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State of Public Administration Scientific Research in the Visegrad Countries – A Bibliometric Analysis

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Abstract

As a discipline in its own right, public administration has a variety of interpretations in European countries, which can be found at the intersection of three traditional disciplines: law, policy and management. The Central European region, such as the Visegrad countries (Czech Republic, Poland, Hungary, Slovakia), is of particular interest for the analysis of the state of public administration research, as it only came to the fore after the change of regime. The present study undertakes a bibliometric analysis of the publications in the field of public administration in these countries for the period 2011–2020. The publications studied were indexed in the Scopus citation database, and the tools used for the analysis were the SciVal research support platform and the vosViewer bibliometric analysis software. The results show the different orientations, with Hungarian and Polish authors approaching the discipline from a legal perspective, while Czech and Slovak authors take a management perspective. Regional journals and conference publications dominate in terms of publication places. In terms of co-authorship, regional partners also stand out, while cooperation with Western European countries takes the form of fewer but better cited publications.

Keywords:

bibliometrics, publication performance, public administration science, SciVal, Visegrad countries

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1. Introduction

In an era of international scientific competitiveness and increasingly prominent international university rankings, it is essential to assess a country's scientific performance in terms of its disciplines. However, some disciplines are not clearly distinct, and their research methods, questions or themes concern several disciplines. This is the case of public administration as well, which is the subject of this study and whose fundamental aim is to assist the government and public services of states (Juliani & Oliveira, 2016).

There has been a long-standing academic discussion in terms of the meaning of the discipline of public administration. The central issue of the discussion is whether public administration can be considered a discipline in its own right, but the situation is qualified by the different ways in which different nations understand it. Christopher Pollitt has noted that "what unites public administration is its subject matter – the state, the public sphere – and not its theories or methodology" (Pollitt, 2010, p. 292). The "community of interests" of public administrators (Pollitt, 2010, p. 292) has developed differently in the US and European states. The public administration in European countries also presents a varied picture, with different traditional disciplines giving it different status. While Germany has a strong legal orientation, Norway and Denmark have a more political science orientation, and the Czech Republic and Slovakia have a strong economics orientation (Hustedt et al., 2020). In his work, György Hajnal (2013) grouped public administration courses according to three different approaches to university education. However, this grouping can also be applied to public administration research. According to the author, the three groups are:

- Legal orientation: Germany, Greece, Hungary, Italy, Moldova, Poland, Portugal, Romania, former Yugoslavian countries;
- Policy orientation: Belgium, France, Spain, Sweden;
- Business orientation: Armenia, Bulgaria, Czech Republic, Denmark, Estonia, Ireland, Latvia, Lithuania, Netherlands, Slovakia, Ukraine.

However, public administration is often not considered a scientific discipline at all. According to these authors, public administration science does not seek to create general theoretical paradigms or to lay down a general scope of knowledge, but rather to answer questions from the practical life of the public sector (Bauer, 2018, p. 1060). Others recognize European public administration as an amalgam of methodologies that carries the methodology and knowledge of several other disciplines in it. These include administration, policy studies, public law, public management, economics and finance, organization studies, political science, sociology, and social psychology (Eymeri-Douzans, 2018).

The countries examined in this study, the Czech Republic, Poland, Hungary, and Slovakia, can be grouped separately according to the Hajnal classification. While in Hungary and Poland the legal orientation is predominant, in the Czech Republic and

Slovakia the business orientation is more pronounced. According to the authors, public administration of the states of the Central European region emerged during the democratic transition after the change of regime, with the aim of helping to establish and maintain the newly forming democratic institutions (Randma-Liiv & Drechsler, 2017). At the same time, the states under study are in many respects related, forming a smaller, unified political, cultural, and historically connected entity within the European Union. These Member States are collectively referred to as Visegrad States. What they have in common is that they were part of the Habsburg Monarchy and became satellite states of the Soviet Union after World War II (Staroňová & Gajdushek, 2016). In the 1990s, the countries under discussion underwent a change of regime and democratic transition, with the establishment of market economies. Today, these countries are members of the North Atlantic Treaty Organisation (NATO) and the European Union (EU), thus contributing to the Europeanization of their internal systems. They differ in terms of population size; Poland can be counted among the larger, Hungary and the Czech Republic among the medium-sized, and Slovakia among the smaller states. There are, of course, similarities but also differences, and these differences have grown considerably over the last quarter of the century. Meyer-Sahling (2009) writes in his study that, under the surface, the communist regimes in these countries were also quite different, and then, after the change of regime after 1990, the region became even more diverse.

Before starting the analysis, it is worth making a few remarks on the scientific performance of the countries under review. On the one hand, it is important to note that the countries under study are highly comparable, as none of them belong to the group of Anglo-Saxon (native English-speaking) countries, and thus may face language barriers in scientific publishing (Jurajda et al., 2017). In most countries of the system, social sciences (and political science in particular) were not formally accepted disciplines. However, law and legal science are widely accepted and institutionalized, both in terms of academic institutional research and university teaching. This may be the main reason why, in the Soviet period, public administration was discussed in an almost purely legal framework. Within the Soviet regime, however, law was seen as a generalized order that served only administrative efficiency. Under the communist regime, scholars had limited or no access to Western theories and thus could not participate in international academic discourse either. This may be another reason for the predominantly legal approach. In the post-Soviet states, independent research programs in the social sciences started after the regime change, but they are significantly underfunded compared to the natural and technical sciences (Vanecek, 2008).

