

Collocations in bilingual ESP dictionaries – case study of business dictionaries

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Abstract

Collocations are a key issue in second language learning, translation, lexicography and proofreading and have provoked the interest of theoretical linguists. Applied linguists, particularly foreign language teachers have also become more interested in them as the awareness of their importance for successful communication in a foreign language (FL) increases. Learning the meaning(s) of the words characteristic of a particular profession is one the elements of the mastery of a language for specific purposes (LSP). However, to successfully communicate in speaking and writing in a foreign language, it is also necessary to know how these words relate to each other. The learning and correctly using collocations are basic requirements for the development of communicative competence in a foreign language, both in general language and in an LSP. Collocations should be an integral part of monolingual and bilingual (general language and LSP) dictionaries, which are an indispensable tool in foreign language learning. To research to what extent collocations are part of entries in English-Croatian and Croatian-English LSP dictionaries, with the aim of providing guidance to future lexicographic work, a quantitative and qualitative analysis of selected entries in pairs of bilingual dictionaries of business language was conducted. Entries were chosen from glossaries and word lists in Business English course books commonly used at higher education institutions in Croatia. The dual analysis showed that collocations in English and Croatian are insufficiently and poorly represented in bilingual dictionaries. Finally, several suggestions for improving future (bilingual) LSP dictionaries are offered.

Keywords: *collocations, dictionary, non-native learners, Business English*

Introduction

One of the pillars of language knowledge is vocabulary. Vocabulary includes both single word forms and recurring lexical units consisting of several words that are used and learned as a whole⁶. According to the Common European Framework of Reference (CEFR 2001: 109), knowledge of the vocabulary of a language and the ability to use it is lexical competence, which in turn is one of the elements of linguistic competence. Linguistic, sociolinguistic and pragmatic competence (CEFR 2001: 108) are the three elements that make up communicative competence (CC), an important concept in language learning. An important feature of communicative competence is the mastery of collocations. Lexical competence is a key component of communicative competence, as confirmed by research, see e.g., Barfield and Gyllstad 2009, Nation 2001, Wray 2002, 2012. Collocational competence, which refers to the ability to combine lexical and grammatical chunks to produce fluent, accurate, and semantically and stylistically appropriate multi-word expressions (MWEs), is an important segment of lexical competence and was introduced as a concept by Hill (2000: 49).

⁶ Research on recurring lexical units, of which collocations are a subtype, has grown in scope and scale over the past thirty years so that the terminology in this areas is extensive. Scholars refer to these recurring units as formulaic sequences (Nattinger & DeCarrio 1992, Ellis 1996, Schmitt 2004, Wray 2002, 2008, Granger & Meunier 2008), multi-word expressions (Gačić 2001, Matic 2017, Heid 2008, Sailer & Markantonatou 2018), multi-word units (Štambuk 1997, Pritchard 2002, Luzer & Tominac Coslovich 2016, Gries 2022) and lexical bundles (Biber et al. 1999, Cortes 2004, Johnston 2017, Zari & Valipouri 2022). In this paper, we have chosen to use the term multi-word expressions because it best illustrates the basic structure and nature of collocations.

Native speakers of a language develop collocational competence, i.e., acquire collocations as they learn their mother tongue (L1). In contrast, foreign language (L2) learners, who learn an L2 in instructed settings, need to be helped to develop collocational competence and rely on their teachers, the materials used (course books, workbooks, etc.), and the dictionary. Dictionary is an important source of information about the vocabulary of a language, i.e., its words, their meanings, and examples of their usage. It is, therefore, essential that collocations are part of dictionary entries. It is particularly relevant for bilingual dictionaries because collocations are more of a challenge/problem in production than in reception, which has been confirmed by research (Bahns and Eldaw 1993, Laufer and Waldman 2009, Laufer 2011, Pavičić Takač and Miščin 2013, Begagić 2014, Duplančić Rogošić 2014, Miščin 2015, Duplančić Rogošić and Koren 2017).

In order to provide a basis for the future development of dictionary entries for the benefit of native and non-native speakers of Croatian, this paper aims to answer the following research questions: How much information and what kind of information on collocations is provided in entries in bilingual business English dictionaries with Croatian as the target or source. The aim of this study is to answer these questions in order to provide guidance to future authors of bilingual LSP dictionaries.

The remainder of the paper is organized as follows. After the introduction, Section 2 gives a brief theoretical overview of collocations, their main characteristics, and the differences between collocations and structurally similar multi-word expressions. This section also provides a literature review of previous studies on the treatment of collocations in dictionaries in general and in relation to bilingual and specialized dictionaries. Section 3 explains the methodology of the analysis. The results of the analysis of selected dictionaries are presented in Section 4. Section 5 discusses these results and provides directions for future research. Section 6 explains the limitations of the study and provides concluding remarks.

Theoretical background

The concept of collocations is one of the main problems faced by foreign language learners and one of the most interesting areas of linguistic research. Nevertheless, there is no unanimous view on what collocations are and how they can best be defined and distinguished from other types of multi-word expressions (MWEs). The following paragraphs provide an overview of researches and views relevant to the present study.

