

The Impact of Open Access on Scholarly Publishing: OA Mandates, OA Output and Impact and the Plan S Footprint

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Open Science is the **movement** to make **scientific** research and data accessible to all. It includes practices such as publishing **open scientific** research, campaigning for **open** access and generally making it easier to publish and communicate **scientific** knowledge.



The many advantages of this movement include:

- Greater availability and accessibility of publicly funded scientific research outputs;
- Possibility for rigorous peer-review processes;
- Greater reproducibility and transparency of scientific works;
- Greater impact of scientific research.

UNESCO United Nations Educational, Scientific and Cultural Organization



National Institutes of Health

Turning Discovery Into Health

The NIH Public Access Policy implements Division F Section 217 of PL 111-8 (Omnibus Appropriations Act, 2009). The law states:

The Director of the National Institutes of Health ("NIH") shall require in the current fiscal year and thereafter that all investigators funded by the NIH submit or have submitted for them to the National Library of Medicine's PubMed Central an electronic version of their final, peer-reviewed manuscripts upon acceptance for publication, to be made publicly available no later than 12 months after the official date of publication: Provided, that the NIH shall implement the public access policy in a manner consistent with copyright law.

When and How to Comply

1 Preparing a manuscript

Address copyright

[show me](#)

2 Accepted for publication

Post it to PubMed Central and track it in My NCBI

[show me](#)

3 Reporting to NIH

Include PMCID in citations

[show me](#)

Overview:

To advance science and improve human health, NIH makes the peer-reviewed articles it funds publicly available on [PubMed Central](#). The NIH public access policy requires scientists to submit final peer-reviewed journal manuscripts that arise from NIH funds to PubMed Central immediately upon acceptance for publication. [\[more\]](#)

Show me specific instructions for my publication



NIHMS overview



My NCBI overview



My Bibliography overview



Public Access Compliance

“Open Science, perhaps more properly termed Open Scholarship in English, represents a culture change in the way stakeholders in the research, education and knowledge exchange communities create, store, share and deliver the outputs of their activity.’[1] The purpose of this Statement is to identify how *any* university or research organization can take forward Open Science initiatives. It recognizes the significant challenges in doing so, but also that ‘Open Science brings new and exciting opportunities for the scholarly community and for how academics interact with society”

This Statement is based on the *LERU Roadmap for Open Science*. 'For universities and other stakeholders to embrace Open Science principles, policies and practices, there needs to be a culture change in these organizations if this transition is to be successfully negotiated.'[3] With these words, the *LERU Roadmap for Open Science*, released in summer 2018, analyzes the transformative impact that Open Science will have on the European university system. It does so across eight areas of Open Science: the Future of Scholarly Publishing, the European Open Science Cloud (EOSC), FAIR data, Skills, Research Integrity, Rewards, the Responsible Use of Metrics, and Citizen Science.

2.2. Prioritised recommendations for the eight ambitions of Open Science

Below are a set of actionable recommendations from the OSPP to be taken as the next step towards the longer-term vision articulated by Open Science consultations and expert groups set up by the EC and other organisations in Europe and worldwide. The recommendations have been split up into the eight priorities identified from the 5 areas of the European Open Science Agenda⁶, namely:

- Rewards and Incentives
- Research Indicators and Next-Generation Metrics
- Future of Scholarly Communication
- European Open Science Cloud
- FAIR Data
- Research Integrity
- Skills and Education
- Citizen Science

The major stakeholder groups (as listed in the key below) who have the main responsibility to drive the actions stated in the recommendations have been listed alongside each one.



Research & E-Infrastructures



Research Libraries



Universities & Research Performing Organisations



Policy Making Organisations



Research Funding Organisations



Publishers



Researchers



Scientific Societies & Academies



Citizen Science & Public Engagement Organisations



In 1997, SciELO (Scientific Electronic Library Online) was launched as a pilot program to coordinate academic publishing on the web for a collection of Brazilian journals.

This pioneering effort was supported by both the research funder community, with the São Paulo Science Foundation (FAPESP) as a principle player, and the scientific information community, with the Latin American and Caribbean Center on Health Sciences Information playing a leading role. The focus was on Health Sciences and Hard Sciences initially but has expanded to cover all disciplines

"The main objective of the program was to strengthen the visibility of the journals,"

SciELO proved to be a powerful tool in addressing the problem of locally-generated research being noticed and recognized by the international research community. "Open Access soon showed it was the best way to raise the profile of Latin American-published journals," says Packer.

