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**ABBREVIATIONS IN ARTICLES ON ECONOMICS IN
ACADEMIC JOURNALS**

**SAĪSINĀJUMI AKADĒMISKO ŽURNĀLU RAKSTOS PAR
EKONOMIKU**

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ANOTĀCIJA

Straujā cilvēces zināšanu attīstība un tehnoloģiskais progress ir izraisījis jaunu vārdu formu radīšanu efektīvākai lietu un procesu aprakstīšanai. Šī darba mērķis ir pētīt akadēmiskos rakstos par ekonomiku lietoto saīsinājumu veidus un biežumu, kā arī to ietekmi uz šo rakstu uztveramību un saīsinājumu paskaidrošanas sistēmu. Metodes ietver literatūras apskatu, kā arī korpusā konstatēto saīsinājumu kvantitatīvu un kvalitatīvu analīzi. Rezultāti liecina, ka akadēmiskos rakstos par ekonomiku visbiežāk lietotais saīsinājumu veids ir alfabētiski. Pastāv vienota sistēma, kas tiek lietota saīsinājumu paskaidrošanai rakstos. Tiek secināts, ka dažos gadījumos saīsinājumu paskaidrojumu neesamība varētu izraisīt maldīgu priekšstatu.

Atslēgvārdi: saīsinājumi, alfabētiski, akadēmiski raksti, akronīmi, raksti par ekonomiku.

ABSTRACT

The rapid development of the humankind's knowledge and technological progress has led to creation of new word forms for describing things and processes more efficiently. The purpose of the present paper is to investigate the types and frequency of abbreviations used in academic articles on economics, as well as their impact on the perceptibility of these articles and the system of abbreviation explanation. The methods include literature review as well as quantitative and qualitative analysis of the abbreviations detected in the corpus. The results show that the most frequently used type of abbreviations in the academic articles on economics is alphabetisms. There is a common system which is used for the explanation of the abbreviations in articles. It is concluded that the lack of abbreviation explanation could cause misconception in some cases.

Key words: abbreviations, alphabetisms, academic articles, acronyms, articles on economics.

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INTRODUCTION

As the world gets more and more populated, the speed of technological progress is constantly increasing and the knowledge of humankind is expanding as well. Considering such impressive rates, it is no wonder that everything needs to be done as fast and as compactly as possible with time and space gradually becoming an ever greater scarcity. This tendency affects a large number of fields and notions, including language, economics, and journalism. New words are created for a faster and easier reference; journalists and economists use different tables, quotients and formulas in order to avoid lengthy discussions; various specialized professional terminologies are emerging for describing new processes and phenomena more briefly and precisely.

Abbreviations, too, can be perceived as a product of the increasing progress, and as a tool that is used to save time and space. While abbreviated word forms might be used less in fiction, they are very common in media and different genres of academic writing. Therefore, it is very useful, if not essential, to be aware of the meaning behind abbreviations. Moreover, if it concerns articles, understanding the abbreviations is crucial for understanding the information that is communicated in them.

The present thesis was triggered by the author's interest in the use of abbreviations in the articles on economics. Academic journals were chosen as the source of selected corpus necessary for the study due to higher possibility of a common abbreviation usage pattern as well as the assumption that they would contain more shortened word forms than popular journals.

The aim of the paper is to detect the types of abbreviations, their frequency as well as to analyze the abbreviation presentation system in the economics related articles in academic journals and to explore their meaning and effect they have on the perception of information. The following **research questions** have been set:

- What are the most frequently used types of abbreviations in the articles on economics in academic journals?
- What is the system of abbreviation presentation in the articles on economics in academic journals?

- Can the abbreviations used in the articles on economics in academic journals hinder the perception of the information communicated in them?

In order to find answers to the research questions, the following **enabling objectives** have been proposed:

- To do a comparative study of the previous studies concerning abbreviations,
- To clarify the types of abbreviations,
- To analyze the abbreviations detected in the research corpus by applying the selected framework of analysis,
- To determine which types of abbreviations are used most frequently,
- To describe the common system of the explanation of abbreviations in the selected articles (if there is any),
- To study the impact of the used abbreviations on the overall perception of the information,
- To draw conclusions.

The primary research method used in the present thesis is an empirical study of selected articles, while the secondary research method is the literature review of the relevant theories and previous studies. The data was analyzed from both qualitative and quantitative perspective. The theoretical part of the thesis is based on the studies of the following authors: Plag (2003), Veisbergs (1997), Algeo (2009), Stockwell and Minkova (2001), Zerkina (2015), Cannon (1989), Harley (2006), López Rúa (2004).

For the empirical study a corpus was created consisting of eight articles on economics taken from four academic journals, such as *Economic Development Quarterly*, *Global Journal of Emerging Market Economies*, *International Journal of Social Economics* and *Global Social Policy*. The total volume of the research corpus consists of 53 211 words.

The first chapter gives a summative overview of relevant theoretical studies on the topic. It also describes the differences in classification of abbreviations. The second chapter is divided in two sub-chapters each of which contains the discussion of the language peculiarities of the academic genres and LSP texts, respectively. Meanwhile, the third chapter includes a detailed description of the methodology of the present study. The fourth chapter deals with the analysis of the abbreviations in the selected articles on economics from academic journals.

1. DEFINITIONS AND CLASSIFICATION OF ABBREVIATIONS

Abbreviations are the subject of many previous studies; some of them are discussed in the present chapter. However, when it comes to the classification and definitions of different types of abbreviations, the approach differs from study to study. This chapter provides a comparative study of the theories of various authors as well as a detailed definition of the abbreviation types that are relevant for the present thesis.

1.1. Classification of abbreviations

In order to be able to carry out empirical research from a qualitative perspective, it is essential to look at the different approaches to abbreviation theory adopted by various scholars. While it might seem that the notion “abbreviation” simply denotes any shortened form of a word, actually the term implies several types of shortenings. Moreover, the previous studies offer diverse classifications. For example, Plag (2003) suggests that:

Abbreviations are similar in nature to blends, because both blends and abbreviations are amalgamations of parts of different words. Abbreviation has in common with truncation and blending that it involves loss of material [. . .], but differs from truncation and blending in that prosodic categories do not play a prominent role. Rather, orthography is of central importance. Abbreviations are most commonly formed by taking initial letters of multiword sequences to make up a new word. (ibid. 160)

However, the author stresses that abbreviations can be formed also from non-initial letters. In addition, Plag insists that there are some abbreviations which allow different pronunciation, i.e. as initialisms or as acronyms (ibid. 163). According to this, it can be concluded that Plag distinguishes abbreviations from other word-building techniques, i.e. truncation and blending. He, however, discusses initialisms and acronyms as types of abbreviations. The classification of abbreviations suggested by Plag (2003) is more clearly presented by Figure 1.1.

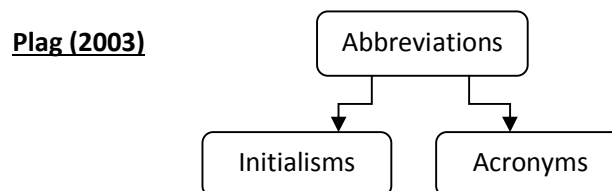


Figure 1.1 Classification of abbreviations by Plag (2003)

Unlike Plag (2003), Stockwell and Minkova (2001) not only include blending in the discussion of creation of new word forms, they even state that acronyms ‘are a special type of blend’ (ibid. 7). In addition, the authors distinguish true acronyms which are created by taking exclusively the initial letters from the abbreviated words and those that contain parts of the words, i.e. initial letters alongside with some of the following letters which are added in order to create a pronounceable acronym. The authors discuss yet another method of creating acronyms, namely, reverse acronyms. This process is described as follows:

An interesting phenomenon in recent years, a sort of political offshoot of normal acronymic coinage, has been the rise of reverse acronyms – the creators start with a word they want as their name, say, for example, CORE, and then they work from those four letters to find four words which represent something like the idea they want to be associated with. (ibid. 9)

As to the overall classification of what is understood in the present study under the term “abbreviations”, Stockwell and Minkova (2001) avoid using this particular notion as such. Nevertheless, the ambiguity of the classification is intensified by their suggestion that ‘shortening is sometimes called “clipping”’ (ibid. 10). Additionally, the back-formations which refer to the shortened word forms that lack actual or supposed affixes are also viewed as shortenings. Detailed classification proposed by Stockwell and Minkova (2001) is provided in Figure 1.2.

Stockwell and Minkova (2001)

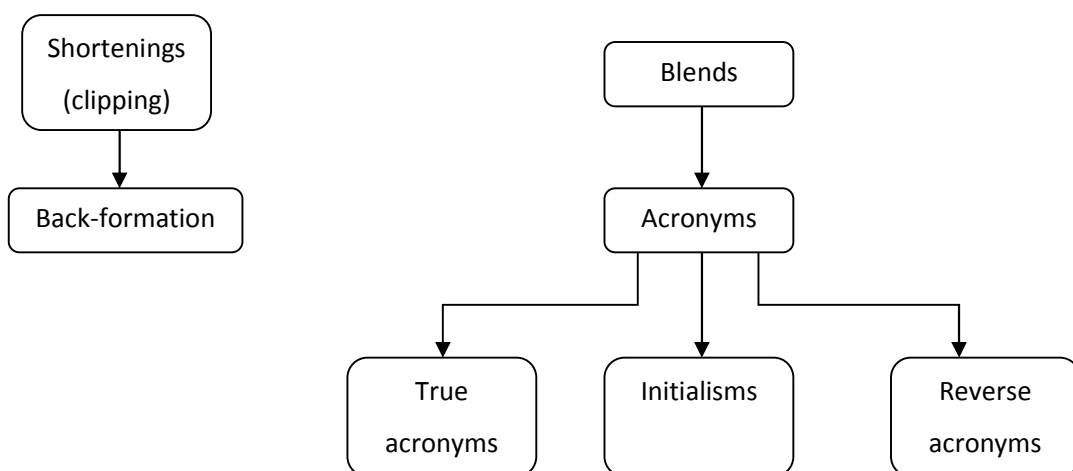


Figure 1.2 Classification of abbreviations by Stockwell and Minkova (2001)

Meanwhile, another study conducted by Algeo (2009) discusses the term “alphabetisms” alongside with acronyms, which allows suggesting that he perceives this type of shortenings as an equivalent to that which is described as initialisms by Plag (2003). However, Algeo (2009) uses the term “initialisms” to denote both, alphabetisms and acronyms. The scholar states that while alphabetisms are made of the initial letters of the words and are pronounced as separate letters, acronyms are pronounced as a whole word (ibid. 236). Moreover, the author suggests that alphabetisms and acronyms, which are more commonly perceived under the name ‘abbreviations’, are an extreme form of clippings; he also points out that ‘usually the motive for this clipping is either brevity or catchiness, though sometimes euphemism may be involved’ (ibid. 236).

Similarly to Stockwell and Minkova (2001), Algeo (2009) ignores the term “abbreviations” and instead uses the term “shortenings” for all of the following abbreviation forms: clippings, initialisms (alphabetisms and acronyms) and back-formations. Additionally, the author discusses apheretic and aphetic forms, which are described by him as special forms of clipping where sounds are omitted from the beginning of a word (ibid. 237).

While Algeo (2009) concentrates more on the historical development of the English language, he provides definitions of the language terms that are also discussed in the present study. The author gives a wide variety of examples of abbreviated word forms originated in different centuries, mentioning that some of them appeared already at the beginning of the 19th century; however, an increased number of them are coming from the times of World Wars (ibid. 236). This phenomenon is described also by Stockwell and Minkova (2001: 8) who indicate that ‘the fashion for acronyms and initialisms really got moving’ during the World War II. Therefore, it can be concluded that the development of these types of abbreviations, to a great extent, can be attributed to the domains of politics and military. However, Stockwell and Minkova (ibid.) add that nowadays another field which contributes significantly to the creation of new acronyms is the language of IT.

An interesting fact is mentioned by Algeo (2009), referencing to his own previous studies, that conclude that only 8% of the new words in the English language nowadays are constituted by shortenings, while the most popular word-creating techniques are compounding and affixation (ibid. 245). Figure 1.3 shows the abbreviation classification approach by Algeo (2009).