The definition of collocation in the modern linguistic sense is attributed to British linguist John Rupert Firth, who used the term in the 1950s to describe the linguistic phenomenon of the juxtaposition of words based on the competence of native speakers. Perhaps the most famous definition of collocations is his “You shall know a word by the company it keeps” (Firth 1957: 179). Firth also states that: “The collocation of a word or a ‘piece’ is not to be regarded as mere juxtaposition, it is an order of *mutual expectancy*. The words are mutually expectant and mutually prehended” (Firth 1968: 181). By introducing the concept of mutual expectancy, however, Firth creates a vicious circle because, according to his definition, words become part of the collocation by virtue of their meaning and receive part of their meaning because they collocate with a particular word. Although Firth's approach to collocations had some ambiguities, it remains relevant because it has drawn attention to the importance of collocations as multi-word expressions. Moreover, his idea of mutual expectancy also points to one of the main features of collocations, namely their arbitrariness. There is no (obvious) reason why certain words enter into a collocation, e.g., why *strong tea* is an acceptable collocation and **powerful tea* is not even though *strong* and *powerful* are synonymous, which illustrates why collocations are a particular challenge for non-native speakers. Namely, when they do not know how to form a correct collocation in L2 they translate collocations word for word from L1 to L2 instead of looking at collocations as prefabricated multi-word expressions. Lack of collocational competence also leads students to make

(grammatical and/or lexical) mistakes, as they tend to use longer utterances in L2 because they do not know the exact collocation they need to express themselves correctly. It also leads them to rely on their L1 and transfer patterns from L1 forming sentences that might be grammatically correct but sound awkward. When non-native speakers know how to form a correct collocation, they can express their ideas correctly and fluently without sounding unnatural.

The basic structure of a collocation is typically a binary one, see e.g., Benson et al. 1986, Hausmann 1989, Sinclair 2004, Mel'čuk 2013. Binary structure of a collocation means that it consists of a base and a collocate. Depending on the message he wants to convey, the speaker first chooses the base of the collocation because it carries the meaning of the collocation. The choice of collocate is also determined by the message, but is also limited by the base. Collocations do not arise completely spontaneously in speech like free combinations, but are retrieved from the speaker's memory as a whole. The analysis of collocations as a binary structure and the distinction between base and collocate has its practical applications in lexicography as it facilitates the inclusion of collocations in dictionaries and similar manuals and makes it easier for the user to look up a collocation.

In terms of structure, collocations are very similar to multi-word terms (MWT) in LSP, but the two MWE types differ in their semantic features. MWTs are lexicalized and refer as a whole to an object or concept in extra-linguistic reality. Substitution of elements of MWTs is not possible because the meaning changes. For example, *loyalty bonus* only as a whole means “money that is paid toan employee who works for the same company for a long time” (Parkinson et al. 2005) and *attendance bonus* only as a whole means “extra pay that some companies give their workers for coming to work regularly” (Parkinson et al. 2005). In collocations, the base carries the meaning of the collocation and changes within a collocation are possible without changing the meaning of the collocation as a whole, i.e., changing the collocate does not change the meaning of a collocation as a whole, e.g., a *bonus* can be *big*, *huge* or *large* (McIntosh et al. 2009).

Although collocations and multi-word terms differ in their semantic features and can be clearly defined theoretically, the question arises whether this is necessary from a practical lexicographic point of view. Therefore, in this paper, multi-word terms consisting of *adjective + noun* and *noun (in the function of an adjective) + noun* are considered collocations, regardless of the fact that some of these multi-word expressions could be classified either as collocations or MWTs. We are aware of the differences between the two types of multi-word expressions, but believe that user needs should be more important than focusing on terminology and classification. We believe that the average dictionary user is not aware of these differences and that for them the priority is to find information in the dictionary.

Various authors have analysed monolingual, bilingual, and specialized dictionaries with English as the source or target language. Since the studies of monolingual English dictionaries tend to concentrate on the same dictionaries thus yield similar results⁷, some other languages have been included in the literature review.

Walker (2009) examined the treatment of collocations in learner dictionaries (CCALD, LDOCE, OALD), collocation dictionaries (OCD, BBI, DSC), and business English dictionaries (OBED, LBED) and concluded that all of the dictionaries examined use a corpus when compiling definitions and selecting examples.

⁷ In the literature review on the treatment of collocations in dictionaries, the abbreviations listed below are used, regardless of the fact that different editions were analysed depending on the time of the study. The abbreviations and the corresponding dictionaries are: LDOCE - Longman Dictionary of Contemporary English; OALD - Oxford Advanced Learners' Dictionary; CCALD - Collins COBUILD Advanced Learners' Dictionary; COBUILD - Collins Cobuild English Language Dictionary; CIDE - Cambridge International Dictionary of English; OBED - Oxford Business English Dictionary for Learners of English; LBED - Longman Business English Dictionary; OCD - Oxford Collocations Dictionary for Students of English; BBI - the BBI Dictionary of English Word Combinations, and DSC - the LTP Dictionary of Selected Collocations.

