Glodowska, A., & Wach, K. (2022). Entrepreneurship research in Central and Eastern Europe: A systematic literature review and bibliometric analysis. *Journal of International Studies, 15*(3), 201-214. doi: 10.14254/2071-8330.2022/15-3/14

# Entrepreneurship research in Central and Eastern Europe: A systematic literature review and bibliometric analysis

#### Agnieszka Głodowska

Department of International Trade, Krakow University of Economics, Poland <u>glodowsa@uek.krakow.pl</u> ORCID 0000-0001-8983-2580

### Krzysztof Wach

Department of International Trade, Krakow University of Economics, Poland <u>machk@uek.krakow.pl</u> ORCID 0000-0003-0268-009X

- Abstract. Entrepreneurship has a rich tradition in the history of economic thought, but Central and Eastern European (CEE) researchers are latecomers. The socialist or communist economic systems discriminated against the entrepreneurial activity. This article aims to supplement the knowledge about the state, intensity, and research trends on entrepreneurship in CEE countries. The systematic literature review covers over 30 years (1980-2021). The bibliometric analysis was conducted using the VOSviewer software. The regional output in quantitative terms is relatively smaller in comparison to the global academia, although it addresses basically the same topics as the world literature. CEE researchers undertake, in principle, the same research threads as the entire academic community worldwide. CEE researchers publish their work on Central Europe mainly in journals of regional publishers. The two currently leading regional scientific journals on entrepreneurship are Entrepreneurship and Sustainability Issues (Lithuania) and Entrepreneurial Business and Economics Review (Poland). Although, the history of entrepreneurship research in Central and Eastern Europe dates back to the beginning of the economic transition in the early 1990s, but the intensification of publications from this region in Web of Science has been observed since the mid-2000s.
- Keywords: entrepreneurship, systematic literature review, Central Europe, CEE countries, bibliometric analysis, Poland

JEL Classification: G21, L26, O16

of International Studies © Foundation of International Studies, 2022 © CSR, 2022

Journal

Scientific Papers

Received: January, 2022 1st Revision: April, 2022 Accepted: August, 2022

DOI: 10.14254/2071-8330.2022/15-3/14

## **1. INTRODUCTION**

Entrepreneurship has a rich tradition in the history of economic thought (Wach & Głodowska, 2021). It is genetically and inherently associated with human activity (Sułkowski et al., 2022). As a research area and scientific specialization, however, it is a relatively young domain of scientific exploration (Landstrom, 2010). The specificity of the CEE (Central and Eastern Europe) region sheds another light on developing research on entrepreneurship. It does not fit in with the rules of global research, especially for authors from Western Europe. We mean the historical and political legitimacy of entrepreneurship in the CEE region. It is known that the "CEE region/countries" is not a generic term referring only to the geographical location of countries but reflecting their common historical and political past. The CEE countries are economies that functioned under Soviet domination until the end of the 1980s. The entrepreneurial identity, the evolution of entrepreneurship in this region, and hence the research on this phenomenon, was shaped by two fundamental historical facts related to the system of these economies (Ateljević & Budak, 2918): 1) the communism, 2) the transition.

The socialist or communist economic systems discriminated against entrepreneurial activities as opposed to the imperative of the communist government, and the transformation in the early years introduced a kind of "political entrepreneurship" category. It should be added that the social perception of the entrepreneur in those years was not favorable in the CEE countries. All this means that the CEE countries can be described as a kind of "latecomers" in terms of developing free market entrepreneurship and research in this stream. However, looking at the current expansion of entrepreneurship in the economic life of these countries, the dynamic development of research in the last decade, the emergence of new journals on this subject in the region, study and training programs, we can assume that there is a kind of convergence of research activities in this region in relation to the regions more advanced in this process.

The investigation of international databases of abstracts and citations revealed the scale of publications on CEE entrepreneurship, however, we noticed that so far, no one has systematically summarized this publishing activity. Therefore, we do not know the details that outline the research intensity, productivity, and influence of authors, countries, organizations, documents, and, most importantly, emerging research trends. It inspired us to take up the topic in this article. Our research aims to supplement the knowledge about the state, intensity, and research directions on entrepreneurship in CEE countries. The aim will be achieved by answering the following research questions:

1. What is the scale and dynamics of entrepreneurship research in CEE countries?

- 2. What are the most influential researchers, sources, and studies in CEE countries?
- 3. What are the dominant trends in the entrepreneurship research in CEE countries?

