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The Russian Science Citation Index (RSCI): the first three years (2016–2018)

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Abstract

Objective: To observe changes in the number, form (print and online), and distribution (by academic disciplines) of Russian journals indexed in the first three years of the Russian Science Citation Index (RSCI).

Background: The globalization of science and the need to involve Russia in the international process of knowledge exchange have influenced the main directions of publication activity and interaction with the world scientific community.

Methods: Statistical information freely available through the databases of the Scientific Electronic Library of Russia for January 2019 were compared with data from January 2016.

Results: In 2016, the number of Russian journals included in the RSCI was 650; by 2019, the number had increased to 771, an increase of 18.6%. The number of journals with printed and online versions increased by 13.3% to reach 266 units. The number of Russian journals indexed in Scopus and the Web of Science databases increased during the period, as did the number of journals with both print and online versions.

Conclusions: Journals from the RSCI database tend also to be added to Scopus or WoS databases and do not remain exclusively as part of the local database. Implementing the RSCI project had a positive impact on the full spectrum of Russian academic journals, which are increasingly committed to improving their work to continue to be part of RSCI or Scopus or WoS databases.

Keywords: Academic journals, Scopus, Web of Science, Russian Science Citation Index, Russia

Introduction

In 2014, work began to select the best Russian journals and make them available on the Web of Science platform in the form of a separate database, the Russian Science Citation Index (RSCI), which is a national bibliographic database, similar to that of a few other countries. During the selection process, an agreement was signed between Clarivate Analytics (earlier Thomson Reuters) and the Russian National Electronic Library (NEL).[1]

The first version of RSCI appeared in 2015/16 and included 650 journals.[2] The selection of journals was carried out in two stages:
1. analysis of bibliometric indicators and formal criteria
2. expert evaluation and public expertise based on online voting by registered users of the RSCI database.[3]

In 2018, an updated list of journals indexed in the RSCI was published; low-quality publications were removed and some more high quality journals were added. The decision was made to add or remove a journal from the RSCI based on the opinion of groups of experts specific to each academic discipline.[4] The criteria for evaluating the journals included both formal scientometric indicators and public evaluation by leading Russian scientists. For the first time, the evaluation included breach of academic ethics including lack of peer review and plagiarism.[4]

In 2016, we found that it was not clear whether journals from the RSCI database would also be added to Scopus or World of Science (WoS) databases or remain confined to the local database.[5] The present study was conducted in the light of the development of the RSCI during 2016–2019 to identify changes during those first three years of the RSCI. Accordingly, we analysed changes in the following indicators: the number of journals included in Scopus or WoS databases, the number of journals with online and print versions, and the distribution of journals by discipline.

Methods

In order to analyse scientific journals, statistical information was used from January 2019, which is available through WoS and Scopus as well as from the Scientific Electronic Library of Russia. The largest Russian information and analytical portal in the field of science, technology, medicine, and education is LIBRARY.RU, which holds abstracts and full texts of more than 29 million scientific articles and publications.[2] The statistical capabilities of the portal allow us to analyse, arrange, and rank journals by various indicators. The following fields were compared for 2016 and 2019:
- indexing of Russian journals by international citation databases
- the distribution of scholarly journals in the RSCI, available in both print and online versions, sorted by academic discipline (data collected in January 2019)

- top ten printed and online journals in the RSCI, sorted by publisher
- top ten RSCI journals, distributed based on the integrated log indicator in the Science Index.

The journals were ranked on the basis of Science Index data, the index of the analytical superstructure over RSCI. This add-in allows analysis of logs included in the database according to specified criteria.

Results

In January 2019, 12,298 scientific journals were published in Russia (Table 1), of which 353 (2.9%) were indexed in WoS, 448 (4.0%) in Scopus, and 261 (2.12%) in both.[6]

Over the period 2016–2019, the greatest increase in the number of journals was in WoS, from 169 in 2016 to 353 in 2019, an increase of 184 (Table 1). The number of journals in Scopus also increased, but not as much: from 331 to 488, an increase of 157.

Table 1. Russian journals published and indexed in Web of Science and Scopus in 2016 and 2019[6]

Database	As of January 2016,[5] number (%)	As of January 2019,[6] number (%)	Growth, number (%)
Scopus	331 (3.46)	488 (3.97)	157 (0.51)
Web of Science	169 (1.77)	353 (2.87)	184 (1.10)
RSCI	650 (6.79)	768 (6.24)	118 (0.54)
Total	9560 (100)	12298 (100)	2738 (28.60)

As a result of monitoring carried out as part of the selection process for adding journals to the RSCI, conducted every 3 years, 17 journals were removed and 137 were added. Thus, the number of journals included in the new RSCI 2019 list increased by 18.6% to reach 771.[7] The number of journals published in Russia was 768. At the same time, the number of journals common to the RSCI and Scopus increased from 89 to 205; that common to the RSCI and WoS increased from 8 to 105; and that common to all three increased from 5 to 74.