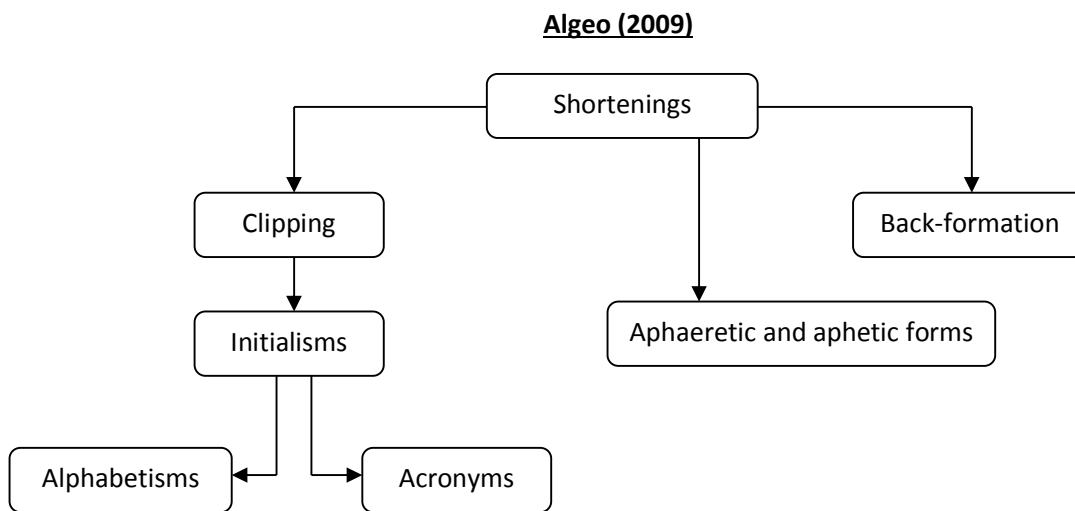


Figure 1.3 Classification of abbreviations by Algeo (2009)

A different approach to abbreviation as a word-building pattern is proposed by Veisbergs (1997). While acknowledging other theories which include clipping and blending the author suggests that ‘abbreviation is the formation of new words from the initial letters of a set of other words’ (ibid. 67). Thus, it can be asserted that, according to this classification in comparison to other studies, abbreviations only include initialisms or alphabetisms, and acronyms. The author mentions alternative names for acronyms, such as protograms and letter words referring to Marchand (Marchand, 1969, discussed in Veisbergs, 1997: 67). Also, Veisbergs points out that ‘abbreviations have especially proliferated in the last few decades spreading from colloquial to highly specialized scientific and technical terms’ (1997: 67). The classification of abbreviations suggested by Veisbergs (1997) is displayed in Figure 1.4.

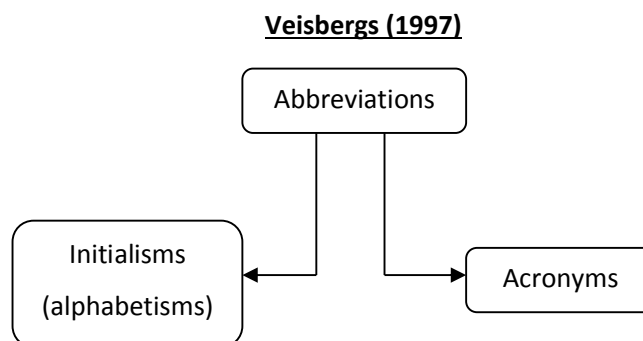


Figure 1.4 Classification of abbreviations by Veisbergs (1997)

There are linguists who adopt yet other approach in terms of the classification of abbreviated word forms: from López Rúa (2004) who discusses simple and complex shortenings to Cannon (1989) and Harley (2006), who suggest that abbreviations, alongside with acronyms, are a type of initialisms. Besides, López Rúa (2006, discussed in Malenica and Fabijanić, 2013) lists blends as a type of the complex abbreviations, which is not a very common approach among scholars. The foremost surprising suggestion, however, is made by Zerkina, Kostina and Pitina (2015) who state that

according to the theory of equivalence, abbreviations may be considered as lexical units which do not need a special classification attributable to them, and they should be classified the same as words. Thus, a specific character of abbreviations is diminished (ibid. 139).

Figure 1.5 provides the abbreviation classification approach adopted by Cannon (1989) and Harley (2006). As the model proposed by López Rúa (2006, discussed in Malenica and Fabijanić, 2013) is used as a base for the empirical analysis of the present study, a detailed description of this approach including an illustrative figure is provided in the methodology section.

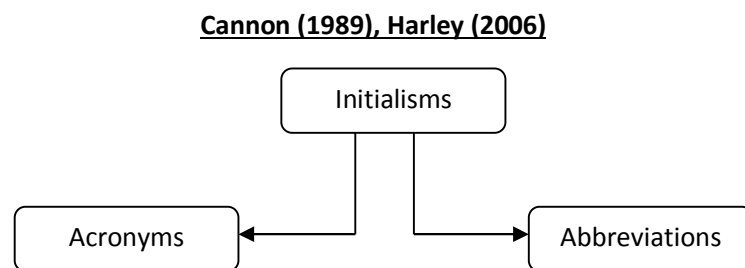


Figure 1.5 Classification of abbreviations by Cannon (1989) and Harley (2006)

To conclude, there are significant discrepancies in the classifications of the shortened word forms. Some of the scholars, such as Plag (2003), Zerkina et.al. (2015), and Harley (2006) adopt rather simple classification systems. However, the categories in which they divide shortened word forms still vary significantly. While Plag (2003) considers initialisms and acronyms as equal sub-ordinates of the category of abbreviations, Zerkina et al. (2015) suggest that no specific categorization of abbreviations is needed, and Harley (2006), in turn, views abbreviations alongside acronyms as sub-ordinate categories of initialisms. Scholars, such as

Algeo (2009), Stockwell and Minkova (2011) offer more detailed classification systems, which create even more confusion in this regard. For example, initialisms are considered by Algeo (2009) as a sub-ordinate category of clipping, but a super-ordinate category of acronyms (see Figure 1.3). Meanwhile, Stockwell and Minkova (2011) view the same category of initialisms as the narrowest group of shortened word forms which is sub-ordinate of acronyms which, in turn, are a type of blends (see Figure 1.2). As concluded by López Rúa (2004), ‘the existence of fuzzy limits among all the categories has always been admitted, and such a problematic circumstance is often mentioned as a reason for the lack of a systematic description’ (ibid. 110).

1.2.Relevant types of abbreviations

1.2.1. Acronyms

While the classifications of shortened word forms differ from study to study, researchers agree in regard to the definition of the term “acronym”, describing it as compilation of the initial letters of two or more subsequent words that is pronounced as a word. The present research also uses the term in accordance with this definition.

Algeo describes the origins of the term as follows: ‘acronym was coined from Greek akros “tip” and onyma ‘name,’ by analogy with homonym’ (2009: 236), while indicating that there are cases when mixed pronunciation techniques are used simultaneously. The author mentions the following cases as examples of acronymy (ibid.):

AWOL (absent without official leave)

Wasp (white Anglo-Saxon Protestant)

NASA (National Aeronautics and Space Administration)

SWAT (special weapons and tactics)

SUV (sport-utility vehicle)

Laser (light amplification by stimulated emission of radiation)

Plag discusses the tendency to create acronyms for convenience as well as for the purposes of marketing:

Sometimes abbreviations are formed in such a way to yield not only pronounceable words (i.e. acronyms), but also words that are homophonous to existing words. This is often done for marketing or publicity reasons, especially in those cases where the

homonymous word carries a meaning that is intended to be associated with the referent of the acronym (2003: 174).

He adds that ‘the assumption underlying such a strategy is that the name used for a given phenomenon will influence the language user’s concept of and attitude towards that phenomenon’ (ibid.).

A somewhat similar idea is described by Stockwell and Minkova (2001) when they discuss a phenomenon called reverse acronyms the creation of which is initiated by choosing the desired acronym letters, and only then the meaning is formulated. The authors also indicate that acronyms that have become very popular as wholesome words are often spelled with lower-letters. Stockwell and Minkova (ibid. 8) even argue that when younger people come across some of such acronyms, they hardly know what actually stands behind them.

1.2.2. Clipping

Clipping, also known as truncation, according to Algeo, is ‘a shortening of a longer word that sometimes supplants the latter altogether’ (2009: 235). Meanwhile, Stockwell and Minkova (2001) state that the term can be substituted by a simpler name, i.e. shortening, while explaining that the process denotes omitting a part of a word by keeping, for example, only one syllable. The authors include also back formations in the category of clippings.

Some of the well known examples of clipping discussed by Veisbergs (1997: 77) include the following:

Exam (examination)

Lab (laboratory)

Math (mathematics)

Vet (veteran)

Ad (advertisement)

Doc (doctor)

While clippings are a type of abbreviated word forms and thus serve the language economy, they are seen also as a serious potential for enriching the English language. Algeo (2009) defines it as follows:

Clipping can shorten a form by cutting between words [. . .] or between morphemes [. . .]. But it often ignores lexical and morphemic boundaries and cuts instead in the middle of a morpheme [. . .]. In so doing, it creates new morphemes and thus enriches the stock of potential building material for making other words (ibid. 235).

As to the relations between clipping and abbreviations, there is no generally accepted statement of whether or not clippings fall into the category of abbreviations. However, some researchers, such as López Rúa (2006), consider clipping as a sub-type of abbreviations. López Rúa (2006) describes clipping as a “process by which a word-form of usually three or more syllables is shortened without a change in meaning or functions” (ibid. 676). This definition is used for the purposes of the present study.

1.2.3. Initialisms

Due to the classification discrepancies, the definitions of the term “initialism” vary significantly. For example, Stockwell and Minkova (2001) state that initialisms are a type of acronyms, which are pronounced in the same way as they are spelled, i.e. letter by letter. Meanwhile, Algeo (2009) argues that initialisms, on the contrary, is a wider category, in which acronyms and alphabetisms are included as sub-types. According to Algeo (ibid.), the type of abbreviations that are called “initialisms” in the study of Stockwell and Minkova (2001), is named “alphabetisms”: ‘When [. . .] initialisms are pronounced with the names of the letters of the alphabet, they are called alphabetisms’ (2009: 236).

The idea of initialisms being a broader category of abbreviations that includes also acronymy, is supported by the studies of Cannon (1989) and Crystal (1995). However, Plag (2003) sees both, initialisms and acronyms as two equivalent sub-types of abbreviations, which therefore cannot be discussed as subordinated categories. Similar approach is adopted by Veisbergs (1997: 67); the author mentions the following examples of initialisms:

- BBC (British Broadcasting Company)
- UK (United Kingdom)
- IBM (International Business Machines)
- USA (United States of America)
- MP (Member of Parliament)

According to López Rúa (2006), an initialism is “the result of selecting the initial letter, or occasionally the first two letters, of the orthographic words in a phrase and combining them to form a new sequence” (ibid. 677).

Nevertheless, a larger number of studies seem to agree upon the main point in regard to initialisms, i.e. that they are shortened forms of a word set, which are pronounced as separated letters. Therefore, in the present research, this approach is adopted for the term “initialism”.

1.2.4. Blending

According to Veisbergs, blending is ‘a wordbuilding pattern when two separate elements of words merge to produce a term’ (1997: 42). Thus, it is a combination of clipping and compounding, as each separate word is first shortened to some extent and then the parts are blended with one another. The following examples indicated by Veisbergs (ibid. 42-43) illustrate blending:

Smog (smoke + fog)

Brunch (breakfast + lunch)

Telecast (television + broadcast)

Stagflation (stagnation + inflation)

Workaholic (work + alcoholic)

A similar definition is discussed by López Rúa (2006) who describes blending as a type of complex shortenings which is created by a connection or overlapping of several word-forms and shortening at least one of them (ibid. 677). This definition is used in the present research.

To sum up, the inconsistencies in the typology of shortened word forms among different authors might cause certain difficulties while conducting an empirical research. Therefore, it would be advisable for any related study to choose and customize a taxonomy that would be the most appropriate, just as the classification model proposed by López Rúa (2006) has been chosen for the purposes of the present research. All of the abbreviation types discussed in the present sub-chapter are included in the analysis model (see Chapter 3 for the detailed description of methodology).

2. PECULIARITIES OF THE LANGUAGE USED IN ACADEMIC GENRES AND LSP TEXTS

It is substantial for the study of abbreviations to look at the relevant environments in which these abbreviations are used, namely, the context of economics and the language of the written academic genres, as concerns the present research. As Zerkina et al. put it:

In view of a complex semantic structure of abbreviations and high specific weight of a connotation of many abbreviations, we should study abbreviations in a context. Besides, abbreviations, being stable and written with no spaces, may be variously transformed in terms of their structure and semantics, including complicated transformations, which are impossible in words (2015: 139).

2.1. Language used in academic writing

Academic genres' language differs from the English language that is used for everyday purposes; the distinction is mainly associated with the complexity of the language as well as the formality level. Crystal (1991: 210) states that 'a genre imposes several identifiable characteristics on a use of language, notably in relation to subject-matter, purpose [. . .], textual structure, form of argumentation, and level of formality.' In academic texts, these characteristics are very clearly pronounced.

A relevant study on the language of the research journal articles was conducted by Montesi and Owen (2006), in which they conclude that 'little research has as yet been done on the specific topic of journal article genres' (ibid. 145). The authors state that:

Article genres are slowly evolving, and two factors promoting such evolution may be, at the moment, digitization and an increasing tendency to conducting interdisciplinary research. Both digitization and growing degrees of interdisciplinarity may account for the existence of new article genres. (ibid. 163)

Due to the fact that the corpus for the empirical study of the present research is obtained from the Internet sources, it is useful to take into account the previous discussions of computer-mediated communication in relation to academic articles. Shepherd and Watters (1998) have come forward with a term "cybergenres" which denotes new genres that have appeared as a result of the changes to the existing genres introduced by the new types of media.

According to the authors, online academic journal articles fall into the category of replicated genres which are described by Shepherd and Watters as follows:

Replicated genres, including most digitized text documents, are relatively faithful reproductions of the genres as they appeared in their source media. The content and form are virtually the same and there is little new functionality based on the new medium (1998: 99).