The dictionaries use a relatively broad definition of collocation and, therefore, contain a variety of different types of collocation pairs. The examination of the three learner dictionaries revealed that most collocations in the entries are selected to illustrate aspects of the headword definition. The dictionaries tend to use the more frequent collocates. All three collocation dictionaries are dominated by entries for nouns, since it is assumed that the learner usually starts with a noun and looks for its verbal or adjectival collocates. The business dictionaries include more of the most frequent collocates than the slightly less frequent collocates, which often mark the small, but significant differences in meaning between the items in a group.

Mittmann's (1999) analysis of four learner dictionaries found that OALD, LDOCE, and CIDE list more collocations than COBUILD and that there are often differences in the type of collocates listed, which is often a consequence of differences in the types and numbers of polysemous meanings included in the entries. Like learner dictionaries, business English dictionaries include more of the most frequent collocates than the slightly less frequent collocates, which often mark the minor, but significant differences in meaning between entries.

Lew and Radłowska (2010), in their study on the success of Polish learners of English in retrieving selected lexical collocations, found that, in LDOCE and OCD, collocations are usually at the base and that there are many hidden collocations. LDOCE provides a brief definition and illustrates the possible combinations in the examples. LDOCE systematically tries to explain the less obvious collocates. These brief definitions are provided in a simple vocabulary that is well suited to convey meaning(s) and distinguish between different collocates. The definitions are also further supported with examples. Users can also use example sentences and phrases to verify that they have found the correct collocations. OCD has fewer semantic clues to meaning(s) and fewer examples, as well as more undifferentiated collocates.

Lorente et al. (2019) analysed specialized collocations in specialized Spanish monolingual dictionaries, specialized bilingual Spanish–English and English–Spanish dictionaries, Spanish terminology data banks and specialized collocation dictionaries (one monolingual, one multilingual and several bilingual ones). Their analysis revealed that the treatment of collocations in the studied dictionaries/data banks is quite poor and fewer collocations were found than expected. Most specialized dictionaries, both printed and online ones, provide definitions and encyclopaedic explanations that are clearly insufficient for the users as collocations are not part of the entries.

Luzer and Tominac Coslovich's (2016) analysis of 9 bilingual technical dictionaries with English as the source or target language showed that multi-word lexical units that have a verb as one of their constituents rarely occur in dictionaries. Šnjarić (2018) provided a lexicographic analysis of verb-noun collocations of German and Croatian language of science and found that the analysed collocations are not part of dictionary entries to the extent that the author believes they should be.

Duplančić Rogošić (2007) analysed eleven general language dictionaries: two monolingual American English, four monolingual British English, one monolingual Croatian, two bilingual English-Croatian (*Veliki englesko-hrvatski rječnik. English-Croatian Dictionary-VEHR* and *Englesko-hrvatski rječnik-EHR*) and two bilingual Croatian-English ones (*Veliki hrvatsko-engleski rječnik. Croatian-English Dictionary-VHER* and *Hrvatsko-engleski rječnik-HER*). The analysis was conducted on 105 nouns, 88 adjectives, and 54 verbs as bases and revealed significant differences in the treatment of collocations. The analysis showed that collocations are not part of the entries in monolingual American dictionaries. Some British dictionaries (CALD and LDOCE) devote separate sections to collocations, while in others (OALD and CCALD), they receive little attention. In the English-Croatian dictionaries, collocations are poorly represented, and although the number of entries with collocations appears high (VEHR: 35 nouns, 2 verbs, and no adjectives; HER: 36 nouns, 5 verbs, and 1 adjective), usually only one collocate is given for the base under study. In the Croatian-English dictionaries, collocations are slightly more represented (VHER: 101

nouns, 54 verbs and 43 adjectives; HER: 95 nouns, 25 verbs and 8 adjectives), with more collocates usually given.

The study presented in this paper is a contribution to the research on bilingual specialized dictionaries, since, to the best of the author's knowledge, no study on specialized English-Croatian or Croatian-English business dictionary has yet been conducted.

The following part of the paper is devoted to the methodology applied in the analysis.

Methodology

In this section, the framework used and the methodology of the research are explained. The analysis of dictionary entries is based on Pearsons and Nichols's (2013) and Lew and Szarowska's (2017) frameworks for monolingual and bilingual English dictionaries, as well as on Nesi's framework (1996), who studied the treatment of collocation groups in learner dictionaries.

Pearsons and Nichols (2013) and Lew and Szarowska (2017) suggested four areas within the framework: coverage and treatment of lexical items in entries, access to lexical information, and presentation of lexicographic data. Although these two frameworks were developed for online dictionaries, they can also be used for print dictionaries. Coverage and treatment are medium-independent, i.e. they apply equally to print and digital dictionaries. Access and presentation are areas that work differently for print and digital dictionaries, but are nonetheless indispensable elements in any dictionary, print or digital.