Due to its general situation, the Central European region is considered a semi-peripheral region compared to the Western developed countries (Alatas, 2003; Egri & Kőszegi, 2018). Among these countries, the dependence on Western scientific powers is significant, and the flows towards them are very high (Abriszewski, 2016). Luczaj and Bahna (2020) argue in their study that even if some cooperation between

researchers from central and semi-peripheral countries takes place, most of these relations are asymmetric, with a hierarchical relationship. This ultimately leads to an under-evaluation of central European researchers in the more developed countries, while fostering intra-regional cooperation. The results of Kwiek (2020) show that countries with similar social and economic factors form close research collaborations with each other, where geographic proximity, linguistic and cultural proximity, and common historical ties are the cohesive forces. In his work, he has demonstrated this trend with the cases of Slovakia and the Czech Republic, Germany and Austria, and Spain and Portugal. Gorraiz and his co-authors (2012) used the example of Austria and Hungary to demonstrate this. A similar conclusion is reached by Dobos et al. (2021), whose results show that Central European countries are not among the international elite, but several countries, including the Czech Republic, Poland, and Slovakia, have developed national strategies aiming for scientific excellence. The direct funding publication model used in this strategy has put these countries on a fast growth path (Sasvári et al., 2021).

2. Methodology

The present study undertakes a bibliometric analysis of publications in the field of public administration in the Visegrad Group. Focusing on the developments of the last decade, the publications were defined for the period 2011–2020, which helps compare the research trends of the different countries.

The publications were collected using the online research support platform SciVal, which analyzes the publications indexed in the international citation database Scopus according to bibliometric criteria. Bibliometric analyses can be performed at different levels, individual, institutional, national, and regional, of which the present study focuses on the national and international aspects (Gevers, 2014). The data collection started with the compilation of a publication list using the SciVal overview platform, which analyzed the publication activity of the Visegrad Group countries (Czech Republic, Poland, Hungary, and Slovakia) and, within this, publications in the field of the public administration discipline for the period 2011–2020. In SciVal, public administration is presented as a distinct subfield of social sciences. I retrieved the publication list generated in SciVal based on the electronic identifiers (E-IDs) of the publications in the Scopus database and used this publication list in vosViewer.

In SciVal, I performed a descriptive statistical analysis as an overview analysis, listing the most important authors, institutions, and publication sites. In the case of the leading institutions, I applied certain limitations: restricting the results to the last ten years' publications, to the Public Administration field and to journal articles, excluding other types of publications such as book chapters and conference proceedings. As a benchmarking analysis, I compared the evolution of the number of publications in the countries under study over the years. I performed a trend analysis in terms of keywords

and leading subject areas. Among some of the SciVal indicators, it is also worth highlighting the field-weighted citation impact (FWCI), which measures the citation acquisition power of a given publication compared to others in a similar topic. The FWCI therefore takes into account the citation patterns and trends in a given topic area. The prominence percentile (PP) measures the activity of a given topic in relation to other topics.

I used the vosViewer 1.6.16 bibliometric analysis software version running on Microsoft Windows for further analysis and visualization. The units of analysis in the program can be authors, publications, institutions, citations, and keywords as well. Analyses can be carried out based on a predefined – and uploaded – list of publications in the software. For the purpose of this study, I used the software to perform two analyses, one of which examines co-authorship relationships at the level of the states, based on the authors' institution (where the institution is based). And the keyword co-occurrence analysis was based on all keywords, which includes keywords assigned to the publication by the author and Scopus indexed keywords.

3. Results

It is worth starting the presentation of the results with the descriptive statistic data, which show the publication performance of the countries under review and the most important places where public administration publications appear. We then look at the most important partner contacts, followed by the leading topics and keywords.

3.1 Publication Performance

General data on publication performance are summarized in the first table. It also defines the range of publications examined.

Table 1:

Publication performance of the Visegrad countries in the field of public administration (2011–2020)

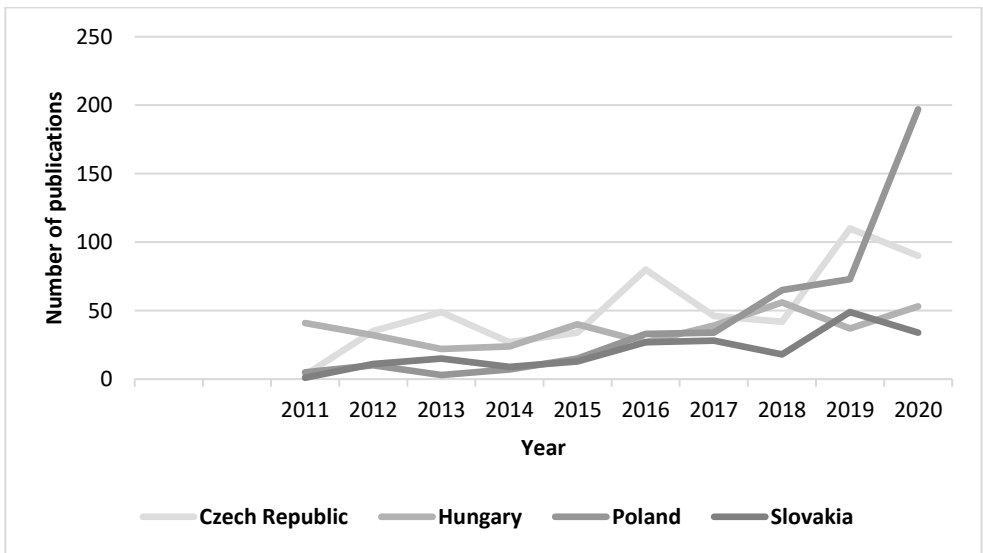
| | Czech Republic | Poland | Hungary | Slovakia |
|--|-----------------------|---------------|----------------|-----------------|
| Number of publications | 516 | 442 | 371 | 205 |
| Number of authors | 677 | 531 | 458 | 274 |
| Number of citations | 2387 | 1903 | 2171 | 1014 |
| Number of citations per publication | 4.6 | 4.3 | 5.9 | 4.9 |
| FWCI | 0.78 | 0.86 | 0.88 | 0.83 |

Source: Own editing, based on SciVal data

Table 1 shows that the Czech Republic (516 publications) stands out in terms of the number of publications, followed by Poland (442 publications) and Hungary. The Czech Republic also stands out in terms of the number of authors active in the field of public administration (677 authors) and is the leading country in terms of the number of citations (2387 citations). However, in terms of the number of citations per publication, Hungary is the leader (5.9 reference per publication), and Hungary also stands out in terms of FWCI (0.88). This therefore shows that the Czech Republic stands out in terms of quantitative publications, while Hungary stands out in terms of qualitative publications.