At the beginning of 2016, the RSCI database included 650 journals, of which 139 (21.4%) were published in both print and online versions; 74 (11.4%), only in print; 5 (0.7%), solely online.[6]

Out of the 17 journals removed from the database, 4 were available online.

As of January 2019, the RSCI database included 768 journals, 16 (2%) of which were online only and 266 (35%) were available in print and online (Table 3). Of the 137 journals added to the RSCI database in 2019, 53 (39%) were available in print and online-only journals numbered 15 (11%).[6]

Thus, the number of journals available in both print and online increased by 13.3% during 2016–2018, from 139 to 266, and that of online-only journals more than tripled, from five to sixteen.

In January 2016, the academic disciplines with the greatest number of journals were physics, astronomy, and chemistry (18.0%), followed by social sciences (16.6%) and medical and health sciences (15.5%).[6] Changes within disciplines over the three-year period were similar: in 2019 too, the largest share was of physics, astronomy and chemistry (17.8%); that of medical and health sciences increased slightly, from 15.5% to 16.4%; and of social sciences decreased slightly, from 16.6% to14.6%. The share of humanities journals available in both print and online versions at the beginning of 2019 was 12.1% of the total number of journals available in these two versions (Table 2).

Table 2. Distribution of scholarly journals in the Russian Science Citation Index, by academic discipline, as in January 2016 and 2019

Academic discipline	As of January 2016[5]		As of January 2019[6]	
	Journals, number (%)	Available as both print and online, number (%)	Journals, number (%)	Available as both print and online, number (%)
Physics, astronomy, chemistry	117 (18.0)	20 (14.4)	137 (17.8)	33 (12.5)
Social sciences	108 (16.6)	12 (8.6)	112 (14.6)	20 (7.5)
Medical and health sciences	101 (15.5)	41 (29.5)	126 (16.4)	69 (26.0)
Mathematics, computer sciences	95 (14.6)	24 (17.3)	104 (13.5)	39 (14.7)
Engineering and technology	75 (11.5)	12 (8.6)	93 (12.1)	24 (9.1)
Biological sciences	54 (8.3)	8 (5.8)	64 (8.3)	21 (7.9)
Earth, environmental sciences	53 (8.2)	8 (5.8)	66 (8.6)	18 (6.8)
Agricultural sciences	22 (3.4)	0 (0.0)	31 (4.0)	5 (1.9)
Multidisciplinary	13 (2.0)	2 (1.4)	13 (1.7)	4 (1.5)
Humanities	12 (1.8)	12 (8.6)	22 (2.9)	32 (12.1)
Total	650 (100.0)	139 (100.0)	768 (100.0)	266 (100.0)

Table 3. Top ten printed and online journals in the Russian Science Citation Index, by publisher, inJanuary 2016 and January 2019

Publisher	Russian Science Citation Index			
	January 2016[5]		January 2019[6]	
	Titles, number (%)	Available both as print and online, number (%)	Titles, number (%)	Available both as print and online, number (%)
Russian Academy of Sciences (Nauka)	122 (57.0)	8 (18.2)	134 (54.5)	8 (9.9)
Media Sphera publishers	15 (7.0)	15 (34.1)	17 (6.9)	15 (18.5)
Lomonosov Moscow State University	13 (6.1)	1 (2.3)	16 (6.5)	13 (16.0)
National Research University Higher School of Economics	13 (6.1)	3 (6.8)	16 (6.5)	11 (13.6)
Medicina publishers	18 (8.4)	12 (27.3)	14 (5.7)	11 (13.6)
Saint Petersburg State University	8 (3.7)	0 (0.0)	11 (4.5)	6 (7.4)
Publishing house of the Siberian Branch of the Russian Academy of Sciences	11 (5.1)	0 (0.0)	10 (4.1)	0 (0.0)
Steklov Mathematical Institute of the Russian Academy of Sciences	2 (0.9)	0 (0.0)	10 (4.1)	9 (11.1)
Science and Technologies Co. Ltd	6 (2.8)	0 (0.0)	9 (3.7)	0 (0.0)
National Research Tomsk State University	6 (2.8)	5 (11.4)	9 (3.7)	8 (9.9)
Total	214 (100.0)	44 (100.0)	246 (100.0)	81 (100.0)