Elements for the success of the movement:

- Getting participation from the best peer-reviewed journals from the beginning
- Support from public institutions was also critical. Most of the Latin American journals are not-for-profit enterprises maintained by national public academic institutions or scientific societies.
- There is a tradition for Latin American universities to be the vehicles for national development, receiving most of the public funding available for technology, innovation, and education. And, with so much of the institution's research being publicly funded there is an expectation to turn that research over to the public, he says. "Everything is aligned already for outputs to be a public good,"

Established in 2003 and based at the Autonomous University of Mexico State in Toluca, near Mexico City. Redalyc was born out of a need to cover the social sciences and humanities.

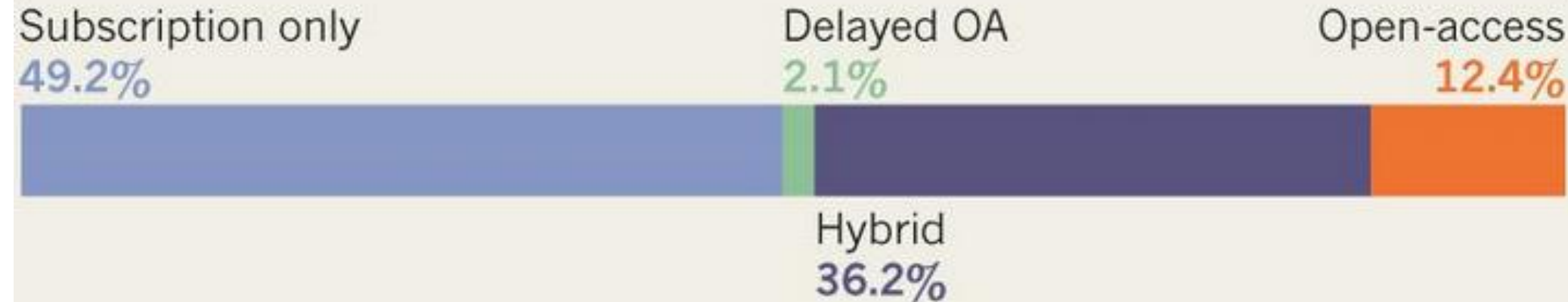
Redalyc serves as a repository for more than 900 peer-reviewed journals that have passed the evaluation, 60% of which are from the social sciences and humanities, acting as a complementary organization to SciELO. Redalyc has about 300,000 articles with nearly 2,000 added weekly. There are about 6 million downloads a month. Redalyc works in 21 countries, mostly in Latin America, but also Spain and Portugal.

In addition to providing the Open Access platform, Redalyc staff members do software consulting and training for editors to improve the quality of their journals. "We are always seeking financial support from other activities in order to not charge the user when downloading an article,"

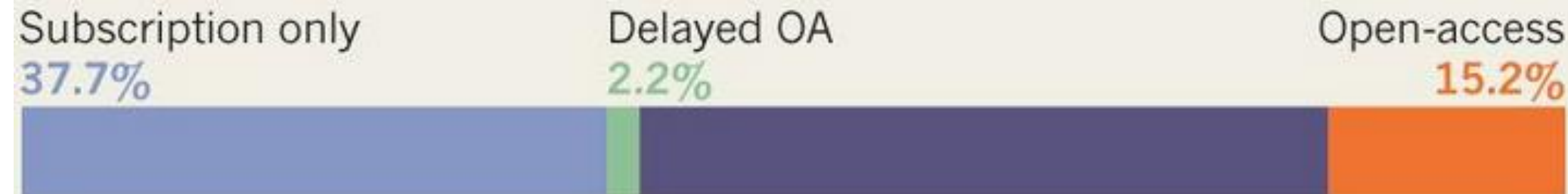
PUBLISHING MODELS

Worldwide, the proportion of subscription-only journals* shrank between 2012 and 2016, giving way to more open-access (OA) and hybrid journals.