The framework for evaluating two pairs of printed bilingual business English dictionaries includes:

1. Coverage refers to whether a given item is present in a dictionary.
2. Treatment includes: a) the presence of labels for level of use, regional variety, part of speech, b) the field in which the words are used, c) cross-references, d) pronunciation indication, e) example sentences, f) additional information on usage, synonyms, antonyms, word origins and related words and phrases, f) grammar information including irregular verb forms, countability of nouns, comparative and superlative forms of irregular adjectives, and g) multi-word expressions with a special emphasis on collocations.
3. Access includes headword identification with access to inflected forms and misspelled words, to multi-word expressions, etc.
4. Presentation criteria include the presence of pictorial illustrations, a consistent entry form, the full names of grammatical codes and symbols in the user's mother tongue, the use of bold type other than in the headword or equivalent and no intrusive advertisements (adapted from Lew & Szarowska 2017: 6-8, Pearsons & Nichols 2013: 202-207).

With regard to criteria, it is also indispensable to consider who the intended user is (e.g. scholars, (non)native speakers (adults or children), learners (advanced, intermediate, or beginner students; business students, etc.).

Nesi (1996) analysed a range of monolingual British English learners' dictionaries and identified a total of eight approaches used by lexicographers in the treatment of collocations (quoted in Laufer 2011: 32). According to Nesi (1996), the collocational group can be given the headword status, can be listed as a subentry, can be defined within the main entry, the collocational range can be given in the definition, typical collocates can be printed in dark type within examples or can occur within examples, collocates can be grouped in boxes or sections outside the entry.

The analysis of dictionaries presented in the following paragraphs is based on the framework presented above for the elements included in dictionary entries and for the representation of collocations in dictionary entries.

Nouns were chosen for the analysis based on previous research. Hausmann (1989: 228) recommends entering collocations in a dictionary under their base form, which is usually a noun. Namely, when

constructing a text, the speaker usually starts from the noun(s) and then proceeds to the verb and adjective. Previous research (e.g. Bogaards 1999) has not confirmed beyond doubt that the speakers look up the base first rather than the collocate, or that they look up a noun first when looking up a collocation, but rather a word that they recognize slightly preferring the noun (e.g. Walker 2009: 293). Nevertheless, we believe that the noun is the bearer of meaning and that any dictionary analysis should start from the noun, since texts are usually produced starting from the noun and proceeding to the verb. Thus, from the point of view of text production, in which the problem with collocations lies, collocations can be seen to be built up hierarchically. Moreover, research on collocation dictionaries has shown that these dictionaries are dominated by noun entries (Walker 2009: 297), that noun entries are generally the richest in collocations and that most dictionary entries actually concern nouns (Klotz 2003: 57) most collocations included in the entries in learner dictionaries were chosen in order to exemplify aspects of the definition of the headword (Walker 2009: 287),

Bearing the above in mind, the dictionary entries of selected nouns in selected bilingual dictionaries are first analysed to determine the representation of collocations in the entries. This is followed by a critical quantitative and qualitative analysis of the representation.

This paper analyses only noun collocations in which the base is a noun and the collocate is an adjective or a noun (in the function of an adjective). The analysis includes the 50 most common nouns covered in the basic literature for teaching business English in higher education, since students are future professionals who will use English in business communication. British business English course books, which are the starting point for the quantitative and qualitative dictionary analysis, include a glossary or word list, hereinafter referred jointly by the term glossary, that serve as a guide to students as they list words they should learn. In determining the words to be analyzed, glossaries from the following business English course books were used: *Business Partner* (B1, B1+ and B2⁸, from 2018 and 2019, published by Pearson), *Business Result* (Pre-Intermediate, Intermediate, Upper-Intermediate from 2017, published by Oxford University Press) and *Market Leader* (Pre-Intermediate, Intermediate, Upper-Intermediate from 2012, 2010, 2011, published by Pearson Longman). The course books were chosen as they are commonly used at higher education institutions in Croatia where business English is taught to non-native speakers of English who will use English in their work in the future. Furthermore, the course books were written and published by renowned British publishers with a long tradition in providing ELT and ESP teaching materials.

First, all one-word nouns were taken from the nine glossaries and then sorted according to the frequency of their occurrence in the glossaries. For the analysis, 50 English nouns that occur most frequently in the glossaries were selected and listed alphabetically. The words used for the analysis are: 8: *budget*; 7: *contract*; *supplier*; *turnover*; 6: *brand*; *commission*; *discount*; *demand*; *incentive*; *investment*; *invoice*; *loan*; *negotiation*; *profit*; *promotion*; *qualification*; *revenue*; *skill*; *strategy*; *target*; *trend*; 5: *agenda*; *bonus*; *consultant*; *consumer*; *customer*; *deadline*; *development*; *expertise*; *growth*; *income*; *policy*; *product*; *productivity*; *retail*; *salary*; *share*; *shareholder*; *staff*; *value*; 4: *asset*; *credit*; *delivery*; *finance*; *investor*; *performance*; *sales*; 3: *market*; *service*; 1: *company*⁹ (The number indicates how many of the nine glossaries the word occurs in¹⁰).

