

JOURNAL IMPACT FACTOR

3-year calculation window
(2014, 2015, and 2016)

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DISCLAIMER

- The information herein applies to the Journal Impact Factor calculation for 2016, as published in the 2017 [Journal Citation Reports \(JCR\)](#).
- Clarivate Analytics, formerly the IP & Science business of Thomson Reuters, revisits the requirements for the Impact Factor calculation annually.
- Publishers can contact the Clarivate Publisher Relations team with questions: ts.pr.support@tr.com

DEFINITION: JOURNAL IMPACT FACTOR

- Impact Factor is a **journal-level metric**; it is the average number of times a journal's articles – specifically, those published in a 2-year period – were cited in **2016**.
- Impact Factors are calculated for journals selected for and indexed in the Science Citation Index Expanded (SCIE) or the Social Sciences Citation Index (SSCI).
- Impact Factors are published annually in the [Journal Citation Reports](#) (JCR)

IMPACT FACTOR CALCULATION

- The Impact Factor is calculated by dividing the number of citations in the JCR year (the **numerator**) by the total number of citable items published in the 2 previous years (the **denominator**).
- An Impact Factor of 1.0 means that, *on average*, articles published 1 or 2 years ago were cited one time in **2016**.

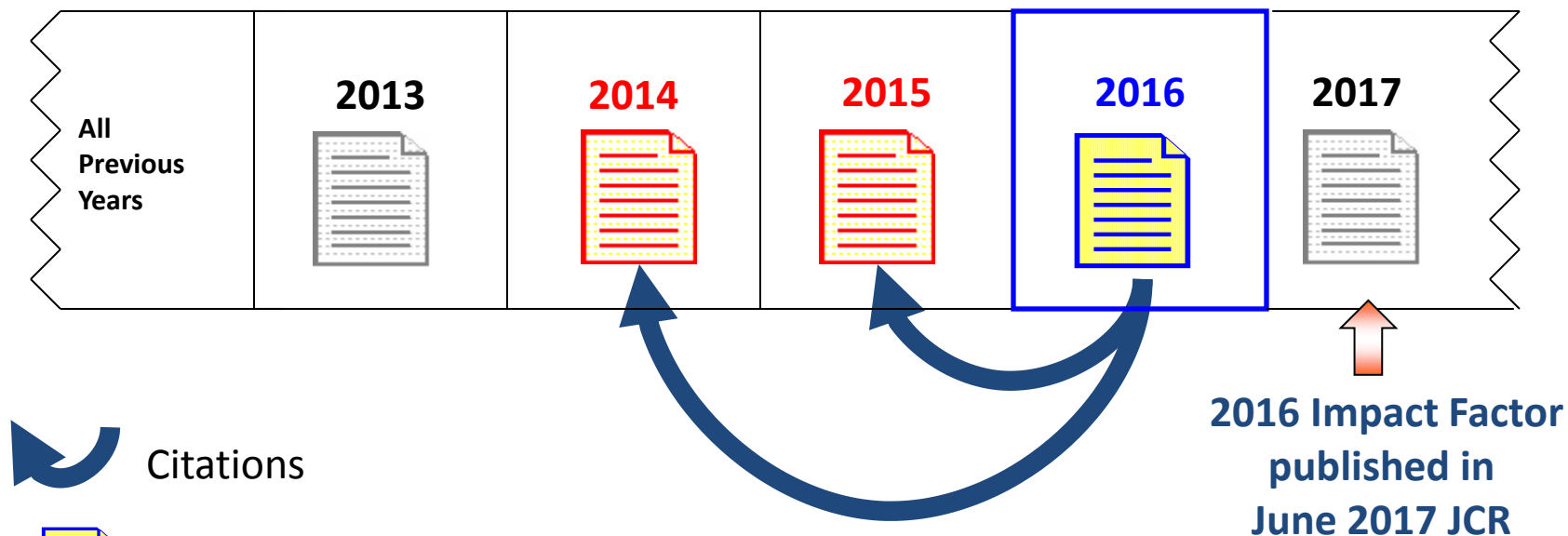
NUMERATOR

The Number of Citations Made
to the Journal in **2016**
to Content Published
in the Previous 2 Years
(2014, 2015)

DENOMINATOR

The Number of Citable Items Published
During the Previous 2 Years
(2014, 2015)

2017 JCR (2016 IMPACT FACTOR)



Citations



Source paper – published in 2016



Cited reference – published in 2014 or 2015

$$\text{2016 Impact Factor} = \frac{\text{2016 citations to 2014 and 2015 content}}{\text{Total \# citable items published in 2014 and 2015}}$$

WHAT'S IN THE NUMERATOR?