Proportion of journals published 2012



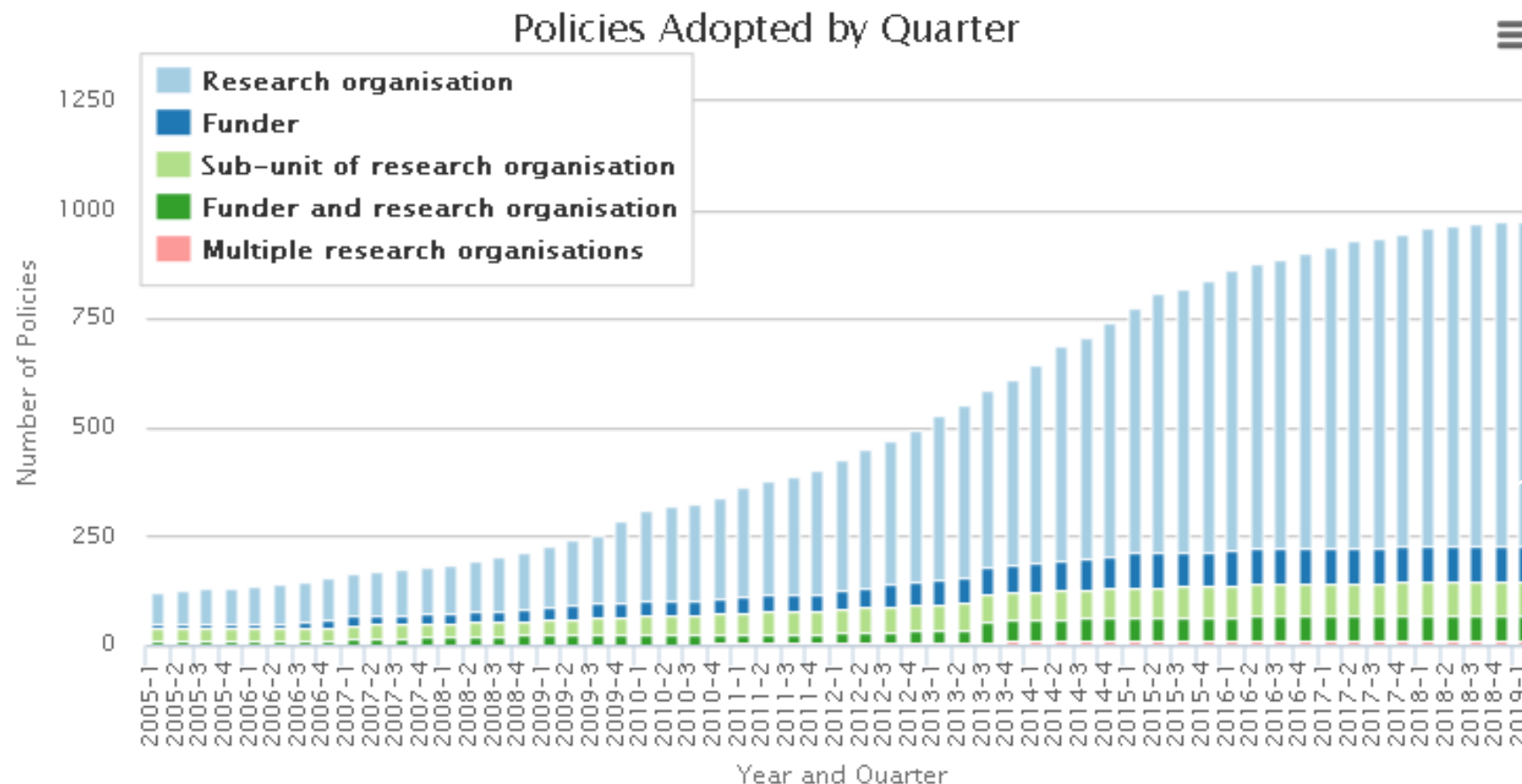
Proportion of journals published 2016



Open Access Mandates

8

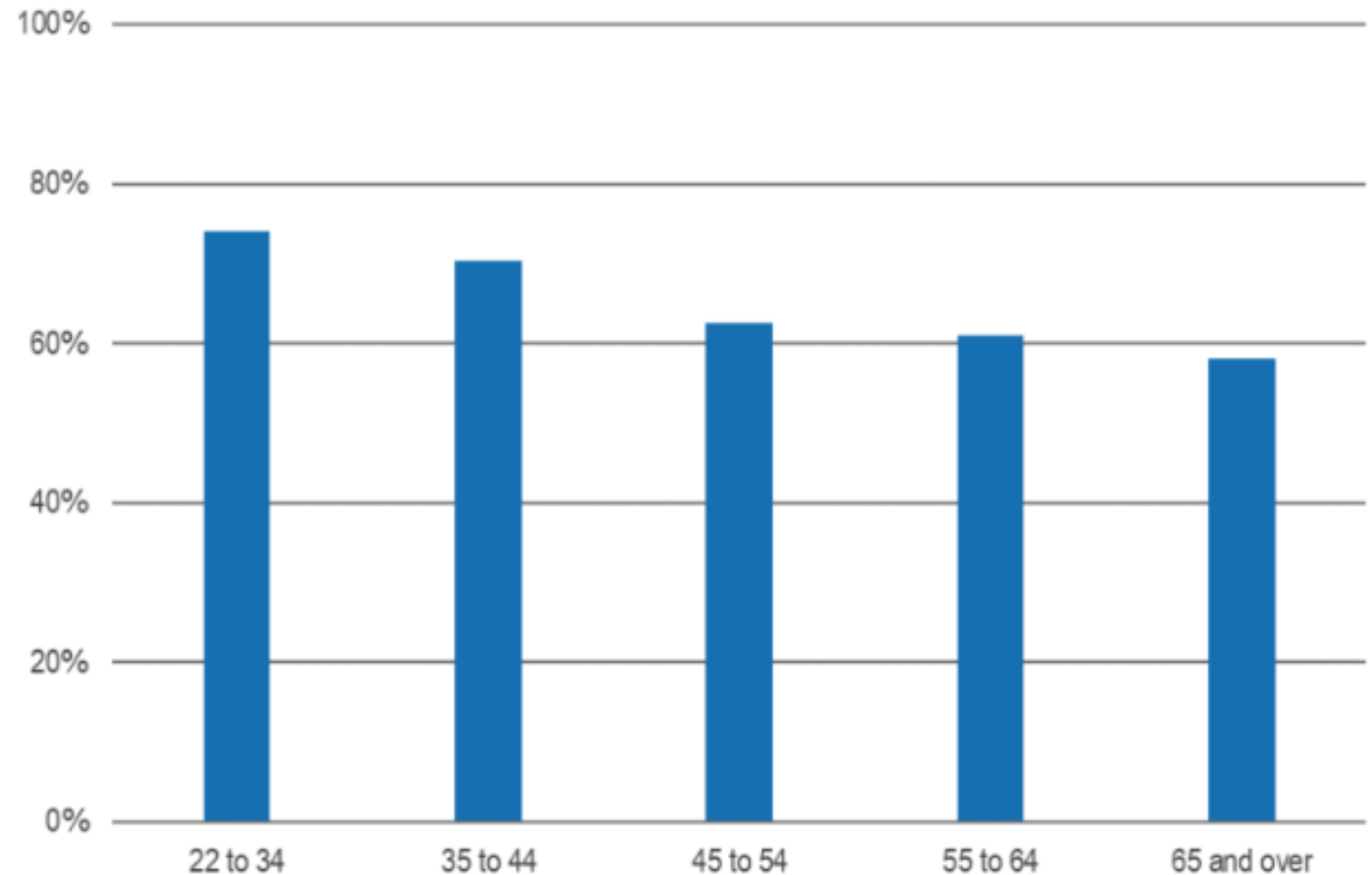
- Open Access (OA) mandates generally come from one of two directions: some are imposed by funders and others are imposed by authors' institutions.
- Funder mandates tend to be powerful by their nature: To get funding one must publish in OA publications. A plan for the data produced and final paper must be submitted as part of the funding request. Authors have to comply
- Institutional mandates – less powerful; vary by country



United States Faculty Survey: Open Access Publishing: New Evidence on Faculty Attitudes and Behaviors

Percent of respondents by age cohort that strongly agreed with this statement: "I would be happy to see the traditional subscription-based publication model replaced entirely by an open access publication system in which all scholarly research outputs would be freely available to the public."