Our systematic review of the literature covers over 30 years (1980-2021). For this purpose, a bibliometric analysis using the VOSviewer software was applied. This tool allows us to view the studies deeper, showing their level of advancement, opportunities and alternative points of view. We can also identify the most influential authors and documents as well as their links' strengths. An essential supplement to these aspects is the recognition of the productivity of journals, institutions or countries. The study covers 12 CEE countries according to the OECD classification (OECD, 2001). These are: Albania, Bulgaria, Croatia, Czech Republic, Estonia, Hungary, Lithuania, Latvia, Poland, Romania, Slovakia, Slovenia (CEE12).

The article is divided into four sections. The introduction gives a general outline of the whole article and asks the research questions. The next section explains the applied methodology for a systematic literature review and a bibliometric analysis. It is followed by the findings and their scientific discussion. The article ends with the conclusions.

## 2. METHODOLOGY

The research process in this study was based on a systematic literature review (Paré, et al. 2015; Branco, 2021). Considering the purpose of the research and the research questions posed (see Figure 1), we found this to be the most appropriate approach among the many options for an effective literature review (Wach, 2020). The premises for this are detailed formulated research questions, the selection of materials according to the adopted criteria from a carefully defined source, data aggregation, and research tools. Organizationally, the research process included three phases: 1) research design; 2) conducting the review; 3) description of research results and discussion. Each research phase included specific research procedures that allowed to conduct the study in a structured and transparent manner.



Figure 1. The applied research model for the systematic literature review *Source*: own elaboration.

The starting point for the research process was the formulation of research questions corresponding to the study's objectives. When designing research, a fundamental question arises as to the validity of conducting a literature review on a given topic. To our knowledge, this is the first study of this type related to the CEE region. Therefore, its contribution to the development of entrepreneurship research is visible and very desirable for the CEE region. It shows the importance of the CEE region in the international discourse on entrepreneurship (Głodowska, 2019).

A characteristic feature of a systematic literature review is the detailed formulation of research questions (Calispa, 2021). In a sense, it was dictated by a choice of research topic clearly defined and determined the scope of the analysis. It was about entrepreneurship in the CEE region. We chose the Web of Science database (WOS) as the data source. This source is a bibliographic service and abstracts database

maintained by Clarivate Analytics (previously by Thomson Reuters), covering many fields of science. It is used to search for information on a selected topic and analyse cited publications or authors. The source is considered the world's most trusted citation index for research with over a hundred years of tradition (Jaklič et al., 2020). The multidisciplinary coverage of the WOS encompasses 12 000 high impact journals and 160 000 conference proceedings in over 250 disciplines (Thomson Reuters, 2017). The research area was related to the CEE region.

To identify all documents relating to the broadly understood entrepreneurship in CEE, we used lemmatization through the combination of the term "ENTREPRENEUR \*" and the definition of a specific economy from the CEE12 region, e.g. "ENTREPRENEUR \*" AND "ALBANIA". This procedure was repeated for each country included in the study. Thanks to lemmatization, we were able to identify all documents with the words entrepreneurship, entrepreneurial, entrepreneur, etc. (Berbegal-Mirabent et al., 2018). Then, we adopted particular inclusion and exclusion criteria for searching for research material. The following WOS indexes were included in the search: Science Citation Index Expanded, Social Science Citation Index, Conference Proceedings Citation Index - Science, Book Citation Index - Social Science & Humanities, Book Citation Index - Science, Book Citation Index - Social Science & Humanities, Emerging Source Citation Index.

The research period included in the study covered over 30 years, 1980 - 2021. Data collection was completed in November 2021. A pilot test for the review process and protocol was carried out in the next step. On this basis, it was possible to verify the validity of the research assumptions and introduce possible improvements before the final study. Ultimately, based on the adopted research criteria, a research sample was accepted consisting of 20 542 publications out of 162 159, which constituted 12.66% of the research assigned to the "ENTREPRENEUR\*" record devoted to the CEE region.