Figure 1:

Evolution of the number of publications in the Visegrad countries in the field of public administration (2011–2020)



Source: Own editing, based on SciVal data

Figure 1 summarizes the evolution of the number of publications for each country over the period under review. As can be seen, in 2011, Hungary still had the highest number of publications (41), while the Czech Republic and Poland gradually increased the number of publications per year in this field. Poland had more publications in only two years (2018 and 2020), while the Czech Republic stands out when looking at the summary data.

Table 2:

List of the most active institutions in terms of the publications examined (2011–2020)

| Name of institution | Country | Number of journal articles | Number of citations | FWCI |
|--|----------------|----------------------------|---------------------|------|
| Corvinus University of Budapest | Hungary | 132 | 393 | 0.39 |
| Masaryk University | Czech Republic | 106 | 878 | 1.10 |
| Maria Curie-Skłodowska University | Poland | 99 | 74 | 0.52 |
| Charles University | Czech Republic | 96 | 625 | 0.88 |
| University of Warsaw | Poland | 60 | 279 | 0.80 |
| Jagiellonian University in Kraków | Poland | 41 | 133 | 0.50 |
| Matej Bel University | Slovakia | 41 | 237 | 0.90 |
| Eotvos Lorand University | Hungary | 34 | 169 | 0.79 |
| Tomas Bata University in Zlin | Czech Republic | 32 | 249 | 1.53 |
| Hungarian Academy of Sciences | Hungary | 30 | 135 | 0.65 |

Source: Own editing, based on SciVal data

Table 2 shows the most active institutions based on the number of publications during the period under review. In the top 10, we can find 3 Czech, 3 Hungarian, 3 Polish and 1 Slovakian institutions. It is important to note that 9 institutions are universities, while the 10th is the Hungarian Academy of Sciences. The calculation of the ranking was limited to journal articles. The Corvinus University of Budapest stands out with its number of publications (132) and its number of citations (393), while the FWCI value is highest for the Tomas Bata University in Zlin.

Table 3:

Top publication sites for the publications examined (2011–2020)

| Order | Czech Republic | | | Poland | | |
|-------|--|------------------------|----------------|---|------------------------|----------|
| | Journal Name | Number of publications | Country | Journal Name | Number of publications | Country |
| 1 | Central European Journal of Public Policy | 40 | Czech Republic | Studia Iuridica Lublinensia | 91 | Slovenia |
| 2 | Lex Localis | 37 | Slovenia | Lex Localis | 37 | Slovenia |
| 3 | NISPAcee Journal of Public Administration and Policy | 36 | Germany | Problems and Perspectives in Management | 36 | Ukraine |
| 4 | Administrative | 25 | Romania | Decyzje | 33 | Poland |

| Czech Republic | | | | Poland | | |
|----------------|---|------------------------|-------------|---|------------------------|-------------|
| Order | Journal Name | Number of publications | Country | Journal Name | Number of publications | Country |
| | Management Public | | | | | |
| 5 | Problems and Perspectives in Management | 24 | Ukraine | Public Policy and Administration | 19 | Lithuania |
| 6 | Society and Economy | 20 | Hungary | Education Sciences | 19 | Switzerland |
| 7 | Transylvanian Review of Administrative Sciences | 19 | Romania | Transylvanian Review of Administrative Sciences | 14 | Romania |
| 8 | Education Sciences | 9 | Switzerland | Information Technology for Development | 13 | UK |
| 9 | Social Policy and Administration | 7 | UK | Voluntas | 9 | USA |
| 10 | Public Policy and Administration | 7 | UK | Administratie si Management Public | 9 | Romania |

| Hungary | | | | Slovakia | | |
|---------|--|------------------------|----------|--|------------------------|----------------|
| Order | Journal Name | Number of publications | Country | Journal Name | Number of publications | Country |
| 1 | Society and Economy | 194 | Hungary | Problems and Perspectives in Management | 31 | Ukraine |
| 2 | Lex Localis | 16 | Slovenia | NISPAcee Journal of Public Administration and Policy | 22 | Germany |
| 3 | Journal of European Public Policy | 13 | UK | Administratie si Management Public | 21 | Romania |
| 4 | Civil Szemle [Civil Review] | 12 | Hungary | Lex Localis | 19 | Slovenia |
| 5 | Transylvanian Review of Administrative Sciences | 12 | Romania | Society and Economy | 7 | Hungary |
| 6 | Problems and Perspectives in Management | 7 | Ukraine | Education Sciences | 6 | Switzerland |
| 7 | NISPAcee Journal of Public Administration and Policy | 6 | Germany | Transylvanian Review of Administrative Sciences | 5 | Romania |
| 8 | Governance | 5 | UK | Central European Journal of Public Policy | 5 | Czech Republic |
| 9 | Politics and Governance | 5 | Portugal | Public Policy and Administration | 4 | UK |
| 10 | Human Resources for Health | 4 | UK | Balkan Social Science Review | 4 | Macedonia |

Source: Own editing, based on SciVal data

Table 3 shows the top journals as a publication venue for the authors active in public administration sciences. The emphasis on regional Scopus indexed journals in the list is worth noting. Czech authors publish regularly in 6 journals indexed in the Central European region, Polish authors in 7 journals, Hungarian authors in 5 journals and Slovak authors in 7 journals. In addition to these, the *NISPAcee Journal of Public Administration and Policy*, currently edited by a German publisher, also plays an important role.

