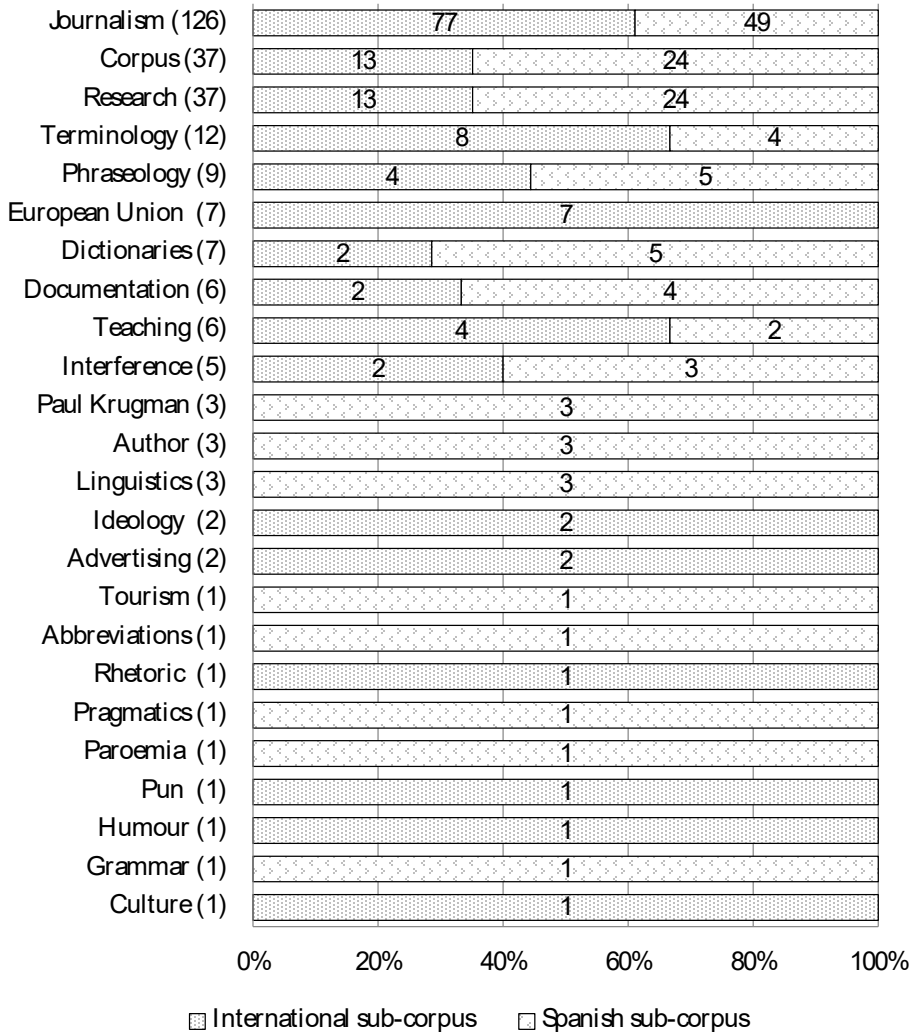| Keyword	International sub-corpus	Spanish sub-corpus
Journalism (126)	77	49
Corpus (37)	13	24
Research (37)	13	24
Terminology (12)	8	4
Phraseology (9)	4	5
European Union (7)	7	
Dictionaries (7)	2	5
Documentation (6)	2	4
Teaching (6)	4	2
Interference (5)	2	3
Paul Krugman (3)		3
Author (3)		3
Linguistics (3)		3
Ideology (2)	2	
Advertising (2)	2	
Tourism (1)		1
Abbreviations (1)		1
Rhetoric (1)	1	
Pragmatics (1)		1
Paroemia (1)		1
Pun (1)	1	
Humour (1)	1	
Grammar (1)		1
Culture (1)	1	

Figure 13. BITRA's keywords

The most frequent keywords in publication titles confirm some of the above ideas (see table 2). All keywords have been translated into English

for consistency purposes. Regarding subject matter, many publications include words such as "metaphor", "study", "analysis", "corpus" and "terminology". The data reveal that "comparative" and "contrastive" studies are abundant, especially in the International sub-corpus. "Cognitive" studies and metaphors about the financial "crisis" are also common. In addition, it may be the case that international authors pay more attention to "conceptual" metaphors, and they include more specific words in their titles, for example, "euro", "bank" and "money". Moving on to study area, the keywords "economic", "financial" and "business" evidence the variation in the terminology used to refer to the type of translation in question. As shown before, "news", "press articles" and "reports" are fairly common. The Spanish authors have six works focused on press "headlines". The international authors, meanwhile, have five and nine works on "European" and "global" studies respectively. With regard to language, only "Spanish", "English" and "German" appear in the Spanish authors' publication titles, although, as mentioned in relation to the form indicators, there are several studies that focus on the French language. Almost all the main language pairs studied in the International sub-corpus appear in the international authors' publication titles.

