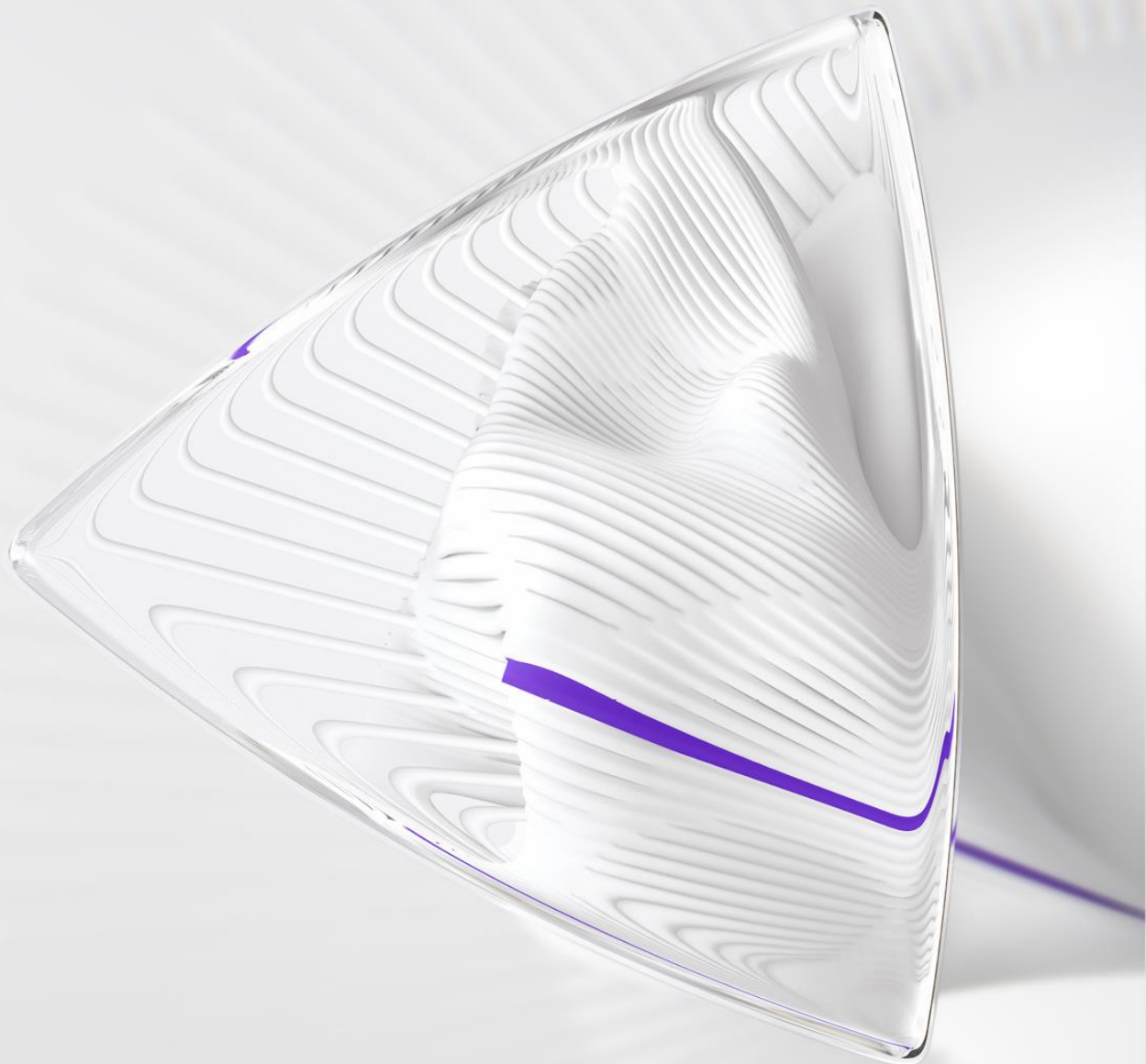


Adding Early Access content to Journal Citation Reports

Choosing a prospective model



Continuing our discussion of Early Access (EA) content and its planned appearance in the Journal Citation Reports (JCR)™, here we explain why we have chosen a phased, prospective approach to introduce EA content into the JCR.