Table 4:

Data on the top ten journals regarding their impact (2011–2020)

| Scopus Source | Number of publications | Best Quartile | H-index | Citations per Publication | Source-Normalized Impact per Paper (SNIP) | Country |
|---|------------------------|---------------|---------|---------------------------|---|----------------|
| Studia Iuridica Lublinensia | 219 | Q3 | 4 | 0.6 | 0.229 | Poland |
| Society and Economy | 215 | Q3 | 13 | 2.2 | 0.27 | Hungary |
| Problems and Perspectives in Management | 121 | Q2 | 23 | 2.8 | 0.677 | Ukraine |
| Lex Localis | 111 | Q2 | 16 | 3.7 | 0.387 | Slovenia |
| Education Sciences | 64 | Q2 | 30 | 5.6 | 1.314 | Switzerland |
| Administratie si Management Public | 63 | Q1 | 17 | 8.6 | 1.016 | Romania |
| NISPAcee Journal of Public Administration and Policy | 60 | Q3 | 10 | 4.1 | 1.05 | Germany |
| Central European Journal of Public Policy | 53 | Q2 | 10 | 3.5 | 0.806 | Czech Republic |
| Transylvanian Review of Administrative Sciences | 50 | Q3 | 18 | 5.2 | 0.463 | Romania |
| Public Finance Quarterly | 41 | Q4 | 3 | 0.1 | 0.241 | Hungary |

Source: Own editing, based on SciVal and Scimago Journal Rank data

Table 4 summarizes the most significant impact data of the top 10 journals used as venues of publication among these authors. It is important to note that to create this top 10 titles list, merged data was used, handling the four countries as a single unit of analysis. In the list we can see that 8 out of 10 journals are regional, except one from Germany and Switzerland. Based on the best quartiles in Scimago Journal Rank data (year 2021), only the *Administratie si Management Public* could reach the top 25%

(Q1) quartile, while 4 are ranked within the Q2, 4 in the Q3 and 1 in the Q4 category. Based on the h-index, we can find altered values, the *Education Sciences* (Switzerland) journal stands out with an h-index of 30, while this journal leads regarding the source-normalized impact per paper as well. The citations per publication has its highest value at the *Administratie si Management Public* journal. However, in general we can observe a low tendency in every impact indexes.

Table 5:

Data on the top ten most cited authors in terms of publications examined (2011–2020)

| Author's name | Name of institution | Country | Number of publications | Number of citations | h-index | FWCI | Most relevant keyword |
|---------------------------|--------------------------------------|----------------|------------------------|---------------------|---------|-------|---------------------------|
| Nemec, Juraj | Masaryk University | Czech Republic | 28 | 234 | 13 | 1.21 | Public Procurement |
| Roztockí, Narcyz | Kozminski University | Poland | 4 | 174 | 17 | 12.69 | Socioeconomic Development |
| Soja, Piotr | Kraków University of Economics | Poland | 5 | 92 | 14 | 8.12 | Transition Economies |
| Murray Svidronova, Maria | Matej Bel University | Slovakia | 11 | 85 | 8 | 1 | E-procurement |
| Mikušová-Meričková, Beáta | Matej Bel University | Slovakia | 9 | 83 | 12 | 1.25 | Public Services |
| Klimovský, Daniel | Comenius University | Slovakia | 10 | 80 | 8 | 0.91 | Public Administration |
| Kwiek, Marek | Adam Mickiewicz University in Poznań | Poland | 2 | 80 | 18 | 2.83 | Deinstitutionalization |
| Ochrana, František | Charles University | Czech Republic | 16 | 76 | 8 | 0.75 | Public Procurement |
| Špaček, David | Masaryk University | Czech Republic | 12 | 74 | 7 | 0.88 | Public Administration |
| Mróz, Bogdan | SGH Warsaw School of Economics | Poland | 3 | 68 | 5 | 3.2 | Shadow Economy |

Source: Own editing, based on SciVal data

Table 5 shows the list of the most cited authors. Of these, 4 Polish, 3 Czech and 3 Slovak authors were selected into the top 10. One Czech author stands out in terms of his number of citations, while one Polish author dominates in terms of his h-index. It is worth pointing out that in this analysis, the reference numbers refer only to the range of publications examined, while the author's h-index value refers to the author's total life work. The value of the h-index also considers the author's activity and the number of citations of published papers. A Polish author also stands out in terms of the FWCI value (with a value of 12.69). These authors also indicate the direction of research in

the field of public administration in the region, based on their work, using the most relevant keywords specific to their work. Based on this we can see that in recent years, economic issues have been at the forefront of public administration research in the region, and public procurement, e-procurement, and other economic topics, such as the shadow economy, the transition economy and the socio-economic development issue, also excel. Issues related to administration, such as public services and public administration in general, are also addressed.

3.2 Co-authorship Relations

After the general descriptive statistical analysis, it is also worth examining the co-authorship relations of these states. As we can read in the theoretical introduction, traditionally, public administration in the Central European region has had a legal emphasis, however, in recent years economic science and economics have also become a major research direction, so public administration shows the authorship patterns of the social sciences. As noted in Sasvári et al. (2020), this is generally characterized by small-group publishing.

Table 6:
Co-authorship data (2011–2020)

| | Czech Republic | Poland | Hungary | Slovakia |
|--------------------------------------|-----------------------|---------------|----------------|-----------------|
| International cooperation (%) | 23.8 | 24.9 | 21.3 | 40.5 |
| National cooperation (%) | 15.9 | 9.3 | 11.6 | 8.3 |
| Institutional cooperation (%) | 38 | 16.1 | 19.4 | 34.2 |
| Single author (%) | 22.3 | 49.8 | 47.7 | 17.1 |

Source: Own editing, based on SciVal data

Table 6 summarizes general data on co-authorship relationships. Based on this, international cooperation is most prevalent in Slovakia (40.5%) and least prevalent in Hungary (21.3%). In terms of national cooperation, we can see generally low figures, with the Czech Republic dominating (15.9%), while institutional cooperation is also the highest in the Czech Republic (38%). Poland (49.8%) and Hungary (47.7%) both have high shares in terms of single authorship.