Cat.	International sub-corpus	Spanish sub-corpus
Subject matter	metaphors (71), metaphor (39), study (29), crisis (25), metaphorical (18), analysis (12), comparative (12), conceptual (12), corpus (11), contrastive (10), cognitive (8), terms (7), euro (6), terminology (6), bank (5), money (5), metaphoric (4)	metaphor (21), study (17), metaphors (13), crisis (11), corpus (8), metaphorical (8), analysis (5), comparative (5), cognitive (4), terms (4)
Study area	economic (51), business (35), discourse (23), financial (19), press (14), economics (11), economy (9), global (9), linguistic (8), media (8), European (5), reports (5), texts (5), articles (4), news (4), reporting (4)	business (18), economic (15), press (11), financial (10), texts (8), headlines (6), economy (5), economics (4), reports (4)
Language	English (52), Romanian (20), British (11), Italian (9), German (8), Serbian (8), Chinese (7), Spanish (6), American (5), Arabic (5), French (5), Russian (4)	Spanish (20), English (12), German (5)
Translation	translation (45), translating (15)	translation (18), translating (5)

Table 2. Most frequent keywords in publication titles

As explained in the methodology, our corpus publications may be categorised as comparative or translation studies. Overall, both types are quite evenly distributed in the corpus, with 46% of publications being comparative studies and 48% translation studies (see figure 14). Nevertheless, comparative studies drop to 35% in the Spanish sub-corpus and reach 51% in the International sub-corpus. Consequently, translation studies make up 55% of the Spanish sub-corpus and 45% of the International sub-corpus. We have categorised the remaining publications as "Other"; they are theoretical studies that do not focus on a particular language or do not fall into either of the other two categories.
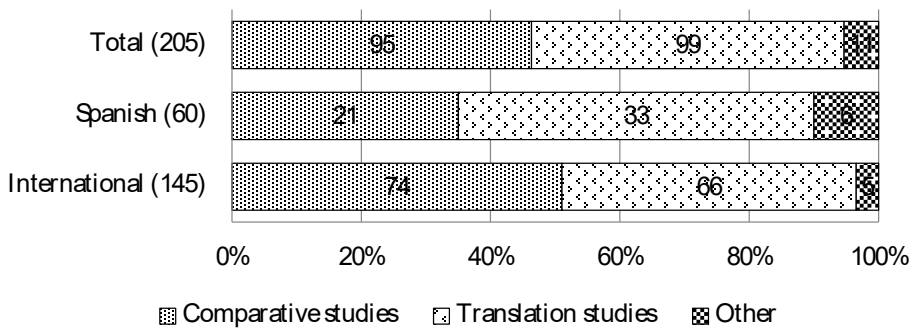
Figure 14. Comparative and translation studies categorisation

4. DISCUSSION

The results obtained from the impact indicators (see table 1; figure 10) roughly reflect the course of metaphor studies in the field of economic discourse, as summarized in the introduction.

The corpus comprises 205 publications, 60 by authors affiliated with Spanish institutions and 145 by authors affiliated with institutions in the rest of the world. A total of 150 authors (42 from Spain and 108 international authors) have shown interest in the topic of business metaphor translation. They are predominantly female, and no significant differences have been detected in the gender distribution between Spanish and international authors (64% versus 70%, respectively).

Both sub-corpora reflect a similar increasing interest in the topic since the last decades of the 20th century. The annual production has also been similar in the 21st century. Articles and book chapters are the most common formats in this area of research. They account for 88.3% of

research production. This contrasts with 15 PhD theses (three of them from Spain) and nine books (all by international authors), i.e., 7.3% and 4.4% of research outputs. There are no statistically significant differences in relation to, for instance, the percentages for these formats found in general translation studies in BITRA (January 2021).

The language used most frequently to write the publications is English (65%). This percentage drops to 47% in the Spanish sub-corpus and rises to 73% in the International sub-corpus. The only English-speaking countries in this sub-corpus are Canada, New Zealand and the UK, which write 94% of their research in English. Excluding publications from these countries would give a percentage of English publications from non-English-speaking countries of 63%.

In light of the research production data analysed, Spanish scholars have devoted more works to metaphor in business translation than scholars in any other country. This could be attributed primarily to the size of their respective research communities in this field, which is also crucially related to the availability of bachelor's degrees (especially in Spain) and master's degrees in Translation including economic translation in the curricula.

As for the breakdown of research centres, the University of Alba Iulia, with fourteen publications, is the most productive. The reason for this may be the research project "Universals and variants of English and Romanian business metaphors. A corpus-based conceptual mapping of contemporary journalese", funded by the Romanian Executive Agency for Higher Education, Research, Development and Innovation Funding (UEFISCDI) from 2015 to 2017. The project's objectives, methodology and expected results are described in Popescu (2015), who is the most active author in the corpus and also the project's principal investigator. The University of Valladolid is the second most productive centre, with ten publications, headed by the collaborative works of Fuertes and his colleagues, with a strong focus on terminographic approaches. The University of Vigo, with nine publications, is third in the list, a status attributable, on the one hand, to the works of Fernández and Galanes on an inter-university terminographic project chiefly aimed at studying images of the 2007 financial crisis in various languages; and, on the other hand, to the personal interest of Meiriño. The University of Murcia, due to the works of Rojo and (in particular) Orts, and the Complutense University of Madrid, mainly due to the collaborative works Herrera and White published between 2005 and 2008 on press headlines, have eight publications each.