⁸ Levels B1, B1+, and B2 are modern designations for levels of language proficiency according to the Common European Framework of Reference for Languages (Council of Europe 2006: 32), which have replaced the now obsolete designations Pre-intermediate, Intermediate, and Upper-intermediate.

⁹ The translations of the entries into Croatian are: 8: *budžet*, *proračun*; 7: *ugovor*; *dobavljač*; *obrtaj*, *promet*; 6: *marka*, *trgovački znak*, *brend*; *provizija*, *pristojba*; *komisija*; *diskont*, *popust*, *rabat*; *potražnja*; *poticaj*, *stimulus*; *investicija*, *ulaganje*; *faktura*, *račun*; *zajam*, *kredit*; *pregovori*; *produktivnost*, *proizvodnost*; *promocija*, *promidžba*; *kvalifikacija*; *prihod*; *vještina*; *strategija*; *cilj*; *trend*; 5: *dnevni red*; *prioriteti*; *bonus*, *dodatak*, *premija*, *nagrada*; *konzultant*, *savjetnik*; *potrošač*, *kupac*, *kupac*, *potrošač*; *rok*; *razvoj*; *ekspertiza*, *stručnost*; *rast*; *dohodak*; *dobit*; *prihod*; *politika*; *proizvod*; *produktivnost*, *proizvodnost*; *trgovina na malo*,

Fifty English nouns are first analyzed in English-Croatian business dictionaries, since the source language is English. Then, their Croatian equivalents are analyzed in Croatian-English business dictionaries. The same nouns were used for a more systematic comparative analysis in bilingual dictionaries where the source and translation languages are English and Croatian. Since nouns in one language do not have only one equivalent in another language, several translation equivalents in Croatian were analyzed. The entries in the dictionaries are also compared against the framework provided in this section.

The bilingual business dictionaries included in the analysis are: *English-Croatian Economic Dictionary* (2nd revised edition) by Ante Babić (ECED), *English-Croatian Dictionary of Business and Economics* (ECBD) by Višnja Špiljak, *Croatian-English Economic Dictionary (2nd revised edition)* by Ante Babić (CEED) and *Croatian-English Dictionary of Business and Economics* (ECDBE) by Višnja Špiljak. The dictionaries listed were chosen because they are pairs of dictionaries that are similar in scope and size, are the most recent bilingual business dictionaries with English and Croatian as source and target languages, and the editors of the pairs are the same.

The results of dictionary analysis

This section is devoted to the presentation of the results of dictionary analysis.

Englesko-hrvatski ekonomski rječnik; English-Croatian Economic Dictionary (2nd revised edition) (ECED), edited by Ante Babić, is the result of the work of economic experts united in the publishing house MATE, which specializes in the translation of relevant world literature in the fields of economics, management and related areas.

In ECED, the entry consists of eight parts: English term, reference-field, reference-subfield, Croatian term, explanation in Croatian, explanation in English, geography¹¹. Not all entries consist of all 8 parts. Table 1 shows some examples of entries without English explanations and geography, because they are not part of the displayed entries.

Table 1. Examples of entries in ECED

ENGLISH TERM	REFERENCE-FIELD	REFERENCE-SUBFIELD	CROATIAN TERM	EXPLANATION IN CROATIAN
Budget	makro; posl.	fisk.; financ.	1. budžet; 2. proračun; državni budžet, državni proračun	1. novčani plan za neko razdoblje; 2. blagajna ili račun s kojeg se ostvaruje taj plan; 3. najčešće se misli na državni budžet i državni proračun
(ECED: 144-145)				
Discount	posl.		diskont, popust	
(ECED: 302-303)				
Income	mikro, makro		dohodak	Općenito predstavlja tijek novca ili roba koji dotječe pojedincu, grupi

maloprodaja; plaća; dionica; udio; dioničar; osoblje, službenici, zaposlenici, namještenici, radnici; vrijednost; 4: imovina; sredstvo; aktiva; kredit; doprema, dostava, isporuka; novac, financije; ulagač, investitor; uspješnost, rezultat, performansa; prodaja; 3: servis; usluga; tržište, trgovina; burza; 1: poduzeće, tvrtka, društvo, kompanija.

¹⁰ All data generated during the study are available on request.

¹¹ The parts of the entry are only listed in Croatian and were translated by the author of the paper. NOTE: Geography states the difference between British and American English.

ENGLISH TERM	REFERENCE -FIELD	REFERENCE- SUBFIELD	CROATIAN TERM	EXPLANATION IN CROATIAN
				pojedinaća, poduzeću ili privredi tijekom određenog vremena. Dobit kod poduzeća u SAD-u.
				(ECED: 516-517)
Investment (I)	makro		investicija (I)	(1) Ekonomska aktivnost koja žrtvuje današnju potrošnju imajući u vidu povećanje proizvodnje u budućnosti. Investicije mogu biti u opipljivi (stvarni) kapital (zgrade, opremu i zalihe) i u neopipljive investicije (Obrazovanje ili "ljudski kapital", istraživanje i razvoj te zdravstvo). Neto investicija je vrijednost ukupne investicije nakon što su se odvojila sredstva za amortizaciju. Bruto investicije su investicije bez odvajanja za amortizaciju. (2) U financijskom smislu, investicija ima sveukupno drugačije značenje i označuje kupovanje vrijednosnih papira, poput dionica ili obveznica.
				(ECED: 554-555)
Loan	makro	monet.	kredit, zajam	
				(ECED: 594-595)
Salary	makro	ek. rada	plaća	
				(ECED: 824-825)