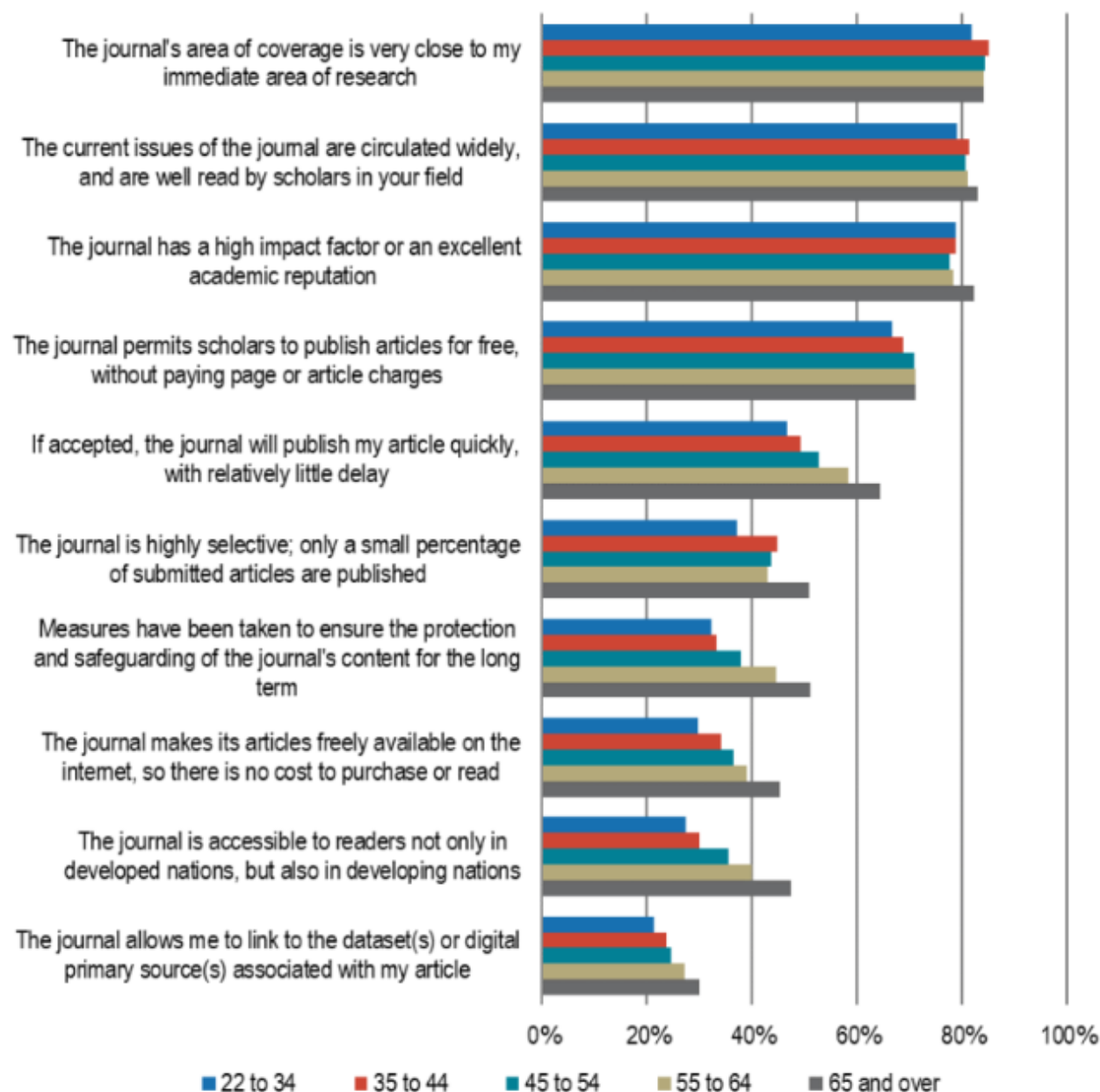
Survey has tracked the changing research, teaching, and publishing practices of higher education faculty members on a triennial basis since 2000. 11,000 faculty members responded.



<https://doi.org/10.18665/sr.311199>

Traditional scholarly incentives continue to motivate faculty behavior

10



When it comes to influencing your decisions about journals in which to publish an article of yours, how important to you is each of the following characteristics of an academic journal?"
Percent of respondents by age cohort that indicated that each of these characteristics is highly important.