The analysis of the collected material consisted of a three-stage content study, which included: 1) metadata analysis - to determine the scope and volume of material collected in the research topic, 2) network analysis - to identify the most influential documents, authors, and sources showing the subject of research undertaken within entrepreneurship in the CEE, 3) content analysis - to characterize and discuss the actual topics and trends presented in the framework of entrepreneurship research in the CEE region.

The research tools for reporting are the WOS platform and VOSviewer software version 1.6.17 (Van Eck & Waltman, 2014). These tools were used for the bibliometric analysis, mapping, networking, and graphical presentation of research results. We used the VOSviewer software to identify the network, strategic matrix based on similarity and distance measures. On this basis, we were able to analyse: 1) co-occurrence map based on text data (titles and abstracts); 2) citation map based on the most influential articles; 3) citation map based on the most influential authors; 4) maps of the most productive sources and organizations. Thanks to this method, the research is an objective investigation and allows us to understand better the nature of the research conducted and the achievement of the research goals set (Cardella et al., 2020).

#### **3. EMPIRICAL RESULTS AND DISCUSSION**

Based on the information provided by the WOS database, it is possible to quantify the collected material and its general characteristics. Figure 2 presents the progress of research on entrepreneurship in CEE in the period 1980-2021. Data collection took place in November 2021, so the analysis ends with the full year 2020 and incomplete data for 2021. Until the end of the last century, the development of entrepreneurship research in the CEE region was minimal. This was less than 50 publication per year from all countries included. We noticed a visible increase only after 2004, but the real expansion of interest in

CEE entrepreneurship as a research topic was visible since 2014. After this period, the number of publications increased almost three times (WOS Database, 2022).



Figure 2. Evolution of publications in the years 1980 - 2021 Source: own elaboration based on WOS Database.

Figure 3 represents each country's contribution to the volume of publications on entrepreneurship in the CEE region. The dominant economies in terms of entrepreneurship research in the region are Poland, Romania, Croatia and the Czech Republic. There is a significant publishing concentration. Over 60% of all publications are either on entrepreneurship in these countries or by researchers from these countries.



Figure 3. Participation of the CEE countries in publications in the years 1980 – 2021 *Source*: own elaboration based on WOS Database.

The general characteristics of research on entrepreneurship in CEE consider the type of publication, the area of study, and the kind of indexation. Table 1 shows the most important categories of the three selected characteristics. They testify to the quality of publication and their impact, appropriate editorial rigor, and practices of publishers. The dominant form of publication in CEE countries is proceedings papers, which constitute almost 60% of all documents. Subsequently, articles were published in peer-reviewed journals. In total, these two types of documents make up practically the entire publication material on the CEE entrepreneurship. The high percentage of publications in the form of proceedings results from Croatia, the Czech Republic, and Slovakia in this regard. An enormous disproportion between proceedings and articles is visible in these countries.

Table 1

Criterion	Туре	Number
Document Type	Articles	7840
	Proceedings Paper	12307
	Book Chapter	355
DoC L	Early Access	160
П	Review Articles	218
	Economics	6254
tea	Business	6136
At	Management	5072
Research Area	Regional Business Planning	1767
sea	Business Finance	1168
Re	Environmental Studies	598
	Development Studies	508
	Conference Proceedings Citation Index	3426
×	Emerging Sources Citation Index (ESCI)	3743
WOS Index	Science Citation Index Expanded (SCI-EXPANDED)	1872
	Social Sciences Citation Index (SSCI)	2964
	Book Citation Index – Social Sciences & Humanities (BKCI-SSH)	343
	Conference Proceedings Citation Index – Social Science & Humanities (CPCI-SSH)	9736
	Book Citation Index – Science (BKCI-S)	25

General characteristics	of the	publications	in the	e vears	1980	-2021

Source: own elaboration based on WOS Database.