Out of the 50 analyzed nouns, the nouns *consultant*, *expertise*, *incentive*, *policy*, *qualification*, *staff*, *target*, are not a dictionary entry in the ECED, and the nouns *negotiation* and *service* are listed only in the plural. There is no information about collocations under any entry in the dictionary. The entries in this dictionary do not contain typical dictionary information, such as part of speech or pronunciation. There are no examples of usage in context. All entries are capitalized, which may lead the user to believe that English nouns are capitalized, which is incorrect. Different meanings are numbered, e.g., "Skill - 1.vještina; 2.sposobnost; 3. znanje" (ECED: 844-845). Synonymous meanings are separated by a semicolon, e.g., "Promotion - promocija, promidžba" (ECED: 766-767). However, the explanations in Croatian are inconsistent with translation equivalents, e.g., "Budget - 1. budžet; 2. proračun; državni budžet, državni proračun. - 1. novčani plan za neko razdoblje; 2. blagajna ili račun s kojeg se ostvaruje taj plan; 3. najčešće se misli na državni budžet i državni proračun" (ECED: 144-145).

The analysis of the selected entries indicates that the dictionary can be used as an encyclopedic manual by economists and business people, by students and teachers at business schools in Croatia and by any business professional who comes into contact with economic terms on a daily basis and needs to place a noun in a broader context of economic sciences (ECED: 6).

Englesko-hrvatski poslovni rječnik. English-Croatian Dictionary of Business and Economics (ECDBE), edited by Višnja Špiljak, includes 40,000 entries from the fields of economic theory and policy, economics and public finance, banking, insurance, accounting, auditing, organization, management, marketing, trade, international finance, stock market transactions, transportation, tourism, business

law, statistics, mathematics, operations research, and computer science (ECDBE: 7). The dictionary is written for business professionals, students and teachers at the faculties of business and economics, and translators.

All 50 analyzed nouns are entries in the ECDBE. There are no collocations for any of the analyzed nouns. There is no information about the part of speech, pronunciation, origin, etc. Every entry consists of two parts: the English headword and the translation(s) into Croatian, e.g., "investment investicija, plasman, plasman novca, ulaganje" (ECDBE: 328). Different meanings of each entry are numbered, e.g., "promotion - 1. *napredovanje, unapređenje, promaknuće* 2. *promocija, promotivne aktivnosti*". Very similar and close meanings are separated by a semicolon, e.g., "income - *dohodak; dobit; prihod*" (ECDBE: 299), while synonymous meanings are separated by a comma, e.g., "budget - *proračun, budžet, financijski plan*" (ECDBE: 77). The entries also sometimes include a brief explanation in brackets, e.g., "salary - *osobni dohodak, plaća (mjesečna ili godišnja za razliku od nadnice)*" (ECDBE: 550).

Hrvatsko-engleski ekonomski rječnik; Croatian-English Economic Dictionary (CEED) (2nd revised edition)¹², edited by Ante Babić, was compiled in parallel with the *English-Croatian Economic Dictionary* of the same editor. This dictionary is also the result of the work of economic experts gathered around the publishing house MATE. The general description of this dictionary given in the preface and the information on the division into fields and subfields do not differ from the preface and the information in the ECED by the same editor and are not repeated here.

In CEED, the entry consists of the following eight sections: Croatian term, reference-field, reference-subfield, English term, explanation in English, explanation in Croatian, geography. Table 2 shows some examples of entries.¹³

Table 2. Examples of entries in CEED

CROATIAN TERM	REFERENCE-FIELD	REFERENCE-SUBFIELD	ENGLISH TERM
budžet	makro; posl.	fisk.; financ.	Budget
(CEED: 84-85)			
proračun	makro; posl.	fisk.; financ.	Budget
(CEED: 706-707)			
kredit	posl.		Credit
(CEED: 366-367)			
plaća	makro	ek. rada	Salary
(CEED: 584-585)			
promocija, promidžba	posl.	financ.	Promotion
(CEED: 704-705)			

Out of the 50 analyzed nouns, the nouns: *konzultant, savjetnik* 'consultant', *rok* 'deadline', *ekspertiza* 'expertise', *kvalifikacija* 'qualification', *politika* 'policy', *poticaj*, which in CEED is not an incentive but a "bounty" are not a dictionary entry and the nouns " *pregovor* 'negotiation' " and *usluga* 'service' are listed only in the plural.

All analysed entries consist of a noun in Croatian and a translation in English, e.g., "*budžet* - makro; posl. - fisk.; financ. - Budget" (CEED: 84-85). Additional information on the (sub)field(s) to which the

¹² Although both ECED and CEED are bilingual dictionaries, the respective original titles were in Croatian only. Therefore, the respective 1st edition titles of the two dictionaries, which were in both English and Croatian, were used in this paper.