This might be caused by the fact that academic articles follow quite conventional and strict style patterns; therefore, little or no changes appear in the online journals in comparison to their printed versions. As Montesi and Owen put it,

in general, however, adaptation to the digital medium has left the scientific article as a genre practically unchanged. Even when articles are published in e-only journals, they present no extra-features over their printed counterparts, such as new forms of presentation and interaction [. . .]. The scientific article is also a genre that is highly familiar to all scientists and presents a high degree of standardization across the disciplines. (2008: 144)

An interesting, if not revolutionary, approach in relation to the academic style is demonstrated by Sword (2012). In her book, the author discusses the outdated and strictly conventional features of academic articles and suggests that the whole academic writing and teaching approach can and should be modernized and given a possibility to allow individual style approaches. Sword argues the following:

Academic writing, like university teaching, is what sociologist Paul Trowler calls a “recurrent practice,” one of the many routine tasks that most academics perform “habitually and in an unconsidered way,” with little thought as to how or why things might be done differently (ibid. 23).

The ideas of Sword are also supported by Pinker (2014) who is even more critical of the traditional form and style of the academic papers. Furthermore, the author suggests that the structure and metadiscourse used in the academic writings actually hinder the perception of the ideas by the reader. Pinker argues that the majority of academics use a variety of unnecessary instruments in their writings, such as metaconcepts, nominalization, hedging and others, which make the articles impersonal and boring (ibid. 5-11).

Moreover, the author questions the usefulness of abbreviations in the academic articles by suggesting the following:

Abbreviations are tempting to thoughtless writers because they can save a few keystrokes every time they have to use the term. The writers forget that the few seconds they add to their own lives come at the cost of many minutes stolen from their readers. [. . .] Each abbreviation is surrounded by inches of white space. What possible reason could there have been for the author not to spell them out? (2014: 12)

It can be concluded from such a statement that there is a tendency towards the use of abbreviations in academic articles. Also, it is clear that academic genres are associated with a high level of language formality; however, the overall style and linguistic characteristics of these genres are greatly influenced by the field to which the academic writings are related.

2.2. Language used in LSP texts

Due to the shortage of relevant studies, it is somewhat challenging to describe in detail the peculiarities of the English language used in economics. As Pierini puts it, ‘scientific research into business and economic discourses had mainly focused on teaching rather than on the distinctive features of business discourse’ (2014: 110). Based on the previous studies of various authors, such as Nelson, Ellis and Johnson et.al, Pierini (ibid.) explains that this phenomenon is mainly due to the problem of access to the relevant materials necessary for the research.

However, English for business and English for economics, in particular, can be seen from the perspective of the characteristics of the language for specific purposes (LSP) or professional language, which is a subtype of general language and has a number of distinctive peculiarities.

Malyuga (2012) describes professional language as ‘a historical and national category resulted from interaction of various factors and cultures.’ It is stressed by her that the main distinctive peculiarity of professional language is the presence of specialized terminology or codified and uncoded vocabulary. The author states the following:

Professional language is aimed at achieving efficient professional communication among specialists. Language means used in a particular sphere shape a system in which notions have logical links of subordination and collateral subordination. Most scholars consider professional language as a system where the core is terminology. This terminology system comprises both uncoded lexical and phraseological units that are used in emerging areas of activity that have no official designations yet. Professional language is characterised by a limited sphere of specific communication. Professional language has peculiar grammar, but its distinctive feature is lexical and phraseological structure (ibid. 7).

Although it is agreed that formal and business style is the type of language that is used in professional settings, Malyuga (2012) also discusses the changes that have occurred in this regard, noting that the business discourse is not as formalized and unemotional as it used to be. Nevertheless, professional language still differs from the general language; and one of its typical features is jargon or, in other words, uncodified vocabulary. The author describes these differences as follows:

The example of the deviation from the norm of standard language is use of acronyms as another way of forming new lexical units [. . .]. The use of acronyms is one of the widespread ways of forming professional jargon. (ibid. 8)

The frequent use of acronyms in formal business style is associated with one of its distinctive features, i.e. the goal of economical use of language means.

The use of specific terminology and professional jargons is also discussed by Finegan (2008) who emphasizes the importance of previous knowledge in understanding the message communicated by the means of professional language. The author concludes the following:

Because jargon consists of terms that are used elsewhere in a different sense or perhaps not used elsewhere at all, talk, including newspaper and magazine articles, that deals with specialized topics and displays jargon may perplex the uninitiated. (ibid. 322)

Overall, it can be concluded that both academic discourse and the LSP contain several specific characteristics, sharing also some common features, namely, formal language and use of professional jargon. Moreover, both of the language sub-types use abbreviated word forms, which are necessary for language economy and a more effective information communication. The following chapters provide the description of the research methodology and an empirical research which studies the frequency of different types of abbreviations in selected academic articles on economics, as well as their meaning and impact on the overall perception of the ideas communicated in these articles.

3. RESEARCH METHODOLOGY

In order to obtain relevant data for the empirical research, several academic journals were selected from the available online databases of the University of Latvia library. In particular, Emerald Insight and Sage Publications were chosen as the sources due to the wide range of freely accessible journals. First of all, the particular journals were chosen based on the field of research, i.e. economics. However, for the research data to be objectively comparable, it was important to narrow down the field to some extent. Therefore, taking into account personal interest and the knowledge level of the author of the present study, only the journals dealing with emerging economies, globalization and social economic issues were chosen, such as *Global Journal of Emerging Market Economies*, *Economic Development Quarterly*, *Global Social Policy*, and *International Journal of Social Economics*. The first three journals are available at online.sagepub.com while *International Journal of Social Economics* was accessed via emeraldinsight.com. Below, a brief description of the journals is provided.

As stated on the Sage Publications web site, the *Global Journal of Emerging Market Economies* is ‘a refereed journal [. . .] publishes original empirical as well as research papers, policy papers, book reviews and essays related to the field of emerging global economies’ (Online 1). It was first issued in January 2009 and has published nearly 100 articles since then.

Economic Development Quarterly is a journal that was established in 1987. Sage Publications describe this periodical as a journal which encourages research related to economic and workforce development policy, programs and practice within the US (Online 1).

Both Emerging Market Economies and Economic Development Quarterly are members of the Committee of Publication Ethics.

Sage Publications publish also the *Global Social Policy* journal, which is issued since 2001 three times a year. The Sage Publications describe it as journal which encourages the knowledge of social policy, social development, the globalization process, education and other socially important issues which are viewed from transnational and global perspectives.

Lastly, the *International Journal of Social Economics*, as is suggested by the name of it, concentrates on discussions of common wellbeing of societies. Emerald Group Publishing indicates that ‘The focus of the journal is the impact of economic activity on individuals in

community, and its wider social meanings and consequences' (Online 2). From all the journals that are used as research sources, the *International Journal of Social Economics* has the longest history: it was established as early as in 1974 and is issued three times a year.

The research corpus consists of 8 articles from these journals; 2 articles were chosen from each journal. The articles were chosen from different journals in order to obtain more objective data.

Due to the inconsistency in the abbreviations' classification, which is discussed in the first chapter of the present paper, it was important to choose a specific theoretical framework on which the analysis of the data would be based. For this purpose, it was decided to apply the model suggested by López Rúa (2004) as it is considered by the author of the present study to be the most accurate and appropriate for an analysis of this kind. The classification model of López Rúa (2004) divides abbreviations in complex shortenings and simple shortenings where the first type refers to abbreviations that are both written and pronounced as shortened forms of phrases. Simple shortenings, on the other hand, appear in a shortened form only when they are written; in spoken language, they are pronounced in their full forms (ibid. 124). While the latter contains only proper abbreviations, complex shortenings are further divided into initialisms, clippings and blends. Furthermore, initialisms contain two sub-groups, namely alphabetisms and acronyms. The definitions of the types of abbreviations proposed by López Rúa, on which the present study is based, are as follows:

- Abbreviations: a super-ordinate category which includes all the following sub-ordinate categories, i.e. all types of shortened forms of words and phrases.
- Complex shortenings, according to López Rúa 'are both graphic and phonic reductions' (2004: 124), which means that these abbreviations are written and pronounced in a shortened form. It is the super-ordinate category which includes further divisions of initialisms (e.g. "EU" for "European Union"), clippings (e.g. "ad" for "advertisement") and blends (e.g. "smog" for "smoke + fog").
- Simple shortening, as stated by López Rúa, is 'exclusively graphic, and it covers simple and compound abbreviations' (ibid.), which means that such abbreviations are only written in a shortened form, and are pronounced in their full form.

- Initialism, according to López Rúa (2006), an initialism is ‘the result of selecting the initial letter, or occasionally the first two letters, of the orthographic words in a phrase and combining them to form a new sequence’ (ibid. 677).
- Clipping is described by López Rúa as a ‘process by which a word-form of usually three or more syllables is shortened without a change in meaning or functions’ (2006: 676).
- Blends are sub-types of abbreviations described by López Rúa (2006) as a type of complex shortenings which is created by a connection or overlapping of several word-forms and shortening at least one of them (ibid. 677).
- Alphabetisms are initialisms which are pronounced letter by letter.
- Acronyms are initialisms, i.e. abbreviations which are made by taking the initial letters of the words in a source phrase; acronyms are pronounced as a whole word.

Throughout the empirical part of the present study, all the terms included in this classification model are used for denoting exactly what is suggested by López Rúa (2006), i.e. the term “abbreviations” is used for both complex and simple shortenings including their respective sub-types. In addition, for example, the term “acronym” is used only to describe abbreviations which are created from the initial letters of words and are pronounced as words, and so on. In Figure 3.6, the classification model of abbreviations used for the present study can be observed more clearly.

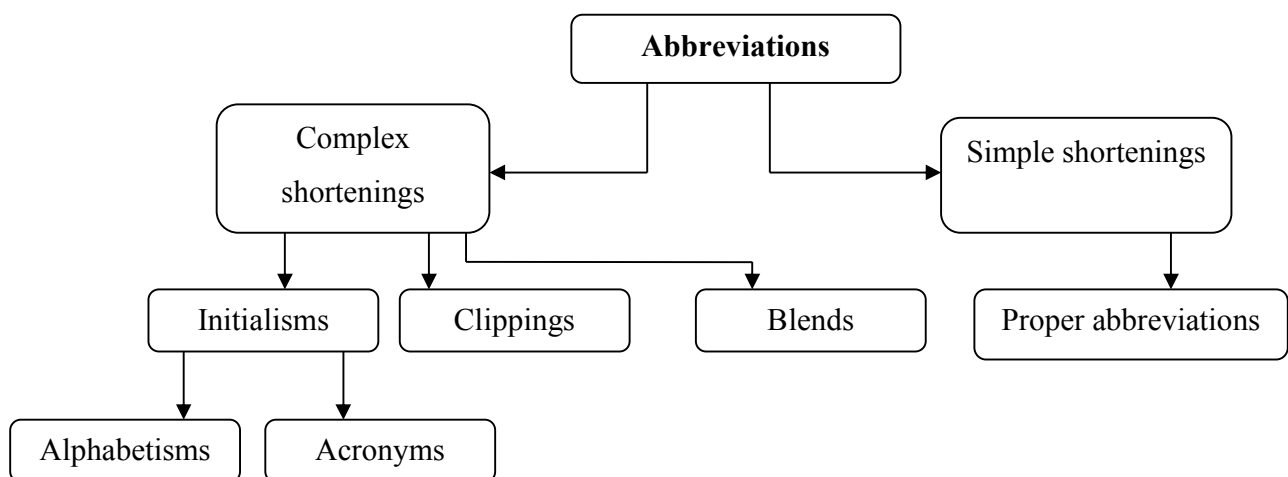


Figure 3.6 Classification of abbreviations by López Rúa (2006)

The research methods used for the empirical part of the present study include the analysis of the gathered data from both quantitative and qualitative perspective. The results of the quantitative study are discussed first, mentioning the total numbers of detected abbreviations and their repetitions as well as describing the most frequently used abbreviations. The discussion of the quantitative results is followed by the qualitative analysis of the most frequent cases, system of explanation as well as interesting examples.

By the means of the quantitative method, it is calculated how frequently abbreviations are used in each article, as well as which are the types of abbreviations that appear most frequently in the whole corpus. This implies counting the repetitions of the abbreviations. The results of the quantitative analysis are provided in the form of tables which show the numbers of repetitions and the distribution of the detected abbreviations among the different types of abbreviations. Such tables are provided for each article separately and they can be viewed in their full appearance in appendices section while the most relevant examples are provided in the discussion section. Below is shown a sample table.

Table 3.1 Sample table for quantitative analysis of the abbreviations used in the articles

COMPLEX SHORTENINGS						SIMPLE SHORTENINGS			
INITIALISMS				CLIPPINGS	Rep.	BLENDS	Rep.	PROPER ABBREV.	Rep.
Alphabetisms	Rep.	Acronyms	Rep.						
Total		Total							
Total, initialisms				Total		Total		Total	
Total, abbreviations									

Also, a combined table is designed, which summarizes the data related to those abbreviations which are used in several articles. In this table, it is indicated which articles contain the same abbreviations and how many times these abbreviations are used repeatedly in the whole research corpus.