<https://doi.org/10.18665/sr.311199>

Publishers involved in an open access publication system

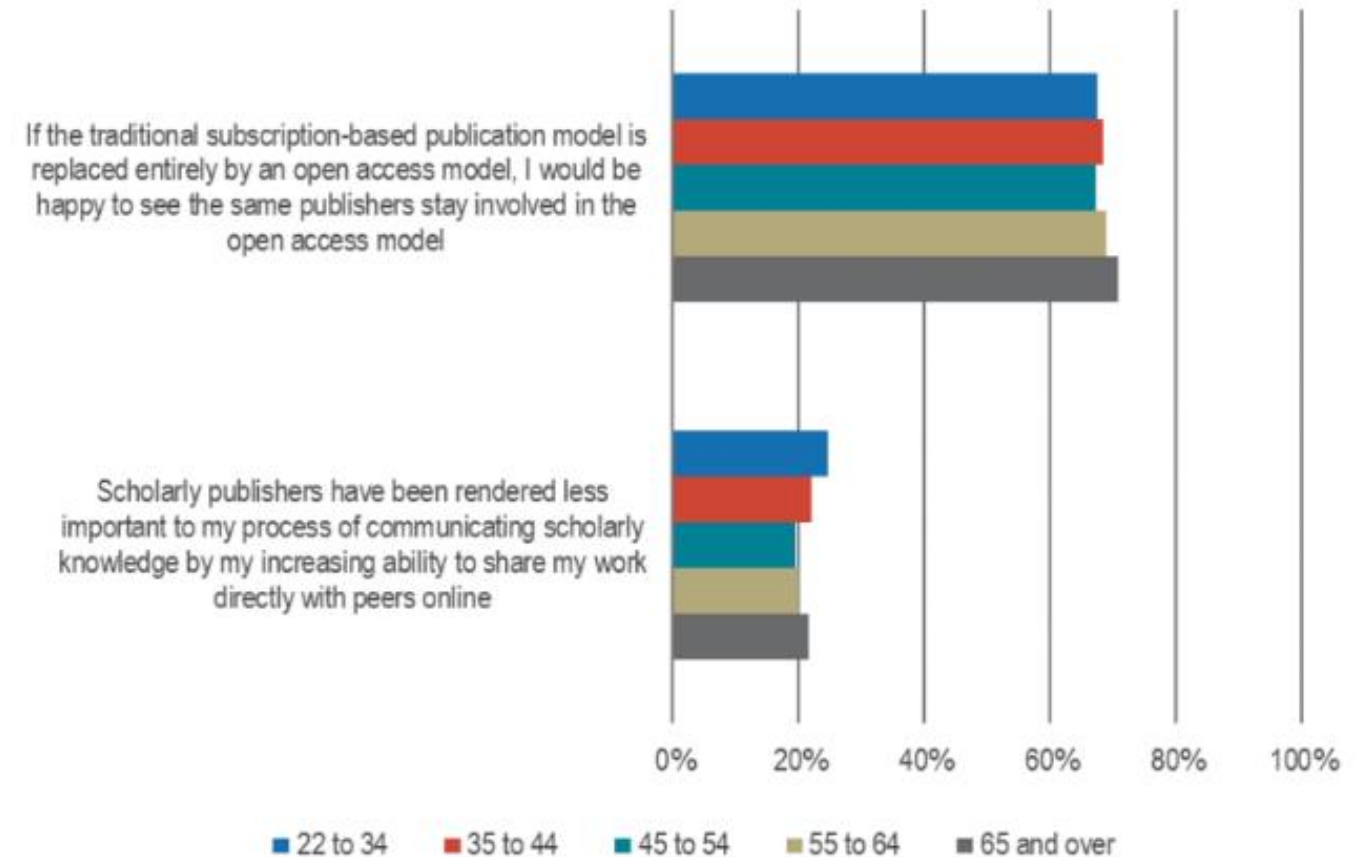
It is therefore noteworthy that very few respondents agree that publishers have been rendered less important to their process of communicating scholarship because of increased opportunities to share their work directly with others online.

Moreover, the vast majority of respondents do not take issue with the publishers currently involved in the subscription based model.

Approximately seven in ten would be happy to see the same publishers involved in an open access publication system if the traditional subscription-based model was replaced entirely

Percent of respondents

by age cohort that strongly agreed with each of the following statements.