- Citations are drawn from these indexes in Web of Science:
 - Science Citation Index Expanded (SCIE)
 - Social Sciences Citation Index (SSCI)
 - Arts & Humanities Citation Index (AHCI)
 - Emerging Sources Citation Index (ESCI)
 - The **Science edition** of the Conference Proceedings Citation Index (CPCI)
 - The **Social Science and Humanities edition** of the CPCI
- The following are **not** in the numerator:
 - Citations to articles, books, book chapters, or similar items indexed in other Web of Science datasets.

WHAT'S IN THE DENOMINATOR?

COUNTED:

- Citable Items
 - Original research articles
 - Review articles
 - Proceedings papers
 - Technical notes
 - Supplements: full articles will count

NOT COUNTED:

- Editorials
- Discussions
- Meeting abstracts
- Book reviews
- News items
- Letters or Commentaries, *unless* they function as “articles,” such as the letters in *Nature*.

WHAT IS A “CITABLE ITEM”?

- Characteristics of a citable item include:
 - Usually an article, proceeding, or review, but not limited to these categories
 - Descriptive article title
 - Named author with address and funding information
 - Abstract
 - Article length
 - Cited references
 - Data content

TITLE CHANGES AND IMPACT FACTOR

How do title changes affect Impact Factor?

Year 1	<ul style="list-style-type: none">• The new title is listed with an immediacy index: citations in the JCR year (2016) to content published in the JCR year (2016).• The old title is listed with normal Impact Factor.
Year 2	<ul style="list-style-type: none">• The JCR lists separate Impact Factors for the new and the old titles.
Year 3	<ul style="list-style-type: none">• The old title is no longer listed.• The new title appears with a normal Impact Factor.

SUPPLEMENTS AND IMPACT FACTOR

How are supplements and special issues handled?

- Citable items from these publications are counted in the denominator.
- Ensure that Clarivate is aware of these titles, especially if they fall outside the stated frequency of the journal.

TABLE OF CONTENTS AND IMPACT FACTOR

- My journal added a new section over the past 2 years. Is this change captured in the JCR?
 - Adding new sections or changing existing sections in a currently indexed journal can affect the Impact Factor.
 - Alert Publisher Relations to such changes:
ts.prsupport@tr.com

TITLE VARIANTS AND IMPACT FACTOR

- Authors cite journals inconsistently. Is the JCR still capturing the citations?
 - **Yes.** Title variants are unified by the JCR team.
 - A citation **must** include **the journal title/variant and year** to be calculated for the Impact Factor.
 - Publishers are encouraged to provide clear instructions to authors on how to cite the journal, especially for “online first” or “publish ahead of print” articles.

**JCR
JOURNAL
SUPPRESSION**

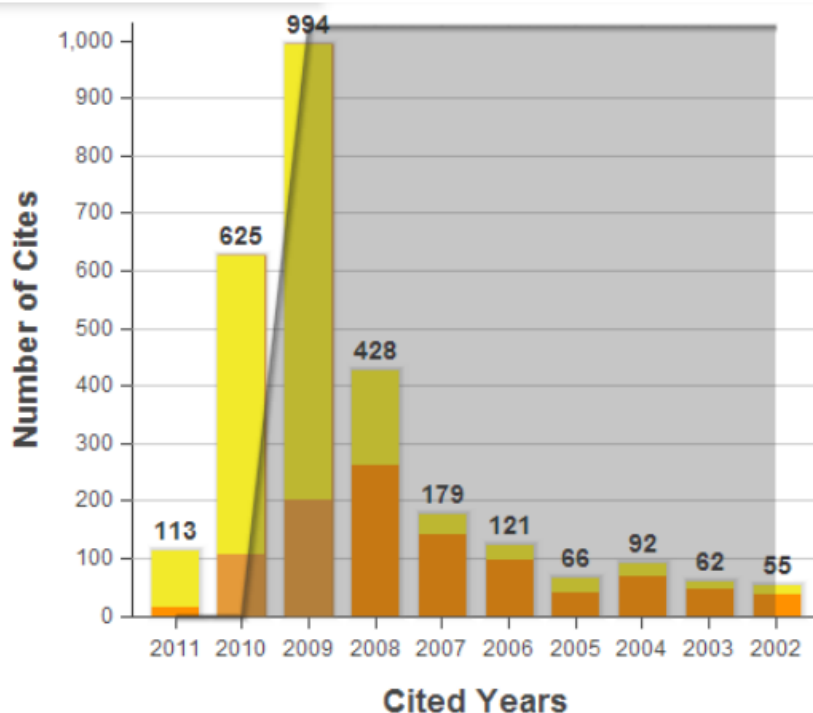
JCR JOURNAL SUPPRESSION

- Increasingly rare but still enforced
- Action primarily taken in response to excessive self citation and citation stacking
- Suppression is not de-selection; journals can remain indexed in Web of Science