On the other hand, in countries such as Albania, Estonia, Hungary, Lithuania, Poland, and Slovenia, most documents are written in the form of a research article. Proceedings papers were assigned in the WOS database in 2008 to journal articles initially presented at a conference and then adapted for publication in a journal or monography. Proceedings papers published in journals are similar to standard articles, and monographic publications are less extensive and cited. A less rigorous reviewing process of monographic proceedings papers affects the speed of publication and its more minor impact (González-Albo & Bordons, 2011). A large number of publications in the form of proceedings in CEE also testifies to the high conference activity. The vast majority of the studies were created within three main research areas: 1) economics, 2) business, 3) management. Research areas are a topic categorization scheme common to all WOS product databases. On this basis, you can identify, search and analyze documents from multiple databases that relate to the same topic. The journals and books included in the WOS Core Collection are assigned to at least one WOS category (Leydesdorff et al., 2013). The WOS Core Collection consists of ten indexes. This study omitted three indexes (Arts & Humanities Citation Index, Current Chemical Reactions, Index Chemicus) due to the lack of connection with the studied subject. Citation indexes (Emerging Sources Citation Index, Science Citation Index Expanded, Social Sciences Citation Index) contain references cited by the authors of the articles. The next two Citation Indexes (Conference Proceedings Citation Index,

Conference Proceedings Citation Index - Social Science & Humanities) include published literature from major conferences, symposia, seminars, and workshops. The other two indexes (Book Citation Index - Science, Book Citation Index - Social Sciences & Humanities) include published research books and chapters in monographs. In the case of research on entrepreneurship in the CEE, the most publications were included in the indexes of conference materials, which is consistent with the type of published material.

We tried to identified the most influential authors from the region. We used two criteria. The first one is the minimum number of document by an author = 1, and the second one is the minimum number of citations of an author = 100. Out of the 25850 authors only 209 meet threshold. For each of 209 authors, the number of citations links are calculated. The documents with the largest number of links are selected. Finally, we selected 5 the most productive authors from each of 12 studies countries (Table 2). For most of the records results are obvious and these people are very well-known in the region in the field of entrepreneurship (e.g. L. Szerb in Hungary, M. Holienka in Slovakia, O. Dvoulety in Czechia or M. Dabic in Croatia). In some cases unfortunately we can see people with various affiliations outside the region, mainly from the USA. At least one their affiliation was from the investigated region, so in some cases they simple support local universities with their publications. It makes the interpretation of results more difficult.

Table 2

Country	Author	Numer of documents	Common citation	H-Index
Albania	Cera G.	7	98	6
	Xheneti M.	7		
	Cera E.	6		
	Jaupi F.	5		
	Kosta B.	5		
	Grozdev S.	60	40	3
Bulgaria	Nenkov V.	37		
lga	Alecchi B.A.	13		
Bu	Rodovic-Markovic M.	13		
	Todorov K.	11		
	Kozina G.	40	469	11
ia.	Primorac D.	37		
Croatia	Dabic M.	34		
	Kurecic P.	28		
	Grbac I.	23		
	Belas J.	43	1540	24
iia	Kljucnikov A.	38		
Czechia	Dvoulety O.	37		
CZ	Sebestova J.	30		
2	Lukes M.	29		
Estonia	Mets T.	26	557	13
	Brik M.G.	23		
	Ma C.G.	21		
	Prause G.	19		
	Elenurm T.	15		
	Szerb L.	34	1807	18
Hungary	Acs Z.J.	22		
	Tzallas P.	11		
	Magda R.	10		
	Popp J.	9		

Contribution of the most influential authors according to countries (November 2021)

1	D' D	•	100	
Latvia	Rivza B.	30	130	6
	Sloka B.	29		
	Geipele I.	17		
	Kantane I.	15		
	Zvirgzdina R.	15		
-	Tvaronaviciene M.	49	778	17
Lithuania	Davidaviciene V.	26		
ent	Raudeliuniene J.	20		
lit	Korskakiene R.	16		
	Meidute-Kavaliauskiene I.	16		
	Bilan Y.	30	1432	22
р	Kociak E.	29		
Poland	Van Steel A.	28		
$\mathbf{Po}$	Wach K.	25		
	Brik M.G.	23		
_	Purcarea A.A.	41	252	9
Romania	Militaru G.	40		
ma	Scarlat C.	32		
Roi	Badulescu D.	27		
	Badulescu A.	26		
	Belas J.	27	1044	21
Slovakia	Gavurova B.	26		
	Holienka M.	26		
	Pilkova A.	24		
	Mura L.	23		
Slovenia	Antoncic B.	30	3372	22
	Hisrich R.D.	27		
	Ruzzier M.	27		
	Tominc P.	27		
	Robernik M.	24	]	

Source: own elaboration based on WOS Database.