Meanwhile, the qualitative method is used to answer the research questions related to the meaning of the abbreviations, as well as their impact on the overall perception of the ideas discussed in the articles. The meanings of the detected abbreviations are provided in tables, one for each article, regardless of whether these meanings are provided within the articles or they are suggested by the author of the present study. The full forms of the detected abbreviations, which

are provided in the discussed articles, are written in the tables in italics while those suggested by the author of the present study are written with regular letters. Below is shown a sample table.

Table 3.2 Sample table for the full forms of abbreviations used in the articles

ABBREVIATION	MEANING
GDP	Gross domestic product
PPP	<i>Purchasing Power Parity</i>

In order to be able to address the third research question, i.e. to clarify if the abbreviations used in the articles can hinder the perception of the information communicated in them, it was detected if all the shortenings were explained in the texts and, if so, what were the systems of such explanations. Moreover, in cases where an explanation was not provided, the meanings of the related abbreviations were looked up in online dictionaries, such as *Oxford Dictionary of Abbreviations* (Online 3), *acronymfinder.com* (Online 4) and *Farlex dictionary* (Online 5), to conclude if the meaning of the texts could be misinterpreted by the readers. Online dictionaries were selected by the author of the present study on purpose, as they would most likely be used by the readers of the articles in case of a necessity to clarify the meanings of unexplained abbreviations. Also, in cases when it was unclear in which category to put abbreviations due to their pronunciation, the same online dictionaries were used to clarify their pronunciation.

The results of the qualitative analysis are discussed in the analysis of each article, providing the meaning of the initialisms, full forms of other abbreviations as well as the information about their explanation within the texts and possible misconceptions. In some cases, example sentences from the articles are included in the discussion; then, the source articles are referred to as Article 1, Article 2 etc. with respect to the number of sub-chapter in which they are discussed.

The articles are of different length varying from 12 to 21 pages (from 4 524 to 8 477 words per article). The research corpus consists of 124 pages and 53 211 words in total. Lists of references, footnotes and the names of tables were not included in the page and word count for more precise and objective results. However, the texts of some of the tables were included in the word count as well as in the analysis, as they often contained a significant amount of abbreviations which were relevant to the general ideas of the articles.

4. ANALYSIS OF THE ABBREVIATIONS USED IN THE RESEARCH CORPUS

The present chapter provides both quantitative and qualitative analysis of the abbreviations used in the selected articles. Each sub-chapter contains a discussion of one article, and the two last sub-chapters focus on comparative study of the abbreviations found in the research corpus, as well as the discussion of the impact of unexplained abbreviations detected within the articles.

4.1. Discussion of the article “The Evolution of Trade Policy in Botswana”

The article was published in the *Global Journal of Emerging Market Economies*, Volume 8, Issue 1, 2016. The article contains 13 pages and the analysed text consists of 5 037 words. The authors of the article discuss the successful development of Botswana’s trade policies which have been adopted and implemented since its independence in 1966.

Quantitative analysis of the abbreviations used in the article shows that the vast majority of the identified abbreviations are initialisms (91 cases out of 93 total repetitions). Moreover, all of them are in particular alphabetic forms. However, there is one case of proper abbreviations, i.e. “p.” for page and “pp.” for pages, which are considered as one and the same abbreviation. The most frequently repeated abbreviation in this article is “SACU” which appears 30 times and which means “Southern African Customs Unity”.

The second most frequently used abbreviation in this article is “SADC” which stands for “Southern African Development Community”. It is repeated 14 times and there are cases when this alphabetic form is used even several times in one sentence. The following sentence could be mentioned as one of such examples:

The key objective of the SADC Trade Protocol is to liberalize intra-regional trade in goods and services through the elimination of barriers to intra-SADC trade (SADC, 2000) (Article 1).

The full list of abbreviations in terms of numbers of repetitions is shown in Table 4.3 (see Appendix 1).

All in all, a common system of providing an explanation for abbreviations is observed in the article: usually, the meaning of the abbreviation is given when it is mentioned for the first time in a chapter of the article; afterwards, only the abbreviation is used. However, there are some cases when this order is ignored. For example, the full names of organizations, such as World Trade Organization, are used several times both, with and without the abbreviation.

Also, the full forms together with their respective abbreviations are used in parentheses where they are used to reference a source. The list of all the abbreviations used in the article, as well as their meanings, is provided in Table 4.4 (see Appendix 1).

While in the main text of the article the names of countries, such as United Kingdom and United States of America are used both in their full forms and as alphabetisms, in the tables of the article they appear only as alphabetisms. In addition, there is no explanation provided for them. Meanwhile, some of the other phrases included in the same tables of the discussed article are given in both forms (e.g. “National Export Strategy” / “NES”) or in the full form only (e.g. “National Development Plan”).

The only abbreviation which is not explained anywhere in the text at all, is the alphabetism “OECD” which is used in a phrase ‘OECD & African Development Bank’ (Article 1). While its meaning, i.e. “Organization for Economic Co-operation and Development”, could be guessed by a reader who is familiar with the field of economics, there are a number of other explanations for this alphabetism, which might make it difficult to get the right idea for a less informed reader. According to *Oxford Dictionary of Abbreviations* (Online 3) and *acronymfinder.com* (Online 4), other meanings of the alphabetism “OECD” include the following:

- Obsessive Edward Cullen Disorder
- Office of Environmental Compliance and Documentation
- Office for Early Childhood Development
- Office for Early Childhood Development
- Office of Exchange Coordination and Designation (US State Dept)

However, neither one of these meanings could be appropriate for the use in the context of the present article. The alphabetism is used and should be considered within the context of the following sentence:

Within Botswana's key trade-supportive policies and legislation, the adoption of the NDP, along with the implementation of Botswana's Vision 2016, has been vital in addressing the diversification of Botswana's economy (OECD & African Development Bank, 2008, pp. 22) (Article 1).

It can be seen that the alphabetism is used here as a part of the name of an institution which is mentioned only for the purposes of reference. Therefore, it does not bear any information which could be relevant for understanding the general idea of the article.

Moreover, the Organization for Economic Co-operation and Development is the first and most popular meaning of the alphabetism that appears in the search engines, which means that even if the reader tried to clarify the meaning of the alphabetism "OECD", he or she would easily find the most appropriate explanation. It can be concluded that, in this case, the lack of explanation of the abbreviation does not hinder the overall perception of the article significantly.

To sum up, most of the abbreviations in the discussed article denote organizations and terms related to economics with the most frequently used abbreviations being the alphabetisms "SADC" (Southern African Development Community) and "SACU" (Southern African Customs Union), which corresponds with the topic of the article. In total, 16 different abbreviations were detected, which are repeated 93 times in the article. Only one abbreviation lacks explanation; however, it does not affect the perceptibility of the information.

4.2. Discussion of the article "Globalization and the Knowledge-Driven Economy"

The article was published in the *Economic Development Quarterly* journal, Volume 30, Issue 1, 2016. The article contains 12 pages and the text included in the present analysis is 8 282 words long. The author of the article discusses the phenomenon of the economically advanced countries which develop their economies mainly via knowledge based activities, which is caused by the fast globalization of the markets taking place since the last decade of the 20th century.

As the article involves several equations, it must be clarified that the names of the variables of such equations, although they resemble abbreviations, are not considered as such and are not included in the present analysis.

The quantitative analysis of the article suggests that the most frequently used abbreviation here is "KIBS" which stands for "Knowledge intensive business service" and is repeated 56 times in the article. Alphabetism "OECD" which means "Organisation for Economic Co-

operation and Development” is mentioned 19 times and “TFP” which means “Total factor productivity” appears in the article 18 times. The first of these initialisms is used also in the plural form, in which case a lower case “s” is added, creating an abbreviation “KIBSs” as can be seen in the following sentence:

The attention of policy makers should be directed to evidence of the complementarity between the new KIBSs and a thinner but highly skilled KIM industry (Article 2).

In the present analysis, these two are not considered as separate initialisms and are rather counted as abbreviations denoting one and the same thing. The numbers of all abbreviations used in the article are provided in Table 4.5 (see Appendix 2).

Similarly to the previously discussed article, this text also contains mainly initialisms (160 out of 170). Only one proper abbreviation was identified, namely, “Rev.” which is not explained within the text, but is used three times. However, it is being used as a part of a classification system name, for example in the following sentence:

Following Freel (2006) [. . .] and 74 of the International Standard Industrial Classification of All Economic Activities (ISIC) Rev. 3 classification, we use the OECD Structural Analysis (STAN) database and classify as KIBS the following two-digit ISIC Rev. 3 sectors [. . .] (Article 2).

Therefore, it can be assumed that its meaning here can be translated as “revision”.

An interesting case detected in the article is the complex shortening “EU-KLEMS” which denotes a database. The following sentence illustrates the use of this abbreviation in context:

In the case of the United States and Japan, for which net capital stocks were not available in OECD–STAN, the capital stock series proceed from the EU-KLEMS database (Article 2).

It is a combination of the alphabetism “EU” which stands for European Union and an acronym “KLEMS” where the letters are for capital (K), labour (L), energy (E), materials (M) and services (S), respectively. In this case, the first letter of the acronym should have been “C”; however, it is substituted by “K”. As it was problematic to include the whole abbreviation in one particular category due to its hybrid form, it was decided by the author of the present study to divide the abbreviation and include each separate part in their respective category.

As to the abbreviation explanation system, it must be noted that, in contrary to the previously discussed article, here, the meaning of every abbreviation, if given at all, is provided only the first time when it is used. However, if abbreviations are mentioned in a table, their explanation is

provided also below the table. Otherwise, abbreviated forms are used in the text without explaining their meanings. Meanings of all the abbreviations used in the article are provided in Table 4.6 (see Appendix 2).

Nevertheless, there are a few derogations from this explanation system. For example, while most of the abbreviations are explained below Table 1 of the discussed article, meanings of such initialisms as “GDP”, “PENN” and “PPP” are not provided. Moreover, if “PPP” is explained elsewhere in the article, the meaning of the two other abbreviations is never mentioned. While the alphabetism “GDP” is very widely used and it can be assumed that its meaning is unambiguous, understanding of the meaning behind the acronym “PENN” requires special knowledge. Although it is used in a collocation “PENN World tables” which is the name of a USA database, the origin is found in the name of the state of Pennsylvania, USA. As this acronym is used only to refer to a database which is used for the study, the overall perception of the article could not be hindered due to the lack of its explanation.

While most of the complex shortenings are formed by taking only the initial letters, there are two cases when another pattern is used. The first example is the acronym “STAN” which is a blend of the two first letters of the words “structural” and “analysis”. It is interesting that, in the article, the full spelling stresses the letters which are used for creation of the abbreviation by capitalizing them: “[. . .] we use the OECD STructural ANalysis (STAN) database [. . .]” (Article 2). Meanwhile, the second example is the blend of the phrase “income per capita”: first four letters from the first word and only the initial letters of the other two words are taken to form the abbreviation “INCOPC”.

To conclude, the article contains 22 different abbreviations that are repeated 170 times and most of which are alphabetisms. Apart from one case, all abbreviations that are used in the main text are explained. As to other unexplained abbreviations, there were two cases both of which were used in the tables and while one of them is well known for general public, the other is not as essential to be able to influence the perception of the general idea.

4.3. Discussion of the article “Regional Impact of Public Transportation Infrastructure: A Spatial Panel Assessment of the U.S. Northeast Megaregion”

The article was published in the *Economic Development Quarterly* journal, Volume 29, Issue 3. The article contains 17 pages and the analysed text is 8 433 words long. In the article, the authors

discuss how the U.S. north eastern megaregion's public transportation infrastructure affects the regional economic growth.

The article contains several figures and tables which include a significant amount of numbers and variables, which are not included in the analysis. However, the abbreviations which appear in the tables of the article are discussed here alongside with those used in the main text.

Quantitative analysis of the article shows that there are 32 different abbreviations and the type of abbreviations, which is used most frequently, is alphabetisms: out of 103 repetitions, 100 belong to this type. The most frequently used abbreviation in the analyzed article is "MSA" which means "metropolitan statistical area" and is sometimes used in plural form "MSAs". Full information of the numbers of times abbreviations are used in the article is provided in Table 4.7 (see Appendix 3).

However, in contrast to the previously discussed articles, there are also three cases of blending present in this article. All of them are worth a detailed discussion which is provided below.

One of them is the blend "BOSWASH" mentioned in the introduction; the meaning of this blend is discussed in the article: it is a heavily populated area in the northeast of the United States, which is often referred to as megaregion extending from the metropolitan area of Boston to that of Washington D.C. (Article 3). While this abbreviation is included in the category of blends in the present study, its pronunciation makes it similar to the principle of acronymy, i.e. it is pronounced as a word.

The second example of blending found in the article is the abbreviation "microSA" which is used several times in the text and denotes micropolitan statistical area. However, what makes this case especially interesting, is the unusual composition of this blend, i.e. it is a combination of clipping and alphabetism: "micro" is a clipped form of the word "micropolitan" and is written in lower case, while "SA" is an alphabetism of "statistical area" and is written in upper case. Therefore, the pronunciation of this abbreviation is combined: "micro" is pronounced as a word, while "SA" is read as separate letters.