¹³ The parts of the entry are listed only in Croatian and were translated by the author of the paper.

noun belongs is provided. The entries in this dictionary do not contain grammatical information, e.g., information on the part of speech or gender of a noun. None of the entries contain information about collocations. Some entries also contain additional explanations in Croatian, e.g., “*obrtaj - promet* - Turnover - *opseg poslovanja nekog trgovačkog društva, iskazan u računu dobiti i gubitka.*” (CEED: 516-517). All Croatian nouns are written with a lowercase initial letter, but English nouns are written with the first capital letter, which may mislead the user into thinking that nouns in English are written with a capital letter.

In addition, there is an obvious lack of logic in this dictionary and a clear inconsistency in the order of Croatian headwords, illustrated by the examples in Table 3. If the authors decided to use the alphabetical order of the headwords, it is unclear why, for example, the noun *popust* is listed under the headword *diskont*, because it is not to be expected that the user will look for the noun *popust* under the letter *d*, i.e., under the headword *diskont*. Although the Croatian nouns are synonyms, this way of structuring the dictionary is confusing, impractical and illogical for the user.

Table 3. Examples of inconsistencies in CEED

CROATIAN TERM	REFERENCE-FIELD	REFERENCE-SUBFIELD	ENGLISH TERM
diskont, popust	posl.		Discount
(CEED: 128-129)			
popust, trgovački popust, rabat, gotovinski popust	posl.	financ.	Trade discount
(CEED: 614-615)			
rabat, popust	posl.	financ.	Rabate
(CEED: 718-719)			

Comparing the introductions of ECED and CEED, we find that the dictionary was created as a result of work on the translation of business and economic literature. CEED is a mirrored ECED dictionary and does not follow the lexicographic conventions in creating a dictionary entry as previously explained.

Hrvatsko-engleski poslovni rječnik. Croatian-English Dictionary of Business and Economics (CEDBE), edited by Višnja Špiljak, includes a total of 46,000 entries from the fields of "economics and public finance, accounting and auditing, insurance and reinsurance, banking, business law, commerce, transportation, marketing, tourism, statistics, mathematics, operations research, computer science, economic theory and policy, general economics" (CEDBE: 7). The entries are arranged alphabetically, and the author adds in the preface that "collocations formed from basic terms" are also arranged alphabetically (CEDBE: 7), but it is not defined what the authors consider collocations. However, analysis of the dictionary suggests that MWT are considered collocations.

The basic structure of the entry is the headword, i.e., the Croatian noun on the left side of the entry and the English equivalent(s) on the right side. Different meanings are numbered, e.g., “*promocija* - 1. promotion (*mark.*) 2. graduation ceremony, (*američka sveučilišta*) commencement, conferment of a degree”, (CEDBE: 471) with additional explanations in brackets. In some entries, additional explanations to the meaning are also in brackets, e.g., “*vještina* - skill, skillfulness; (*sposobnost*) competence, capability; (*spretnost*) dexterity; (*okretnost*) adroitness, talent, knack; (*umijeće*) art, accomplishment. “ (CEDBE: 656) Similar meanings are separated by semicolons, e.g., “*promet* - turnover; net sales, sales

result; (*promet*) traffic; (*kolanje*) circulation (CEDBE: 470) and synonymous ones by a comma, e.g., "budžet - budget, financial budget" (CEDBE: 41).

Some entries also include additional grammatical information, as considered necessary by the authors/ the editor, e.g., the irregular plural of the noun "*polica* - shelf (pl. shelves)" (CEDBE: 384) or the encyclopedic information "*jard* - yard (0.914 m)" (CEDBE: 165). In CEDBE, it is also indicated whether the English translation is formal or informal, e.g., "*izvršni korak* - execute step (*inf.*)" (CEDBE: 164), whether it is colloquial, e.g., "*zanimanje* (zvanje) - occupation, vocation; profession¹⁴"; (*kol*) calling" (CEDBE: 679), and whether it is figurative, "*odlediti* (*i fig.*) - unfreeze" (CEDBE: 313). Differences between American and British English are also listed, whether in spelling, e.g., "*odaslati robu* - consign, (*brit.*) despatch, (*am.*) dispatch, ship, ship off" (CEDBE: 310) or when different words are used in British and American English, e.g., "*ministar financija* - finance minister, (SAD) Secretary of the Treasury, (UK) Chancellor of the Exchequer" (CEDBE: 239) or "*ministar trgovine* - minister of trade, President of the Board of Trade (UK), Secretary of Commerce (SAD)" (CEDBE: 239).