Table 3

## The most productive organization within CEE (Top 15)

University	Country	Citations	Documents
University of Ljubjana	Slovenia	5886	314
Tomas Bata University	Czechia	1445	176
University of Zagreb	Croatia	1420	521
University of Maribor	Slovenia	1347	251
Vilnius Gediminas Technical University	Lithuania	1253	201
Polish Academy of Sciences	Poland	1094	85
University of Primorska	Slovenia	1069	90
University of Warsaw	Poland	1028	173
Bucharest University of Economic Studies	Romania	950	496
Tallin University of Technology	Estonia	859	128
University of Tartu	Estonia	833	143
Kozminski University	Poland	784	126
Cracow University of Economics	Poland	681	178
Jagiellonian University	Poland	537	104
Kaunas University of Technology	Lithuania	505	160

Source: own elaboration based on WOS Database.

The results of the identification of the 15 most productive universities from 12 countries of CEE are very interesting (Table 3). In smaller countries there are several dozens of universities, while in large

countries, such as Poland, there are even about 500 universities. Among the 15 most productive universities there are units from 7 countries. In the TOP-15 there are universities from Slovenia (3 universities), Czechia (1 university), Croatia (1 university), Lithuania (2 universities), Poland (5 universities), Romania (1 university) and Estonia (2 universities). In this ranking there are no universities from 5 countries in the region i.e. Slovakia, Albania, Bulgaria, Hungary, and Latvia. The most productive organization in terms of citations is the University of Ljubljana from Slovenia, while in terms of the documents is the University of Zagreb from Croatia.

Among the 15 most influential journals that cover and publish articles on Central and Eastern Europe are mainly those published by universities from this region (Table 4). This is obvious and not in doubt. Among these journals there is only one published by the prestigious publisher Elsevier, and that is the "Journal of Business Research". The remaining journals, although published by local publishers, are indexed either in the Web of Science database (SSCI, ESCI) or in the Scopus database. On one hand, this indicates a high regional specialisation of these journals, which should be viewed positively. On the other hand, these results may suggest that topics related to Central and Eastern European countries are so unpopular and it is not trendy for publications covering such a geographical area to break through to the leading world journals. Another conclusion, much sadder, that can be drawn from the results of this analysis may indicate the poor quality of publications from this part of Europe. Among the 15 most influential journals for Central and Eastern Europe are two published by MDP and these are "Sustainability" and "Energies". This is probably due to the high scores and high journal impact factor (JIF) that these journals have and the relatively fast publication time. The two most influential journals from the region are "Entrepreneurship and Sustainability Issues" (Lithuania) and "Entrepreneurial Business and Economics Review" (Poland), It is puzzling that all the journals that are devoted only to the topics of the region are not included, e.g. "Journal for East European Management Studies" (Germany), or "Journal of Eastern European and Central Asian Research" (USA). But this may be due to the very low volume of publications published in these journals.

Table 4

Journal	Country	Citation	
Entrepreneurship and Sustainability Issues	Lithuania	2177	
Sustainability	Switzerland	1933	
Entrepreneurial Business and Economics Review	Poland	1224	
Journal of Business Research	Netherlands	560	
Journal of Competitiveness	Czechia	496	
Economics & Sociology	Poland	489	
Anfiteatur Economic	Romania	485	
Polish Journal of Management Studies	Poland	475	
Transformation in Business & Economics	Lithuania	440	
Economic Research (Economska Istraziania)	Croatia	407	
A & M Economie a Management	Czechia	404	
Engineering Economics (Inzinerine Ekonomika)	Lithuania	402	
Journal of Entrepreneurship Management and Innovation	Poland	382	
Oeconomia Copernicana	Poland	314	
Energies	Switzerland	161	

The most influential journals with CEE coverage (Top 15)

Source: own elaboration based on WOS Database.