Table 7:

List of the most important partner countries in terms of co-authorship (2011–2020)

| Order | Czech Republic | | Poland | | Hungary | | Slovakia | |
|-------|---------------------|------|---------------------|------|---------------------|-------|---------------------|------|
| | Partner country | FWCI | Partner country | FWCI | Partner country | FWCI | Partner country | FWCI |
| 1 | Slovakia (56) | 1.26 | Ukraine (25) | 1.21 | Germany (12) | 1.39 | Czech Republic (56) | 1.26 |
| 2 | United Kingdom (14) | 1.33 | United Kingdom (16) | 2.69 | USA (12) | 6.4 | United Kingdom (8) | 0.63 |
| 3 | USA (11) | 1.12 | USA (14) | 4.74 | United Kingdom (10) | 7.71 | Hungary (7) | 1.34 |
| 4 | Netherlands (10) | 1.44 | Netherlands (13) | 2.33 | Netherlands (8) | 1.07 | Lithuania (5) | 1.38 |
| 5 | Germany (8) | 1.97 | Sweden (10) | 1.75 | Slovakia (7) | 1.34 | Poland (5) | 1.49 |
| 6 | Italy (8) | 1.16 | Lithuania (8) | 1.58 | Romania (6) | 1.1 | Belgium (4) | 1.86 |
| 7 | Poland (7) | 1.29 | Czech Republic (7) | 1.29 | Czech Republic (5) | 1.73 | Germany (4) | 1.42 |
| 8 | Austria (5) | 0.98 | Italy (7) | 3.93 | Italy (5) | 1.01 | Austria (3) | 1.26 |
| 9 | Canada (5) | 1.59 | Finland (6) | 1.63 | Sweden (5) | 14.21 | Croatia (2) | 1.66 |
| 10 | Hungary (5) | 1.73 | Germany (5) | 4.43 | Denmark (4) | 1.03 | Latvia (2) | 1.33 |

Source: Own editing, based on SciVal data

Table 7 shows the most significant partnerships for each country. It can be observed that based on the number of publications, the Czech Republic, Poland, and Slovakia have the most intensive co-authorship relations with other states in their region. In the case of Hungary, this role is played by Germany, which can also be traced back to historical and political ties and the administrative system of the Central European states, which mostly follows the continental European (German) administrative model. In the list of major partners, the Czech Republic has 4 regional, 4 European and 2 other (USA and Canada) states. For the Polish authors, the focus is on European partners (6), while there are 3 states in their own region on the list. For Hungarian authors, it is a similar picture with 3 regional partners and 6 European partners. Slovakia has the highest number in co-authorship with states in its own region. It is worth mentioning here that international citation databases and journal ranking systems (Scopus, Scimago Journal Ranking) include Lithuania, Latvia, Croatia, and Austria, among others, in the Central European region. It is also worth highlighting that the USA is also included for Czech, Polish and Hungarian authors. Concerning the cooperation with Western European countries, it can be highlighted that although the number of publications shows a more active cooperation with

regional partners, the FWCI value shows a higher value for publications with Western European countries.

Table 8:

Share of the publication with top partner countries by the best quartile (2011–2020)

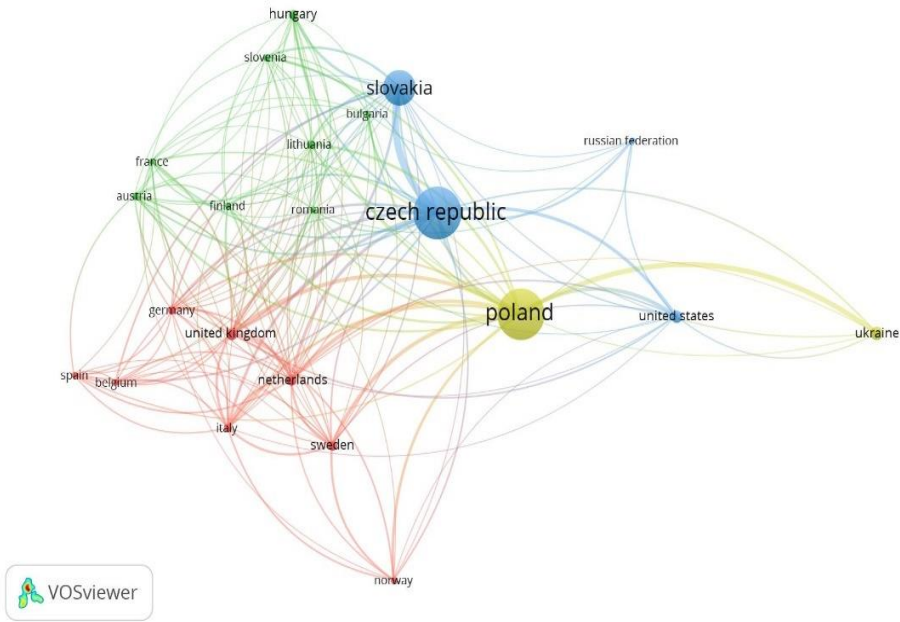
| | Hungary | | Czech Republic | | Poland | | Slovakia | |
|---------------|---------------|----------------|----------------|----------------|---------------|----------------|---------------|----------------|
| | Inside region | Outside region | Inside region | Outside region | Inside region | Outside region | Inside region | Outside region |
| Q1 (%) | 13.6 | 38.3 | 25.4 | 31.6 | 21.4 | 45.6 | 22.1 | 20 |
| Q2 (%) | 13.6 | 29.8 | 14.9 | 31.6 | 4.8 | 31.6 | 17.6 | 20 |
| Q3 (%) | 45.5 | 14.9 | 46.3 | 28.9 | 52.4 | 14 | 48.5 | 40 |
| Q4 (%) | 27.3 | 17 | 13.4 | 7.9 | 21.4 | 8.8 | 11.8 | 20 |

Source: Own editing, based on SciVal data

Table 8 presents the share of publications with the top collaborating countries based on the best quartile. It is important to note that the best quartile reflects on the position of the journal in which the publication is published, and it reflects the impact and popularity of the journal as well. The indicated distinction between inside region and outside region aims to quantify the role and impact of intraregional and interregional collaborations. We can observe that not only the FWCI value, but also the best quartile of the journal is significantly higher in case of interregional collaborations, including co-authorship with the United States, Canada, or the Western European countries. This leads to the result that outside of the region collaborations not only mean higher FWCI values but that these publications are usually published in higher indexed journals.