The third case of blending is the term "STATA". Although it is not explained in the text, this term is used to denote a general purpose statistical software package and is an abbreviation formed by blending the first syllable of the word "statistics" and the last syllable of the word

“data”. It is unambiguous for a reader who is familiar with the respective field from the following sentence:

The cross-sectional augmented Dickey Fuller (ADF)/covariate-augmented Dickey Fuller (CADF) statistics method proposed by Pesaran (2007) is adopted and implemented in STATA using the pescadf command [. . .] (Article 3).

The meaning of this blend in the text is not disputable due to the context and the lack of other possibly applicable meanings. However, the lack of explanation of this blend might hinder the perception of the idea by less experienced readers.

A rather special case of a shortened word form is the abbreviation “pescadf” explanation for which is not present anywhere in the article. It can be guessed, however, that it is related to another abbreviation used in the same chapter, namely, “CADF” (covariate-augmented Dickey Fuller). However, the exact meaning of “pescadf” is not known, except that it is a STATA module used for calculations (Online 7). In the article, it is referred to as a command used by Lewandowski. It is assumed by the author of the present study that the readers who are familiar with the specialized terminology of economics would recognize the term and it would not hinder their perception of the idea communicated in the article. Nevertheless, it might cause some confusion in a non-experienced reader. Also, due to the unknown full form, it is not clear to which of the categories this abbreviation belongs; considering the obvious relation of this abbreviation to the alphabetism “CADF”, the abbreviation “pescadf” is included in the category of alphabetisms as well.

All in all, the system of indicating the meaning of the abbreviations in the discussed article is very similar to that of the article analyzed in the previous sub-chapter, i.e. the abbreviations are explained when used for the first time and in the notes provided below tables; only the abbreviation is used later. Moreover, like in the previously discussed article, here, too, some of the abbreviations are either used without any explanation or (as in “D.C.” meaning “district of Columbia”), on contrary, in their full appearance where usually an abbreviation would be acceptable (for example, “United States” which is used several times both in full name and abbreviation “U.S.”). The meanings of all the abbreviations are given in Table 4.8 (see Appendix 3).

To conclude, apart from 3 blends, almost all abbreviations used in the article belong to the group of alphabetisms. While the system of abbreviation explanation is used rather

consistently, the lack of explanation of several important abbreviations could cause misinterpretation of the ideas communicated in the discussed article.

4.4. Discussion of the article “Unpacking ‘Women’s Health’ in the Context of PPPs: A Return to Instrumentalism in Development Policy and Practice?”

The article was published in the *Global Social Policy* journal, 2016, Volume 16 Issue 1. The text contains 18 pages from which 6 994 words are analysed. The article contains no calculations, tables or figures; therefore, all the text, with the only exception of the list of references, is included in the present analysis.

The authors of the article address the issue of the impact of the public-private partnerships on the field of women’s health and base their analysis on the research carried out by the non-governmental organizations of the UK.

The quantitative analysis of the article shows that, apart from two acronyms, one proper abbreviation and 1 case of blending, all abbreviations identified are alphabetisms. In total, there are 32 different abbreviations; they are repeated 258 times from which 247 are the repetitions of alphabetisms. The full list of abbreviations in terms of numbers of repetition is shown in Table 4.9 (see Appendix 4).

The most frequently repeated abbreviations in the discussed article are the alphabetisms “NGOs” which stands for “non-governmental organizations” (repeated 74 times) and “PPPs” which means “public-private partnerships” (repeated 56 times). These alphabetisms are used both in singular and plural forms. A significant number of times, similar abbreviations are used in the text, the main parts of which are the same but additional letters are added. Such examples include the following initialisms: “GPPP” (global public-private partnership), “FONGO” (“field offices non-governmental organizations”), and “UKNGO” (“United Kingdom non-governmental organization”).

A special case of acronymy was observed in the abbreviation “BOND”. Its meaning is “British Overseas NGOs for Development”. However, it seems that this acronym was either cleverly created by choosing the right letters or it is a case of what Stockwell and Minkova (2001) call reverse acronymy (See Chapter 1.1.), i.e. a semantically strong and appropriate name was chosen first and only then the full name of the organization was developed.

It must be noted that no explanation was provided for this acronym in the text, which might cause certain confusion. According to Farlex online dictionary (Online 5), other meanings of the acronym “BOND” include the following:

Brotherhood Organization of A New Destiny

Business Organization for a New Downtown (*Texarkana, USA*)

British Overseas Industrial Placement Scheme (*UK*)

The name of the organization is only used as a source reference in the article and is listed in the references section together with the web site address. It is clear from the context that no other meaning would be possible to use in this case. Therefore, it can be concluded that the lack of explanation of this abbreviation could not affect the perception of the article’s idea.

In addition to the acronym “BOND”, there are several more cases when no explanation of the abbreviated word forms is provided in the text, for example, “AIDS”, “HIV” and the names of the countries (UK, US). However, such abbreviations are so widely used by general audience and seem to be well known items. They do not bear the most relevant information in the present context; therefore, it would not seem essential to include the meaning of these abbreviations in the text.

Another interesting abbreviation used in the discussed article is “HANSHEP” which stands for “Harnessing Non-State Actors for Better Health for the Poor”. Within the scope of the present analysis, it is included in the category of blends, because it is formed by merging different parts of words to create a pronounceable word. However, typically abbreviations contain at least one letter from each of the words which constitute a phrase, whereas in the case of “HANSHEP” two of the words from the phrase, namely “actors” and “better”, seem to be ignored.

As to the abbreviation explanation system, most of the abbreviations are spelt out in full when mentioned for the first time with the abbreviation written in parentheses afterwards. Only the abbreviations of the respondents’ groups involved in the research are used in the text for referencing purposes and are not accompanied by explanations. Full names of these groups are provided in a special ‘Respondents’ section at the end of the article. All the abbreviations identified in the discussed article are spelt out in full in the Table 4.10 (see Appendix 4).

To sum up, while this is not the longest article included in the research corpus, it contains the most significant amount of repetitions of the used abbreviations, namely 258. Only 11 of them are not associated with alphabetisms. Despite the fact that there are several abbreviations in the article, which are not explained, the overall intelligibility is not affected, as the unexplained abbreviations are either well known for general public or too insignificant for the overall context.

4.5. Discussion of the article “Tourism for Development and the New Global Aid Regime”

The article was published in the *Global Social Policy* journal, 2015 Volume 15, Issue 1. The article contains 21 pages; the analysed text consists of 8 477 words. There are no tables, figures or calculations involved in this study; the present analysis includes all the chapters and notes of the article.

The article focuses on how developed countries contribute to the growth of the developing countries via promotion of tourism in these countries. In particular, the authors concentrate on analyzing the case of Namibia and the role of Community-Based Natural Resource Management programme.

According to the data of quantitative analysis, the article contains 1 type of proper abbreviations: “p.”/”pp.” for page and pages, respectively; 1 case of blending: “NACOBTA” which stands for “Namibian Community-Based Tourism Association”, and 3 acronyms: “AIDS” (“Acquired Immune Deficiency Syndrome”), “UNESCO” (“United Nations Educational, Scientific and Cultural Organization”), and “IRAS” (“Information System for Rare Species Management”). All other abbreviations (21 out of 26 cases) are alphabetisms. The total number of repetitions of the abbreviations in this article is 105. Full quantitative data is provided in Table 4.11 (see Appendix 5).

Overall, the authors of the discussed article follow the same system of providing the full spelling of the used abbreviations as is seen in most of the previously discussed articles, which is the following: the meaning of the abbreviations is explained only when they appear for the first time in the text. However, there are some exceptions, including abbreviations which are not explained at all. One of them is the acronym “AIDS” which is already discussed before in sub-chapter 4.4 of the present paper. Meanwhile, in contrast to the article discussed in sub-chapter 4.2 of the present paper, the well-known acronym “UNESCO” is spelt out in full in this case.

Another abbreviation, for which no explanation is provided, is the alphabetism “SNV” which is used twice in the article, both times in the collocation “SNV Netherlands Development Organisation”. Thus, it causes no confusion, as it is clear that the name of a particular organization is meant here by the alphabetism. In fact, “SNV” is an abbreviation from the full name of the organization in Dutch and spells out as follows: “Stichting Nederlandse Vrijwilligers” which translates into English as “Foundation of Netherlands Volunteers”. Due to the fact that the alphabetism is a part of an organisation’s name, the lack of explanation, in this case, does not hinder the perception of the article. The meanings of all the abbreviations identified in the discussed article are provided in Table 4.12 (see Appendix 5).

The only case of blending in the discussed article is the abbreviation “NACOBTA” which stands for “Namibian Community-Based Tourism Association”. While the two first words of the phrase are shortened to the two first letters, only the initial letters from each of the following words are taken to create the blend.

An interesting phenomenon was observed in relation to the abbreviation “UNWTO” which spells out as “UN World Tourism Organization”. While in three from four cases of repetition it is written with no spaces, once, the alphabetism is parted in “UN” and “WTO”. It must be noted that this example is observed in the form of a reference. It is not clear whether it was done by the authors by accident or on purpose; however, within the scope of the present study, both variants are counted as one and the same abbreviation.

To sum up, out of 105 repeated abbreviations, the vast majority or 87 cases are alphabetisms. In most cases, abbreviations are explained the first time when they appear in the text, but there are also examples when no explanation is provided including one abbreviation of the name of an organization in another language. However, such abbreviations are no essential to the perception of the general idea communicated in the article.

4.6. Discussion of the article “Did Openness and Human Capital Affect Total Factor Productivity? Evidence from the South Asian Region”

The article was published in the *Global Journal of Emerging Market Economies*, 2014 Volume 6 Issue 2. It contains 16 pages from which 5 643 words are included in the analysis. The analysis is not applied to the many calculations, variables and most of the tables which consist mainly of the variables and numbers.

The authors of the article describe the research which examined five South Asian countries in terms of the effect which human capital and openness has had on total factor productivity during the period between 1980 and 2011.

Despite the fact that the discussed article contains similar number of pages to some of those discussed previously in the present chapter, the quantitative analysis shows that it contains only two types of abbreviations: 20 different alphabetisms and one case of blending. The total number of repetitions is 134. Full list of the abbreviations is provided in Table 4.13 (see Appendix 6).

The most frequently used alphabetisms here are “TFP” which stands for “total factor productivity” and is repeated 67 times, and “GDP” – a popular abbreviation in the field of economics, which means “gross domestic product” and is mentioned 22 times in the discussed article.

The only case of blending identified in the article is “edstats” which is a shortened form of “education statistics”. However, in the article it was explained as “education database”.

There is a considerable amount of abbreviations which are not spelt out in full in the discussed article. For example, no explanation is given for the alphabetism “ASEAN”; however, most online dictionaries offer only one version of the meaning of this abbreviation, which is “Association of Southeast Asian Nations”, and it is perfectly appropriate given the context of the article, which can be illustrated by the following sentence:

On the external front, the ASEAN countries’ success with respect to export led-growth and intra-regional trade encouraged the South Asian countries to emulate the same policy structure and institute the South Asian Association of Regional Cooperation (SAARC) in 1985 (Article 6).

Another abbreviation which is not explained in the text is the alphabetism “IT”. Online dictionaries provide as many as 94 definitions of this alphabetism, including “International Trade”, “Individual Training”, “Investment Trust”, “Integration Testing”, and other (Online 4). However, due to the context, it is assumed by the author of the present analysis that the meaning of the alphabetism used here is the popular abbreviation of the collocation “Information Technology”. It appears to be the most appropriate explanation considering the sentence in which it is used:

Because of the skilled labor force, the service and IT sector is booming in India and consistently contributing more toward GDP and the overall economy (Article 6).

On the other hand, the lack of definition of the alphabetisms “ADF”, “IPS” and “TC” might cause certain confusion in case if the reader is not familiar with the calculations and methods used in economic estimations. Although the alphabetism “IPS” is not directly explained, in the same paragraph where it is used, the authors of the article discuss a ‘*panel unit root test proposed by Im, Pesaran, and Shin (2003)*’ (Article 6). Therefore, it can be assumed that the alphabetism “IPS” is used to refer to this test by indicating the initial letters of its creators.

While Augmented Dickey-Fuller test is not mentioned in the article in its full form, the connection between IPS test and the overall context of the chapter allows an experienced reader assume that the alphabetism “ADF” is used to denote the mentioned test. Meanwhile, it is not clear what is meant by the alphabetism “TC” the use of which in a context can be observed in the following sentence:

Here TFP, TO, and TC are previously defined, D denotes the first difference of the variable, ECT is the error-correction term, and p denotes the lag length (Article 6).

Due to the lack of sufficient knowledge of the specific field, no assumptions regarding this are made by the author of the present analysis. Table 4.14 (see Appendix 6) provides definitions of all the abbreviations used in the discussed article.

As to the system how abbreviations are explained, the authors of the discussed article follow the most widespread path, i.e. definitions of the abbreviations, if there are any, are provided only the first time when they are mentioned in the text.

To conclude, the discussed article shows an extreme gap between the number of the used alphabetisms and the rest types of abbreviations, with only one of 134 repetitions belonging to a group other than alphabetisms. While the most frequently used abbreviations include terms that are widely used in the business discourse, there are several abbreviations which require special knowledge and are essential to understand the ideas communicated in the article.