In the next step we conducted the analysis of co-occurrence of terms. We created a co-occurrence map, which is based on WOS database data and we used the terms from the titles and abstracts (Figure 4). We assumed the minimum number of occurrences of a term = 100, and out of all records of the dataset (of

the 201002 terms) only 953 meet the threshold. For each of the 953 terms, a relevance score is calculated. Based on this score, the most relevant terms are selected. The default choice is to select the 60% most relevant terms. The number of terms to be selected = 240. Entrepreneurship – as a term itself – was deliberately removed because it was the dominant word and obscured the importance of others. The size of the label shows the importance of the term (co-occurrence amount). The lines indicate a relationship with other terms. Based on the relationship, 5 clusters of keywords can be selected, which are (Figure 4):

- 1) Competitiveness and entrepreneurship (red cluster),
- 2) Knowledge transfer and entrepreneurship (green cluster),
- 3) Technology entrepreneurship, communication and consumers (yellow cluster),
- 4) Entrepreneurial competences, entrepreneurial skills and entrepreneurial attitude (violet cluster).
- 5) Entrepreneurship education and universities (blue cluster).

These five clusters can be regarded as the topics most often published within the entrepreneurship research in Central and Eastern Europe.



Figure 4. Terms co-occurrence map based on the text data (titles and abstracts) *Source*: own elaboration in VOSviewer based on WOS Database.

To construct a citation network, a so-called match key is created for each cited reference. This is done according to the following three rules:

1. Use as the match key the combination of the name of the first author, the publication year, the volume number, and the begin page number.

2. If no match key has been obtained in step 1, use as the match key the combination of the name of the first author, the publication year, the source title, and if available the begin page number. This rule is applied only if there is no volume number.

3. If no matching key has been obtained in steps 1 and 2, use the DOI as the match key.

A citation link is a link between two items where one item cites the other. Citation links are treated as undirected by VOSviewer. Hence, no distinction is made between a citation from item A to item B and a citation in the opposite direction. A citation link between two documents is established if one document includes a cited reference that has a match key corresponding with one of the two-match keys used to represent the other document. We established the following settings for our analysis. The minimum number of citations of documents = 40. Of the 19942 documents, only 209 meet the threshold. For each of 209 documents, the number of citation links are calculated. The documents with the largest number of links are selected = finally selected 70 items.

Although the citation map is based on the most important articles, which enables to identify of the most important publications, it also enables to identify the thematic clusters, as they cite similar topic publications. Based on the results 8 clusters were identified (Figure 5):

- 1) Corporate entrepreneurship: intrapreneurship, entrepreneurial behaviours and innovation (red cluster).
- 2) Business growth and entrepreneurship: startups, SME growth (green cluster).
- 3) Economic growth and entrepreneurship: institutions, technology and economic growth (blue cluster).
- 4) Supporting entrepreneurship: Public policy, Entrepreneurial skills, entrepreneurial competences (yellow cluster).
- 5) Digital entrepreneurship: digital transformation and entrepreneurship, knowledge spillover (velvet cluster).
- 6) Internationalization and entrepreneurship: immigrant entrepreneurship, SME internationalization (turquoise cluster).
- 7) International entrepreneurship: born globals, international new ventures (orange cluster).
- 8) Academic entrepreneurship and entrepreneurial university: entrepreneurship education, entrepreneurial intentions (brown cluster).



Figure 5. Citation map based on the most influential documents *Source*: own elaboration in VOSviewer based on WOS Database.

It is worth emphasising that the citation map contains many articles of a general nature, i.e. literature review texts or recognised research results in a given subject area, hence names typical of the general academic community in the world, and not only from Central and Eastern Europe, appear here (e.g. Welter, Johanson, McMillan, Hoang), while the articles met the criteria for their selection, i.e. the key words included the names of the 12 analysed countries.

## 4. CONCLUSION

The conclusions drawn on the basis of the collected empirical material are not complete, because only articles from the Web of Science database were taken into account, and no articles from the Scopus database, which is very popular in the region, were included. The limitation of this article is, firstly, that there are articles in the database, which for various reasons should not meet the criteria of bibliographic search, but theoretically do. Secondly, there are quite a few publications in the region that are published outside of journals indexed in prestigious databases. Nevertheless, these research limitations do not affect the general conclusions that can be drawn from the empirical material collected and analysed.