Regarding the disciplinary orientation, a more pronounced collaboration can be observed between the Czech Republic and Slovakia, which can be explained by their management-oriented approach to public administration as well. Besides this, a strong link is found between Hungary and Germany, both approaching the public administration science from a legal aspect.

Figure 2:
Co-publication network of major partner countries (2011–2020)



Source: Own editing using vosViewer software, based on Scopus data

Figure 2 shows the co-authorship relationships and the resulting clusters based on the strength of the relationships. The figure summarizes only the network of countries with at least 5 co-authored publications (22 countries). Based on this, 4 clusters were created. The first and second clusters contain 8 states each, while the third and fourth clusters contain 4 and 2 states, respectively. It is interesting to note, however, that the first cluster does not include any of the states surveyed, so based on the strength of co-authorship the Western European states cooperate more closely. The members of the first cluster are Belgium, Germany, Italy, the Netherlands, Norway, Spain, Sweden, and the United Kingdom. The second cluster was composed mainly of the countries that cooperate more closely with Hungary in terms of the strength of relations: Austria, Bulgaria, Finland, France, Lithuania, Romania, and Slovenia. The third cluster is made up of the Czech Republic, Russia, Slovakia, and the United States, while the fourth cluster is made up of Poland and Ukraine.

3.3 Topics and Keywords

Bibliometric analysis of leading research topics and keywords helps understand the research directions and structure of the discipline. Based on SciVal's categorization of topics, the following table summarizes the most prominent topic areas for the states surveyed.

Table 9:
List of the most relevant research topics (2011–2020)

| Order | Czech Republic | | | Poland | | |
|-------|---|------|--------|---|------|--------|
| | Topic | FWCI | PP | Topic | FWCI | PP |
| 1 | Local Public Services; Waste Collection; Outsourcing | 0.77 | 93.253 | Open Government; E-Participation; E-Governance | 0.88 | 99.506 |
| 2 | Open Government; E-Participation; E-Governance | 1.27 | 99.506 | Fiscal Decentralization; Federalism; Property Tax | 0.46 | 94.784 |
| 3 | Fiscal Decentralization; Federalism; Property Tax | 0.46 | 94.784 | New Public Management; Regulatory Agencies; Social Responsibility | 0.17 | 93.92 |
| 4 | Policy Advice; Advisers; Politicization | 1.05 | 87.064 | Network Governance; Inter-Organizational Collaboration; Disaster Response | 0.58 | 98.215 |
| 5 | Amalgamation; Local Government; Mergers | 0.9 | 78.988 | Pension System; Old Age Assistance; Pay-As-You-Go | 0.47 | 79.649 |
| 6 | Quito; Biomass Energy; Urban Policy | 0.3 | 47.587 | Property Tax; Financial Condition; Local Government | 0.87 | 81.186 |
| 7 | Public Procurement; Environmentally Preferable Purchasing; Tendering | 0.61 | 94.415 | Mayors; Devolution; Local Government | 1.15 | 70.848 |
| 8 | Federal Power; Hydropower; Penstocks | 0.74 | 88.327 | Nonprofit; Charities; Third Sector | 0.88 | 95.578 |
| 9 | Accrual Accounting; International Public Sector Accounting Standards; IPSAS | 0.59 | 94.821 | Public Service Motivation; Red Tape; Public Employees | 1.01 | 97.876 |
| 10 | Pension System; Old Age Assistance; Pay-As-You-Go | 0.05 | 79.649 | Accrual Accounting; International Public Sector Accounting Standards; IPSAS | 2.17 | 94.821 |
| Order | Hungary | | | Slovakia | | |
| | Topic | FWCI | PP | Topic | FWCI | PP |
| 1 | State Socialism; Hungary; Homosexuality | 0.75 | 27.191 | Local Public Services; Waste Collection; Outsourcing | 0.86 | 93.253 |

| | | | | | | |
|-----------|---|------|--------|---|------|--------|
| 2 | Protest Movements; Eastern Europe; Austerity | 0.68 | 35.43 | Fiscal Decentralization; Federalism; Property Tax | 0.5 | 94.784 |
| 3 | Open Government; E-Participation; E-Governance | 0.57 | 99.506 | Open Government; E-Participation; E-Governance | 0.92 | 99.506 |
| 4 | Volunteerism; Corporate Citizenship; Sports Events | 0.63 | 94.526 | Pension System; Old Age Assistance; Pay-As-You-Go | 0.17 | 79.649 |
| 5 | Pension System; Old Age Assistance; Pay-As-You-Go | 0.57 | 79.649 | Soft Skills; Knowledge Management Systems; Human Resources Management | 0.49 | 6.487 |
| 6 | Court of Auditors; European Court; External Auditor | 0.42 | 22.97 | Amalgamation; Local Government; Mergers | 0.93 | 78.988 |
| 7 | Public Procurement; Environmentally Preferable Purchasing; Tendering | 0.47 | 94.415 | Local Self-Government; Referendum; Lithuania | 0.47 | 10.389 |
| 8 | New Public Management; Regulatory Agencies; Social Responsibility | 0.44 | 93.92 | Public Procurement; Environmentally Preferable Purchasing; Tendering | 0.45 | 94.415 |
| 9 | Fiscal Decentralization; Federalism; Property Tax | 1 | 94.784 | Impact Assessment; Ex-Post Evaluation; Regulatory Reform | 0.24 | 57.727 |
| 10 | Soft Skills; Knowledge Management Systems; Human Resources Management | 0.48 | 6.487 | Public Value; New Public Management; Talisse | 0.29 | 81.532 |