All 50 analyzed nouns are included in the CEDBE, but collocations are not listed in any of the entries. However, if we refer to the preface that collocations formed from basic terms are also arranged alphabetically (CEDBE: 7), we can conclude that MWEs have the status of collocations and are listed as separate entries. If the first word is the base of the collocation, then it is easy for the user to find the collocation as these MWEs are arranged alphabetically in the dictionary as the following examples show:

income dohodak; dobit; prihod

income account račun dobiti; račun dohotka

income allocation raspoređivanje dobiti

income-based price dohodovna cijena

income bonds dohodovne obveznice

(CEDBE: 37)

However, if the user knows the base but is unsure of the collocate, he will not be able to find the correct collocation as it will be listed alphabetically, as illustrated below.

accrued income nastali dohodak, obračunati dohodak, obračunati prihod, obračunata dobit.

(CEDBE: 17)

earned income dohodak iz rada, dohodak od rada, zarađena dobit, zarađeni dohodak

(CEDBE: 198)

fixed income fiksni dohodak; renta

(CEDBE: 243)

The examples from CEDBE illustrate the fine line that exists between collocations and MWT in business English. They also challenge the existing macro and micro structure of bilingual LSP dictionaries, because although lexicographers and other language experts are aware of the differences between collocations and MWT, it is advisable not to follow these distinctions blindly in order to make dictionaries more user- friendly.

Discussion and direction for future research

Initially, the analysis was planned as a dual analysis, i.e., quantitative and qualitative, the former aimed at finding out how many entries included collocations and the latter aimed at finding out how these collocations were represented. The analysis was, however, only quantitative, as no entries included collocations. Nonetheless, the quantitative analysis of selected English-Croatian and Croatian-English business dictionaries provided an answer to the research question by revealing that the only collocations included in the dictionary are those which are structurally similar to MWTs. It was also

¹⁴ The typographic error is in the dictionary.

revealed that the entries in these dictionaries do not provide additional information about words beyond translation equivalents. It should be stated that although grammatical information, differences between American and British English, or brief explanations are occasionally included in the entries, this is not consistently done for all entries and can, therefore, be considered the exception rather than the rule.

Although each of the analyzed dictionaries has a large number of individual entries, i.e. ECED and CEED 10,000 each, ECDBE 40,000 and CEDBE 46,000, the information within the entries are rather limited and consistently include only translation(s) into the target language. The translation equivalents are clearly presented and numbered. Synonymous equivalents are separated by a comma and similar non-synonymous meanings are separated by a semicolon, which increases the clarity of the entries.

Dictionary analysis confirmed that significant changes need to be made to the existing bilingual LSP dictionaries. One path is to write completely new dictionaries and the other path is to improve the existing ones. The latter path is more time-efficient as these dictionaries already contain systematically organized information on words. In addition, information on words in existing dictionaries do not become obsolete overnight. However, it is necessary to monitor the use of words to determine whether a particular word or meaning has disappeared, changed, or a new meaning of a word has emerged. It is also important to ensure that errors from the existing dictionaries are not repeated.

Further steps that need to be taken before a new dictionary is written is the compilation of a (parallel and/or comparable) corpora of business English and business Croatian. Both corpora would be used not only to extract collocations in the respective languages, but would also provide example sentences for headwords and collocations. Corpora information would also reveal changes in meanings of existing words and introductions of new words into the language of business.

A new business dictionary should be a digital dictionary as it would allow the inclusion of more information in an entry, such as pronunciation, both transcribed and as an audio recording, grammatical information, e.g., part of speech, information about whether the noun is countable or uncountable and/or has an irregular plural form, but also sub senses, derived words, examples from both the written and spoken corpora for both headwords and for collocations. A digital dictionary may also include various word games, quizzes, a word of the day, lists of words to learn the target language, pictures to illustrate the meaning of the headword, CEFR level markers, definitions adapted to children and/or language learners, examples from both written and spoken corpora, which could also be presented as audio recording(s), and a quick access to the definitions of unknown words within the definition of the initially looked up word. Different meanings and different collocations could be illustrated with example sentences taken from the corpora.

Research limitations and the conclusion

The main research limitations are as follows. All four dictionaries are paper dictionaries, which is not in line with the contemporary and modern lexicographic tradition where dictionaries are available in a digital format, be it an application or a website. This limits particularly the microstructure of the dictionary and certain elements that can be considered standard dictionary elements are not included in the entries, e.g., pronunciation, singular/plural forms, gender, etc. All fifty words analyzed are nouns, since nouns are considered to carry the meaning, while future analyses should also include verbs and adjectives.

Dictionary analysis included four bilingual business dictionaries with English and Croatian as target and/or source languages. The pairs of dictionaries were compiled by the same editors, so both the macro and the micro structure of the pairs of dictionaries are the same. This means that all the limits are repeated in each of the dictionaries within the pair. The analyzed dictionaries are the most contemporary dictionaries of this size, of these language pairs and of the field they cover, they are still

more than 10 years old and would need to be updated with new words and/or new meanings of the existing words.

All four dictionaries were written within the same lexicographic tradition, namely Croatian. Further analysis should include monolingual business English dictionaries so as to learn from different lexicographic traditions. In the case of business English, the analysis should include both British and American monolingual dictionaries in order to compare two approaches to dictionary writing and use the results when compiling a new bilingual Croatian-English and English-Croatian business dictionary.

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