The literature search on the subject and the preliminary bibliometric and content analysis allow us to draw the following conclusions:

- The regional output in quantitative terms is relatively smaller in comparison to the global academia, although it addresses basically the same topics as the world literature. CEE researchers undertake, in principle, the same research threads as the entire academic community worldwide. They conduct and publish the results of successful replication of research more than they conduct ground-breaking and innovative research.
- 2. CEE researchers publish their work on Central Europe mainly in journals of regional publishers interested in this topic. The two currently leading regional scientific journals on entrepreneurship are Entrepreneurship and Sustainability Issues (Lithuania) and Entrepreneurial Business and Economics Review (Poland). The former journal (E&SI) has been removed from the Scopus database, but is still indexed in Web of Science. The latter journal (EBER) is indexed in both Web of Science and Scopus.
- 3. Although, the history of entrepreneurship research in Central and Eastern Europe dates back to the beginning of the economic transition in the early 1990s, but the intensification of publications from this region in Web of Science has been observed since mid-2000s, i.e. after the largest enlargement of the European Union.
- 4. The Central European entrepreneurship research community is relatively well organised and exchanges its views and shares its research findings at a number of periodic entrepreneurship conferences in particular countries, and sometimes in the region. Still a relatively small number of researchers belong to worldwide academic associations such as European Council for Small Business and Entrepreneurship (ECSB).

Entrepreneurship teaching and researching is not a fad or a seasonal trend, it is a reality and a requirement of the contemporary challenges for the economies and societies, which should be nurtured in Central Europe in order to remain competitive, at university, regional, and national levels and especially in the global academy, in order to enable a more entrepreneurial society (Kurczewska, 2011).

This study includes the first step of the bibliometric research (metadata analysis, network analysis, quantitative content analysis), which must be followed by the in-depth qualitative analysis of the selected gathered documents to draw more concrete conclusions.

## ACKNOWLEDGEMENT

This project has been financed by the Minister of Education and Science within the "Regional Initiative of Excellence" Programme for 2019-2022. Project no.: 021/RID/2018/19. Total financing: 11 897 131,40 PLN.

## REFERENCES

- Ács, Z.J., & Naudé, W.A. (2013). Entrepreneurship, Stages of Development, and Industrialization. In: A. Szirmai, W.A. Naudé, & W.A., L. Alcorta (eds.), *Pathways to Industrialization in the 21st Century* (Chapter 14). Oxford: Oxford University Press.
- Ateljević, J., & Budak, J. (2018). Introduction to Entrepreneurship in Post-Communist Countries: New Drivers Towards a Market Economy. In: J. Ateljević, & J. Budak (eds.), *Entrepreneurship in Post – Communist Countries*. New Drivers Towards a Market Economy (pp. 1-7). Berlin: Springer.
- Baumol, W.J., (1968). Entrepreneurship in Economic Theory. The American Economic Review, 58(2), 64-71.
- Berbegal-Mirabent, J., Alegre, I., & Ribeiro-Soriano, D. (2018). Entrepreneurship in the Middle East and North Africa: A Bibliometric Analysis. In: N. Faghih, & M. Zali (eds), Entrepreneurship Education and Research in the Middle East and North Africa (MENA). Contributions to Management Science (pp. 273-290). Berlin: Springer, Cham. doi:10.1007/978-3-319-90394-1\_15
- Branco, L., Ferreira, J., & Jayantilal, S. (2021). Conceptual foundations of entrepreneurial strategy: A systematic literature review. *Entrepreneurial Business and Economics Review*, 9(3), 103-118. doi:10.15678/EBER.2021.090307
- Calispa Aguilar, E. (2021). Rural entrepreneurial ecosystems: A systematic literature review for advancing conceptualisation. *Entrepreneurial Business and Economics Review*, 9(4), 101-114. doi:10.15678/EBER.2021.090407
- Cardella, G.M., Hernández-Sánchez, B.R., & Sánchez-García, J.C. (2020). Women Entrepreneurship: A Systematic Review to Outline the Boundaries of Scientific Literature. *Frontiers in Psychology*, 11(1557), 1-19. doi:10.3389/fpsyg.2020.01557.
- Chandra, Y. (2018). Mapping the evolution of entrepreneurship as a field of research (1990-2013): A scientometric analysis. *PLoS ONE*, *13*(1), 1-24.
- Głodowska, A. (2019). Comparative International Entrepreneurship: Theoretical Framework and Research Development. *Entrepreneurial Business and Economics Review*, 7(2). doi:10.15678/EBER.2019.070213
- González-Albo, B., & Bordons, M. (2011). Articles vs. proceedings papers: Do they differ in research relevance and impact? A case study in the Library and Information Science field. *Journal of Informetrics*, 5(3), 369-381. doi:10.1016/j.joi.2011.01.011
- Ipsmiller, E. & Dikova, D. (2021). Internationalization from Central and Eastern Europe: A systematic literature review. Journal of International Management, 27(4), 1-16. doi:10.1016/j.intman.2021.100862
- Jaklič, A., Obloj, K., Svetličič, M., & Kronegger, L. (2020). Evolution of Central and Eastern Europe related international business research. *Journal of Business Research*, 108, 421–434. doi:10.1016/j.jbusres.2019.06.046
- Landström, H. (2010). Pioneers in Entrepreneurship and Small Business Research. Heidelberg: Springer.
- Leydesdorff, L., Carley, S. & Rafols, I. (2013). Global maps of science based on the new Web-of-Science categories. *Scientometrics*, 94, 589–593. doi:10.1007/s11192-012-0784-8
- Low, M.B., & MacMillan, I.C. (1988). Entrepreneurship: Past Research and Future Challenges. *Journal of Management*, 35, 139-161.
- Kurczewska, A. (2011). Entrepreneurship as an Element of Academic Education International Experiences and Lessons for Poland. *International Journal of Management and Economics*, 30, 217-233.
- Minniti, M., & Lévesque, M. (2010). Entrepreneurial types and economic growth. *Journal of Business Venturing*, 25(3), 305-314.
- OECD (2001). Central and Eastern European Countries (CEECS). Retrieved from: https://stats.oecd.org/glossary/detail.asp?ID=303 on November 12, 2021.