4.7. Discussion of the article “Post-Transitional Social Economy: The Case of Poland”

The article was published in the *International Journal of Social Economics* in 2015, Volume 42 Issue 9. It contains 14 pages from which text consisting of 5 821 words was analysed. There are no tables and figures in this article.

The author of the analysed article discusses the situation in Poland's social economy, describes its main determinants and analyses how institutional and cultural barriers affect its development.

The quantitative analysis shows that the most frequently used abbreviation in this article is the proper abbreviation of the word "page" both in singular and plural form, i.e. "p." and "pp." respectively (repeated 54 times). Although this phenomenon is not related to the context of the article, as it is a generally used abbreviation, it is due to the fact that the author of the article uses a significant amount of in-text references and indicates the pages of the sources in parentheses.

Most of the other abbreviations found in the discussed article are used less than 5 times each; only the alphabetisms "NGO" ("non-governmental organization") and "EU" ("European Union") are mentioned 14 and 8 times respectively. Full count of repetitions of the abbreviations can be seen in Table 4.15 (see Appendix 7).

The most striking difference of this article in comparison to those discussed previously is the presence of a significant amount of abbreviations which stand for Polish collocations or, rather, the names of Polish organizations. The interesting fact about this phenomenon is that Polish abbreviations are given, but the explanations are written only in English, which might be somewhat troublesome for a reader who is not familiar with the Polish language in case if they appeared only as abbreviations repeatedly. But most of such abbreviations are only mentioned once and therefore, such a pattern is not disturbing.

Some of the abbreviations are not spelt out in full in the text, including both English and Polish abbreviations, for example, "ZSPP" which stands for "Zaangażowanie społeczne Polaków i Polek" (Social commitment of Polish men and women – translated from Polish), "OECD" for "Organisation for Economic Co-operation and Development", and "PoSE" which means "Pact on Social Economy" However, many of them are later explained either in the notes or in references.

While finding full forms of the Polish abbreviations for the purposes of the present analysis was, in most cases, somewhat challenging but not impossible, for one of them, namely "SRK", a precise definition was not found. However, it is explained in the text in English as

“National Growth Strategy”. Full forms of all the abbreviations in both Polish and English are provided in Table 4.16 (see Appendix 7).

An interesting case of abbreviation is represented by the only acronym found in the analysed text, namely “SLOT”. It is initially created from the Polish collocation “Stowarzyszenie Lokalnych Ośrodków Twórczych” translating into English as “Society of Local Creative Centers”. However, the acronym which represents the movement is perceived semantically also as an English word of the same spelling. It is discussed by the involved representatives how the organization has developed their ideology to fit the name by filling the “slot” of indifference and consumerism with creativity and personal growth (Online 6).

All in all, most of the abbreviations are spelt out in full the first time when they are mentioned. However, this implies that the explanation in English is written for the Polish abbreviations. In addition, in some cases the explanation is provided only in the references.

To sum up, the total amount of the repeated abbreviations is divided almost equally between initialisms (48 cases) and proper abbreviations (54 cases), but in case of the latter, it is always one and the same proper abbreviation which is repeated. As to the role of the used abbreviations in the overall perception of the article, it can be concluded that, in this case, what could hinder the correct understandability of the text is not the lack of explanations but rather the presence of Polish abbreviations which are explained in English.

4.8. Discussion of the article “Social Trust and Use of Banking Services Across Households in 28 Transitional Countries”

The article was published in the *International Journal of Social Economics* in 2016, Volume 43 Issue 4. The article contains 13 pages and the analysed text is 4 524 words long. Several tables are provided in the article; however, they are not included in the analysed text, as they contain mainly the results of calculations expressed in numbers and variables.

In this article, the authors address the issue of relations between social trust of people and the use of banking services across 28 transitional countries. For this purpose, the authors use the data obtained from questioning 29 000 households in these countries.

All in all, the quantitative analysis shows that the analysed text contains only 5 different abbreviations all of which fall into the category of alphabetisms. The total number of repetitions is only 34. Although the analysed text consists of a smaller amount of words if compared to

those discussed previously, it is nevertheless a surprisingly small number. It might be partly due to the fact that the authors of the article choose to use the full form of phrases where other researchers would probably prefer using abbreviations. For example, in this article the name of the World Bank is written in its full form, while often the alphabetism “WB” is used instead. Likewise, the term “likelihood ratio”, which is spelt out in full here, is replaced with the more convenient alphabetism “LR” in the article discussed in the sub-chapter 4.3 of the present paper. The most frequently used abbreviations in this article are the alphabetisms “LITS” which is mentioned 11 times and “2SLS” which appears in the article 12 times. The first one is standing for “Life-in-Transition survey” which is the main data collection tool in the research discussed in the article. Meanwhile, the alphabetism “2SLS” denotes one of the main methods used for calculating the results and spells out as “standard simultaneous equations”. Total count of the identified abbreviations is provided in Table 4.17 (see Appendix 8).

As concerns the explanation of the abbreviations, two out of 5 shortenings lack definition within the article, i.e. “GDP” (“gross domestic product”) and “USD” (“United States Dollars”). However, these are well known terms and understandable to general public, which means that this phenomenon is not disturbing the perception of the ideas communicated in the discussed article. Nevertheless, the alphabetism “GDP” is often spelt out in full in other articles of academic journals before using the abbreviated form.

The remaining 3 alphabetisms are first written in full with the abbreviation provided in parentheses and afterwards they appear in the text as mere alphabetisms.

A detailed list of meanings of the abbreviations used in the discussed article is shown in Table 4.18 (see Appendix 8).

To sum up, this article contains the smallest amount of abbreviations in comparison to other articles discussed previously in the present chapter. Out of 5 abbreviations, only 3 are explained by the authors of the article, but they are too well known to be able to affect the overall comprehensibility of the article. Unlike in most of the other research corpus articles, here many phrases are not abbreviated in the first place and are rather used in their full forms.

4.9. Comparison of the abbreviations used in different articles of the research corpus

In order to gain an objective impression regarding the use of abbreviations in the articles on economics in academic journals, a summative description of the data is provided in the present

sub-chapter, drawing similarities and differences among the analysed articles in terms of the most frequently used abbreviations, systems of abbreviation use and their meanings.

As to the similarities in the use of abbreviations in the analysed articles in terms of their content, it can be stated that there is a significant amount of abbreviations which appear in several different articles. From the perspective of the prevalence of one and the same abbreviation among the articles, the most popular abbreviations are “US” (“U.S.” and “USA” are counted as the same alphabetism as they denote the same country), “EU” and “GDP” which appear in 6, 5 and 4 out of 8 discussed articles respectively. Moreover, the full forms of “US” and “EU” are also used in the texts. Table 4.19 shows the 5 most frequently used abbreviations throughout the whole research corpus.

Table 4.19 Numbers of the abbreviations used most frequently in the research corpus

ABBREVIATION	NUMBER OF REPETITIONS
TFP	85
PPP	60
p./pp.	59
GDP	39
2SLS	18

It is not a surprising conclusion, as the United States and the European Union are two of the main players on the world’s economic stage. Meanwhile, gross domestic product or “GDP” is a variable which is used and referred to in most of the economic calculations, analyses and forecasts. Some of the authors of academic articles even consider these notions to be so self-evident that they choose not to provide any definitions for these abbreviations.

If the quantitative side is considered, it must be said that despite the popularity of the discussed abbreviations among the discussed articles, they are not the most frequently repeated ones with “US” and the like being repeated 24 times and “EU” mentioned 17 times. Meanwhile, the number of repetitions of the alphabetism “GDP” exceeds the aforementioned and is 39. However, the abbreviation which appears most frequently in the research corpus is “TFP” which stands for “total factor productivity” and is mentioned 85 times in total in the corpus. The full list of the abbreviations which are common for several articles, numbers of the articles in which they are discussed, as well as the total numbers of their repetition, is provided in Table 4.20.

Table 4.20 Numbers of source articles and repetitions of the abbreviations used repeatedly in research corpus

ABBREVIATION	NUMBERS OF ARTICLES	REPETITIONS
ADF	Articles 3 and 6	3
AIDS	Articles 4 and 5	5
2SLS	Articles 2 and 8	18
EU	Articles 1, 2, 4, 5 and 7	17
GDP	Articles 1, 2, 6 and 8	39
OECD	Articles 1, 2 and 7	21
MDG	Articles 4, 5 and 6	8
p./ pp.	Articles 1, 4 and 7	59
PPP	Articles 2 and 4	60
PIM	Articles 3 and 6	8
OLS	Articles 2, 3 and 6	9
R&D	Articles 2 and 6	9
TFP	Articles 2 and 6	85
UN	Articles 4 and 5	5
UNESCO	Articles 2 and 5	3
UK	Articles 1 and 4	22
US/ U.S./ USA	Articles 1, 2, 3, 4, 5 and 6	24

As can be seen in Table 4.20, the second and third most frequently used abbreviations are “PPP” and “p.”/ “pp.” respectively, which are both interesting cases worth more detailed discussion.

First, the alphabetism “PPP” is used in two articles (see sub-chapters 4.2 and 4.4); however, it denotes different things in each article. In the article *Globalization and the Knowledge-Driven Economy* where it is mentioned 4 times, the alphabetism is a shortened form of a popular notion used in economics, namely “purchasing power parity”. Meanwhile, in the article *Unpacking ‘women’s health’ in the context of PPPs: A return to instrumentalism in development policy and practice?*, the same alphabetism is used to denote public-private partnerships. This case proves the importance and necessity of providing the definitions of the abbreviations used in each article; reliance on the reader’s knowledge and logics might lead to misconceptions regarding the ideas communicated in the articles.

As to the third most frequently used abbreviation which is “p.” in singular and “pp.” in plural form, it is one of the rare cases of proper abbreviations identified in the research corpus. In addition, this is the case when the abbreviation is a widely accepted and unambiguous symbol for referring to pages; therefore, nowhere in the articles a definition for this proper abbreviation is

provided. However, only 3 out of 8 discussed articles contain this abbreviation; it can be observed that the system of referring to sources also differ from author to author, and some of them indicate a whole source while others point out precise pages.

While all the articles generally use the same order in which the abbreviations are explained, none of them uses this approach consistently, i.e. each article contains more or less derogations from the overall system. In every article, there are cases when an abbreviation is either not explained at all or the definition is provided elsewhere, e.g. in the references, notes or under tables and figures.

In addition, two articles contain abbreviations that are shortened forms of phrases in languages other than English. Such cases include abbreviations in Dutch, namely “SNV” which stands for “Stichting Nederlandse Vrijwilligers” (see sub-chapter 4.5. for a detailed information) and in Polish, e.g. “CAL” which stands for “Centrum aktywności lokalnej” and translates into English as “Local Activity Support Center” (for the discussion, see sub-chapter 4.7). Moreover, these abbreviations are not always explained and are never translated into English although, in the case of Polish abbreviations, where the definition is given, it is in English.

To sum up, after comparing the data obtained from analysis of 8 academic articles on economics, it can be concluded that the majority of abbreviations are shortened forms of the names of countries as well as popular and widely used economic notions. A common system of providing definitions for the used abbreviations is present with different forms of exceptions in each article, including the lack of explanation or its position in the article.

4.10. The impact of the used abbreviations on overall perception of the articles’ information

Although most of the abbreviations used in the research corpus are explained, several cases were detected, in which no explanation was provided. The present sub-chapter gives a summative overview of such cases in order to draw a conclusion regarding whether or not the lack of explanation in these cases affects the perception of the ideas communicated in the discussed texts.

In total, there were 23 cases in the research corpus which contained abbreviations that were not explained in the text. Table 4.21 below shows all such abbreviations as well as their meanings which are suggested by the author of the present paper.

The data show that the exact meaning of two unexplained abbreviations was not identified, e.g. “TC” and “pescadf”. The first abbreviation is used in the article which is discussed in sub-chapter 4.6 of the present study; it is used in discussion of economic equations used by the authors of the article. However, while other abbreviations involved in the equations are explained, the alphabetism “TC” is left unexplained, thus causing possible confusion in readers who are less familiar with the respective context. Thus, it could be concluded that this affects negatively the perception of the information communicated in the article.

The other abbreviation “pescadf” was mentioned in the article discussion of which can be found in sub-chapter 4.3. In this case, it is assumed by the author of the present study that the lack of explanation is less essential in terms of the overall comprehensibility of the text. The meaning of this abbreviation should be clear to readers familiar with the professional language used in economics, as it seems to be connected with other alphabetism “CADF” which is also used and explained in this article. These two similar abbreviations are used side by side in the following sentence:

The cross-sectional augmented Dickey Fuller (ADF)/covariate-augmented Dickey Fuller (CADF) statistics method proposed by Pesaran (2007) is adopted and implemented in STATA using the pescadf command [. .] (Article 3).

On the other hand, for a less experienced reader the perception of the information communicated here could be problematic, as the aforementioned sentence and article contains yet another unexplained abbreviation, namely “STATA” which stands for “statistics and data”.

There are several abbreviations which appear in two or more articles of the research corpus; and while they are explained in some of them, other articles do not provide any explanation. Such examples include some of generally accepted and well known abbreviations which do not require obligatory explanation, i.e. “AIDS” (Acquired Immune Deficiency Syndrome), “UK” (United Kingdom), “GDP” (gross domestic product) etc. However, one of the abbreviations which is explained only in one of two articles in which it was detected, is the alphabetism “ADF” which stands for “augmented Dickey Fuller test”. In this case, the author of the present study considers that the explanation is essential and should be always provided to avoid possible misconceptions.