Source: Own editing, based on SciVal data

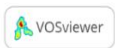
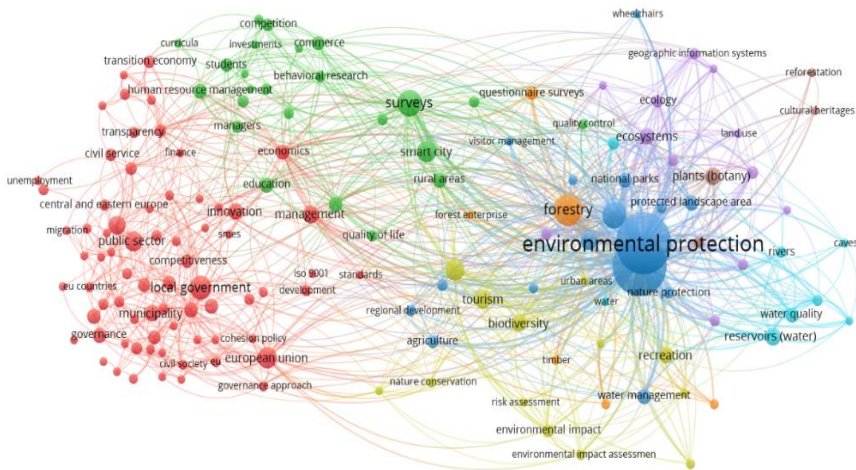
Table 9 shows the most significant topics. There are three topics that are included in the list for all the states surveyed:

- Fiscal Decentralization; Federalism; Property Tax;
- Open Government; E-Participation; E-Governance;
- Pension System; Old Age Assistance; Pay-As-You-Go.

And one topic is listed for three states: Public Procurement; Environmentally Preferable Purchasing; Tendering. Based on the list we can observe that the focus is on economics, complemented by the topic of modernization of public administration. In terms of the popularity index (PP) for the topic areas, “Open Government; E-Participation; E-Governance” is in the lead, while for the Czech Republic this topic also stands out in terms of weighted territorial impact. For the other states, these are different topics, but in general we can see that most of them do not reach the FWCI value of 1, so the published publications have a below-average citation impact. Based on the main topics a significant difference between legal or management-oriented countries cannot be observed.

The co-occurrence analysis of the keywords was performed using vosViewer, based on the publication list generated from Scopus. It is worth highlighting that it is appropriate that the majority of the publications are in English for the use of vosViewer, as the program is language-limited (English only) (Van Eck & Waltman, 2020). The keyword analysis was performed based on all keywords, including author keywords and indexing keywords. Out of a total of 5016 keywords, as the default setting of the program, keywords with less than 5 occurrences were excluded from the analysis, resulting in 155 keywords being included in the analysis. The result of the analysis is illustrated in Figure 3.

Figure 3:
The cooccurrence network of the most important keywords



Source: Own editing with vosViewer, based on Scopus data

Figure 3 shows the most important keywords grouped into clusters. The keywords with the strongest connection are regional planning (811 total link strength), environmental protection (810 total link strength), forestry (249 total link strength), conservation (220 total link strength), and sustainable development (119 total link

strength). In Figure 3, keywords with larger letters occurred more frequently, so these are considered more significant (Guo et al., 2017; Van Eck & Waltman, 2020). Words that were closer to each other and connected by thicker lines occurred more frequently with each other (Garrigos-Simon et al., 2018; Van Eck & Waltman, 2020). The first cluster contained 72 keywords, the second 24, the third 16, the fourth 13 and the fifth 12. The number of items in the remaining clusters is negligible. In terms of occurrences, keywords defining each cluster are the following:

- Cluster 1: local government, European Union, innovation
- Cluster 2: smart city, human resource management, rural areas
- Cluster 3: environmental protection, regional planning, national parks
- Cluster 4: ecosystems, ecology, land use
- Cluster 5: biodiversity, recreation, tourism

4. Conclusions

This study analyzes the scientometrics and bibliometrics of publications in the field of public administration in the Visegrad countries for the period 2011–2020. For the analysis, publications indexed in the Scopus database were included, and the analyses were performed using SciVal and vosViewer software.

Based on international literature, the Visegrad countries are in a semi-peripheral position in the scientific community compared to Western European countries, which strengthens their regional links. This was clearly evident in the analysis of co-authorship relations, as all the states under review have significant links in the Central European region. In addition, they have significant links with Western European countries, and it is this cooperation that gives rise to their most cited communications. The same trend can be observed for the most important journals, with the leading journals also coming from the region for all the countries studied. When we look through the list of top institutions and then analyzing their publication trends, we get a very interesting result. The analysis was restricted to journal publications, because mainly for Czech institutions, publishing in conference proceedings followed by local conferences is present with a high share of the total number of publications. By restricting the analysis only to journal articles, the role and importance of regional, Scopus-indexed journals can be studied. Among the top 10 institutions, we found that 5 have their highest share of publication in a journal where the editor-in-chief belongs to the same institution. A share that is higher than 50% is found in the cases of Maria Curie-Skłodowska University (82%), Corvinus University of Budapest (73%) and Tomas Bata University in Zlin (62.5%). Other cases show direct links between the leading journal and the university in associate editors, or editors responsible for statistics. This can lead to the conclusion that these universities rely on personal

contacts to a great extent, and if these journals lost the indexation or there was a change in the editorial board, the replacement of the given journal would mean a challenge.

The leading authors also rely to a great extent on the regional journals; four authors published all their Public Administration publications in the examined period in only one journal, while two of them published in the journal where they are editorial board members or senior editors. Ultimately this leads to ethical concerns, but this goes beyond the scope of this study. However, what we must declare here is that even though these authors could reach international visibility by means of their publications, they are very much exposed to the indexation of the regional journals.

In terms of important research topics and keywords, we can also see the complexity of public administration, as there are examples of policy aspects alongside economics and management. This illustrates the specific situation of public administration, which raises the question of whether it is a discipline in its own right, a cross-disciplinary discipline or an interdisciplinary discipline. The limitations of the study are due to the data available, on the one hand, I limited the analysis to the period 2011–2020 and I have only examined publications indexed by Scopus and available on the SciVal platform. These are the directions for future research: on the one hand, it is worthwhile to extend the temporal focus to other periods, and on the other hand, it is worthwhile to include not only Scopus publications in the analysis, but also those indexed by other international indexing databases (e.g., Web of Science).