As of January 2016, the largest publishers in terms of the number of journals in the RSCI were Nauka, Medicina, and Media Sphera (Table 3).[6] By January 2019, the largest publisher was the Russian Academy of Sciences (17.4%), although the share of print and online journals by the Academy is low (only 3%). The number of journals from Medicina decreased from 18 to 14 (Table 3) whereas that from Media Sphera and Lomonosov Moscow State University increased during the three years. At the beginning of 2016, two printed journals from the Steklov Mathematical Institute of the Russian Academy of Sciences were included in the RSCI database, but by the beginning of 2019, the number had gone up to ten, nine of which are available both in print and online.

The rating of journals also changed during the three years. The top journal in 2016, *Voprosy Ekonomiki*, was in the thirdplace in 2017, and the first place was taken by *Russian Chemical Reviews*. The top ten journals included *Foresight and STI Governance*, *Russian Geology and Geophysics*, and *Biochemistry* (Table 4).

Table 4. Top ten Russian journals in Russian Science Citation Index in January 2019[8]

Rank in January 2019	Journal	Rank in January 2016	Publisher	Academic discipline	Science Index Rating in 2017
1	*Russian Chemical Reviews*	2	'Successes in Chemistry' publishers	Physics, astronomy, chemistry	32.957
2	*ActaNaturae* (Russian version)	3	Park Media	Biological sciences	23.815
3	*Voprosy Ekonomiki*	1	'Economic Issues' editions	Social sciences	18.494
4	*VestnikRossiiskoiAkademi-iMeditsinskikhNauk*	4	Pediatr Publishing House Ltd. (trans. Paediatrician Publishing House Ltd)	Medical and health sciences	17.369
5	*Russian Studies in Philosophy*	9	Russian Academy of Sciences	Humanities	16.100
6	*Physics-Uspekhi*	5	'Successes in Physics' editions	Physics, astronomy, chemistry	15.298
7	*Geotectonics*	7	Russian Academy of Sciences	Earth, environmental sciences	14.380
8	*Forest and STI Governance*	13	National Research University Higher School of Economics	Social sciences	13.626
9	*Russian Geology and Geophysics*	19	Publishing House of the Siberian Branch of the RAS	Earth, environmental sciences	11.861
10	*Biochemistry* (Moscow)	17	Russian Academy of Sciences	Biological sciences	10.264

Discussion

The increase in the number of Russian journals listed in international citation databases indicates that they are improving their quality to match international standards.[9, 10]

The past three years have shown positive results: the number of Russian journals included in international citation databases is growing, the number of journals available in both print and online is increasing, and the number of internationally recognized Russian journals in the humanities is also increasing.[11] The increase in the number of humanities journals in the Science Index is a positive development and indicates an increase in scientific means of studying social and economic problems of society.

The shares of different disciplines have changed because of the addition of new journals to the database and the removal of a number of journals as well as the appearance of online versions of journals that were previously available only in print.

The share of journals in social sciences is significantly lower than of those in natural, technical, medical, and agricultural sciences.[12] This is probably due to the fact that historically, social sciences were never a priority in Russia.[13]

The introduction of RSCI is having a positive impact on the full spectrum of Russian academic journals, which are now committed to improving their quality so that they can continue to be included in the RSCI, Scopus, or WoS.

The limitation of the study is that the analysis was confined to Russian journals listed in Scopus and WoS as of January 2019 only, and these data can change significantly over time.

It is necessary to note some problems associated with excessive emphasis on the rating of journals, cross-citations, and lack of transparency in the mechanism of selection in RSCI.[14] Getting into the RSCI database makes the journal particularly attractive for authors, which often leads to the use of administrative measures, such as incentives by the administration and universities to authors for publishing only in these journals. In other words, the RSCI list of journals has transformed from a tool of statistical evaluation of the worth of scientific activity into a tool to pressurize scientists. This fact negatively affects the journals not included in the RSCI list: the number of publications received by these journals begins to decrease, which makes them less competitive. These journals are then left with two options: to improve their bibliometrics and strive to get into the bibliometric databases or to leave the market. However, at present the RSCI statistical indicators are a reference point for Russian scientists in all disciplines of science, and the current trend seems to be that journals from the RSCI database will also be added to Scopus or WoS and no longer remain confined to the local database.

Competing interests

The authors declare they have no competing interests.

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