Open Access analysis in Web of Science Core Collection

Web of Science Group: Leading innovation in Open Access discovery and analysis

2014

2017

2018



+



Clarivate partners with ImpactStory to improve OA identification for all.

- The Web of Science now offers a **more complete picture of trusted OA**, including legal, peer-reviewed
- You now have **direct access to more free full text** and can be confident that you are finding the best available, legal OA version.

12 million+
Open Access items
identified across the
full Web of Science platform

- Gold journals
- Hybrid Gold articles
- Green articles
- Green manuscripts



Open Access

- ☐ All Open Access (11,824,729)
- ☐ DOAJ Gold (4,123,245)
- ☐ Other Gold (1,094,142)
- ☐ Bronze (5,375,304)
- ☐ Green Published (3,622,726)
- ☐ Green Accepted (624,009)

[Learn more about Open Access versioning in Web of Science](#)


Web of Science

The screenshot shows the Web of Science search results page. The top navigation bar includes 'Search', 'Search Results', 'Tools', 'Searches and alerts', 'Search History', and 'Marked List'. Below the navigation bar, there are search filters and options like 'Free Full Text from Publisher', 'Full Text Options', and 'Save to EndNote online'. The main content area displays the title 'Heart Disease and Stroke Statistics' by Benjamin, EJ (Benjamin, Emelia J.); Blaha, MJ (Blaha, Michael J.); et al. The authors list includes Benjamin, EJ (Benjamin, Emelia J.); Blaha, MJ (Blaha, Michael J.); Sandeep R.; Deo, R (Deo, Rajat); de Ferranti, SD (de Ferranti, Sarah D.); Floyd, J (Floyd, James); Fornage, M (Fornage, Myriam); Gillespie, C (Gillespie, Cathleen); and more. The group author is listed as 'Amer Heart Assoc Stat Comm ; Stroke Stat Subcomm'. There are links for 'View ResearcherID and ORCID'. The journal information is 'CIRCULATION', Volume: 135, Issue: 10, Pages: E146-E603. On the right side, there is a 'Citation Network' section showing '1,808' citations and 'Highly Cited Paper' and 'Hot Paper' indicators. The bottom right corner has a 'Create Citation Alert' button.

Web of Science Group supports open scholarship

Web of Science

Open Access



- ☐ All Open Access (12,808,191)
- ☐ DOAJ Gold (4,572,257)
- ☐ Other Gold (1,203,241)
- ☐ Bronze (5,378,199)
- ☐ Green Published (4,181,096)
- ☐ Green Accepted (1,120,290)

Open scholarship

Open scholarship is an umbrella term used to represent all forms of openness in the scholarly and research environment.

OA journals

Open peer-review

Data citation

Predatory journals

Open Access Publishing

- APCs/BPCs (article/book processing charges)
- Creative-Commons licenses

Open Education

- OER (Open Educational Resources)
- Open pedagogy
- Textbook cost
- Student debt
- MOOCs

Open Science/Data

- Data repositories
- FAIR principles
- Science

Open Source/Code

- Code rep
- Code cita
- Coding
- Communities
- Source code
- Ictational VS
- Professional use

Ethical Issues

- Peer review
- Global inequalities
- Funding
- Recognition
- Intellectual property
- Public good
- Impact

Image from Rochester University

Web of Science Core Collection

Our Journal Selection Policy helps your researchers find & publish content in reputable OA journals.

Master Journal List Beta

Found 4,566 results

Open Access

☒ Include only journals offering OA options

<https://apps.clarivate.com/mjl-beta/home>

Kopernio

Delivers OA content to your students and faculty when subscription content is unavailable.

PDF Found

- ✗ Your Kopernio Locker
- ✗ Publisher Version
- ✓ OA alternative
- ✗ Google Scholar

View PDF

Publons

WILEY

Bringing Greater Transparency to Peer Review:
Wiley and Clarivate Analytics Partner to Launch
Innovative Open Peer Review

New, scalable open peer review workflow using Publons and ScholarOne technology now available in Clinical Genetics

Thursday, September 13, 2018 9:19 am EDT

Hoboken, NJ—September 13, 2018—John Wiley and Sons Inc. (NYSE:JW) (NYSE:JW)

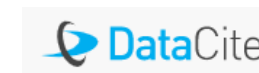
[Read article](#)