Two of the abbreviations which are included in Table 4.21, namely “ZSPP” and “PoSE” were not explained in the main text of the article; their meaning was provided either in references section or in the notes of the respective article. Both of these cases were detected in the article discussed in sub-chapter 4.7 of the present study. One of them, namely “ZSPP” also represents one of the two unexplained abbreviations found in the research corpus which are alphabetisms for phrases in languages other than English. “ZSPP” stands for “Zaangażowanie społeczne Polaków i Polek” which translates from Polish into English as follows: Social commitment of Polish men and women. The other foreign abbreviation which was not explained in the research corpus is “SNV” which stands for “Stichting Nederlandse Vrijwilligers”, a Dutch organization which translates into English as “Foundation of Netherlands Volunteers”. Undoubtedly, involvement of any language other than English in the text requires additional attention from the readers of the articles. Nevertheless, the discussed examples are not essential for the perception of the main ideas communicated in the articles; therefore, it can be stated that the lack of the explanation does not cause any problems in this regard.

Table 4.21 Unexplained abbreviations

ABBREVIATION	MEANING
OECD	Organization for Economic Co-operation and Development
Rev.	Revision
GDP	Gross domestic product
PENN	Pennsylvania
STATA	Statistics and data
D.C.	District of Columbia
BOND	British Overseas NGOs for Development
AIDS	Acquired Immune Deficiency Syndrome
HIV	Human Immunodeficiency Virus
UK	United Kingdom
US	United States
p./pp.	page/ pages
UNESCO	United Nations Educational, Scientific and Cultural Organization
SNV	Stichting Nederlandse Vrijwilligers
ASEAN	Association of Southeast Asian Nations
IT	Information technologies
ADF	Augmented Dickey Fuller
IPS	Im, Pesaran, and Shin

TC	
ZSPP	Zaangażowanie społeczne Polaków i Polek (Social commitment of Polish men and women)
PoSE	Pact on Social Economy
USD	United States Dollars
pescadf	

To sum up, among the 8 articles which constitute the research corpus, 23 abbreviations were detected, for which there were no explanations provided in the text of the articles. However, some of them were explained later in the references or in the notes of the respective article. It was concluded that most of the unexplained abbreviations are so widely used that they have become well known for general public and therefore, the lack of their explanation does not hinder the overall perception of the articles. Only two abbreviations, namely “ADF” and “TC” could be considered relevant for understanding the context, and the presence of their explanation in the articles would be advisable in order to avoid possible misconceptions.

CONCLUSIONS

Abbreviations constitute a category of word formation principles, which is used more frequently in the ever progressing age of business. Abbreviations are used in all fields, including academic genres and the LSP with a purpose of saving time and space.

The aim of the paper was to detect the types of abbreviations as well as to analyze the abbreviation presentation system and frequency in the economics related articles in academic journals and to explore their meaning and effect they have on the perception of information.

The present thesis was initiated by the author's interest in the use of abbreviations in the academic articles on economics. For this purpose, a research corpus was created consisting of 8 articles from 4 academic journals. The articles were analysed from qualitative as well as quantitative perspective in order to find answers to the research questions.

The findings suggest that there is a great discrepancy in the classification of the abbreviations with different authors defining this and other related terms in very different ways. Also, there is not sufficient research conducted on the topic of the language used in academic articles on economics, even less so on the use of abbreviations in such texts.

Overall, from the data obtained from the quantitative analysis of the research corpus, it can be concluded that the type of abbreviation which appears most frequently in the research corpus is alphabetisms. They constitute 896 out of 999 total repetitions of abbreviations in the research corpus, which is approximately 90%. Meanwhile, the least frequent type of abbreviations used in the articles is proper abbreviations: there were only 2 different proper abbreviations detected. No clippings were found in the research corpus.

There is a significant amount of abbreviations which appear repeatedly in several of the analysed articles. The abbreviations which are repeated most frequently throughout the research corpus are "PPP" which appears 60 times "p./pp." which is mentioned 59 times in various articles. The first of these abbreviations is used to denote two different things, i.e. "purchasing power parity" in Article 2 and "public-private partnerships" in Article 4. The proper abbreviation "p./pp." refers to page/pages and is used in 3 out of 8 articles.

As to the abbreviations which are the most widespread in terms of the number of articles in which they appear, it can be concluded that the most of the articles contain alphabetisms "US" (or "U.S.", or "USA") and "EU".

The findings of the present research show that in most of the academic articles on economics the same system of explaining the abbreviations is used, i.e. they are spelt out in full only the first time when they are used; all of the articles contain various cases when this rule is violated. But it seems that it would be useful to develop a more detailed and precise common system for this purpose.

After analysing the frequency and possible meanings of the abbreviations which were not provided in their full forms in the research corpus, it can be stated that in most cases the perception of the general ideas communicated in the research corpus could not be hindered by the lack of explanation of such abbreviations. Mostly left without explanation are the abbreviations which are either well known or too insignificant, e.g. used only for reference purposes. However, out of 23 unexplained abbreviations detected in the research corpus two cases (“ADF” and “TC”) proved the necessity of providing explanations of the used abbreviations, as the lack of them significantly affects the overall perception of information.

To sum up, it can be concluded that the research questions posed at the beginning of the present study have been answered by these findings. Nevertheless, further studies on this topic are advisable to develop a deeper knowledge of the abbreviations used in the field of economics. For example, it could be useful to study the orthographic and morphological properties of the abbreviations used in similar articles.

THESES

1. The abbreviation classification taxonomy varies significantly among different scholars. One of the most logical and detailed model is developed by López Rúa (2006).
2. According to López Rúa (2006), the super-ordinate category of abbreviations includes two sub-categories, namely simple shortenings and complex shortenings. While the first sub-category contains only proper abbreviations, complex shortenings include blends, clippings and initialisms which are further divided into alphabetisms and acronyms.
3. The most frequently used abbreviations in the academic articles on economics are alphabetisms which constitute nearly 90% of all the abbreviations detected in the research corpus; the least frequently used are proper abbreviations.
4. In terms of the largest number of repetitions throughout the research corpus, the most frequently used abbreviations include the alphabetisms “TFP” (“Total Factor Productivity”) and “PPP” (“Purchasing Power Parity” / “Public-private Partnership”).
5. With regard to the distribution throughout the corpus, the abbreviations which appear in the largest number of the analysed articles are “US” / “USA”, “EU” and “GDP”.
6. Apart from several derogations from the usual pattern, there is a typical system of abbreviation explanation used in all analysed articles: the abbreviations are provided in their full forms when they are mentioned for the first time in the text.
7. Two cases were detected when the abbreviations used in the academic articles on economics were shortened forms of phrases in languages other than English, i.e. Dutch and Polish. In both cases the typical system of explanation was not applied.
8. There are cases which demonstrate the lack of explanation of abbreviations. In most cases, they are either generally well known abbreviations or do not bear information that is essential for the perception of the main ideas of the articles.
9. Among the few unexplained abbreviations which are of crucial importance in terms of a proper perception of the information communicated in the texts are the alphabetisms “ADF” (“Augmented Dickey-Fuller”) and “TC”.
10. There is a small risk in that the comprehensibility of the information communicated in the academic journals’ articles on economics could be hindered by the lack of explanation of abbreviations.

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APPENDIX 1

Tables 4.3 and 4.4

Table 4.3 Data of the quantitative analysis of the abbreviations used in Article 1

COMPLEX SHORTENINGS							SIMPLE SHORTENINGS		
INITIALISMS				CLIPPINGS	Rep.	BLENDS	Rep.	PROPER ABBREV.	Rep.
Alphabetisms	Rep.	Acronyms	Rep.						
NDP	8							p.; pp.	2
SACU	30								
SADC	14								
OECD	1								
WTO	7								
VAT	1								
NES	1								
GSP	3								
UNCTAD	1								
AGOA	2								
EU	6								
ACP	2								
GDP	3								
UK	9								
USA	3								
Total	91	Total	0						
Total, initialisms			91	Total	0	Total	0	Total	2
Total, abbreviations									93

Table 4.4 Full forms of the abbreviations used in Article 1

ABBREVIATION	MEANING
1. NDP	<i>National Development Plan</i>
2. SACU	<i>Southern African Customs Unity</i>
3. SADC	<i>Southern African Development Community</i>
4. OECD	<i>Organization for Economic Co-operation and Development</i>
5. WTO	<i>World Trade Organization</i>
6. VAT	<i>Value Added Tax</i>
7. NES	<i>National Export Strategy</i>
8. GSP	<i>Generalized System of Preferences</i>
9. UNCTAD	<i>United Nations Conference on Trade and Development</i>

10. AGOA	<i>African Growth and Opportunity Act</i>
11. EU	<i>European Union</i>
12. ACP	<i>African, Caribbean, and the Pacific</i>
13. GDP	<i>Gross Domestic Product</i>
14. UK	<i>United Kingdom</i>
15. USA	<i>United States of America</i>
16. p./ pp.	Page/ pages

APPENDIX 2

Tables 4.5 and 4.6

Table 4.5 Data of the quantitative analysis of the abbreviations used in Article 2

COMPLEX SHORTENINGS						SIMPLE SHORTENINGS			
INITIALISMS				CLIPPINGS	Rep.	BLENDS	Rep.	PROPER ABBREV.	Rep.
Alphabetisms	Rep.	Acronyms	Rep.						
KIBS	56	UNESCO	2			STAN	6	Rev.	3
KIM	12	KLEMS	1			INCOPC	1		
TFP	18								
R&D	8								
PPP	4								
OECD	19								
ICT	3								
WIPO	7								
PCT	6								
EU	1								
U.S.	1								
GDP	7								
ISIC	3								
PENN	1								
OLS	4								
2SLS	6								
HK	1								
Total	157	Total	3						
Total, initialisms			160	Total	0	Total	7	Total	3
Total, abbreviations									170

Table 4.6 Full forms of the abbreviations used in Article 2

ABBREVIATION	MEANING
11. KIBS; KIBSs	<i>Knowledge intensive business services; services</i>
12. KIM	<i>Knowledge intensive manufacturing</i>
13. TFP	<i>Total factor productivity</i>
14. R&D	<i>Research and development</i>
15. INCOPC	<i>Income per capita</i>

16. PPP	<i>Purchasing power parity</i>
17. OECD	<i>Organisation for Economic Co-operation and Development</i>
18. ICT	<i>Information and communication technologies</i>
19. WIPO	<i>World Intellectual Property Organization</i>
20. PCT	<i>Patent cooperation treaty</i>
21. EU	<i>European Union</i>
22. U.S.	<i>United States</i>
23. GDP	Gross Domestic Product
24. ISIC	<i>International Standard Industrial Classification of All Economic Activities</i>
25. STAN	<i>STructural ANalysis</i>
26. PENN	Pennsylvania
27. OLS	<i>Ordinary least squares</i>
28. 2SLS	<i>Two-stage least squares</i>
29. HK	<i>Human capital</i>
30. UNESCO	<i>United Nations Educational, Scientific and Cultural Organization</i>
31. KLEMS	<i>Capital, Labour, Energy, Materials, Services</i>
32. Rev.	Revision

APPENDIX 3

Tables 4.7 and 4.8

Table 4.7 Data of the quantitative analysis of the abbreviations used in Article 3

COMPLEX SHORTENINGS						SIMPLE SHORTENINGS			
INITIALISMS				CLIPPINGS	Rep.	BLENDS	Rep.	PROPER ABBREV.	Rep.
Alphabetisms	Rep.	Acronyms	Rep.						
U.S.	11					BOSWASH	1		
FAA	1					microSA	2		
MAP-21	1								
MSA	26								
D.C.	4								
BEA	9								
BTS	2								
GMP	8								
PIM	7								
ADF	1								
CADF	2								
STATA	1								
pescaadf	1								
NEC	2								
OLS	1								
CA	2								
TTSPC	3								
SDM	4								
LM	1								
LR	1								
VA	1								
DC	1								
MD	1								
DE	1								
PA	1								
NJ	1								
NY	1								
CT	1								
RI	1								
MA	1								
NH	1								

ME	1								
Total	100	Total	0						
Total, initialisms			100	Total	0	Total	3	Total	0
Total, abbreviations									103

Table 4.8 Full forms of the abbreviations used in Article 3

ABBREVIATION	MEANING
1. U.S.	<i>United States</i>
2. FAA	<i>Federal Aviation Administration</i>
3. MAP-21	<i>Moving Ahead for Progress in the 21st Century</i>
4. MSA	<i>Metropolitan statistical area</i>
5. D.C.	District of Columbia
6. BEA	<i>Bureau of Economic Analysis</i>
7. BTS	<i>Bureau of Transportation Statistics</i>
8. GMP	<i>Gross metropolitan product</i>
9. PIM	<i>Perpetual inventory method</i>
10. ADF	<i>Augmented Dickey Fuller</i>
11. CADF	<i>Covariate-augmented Dickey Fuller</i>
12. STATA	Statistics and data
13. pescadf	
14. NEC	<i>Northeast corridor</i>
15. OLS	<i>Ordinary least squares</i>
16. CA	
17. TTSPC	<i>Total transportation stock per capita</i>
18. SDM	<i>Spatial Durbin model</i>
19. LM	<i>Lagrange multiplier</i>
20. LR	<i>Likelihood ratio</i>
21. VA	Virginia
22. DC	District of Columbia
23. MD	Maryland
24. DE	Delaware
25. PA	Pennsylvania
26. NJ	New Jersey
27. NY	New York
28. CT	Connecticut
29. RI	Rhode Island
30. MA	Massachusetts
31. NH	New Hampshire
32. ME	Maine