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References

- Abriszewski, K. (2016). Humanistyka półperiferii In K. Abriszewski, A. F. Kola, & J. Kowalewski (Eds.), *Humanistyka (pół)periferii* (pp. 99–138). UWM.
- Alatas, S. F. (2003). Academic Dependency and the Global Division of Labour in the Social Sciences. *Current Sociology*, 51, 599–613.
- Bauer, M. (2018). Public Administration and Political Science. In E. Ongaro, & S. Van Thiel (Eds.), *The Palgrave Handbook of Public Administration and Management in Europe* (pp. 1049–1065). Palgrave Macmillan.

- Dobos, I., Urbanovics, A., & Sasvári, P. (2021). A visegrádi négyek, Ausztria és Románia gazdaságtudományi publikációs teljesítményének összehasonlító elemzése. *Területi statisztika*, 61(6), 739–768.
- Egri, Z., & Kőszegi, I. R. (2018). A gazdasági-társadalmi térszerkezet kelet-közép-európai képe, *Területi Statisztika*, 58(1), 27–56. <http://doi.org/10.15196/TS580102>
- Eymeri-Douzans, J.-M. (2018). The Study of Public Administration in Europe: A “Chaos of Disciplines”... or Disciplines in a Chaotic Time? Keynote Speech, Opening Ceremony of the 14th Trans-Atlantic Dialogue (TAD 14) between EGPA & the American Society for Public Administration (ASPA), Academy of Economic Studies of Bucharest, 7 June 2018.
- Garrigos-Simon, F. J., Narangajavana-Kaosiri, Y., & Lengua-Lengua, I. (2018). Tourism and Sustainability: A Bibliometric and Visualization Analysis, *Sustainability*, 10(6), 1–23.
- Gevers, M. (2014): Scientific performance indicators: a critical appraisal and a country-by-country analysis, In W. Blockmans, L. Engwall, & D. Weairepp (Eds.), *Bibliometrics: Use and Abuse in the Review of Research Performance* (pp. 43–53). Portland Press, https://portlandpress.com/pages/vol_87_bibliometrics_use_and_abuse_in_the_review_of_research_performance
- Gorraiz, J., Reimann, R., & Gumpenberger, C. (2012). Key factors and considerations in the assessment of international collaboration: A case study for Austria and six countries. *Scientometrics*, 91(2), 417–433. <https://doi.org/10.1007/s11192-011-0579-3>
- Guo, D., Chen, H., Long, R., Lu, H., & Long, Q. (2017). A Co-Word Analysis of organizational Constraints for Maintaining Sustainability. *Sustainability*, 9(10), 1–19.
- Hajnal, G. (2013). The disciplinary (re)orientation of Public Administration education in Europe: A survey. NISPACEE, 21st Annual Conference. 16–18 May 2013, Belgrade, Serbia.
- Hustedt, T., Randma-Liiv, T., Savi, R. (2020). Public Administration and Disciplines. In G. Bouckaert, & W. Jann (Eds.), *European Perspectives for Public Administration: The Way Forward* (pp. 129–147). Leuven University Press
- Juliani, F., & de Oliveira, O. J. (2016). State of research on public service management: Identifying scientific gaps from a bibliometric study. *International Journal of Information Management*, 36(6), 1033–1041. <https://doi.org/10.1016/j.ijinfomgt.2016.07.003>

- Jurajda, Š., Kozubek, S., München, D., & Škoda, S. (2017). Scientific Publication Performance in Post-Communist Countries: Still Lagging Far Behind. *Scientometrics*, 112(1), 315–328. <https://doi.org/10.1007/s11192-017-2389-8>
- Kwiek, M. (2020). What large-scale publication and citation data tell us about international research collaboration in Europe: Changing national patterns in global contexts. *Studies in Higher Education*, 46(12), 2629–2649. <https://doi.org/10.1080/03075079.2020.1749254>
- Luczaj, K., & Bahna, M. (2020). Explaining the Role of International Scholars in Semi-Peripheries: Evidence from Slovakia. *Studies in Higher Education*, 45(4), 706–722. <https://doi.org/10.1080/03075079.2018.1550744>
- Meyer-Sahling, J.-H. (2009). Varieties of legacies: A critical review of legacy explanations of public administration reform in East Central Europe. *International Review of Administrative Sciences*, 75(3), 509–528.
- Pollitt, C. (2010). Envisioning public administration as a scholarly field in 2020. *Public Administration Review*, 70, 292–294.
- Randma-Liiv, T., & Drechsler, W. (2017). Three decades, four phases. Public administration development in Central and Eastern Europe, 1989–2017. *International Journal of Public Sector Management*, 30(6/7), 595–605.
- Sasvári, P., Bakacsi, G., & Urbanovics, A. (2020). Eltérő utak, eltérő publikációs stratégiák: tudományterületi kutatói mintázatok [Different pathways and publication strategies: research patterns of disciplines]. *STATISZTIKAI SZEMLE*, 98, 1001–1023.
- Sasvári, P., Teleki, B., & Urbanovics, A. (2021). A direkt finanszírozású publikációs modell lehetőségei Magyarországon. *Pénzügyi Szemle*, 2021(1), 109–130. https://doi.org/10.35551/PSZ_2021_1_6
- Staroňová, K., & Gajduschek, G. (2016). Public administration education in CEE countries: Institutionalization of a discipline. *Policy and Society*, 35(4), 351–370. <https://doi.org/10.1016/j.polsoc.2016.11.002>
- Van Eck, N. J., & Waltman, L. (2020). VOSviewer Manual. Manual for VOSviewer version 1.6.15. Universiteit Leiden.
- Vanecek, J. (2008). Bibliometric analysis of the Czech research publications from 1994 to 2005. *Scientometrics*, 77, 345–360.