The University of Belgrade is the second most productive university in the International sub-corpus. It has eight publications, all of them by Silaški (four in collaboration with Đurović and two with Kilyeni).

Based on the above data, it is possible to claim that greater collaboration leads to higher productivity. That could be corroborated by looking at the most productive authors. Furthermore, compared to the general data provided by Rovira et al. (2020, pp. 165-166) on co-authorship practices in Translation and Interpreting Studies, the collaboration rate for the publications in our corpus (31%) is higher than that of BITRA's overall data (16%) and that of studies published between 2011 and 2015 (25.1%) according the same source. The differences involved are statistically significant, and it therefore seems possible to state that the study of metaphors, especially in relation to terminography, is conducive to cooperation. Nonetheless, such collaboration appears to be of the intra-university kind (67%).

The impact of Lakoff and Johnson (1980), Henderson (1982) and Lakoff (1993) is reflective of metaphors being conceived of from a cognitivist perspective. Such a conception seems to have generated a well-established research methodology, whereby researchers take a corpus-based approach to the study of metaphors; this can be seen in the impact of works such as Charteris-Black (2004), Deignan (2005) or Stefanowitsch and Gries (2006). Using parallel or comparable corpora, researchers identify linguistic metaphors and classify them according to conceptual maps.

In addition to this group of corpus-based studies with a clear descriptivist approach, there is a small number of works that are perhaps closer to prescriptivism. They usually indicate how translators may deal with metaphors depending on various practical aspects, and do not have the same bibliographical references as the other translation studies. A good example can be found in Ramacciotti's works, whose references depart from most common bibliographical trends (see figure 11). Other publications related to prescriptivism only share one or two references with the rest of the works (and are hence not shown in the figure), which, again, suggests that they could actually be placed in a separate group.

Regarding the language pairs studied, English-Spanish is the most common, with forty-two publications (thirty-six in the Spanish sub-corpus), closely followed by English-Romanian with thirty-five, a combination that has been studied by researchers from both British and Romanian universities. Given the linguistic plurality of the international

authors, the presence of far more language pairs, and less conventional ones, such as Italian-Danish (Cristofoli, 1996) and Russian-Vietnamese (Nguyen, 2020), is only to be expected. That said, English is combined with the author's native language as a general rule. Combinations involving the author's native language and a language other than English are rarely studied. Spanish authors seem to study more combinations of this kind, possibly due to the inclusion of French and German as second languages in Translation and Interpreting curricula.

Our data show that most studies compile a corpus of newspaper articles (mainly specialised in finance) and texts related to economic crises. International authors seem more inclined to address the presence of business metaphors in institutional texts, such as European Central Bank documents. Interestingly, all seven works labelled with the "European Union" keyword in BITRA are by Aston University researchers Christina Schäffner and Luciana Tcaciuc.

Works based on comparative corpora tend to focus on the similarities and differences between one or more language pairs. In general, results reveal a high degree of conceptual parallelism between languages, which could be explained by the dual cognitive and aesthetic function of metaphors. Conversely, works based on translation corpora generally focus on problems encountered, translation techniques or equivalence issues when translating metaphors. Most studies analyse English-Spanish/Romanian translations to determine the degree of correspondence between metaphorical semantic domains, translators' choices, whether the original communicative effect is maintained, and the reasons for translators opting for one translation procedure or another. Three translation techniques are usually identified: (1) literal translation; (2) using a different metaphor with similar effect in the target language; and (3) paraphrasing or suppressing the metaphor. Of the translation references that conceive of metaphors from a cognitivist perspective, the most cited are Dobrzynska (1995) and Serón (2005) in the case of the Spanish sub-corpus, and Schäffner (2004) in the case of the International sub-corpus.

5. CONCLUSION

In relation to the research question addressed in this study, it is possible to state that, on balance, the results of our bibliometric analysis show more similarities than differences between the two sub-corpora, and the differences are not significant. The similarities include publication

years, gender distribution, centre and author productivity, the most cited works and authors, and research interests. Among the main differences, international authors have written more books and PhD theses on business metaphor translation, collaborate more with researchers from different universities, and study more language pairs. On the other hand, Spanish authors have been more productive with regard to the topic than their counterparts in other countries. The Spanish sub-corpus contains more collaborative works and has a higher percentage of translation studies than contrastive studies.

This study may be useful for business translation researchers and practitioners interested in metaphor studies in that it provides some guidance on recent trends in this field.

However, not all these conclusions should be taken as absolute, as our study has certain limitations. As Gile (2015, p. 30) explained, "there are many publications in Japanese, Korean and especially Chinese that may not be covered in comprehensive databases". Since 2019, TSB has been collaborating with Guangxi University in order to incorporate more Chinese bibliographic records (Gambier and Doorslaer, 2004-2022), meaning that results might change in the future. Furthermore, with regard to BITRA, Franco (2003) stated that no human compilation could ever include all a study area's publications because, among other reasons, all study areas are in constant expansion.

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