Across the past three years, Clarivate has been expanding the number of publishers who provide content to the Web of Science™ as soon as the Version of Record is published online, before it is given a final volume-year and page assignment. This ‘Early Access’ (EA) content – now indexed for over 6,000 journals – allows for a more rapid discovery of scholarly articles. When the 2019 JCR data set was completed, we announced our plan to include EA content in the 2020 data year of the JCR, followed by a description of how this content would be incorporated (see the series here: <https://clarivate.com/webofsciencegroup/tag/early-access/>).

The growing volume of citations to EA content demonstrates that these materials are fully acknowledged by the scholarly community as part of the published literature. Now that a large volume of this content is indexed in the Web of Science, it is necessary to incorporate it into the journal citation network and journal performance metrics in the JCR. The question has been how?

Our principal concern in introducing EA content to the JCR is to ensure that the effect of EA content would be based only on how it contributes to the citation network, not on whether the journal produced EA content at all or on when the journal or publisher was added to our EA indexing.

Not all journals publish EA content. Print-only content has always had only one publication date: the cover date of the issue. Many electronic-only journals publish content continuously; these also have only one publication date. The complexity of the current environment arises when journals publish Version of Record content online as EA, followed by later assignment to a volume-issue-page. As a result, two distinct dates are associated with the article – an ‘EA date’ marking the first availability and a ‘publication date’ tied to a volume-issue-page assignment. Items where the EA date and the publication date fall in different calendar years present a challenge to the calculation of the JCR metrics: should these articles be considered in the count of items published in their EA year, or the count of items published in their publication year?

When changing the policy for the JCR to include content upon first publication, we modeled the possible effects using a Web of Science data set, and fully examined two options:

Option 1: Retroactive model

In the 2020 JCR data (2021 release), this model would include all indexed EA content according to the EA date. All items indexed as EA in 2017-2020 would be assigned in the JCR according to their EA year.

Effect on Journal Impact Factor (JIF)™ denominator

EA content indexed prior to 2020 may have already appeared in the JCR according to the year of its publication date. Application of the retroactive model would move indexed EA content from one year to another in the JCR item counts in cases where the EA data and publication date are in different calendar years. Data in prior years’ published JCR would not be changed; thus, for example, an article with an EA date of 2018 and a publication date of 2019 would appear as 2019 content in the 2019 JCR data (according to its publication date), but as a 2018 item in the upcoming 2020 JCR data (according to its EA date).

Since both 2018 and 2019 items are part of the 2020 JIF denominator, a 2019 to 2018 shift would have no net effect on the 2020 JIF. However, an article that was indexed as EA content in 2019 but published in a 2020 issue would be more problematic. The 2019 JCR data did not count this article as published in 2019; however, when the 2020 JCR data are extracted, this article would move directly to the 2020 JIF denominator, counted as a 2019 EA article.

The net effect would be to increase the JIF denominator counts for journals that were included in the Clarivate EA indexing program in 2018 or 2019, without affecting the JIF denominator counts of journals that we did not add to EA indexing until 2020.

Effect on JIF numerator

Moving items out of the 2020 publication year in the JCR according to a 2018 or 2019 EA date would also preclude the cited references in these items from appearing in the journal citation network. EA items from 2018 or 2019 with a final publication year of 2020 did not have their cited references extracted for any prior JCR. In a retroactive model, these items would also be excluded from the count of cited references in the JCR 2020 data – effectively erasing their participation in the journal’s citation landscape.

Items that were indexed as EA in 2020 and are published in a 2021 volume – or are not yet published – would now contribute cited references to the 2020 JCR data analysis. This adds a new population of citations to the JCR calculation and will increase the total number of items and citations contributing to the 2020 JIF numerator of most or all journals in the JCR regardless of whether they themselves publish EA content that is already indexed in the Web of Science.

Retroactive 2020 JCR data (2021 release)

Citing Year	Cited Record Year(s)		JIF Numerator	Citable Item		JIF Denominator
	EA Year	Publication Year		EA Year	Publication Year	
2020	2020	2021	No	2020	2021	No
2020	2019	2020	Yes	2019	2020	Yes
2020	2018	2019	Yes	2018	2019	Yes
2020	2017	2018	No	2017	2018	No

Option 2: Prospective model

From 2020 onward, EA items will be counted according to their EA date. In the 2020 JCR data, this model would consider any content with an EA date of 2020 to be part of the 2020 published literature, just as it would be in the retroactive model. However, under the prospective model, items with an EA date *prior* to 2020 would continue to be counted according to the publication date so that their assignment to a year in the JCR would not change. EA content indexed in 2020 and in all future years will be counted according to the EA date.