33. BOSWASH	Boston and Washington
34. microSA	<i>Micropolitan statistic area</i>

APPENDIX 4

Tables 4.9 and 4.10

Table 4.9 Data of the quantitative analysis of the abbreviations used in Article 4

COMPLEX SHORTENINGS								SIMPLE SHORTENINGS	
INITIALISMS				CLIPPINGS	Rep.	BLENDS	Rep.	PROPER ABBREV.	Rep.
Alphabetisms	Rep.	Acronyms	Rep.						
NGO/NGOs	74	AIDS	4			HANSHEP	3	p.	3
GPPPs	4	BOND	1						
GFATM	3								
GAVI	3								
PPP/PPPs	56								
UK	13								
WHO	5								
MDG	5								
DFID	6								
SRH	1								
HIV	5								
US	3								
ODA	1								
CSOs	3								
DSA	1								
PPAs	1								
UKNGO	26								
MCH	6								
FONGO	10								
TNN	10								
GHG	3								
GADN	1								
UN	2								
WB	1								
GHIs	1								
GHPs	1								
PPIs	1								
EU	1								
Total	247	Total	5	Total	0	Total	3	Total	3
Total, initialisms			252	Total	0	Total	3	Total	3
Total, abbreviations								258	

Table 4.10 Full forms of the abbreviations used in Article 4

ABBREVIATION	MEANING
1. NGO/NGOs	<i>Non-governmental organisation/ organisations</i>
2. GPPPs	<i>Global public-private partnerships</i>
3. GFATM	<i>Global Fund to fight Aids, Tuberculosis and Malaria</i>
4. GAVI	<i>Global Alliance for Vaccines and Immunisation</i>
5. PPP/PPPs	<i>Public-private partnership/ partnerships</i>
6. UK	United Kingdom
7. WHO	<i>World Health Organisation</i>
8. MDG	<i>Millenium Development Goals</i>
9. DFID	<i>Department for International Development</i>
10. SRH	<i>Sexual and reproductive health</i>
11. HIV	Human Immunodeficiency Virus
12. US	United States
13. ODA	<i>Official development assistance</i>
14. CSOs	<i>Civil society organisations</i>
15. DSA	<i>Development Studies Association</i>
16. PPAs	<i>Programme partnership agreements</i>
17. UKNGO	<i>United Kingdom's non-governmental organisations</i>
18. MCH	<i>Maternal/ child health</i>
19. FONGO	<i>Field offices non-governmental organisations</i>
20. TNN	<i>Transnational network</i>
21. GHG	<i>Global Health Governants</i>
22. GADN	<i>Gender and Development Network</i>
23. UN	<i>United Nations</i>
24. WB	<i>World Bank</i>
25. GHIs	<i>Global Health Initiatives</i>
26. GHPs	<i>Global Health Partnerships</i>
27. PPIs	<i>Public-Private Interactions</i>
28. AIDS	Acquired Immune Deficiency Syndrome
29. BOND	British Overseas NGOs for Development
30. HANSHEP	<i>Harnessing Non-State Actors for Better Health for the Poor</i>
31. p.	Page
32. EU	<i>European Union</i>

APPENDIX 5

Tables 4.11 and 4.12

Table 4.11 Data of the quantitative analysis of the abbreviations used in Article 5

INITIALISMS				CLIPPINGS	Rep.	BLENDS	Rep.	PROPER ABBREV.	Rep.
Alphabetisms	Rep.	Acronyms	Rep.						
CBNRM	22	AIDS	1			NACOBTA	4	p./ pp.	10
NGO	17	UNESCO	1						
UN	3	IRAS	2						
SNV	2								
MDG	2								
MDG-F	3								
UNWTO	4								
EU	1								
US	1								
BOT	1								
HIV	1								
UNEP	1								
ILO	1								
UNDAF	4								
USAID	5								
WFF	2								
MET	6								
NACSO	6								
IRDNC	2								
IIED	1								
KNC	2								
Total	87	Total	4						
Total, initialisms			91	Total	0	Total	4	Total	10
Total, abbreviations									105

Table 4.12 Full forms of the abbreviations used in Article 5

ABBREVIATION	MEANING
1. CBNRM	<i>Community-Based Natural Resource Management</i>
2. NGO	<i>Non-governmental organisation</i>

3. UN	<i>United Nations</i>
4. SNV	<i>Stichting Nederlandse Vrijwilligers</i>
5. MDG	<i>Millennium Development Goal</i>
6. MDG-F	<i>Millennium Development Goals Achievement Fund</i>
7. UNWTO	<i>UN World Tourism Organization</i>
8. EU	<i>European Union</i>
9. US	<i>United States</i>
10. BOT	<i>build, operate and transfer</i>
11. HIV	<i>Human Immunodeficiency Virus</i>
12. UNEP	<i>United Nations Environment Programme</i>
13. ILO	<i>International Labour Organization</i>
14. UNDAF	<i>UN Development Assistance Framework</i>
15. USAID	<i>United States Agency for International Development</i>
16. WWF	<i>World Wildlife Fund</i>
17. MET	<i>Ministry of Environment and Tourism</i>
18. NACSO	<i>Namibian Association of CBNRM Support Organizations</i>
19. IRDNC	<i>Integrated Rural Development and Nature Conservation</i>
20. IIED	<i>International Institute for Environment and Development</i>
21. KNC	<i>King Nehale Communal Conservancy</i>
22. AIDS	<i>Acquired Immune Deficiency Syndrome</i>
23. UNESCO	<i>United Nations Educational, Scientific and Cultural Organization</i>
24. IRAS	<i>Information System for Rare Species Management</i>
25. NACOBTA	<i>Namibian Community-Based Tourism Association</i>
26. p./ pp.	<i>Page/ pages</i>

APPENDIX 6

Tables 4.13 and 4.14

Table 4.13 Data of the quantitative analysis of the abbreviations used in Article 6

COMPLEX SHORTENINGS							SIMPLE SHORTENINGS				
INITIALISMS				CLIPPINGS	Rep.	BLENDS	Rep.	PROPER ABBREV.			Rep.
Alphabetisms	Rep.	Acronyms	Rep.								
TFP	67					edstats	1				
DOLS	6										
TFPG	7										
GDP	22										
MDGs	1										
ASEAN	2										
SAARC	6										
SAPTA	2										
US	5										
OLS	4										
ADF	2										
IPS	1										
TO	1										
HC	1										
TC	1										
ECT	1										
WDI	1										
PIM	1										
IT	1										
R&D	1										
Total	133	Total	0								
Total, initialisms			133	Total	0	Total	1	Total			0
Total, abbreviations											134

Table 4.14 Full forms of the abbreviations used in Article 6

ABBREVIATION	MEANING
1. TFP	<i>Total factor productivity</i>
2. DOLS	<i>Dynamic ordinary least squares</i>
3. TFPG	<i>Total factor productivity growth</i>

4. GDP	<i>Gross domestic product</i>
5. MDGs	<i>Millennium Development Goals</i>
6. ASEAN	Association of Southeast Asian Nations
7. SAARC	<i>South Asian Association of Regional Cooperation</i>
8. SAPTA	<i>South Asian Preferential Trading Arrangement</i>
9. US	<i>United States</i>
10. OLS	<i>Ordinary least squares</i>
11. ADF	Augmented Dickey-Fuller
12. IPS	Im, Pesaran, and Shin
13. TO	<i>Trade openness</i>
14. HC	<i>Human capital</i>
15. TC	
16. ECT	<i>Error-correction term</i>
17. WDI	<i>World Development Indicators</i>
18. PIM	<i>Perpetual inventory method</i>
19. IT	Information Technology
20. R&D	<i>Research and Development</i>
21. edstats	<i>Education Statistics</i>

APPENDIX 7

Tables 4.15 and 4.16

Table 4.15 Data of the quantitative analysis of the abbreviations used in Article 7

COMPLEX SHORTENINGS								SIMPLE SHORTENINGS		
INITIALISMS				CLIPPINGS	Rep.	BLENDS	Rep.	PROPER ABBREV.		Rep.
Alphabetisms	Rep.	Acronyms	Rep.							
NGO	14	SLOT	1					p./ pp.		54
CAL	1									
EU	8									
OECD	1									
SRK	1									
KPZSiS	1									
SWRSO	1									
FIO	1									
KPRES	2									
IoRKE	1									
KRS	1									
RFES	1									
OWSS	1									
IoFSS	5									
FP	1									
PFRON	1									
ZSPP	2									
PoSE	1									
ZAZ	1									
WTZ	1									
CIS	1									
KIS	1									
SKOK	1									
Total	47	Total	1							
Total, initialisms			48	Total	0	Total	0	Total		54
Total, abbreviations										102

Table 4.16 Full forms of the abbreviations used in Article 7

ABBREVIATION	MEANING
1. p./ pp.	Page/ pages
2. NGO	<i>Non-governmental organisation</i>
3. SLOT	<i>Stowarzyszenie Lokalnych Ośrodków Twórczych (Society of Local Creative Centers)</i>
4. CAL	<i>Centrum aktywności lokalnej (Local Activity Support Center)</i>
5. EU	<i>European Union</i>
6. OECD	Organisation for Economic Co-operation and Development
7. SRK	<i>National Growth Strategy</i>
8. KPZSiS	<i>KRAJOWY Program „ZABEZPIECZENIE SPOŁECZNE I INTEGRACJA SPOŁECZNA” (National Program for Social Security and Social Integration)</i>
9. SWRSO	<i>STRATEGIA WSPIERANIA ROZWOJU SPOŁECZEŃSTWA OBYWATELSKIEGO (Strategy for Civil Society Development)</i>
10. FIO	<i>Fundusz Inicjatyw Obywatelskich (Civic Initiatives Fund)</i>
11. KPRES	<i>Krajowy Program Rozwoju Ekonomii Społecznej (The National Programme for the Development of Social Economy)</i>
12. IoRKE	<i>Informacja o rozmiarach i kierunkach emigracji (Information about the sizes and directions of emigration)</i>
13. KRS	<i>Krajowa Rada Spółdzielcza (National Council of Cooperatives)</i>
14. RFES	<i>Regionalny Fundusz Ekonomii Społecznej (Regional Social Economy Funds)</i>
15. OWSS	<i>Ośrodek Wsparcia Spółdzielczości Socjalnej (Social Cooperative Support Centers)</i>
16. IoFSS	<i>Informacja o funkcjonowaniu spółdzielni socjalnych (Information about the functioning of social cooperatives)</i>
17. FP	<i>fundusz pracy (Labor Fund)</i>
18. PFRON	<i>Państwowy Fundusz Rehabilitacji Osób Niepełnosprawnych (State Fund for Rehabilitation of the Handicapped)</i>
19. ZSP	<i>Zaangażowanie społeczne Polaków i Polek (Social commitment of Polish men and women)</i>
20. PoSE	<i>Pact on Social Economy</i>
21. ZAZ	<i>Zakład Aktywności Zawodowej (Professional Activity Facilities)</i>
22. WTZ	<i>Warsztaty Terapii Zajęciowej (Occupational Therapy Workshops)</i>
23. CIS	<i>Centra Integracji Społecznej (Social Integration Centers)</i>
24. KIS	<i>Klub Integracji Społecznej (Social Integration Club)</i>
25. SKOK	<i>Spółdzielcza kasa oszczędnościowo-kredytowa (Cooperative Savings and Loan Associations)</i>

APPENDIX 8

Tables 4.17 and 4.18

Table 4.17 Data of the quantitative analysis of the abbreviations used in Article 8

COMPLEX SHORTENINGS								SIMPLE SHORTENINGS			
INITIALISMS				CLIPPINGS	Rep.	BLENDS	Rep.	PROPER ABBREV.		Rep.	
Alphabetisms	Rep.	Acronyms	Rep.					Total	Rep.		
GDP	7										
LITS	11										
EBRD	3										
USD	1										
2SLS	12										
Total	34	Total	0								
Total, initialisms			34	Total	0	Total	0	Total		0	
Total, abbreviations										34	

Table 4.18 Full forms of the abbreviations used in Article 8

ABBREVIATION	MEANING
1. GDP	Gross domestic product
2. LITS	<i>Life-in-Transition survey</i>
3. EBRD	<i>European Bank for Reconstruction and Development</i>
4. USD	United States Dollars
5. 2SLS	<i>Standard simultaneous equations</i>

Dokumentārā lapa

Bakalaura darbs „Abbreviations in Articles on Economics in Academic Journals” (Saīsinājumi akadēmisko žurnālu rakstos par ekonomiku) izstrādāts LU Humanitāro zinātņu fakultātē.

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