Journal Self-Citation

Suppression of individual journals

What the suppressed Journal metrics would look like



Total Cites	2790	Self Cites	1717 (61% of 2790)
Cites to Years Used in Impact Factor Calculation	1619	Self Cites to Years Used in Impact Factor Calculation	1308 (80% of 1619)
Impact Factor	10.722	Impact Factor without Self Cites	2.060

- **Data considered:**
 - Total citations (TC)
 - Journal Impact Factor (JIF)
 - Rank in category
 - % of journal self-citations in Journal Impact Factor numerator
 - Proportional increase in Journal Impact Factor with/without journal self-citations
 - Effect of journal self-citations on rank in category by Journal Impact Factor
- **Journals in bottom 10% ranking by TC and/or by JIF are not suppressed**
- **Suppressed journals represent extreme outliers in citation behavior**
- **Science Edition and Social Sciences Edition are analyzed separately**
- **Journals are suppressed for one year, and re-evaluated with the next year's data.**

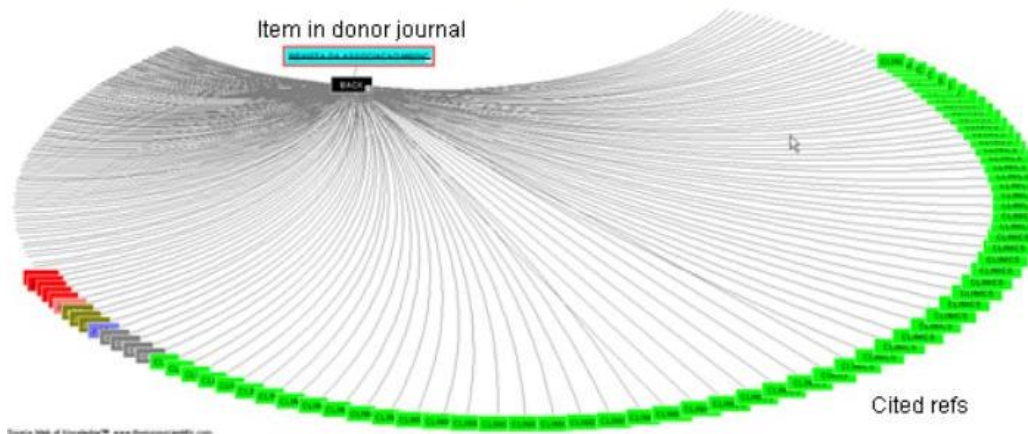
Citation Stacking

Donor and Recipient journal pair suppression

What the suppressed Journal metrics would look like

Cited Journal Data							
Impact	Citing Journal	All Yrs	2011	2010	2009	2008	
1	ALL Journals	1,263	45	295	409	203	
2	ALL OTHERS (410)	410	12	61	120	71	
3	2.058	RECIPIENT	188	19	67	71	11
4	0.771	DONOR 1	130	0	62	65	1
5	0.698	DONOR 2	79	0	24	21	27
6	1.391	DONOR 3	36	2	14	17	3
7	0.880	DONOR 4	25	0	5	16	3
8	0.889	DONOR 5	13	0	0	0	4
9	0.435	DONOR 5	13	0	6	4	0

Article in Donor Journal with references color-coded by cited work – Web of Science Citation Map



- **Data considered:**
 - Donor as % of Recipient's Total Citations
 - Donor as % of Recipient's Journal Impact Factor numerator citations
 - Concentration of citations exchanged into Journal Impact Factor numerator
 - Identification of individual item(s) in Donor Journal with near-exclusive reference to Recipient journal(s)
- **Journals in bottom 10% ranking by TC and/or by Journal Impact Factor, are not suppressed**

New titles, where citation activity is naturally concentrated, are not suppressed

Suppressed journals represent extreme outliers in citation behavior

Science Edition and Social Sciences edition are analyzed separately

Donor and Recipient journals are suppressed for one year, and re-evaluated with the next year's data.

FURTHER READING

Hubbard SC, McVeigh ME. *Casting a wide net: the Journal Impact Factor numerator*. Learned Publishing. 2011;24(2):133-7.

<http://dx.doi.org/10.1087/20110208>

McVeigh ME, Mann SJ. *The Journal Impact Factor Denominator: Defining Citable (Counted) Items*. JAMA. 2009;302(10):1107-9.

<http://jama.jamanetwork.com/article.aspx?articleid=184527>

Questions? Contact Publisher Relations



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