Effect on JIF denominator

This allows EA content indexed earlier than 2020 to move into and through the JCR according to the policy that was in place when it was indexed. All 2020 EA items will contribute their cited references to one JIF numerator, then it will be counted in two additional years’ JIF denominators. These items will then be counted the same way as content – whether print or electronic – that has only one publication date.

To revisit the examples: an article published as EA in 2018 and assigned to a 2019 issue would have appeared in the 2019 JCR as part of the 2019 item count, that is, the Immediacy Index denominator. The item would remain part of the 2019 item count in the 2020 JCR data, and in the 2021 JCR data. The item would count in one year of the Immediacy Index denominator, and for two years in the JIF denominator, a standard progression through the JCR metrics.

Unlike in the retroactive model, in the prospective model, an article that was indexed as EA content in 2019 and published in a 2020 issue would not move directly to the 2020 JIF denominator. It would count as a 2020 item in the 2020 JCR data and move to the JIF denominator in 2021 JIF and 2022 JIF. At the time this EA item was indexed, JCR policy defined it as a 2020

publication. Rather than apply a policy change retroactively, this item would remain assigned as a 2020 publication for all upcoming JCR data sets.

Effect on JIF numerator

Items that were indexed as EA in 2020 and are published in a 2021 volume – or are not yet published – would contribute cited references to the JCR analysis in the same manner as the retroactive model. However, no items with EA 2018 or 2019 dates and a 2020 publication year would have their references removed from the JCR 2020 analysis.

Prospective 2020 JCR data (2021 release)

Citing Year	Cited Record Year(s)		JIF Numerator	Citable Item		JIF Denominator
	EA Year	Publication Year		EA Year	Publication Year	
2020	2020	2021	No	2020	2021	No
2020	2019	2020	No	2019	2020	No
2020	2018	2019	Yes	2018	2019	Yes
2020	2017	2018	Yes	2017	2018	Yes

Choosing a policy

The retroactive model has the advantage of immediately moving to a single policy for how all content in the Web of Science will appear in the JCR. Because the retroactive approach adds the cited references from 2020 EA content to the JIF numerator, all journals could potentially see an increase in citations, whether or not they publish EA content and independently of when their EA content started being indexed by Clarivate.

Although at first glance this approach seems both simple and equitable, some scrutiny reveals problems. Journals whose 2018 or 2019 EA content was indexed by Clarivate will see articles change their year assignment in the 2020 JCR data. This will increase the JIF denominator for journals that provided EA content from 2019 and will increase the JIF denominator even further for journals that provided EA content from 2018. Since EA items were not counted at the time of their initial EA indexing, they would be added directly to the JIF denominator in the 2020 JCR data. Only journals that had EA content indexed from 2018 or 2019 would be affected.

We have chosen to implement the prospective model as the retroactive model would create two populations of journals that are differentially affected based only on when Clarivate began accepting their EA content, not on any change in the citation or publication dynamics of the journal itself. Imposing a counting disadvantage on a subset of journals while providing a citation benefit to all would be a poor approach.

The prospective model will take several years to complete the incorporation of EA into the JCR metrics, during which time using the Web of Science to identify the components of the JIF itself will be more complex. In the Web of Science, EA date is used to search, refine and analyze results, although publication date is available in article full records and in data exports. Although the JCR will only mirror this for 2020 and on-going data, the transparent JIF data and links from the JCR to the Web of Science will allow users to explore and validate the article-level contributions to the JIF calculation. The prospective model will increase the net number of cited references in the JCR 2020 data, leading to a broadly distributed increase in JIF numerators. EA articles generally contain more citations to the JIF years when their references are counted according to their EA year, so as we continue to include EA content, there will be an ongoing advantage to citation counts.

About Clarivate

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For more information please contact

Editorial.Relations@clarivate.com

clarivate.com

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