- Paré, G., Trudel, M.C., Jaana, M., & Kitsiou, S. (2015). Synthesizing information systems knowledge: A typology of literature reviews. *Information & Management*, 52(2), 183-199.
- Sułkowski, Ł., Ignatowski, G., Stopczyński, B., & Sułkowska, J. (2022). Perception of patriotic entrepreneurship in Poland and Ukraine. *Entrepreneurial Business and Economics Review*, 10(3), 163-186. https://doi.org/10.15678/EBER.2022.100310
- Szeky. J. (1982). Entrepreneurial Socialism at the Experimental Stage + Hungary the Liska Model. New Hungarian Quarterly, 23(87), 93-98.
- Šeba, M.G. (2018). Financial Instruments for Boosting Entrepreneurship in Selected Post-Communist EU Countries. In: J. Ateljević, & J. Budak (eds.), Entrepreneurship in Post – Communist Countries. New Drivers Towards a Market Economy (pp. 29-46). Berlin: Springer.
- Thomson Reuters (2017). Web of Knowledge Real Facts IP&Science- Thomson Reuters. Retrived from: https://web.archive.org/web/20170224013916/http://wokinfo.com/citationconnection/realfacts on December 17, 2021.
- Urbano, D., & Aparicio, S. (2016). Entrepreneurship capital types and economic growth: International evidence. *Technological Forecasting and Social Change, 102,* 34-44.
- Van Eck, N.J., & Waltman, L. (2014). Visualizing bibliometric networks. In: Y. Ding, R. Rousseau, & D. Wolfram (Eds.), Measuring scholarly impact: Methods and practice (pp. 285-320). Berlin: Springer.
- Veciana, J.M.(2007). Entrepreneurship as a Scientific Research Programme. In: Á. Cuervo, D. Ribeiro, & S. Roig (eds.), Entrepreneurship. Concepts, Theory and Perspectives (23-71). Berlin: Springer.
- Wach, K. (2020). A Typology of Small Business Growth Modelling: A Critical Literature Review. Entrepreneurial Business and Economics Review, 8(1), 159-184. doi:10.15678/EBER.2020.080109
- Wach, K., & Glodowska, A (2021). How do demographics and basic traits of an entrepreneur impact the internationalization of firms? *Oeconomia Copernicana*, 12(2), 399-424. https://doi.org/10.24136/oc.2021.014