See it in action

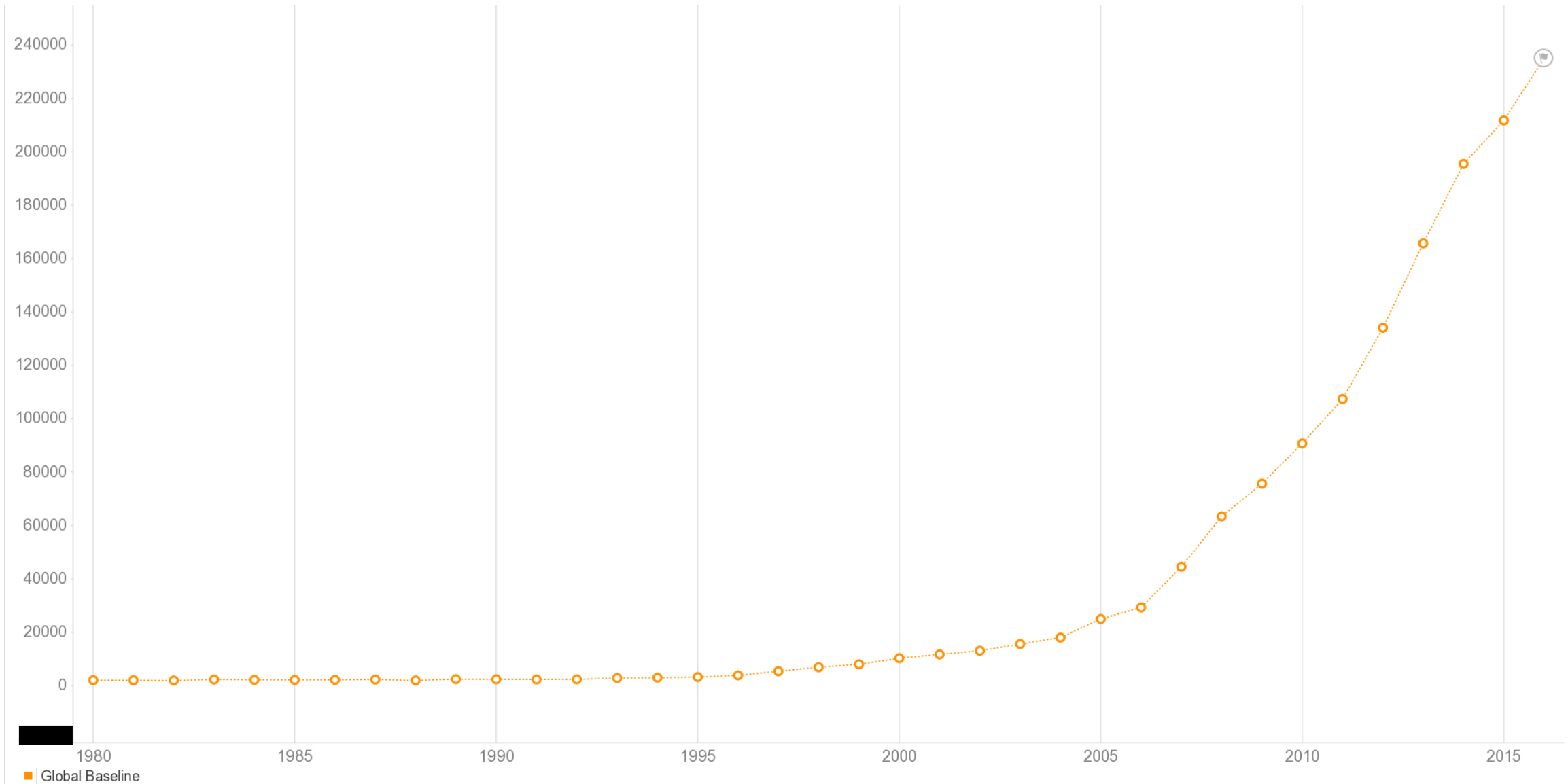
- [Article](#)
- [Open Peer Review History in Publons](#)

Data Citation Index

- 90% of repositories in the Data Citation Index provide free access to content, so that you can acquire data instantly.
- We are DataCite members, and endorse the Force 11 joint [declaration](#) on data citation.



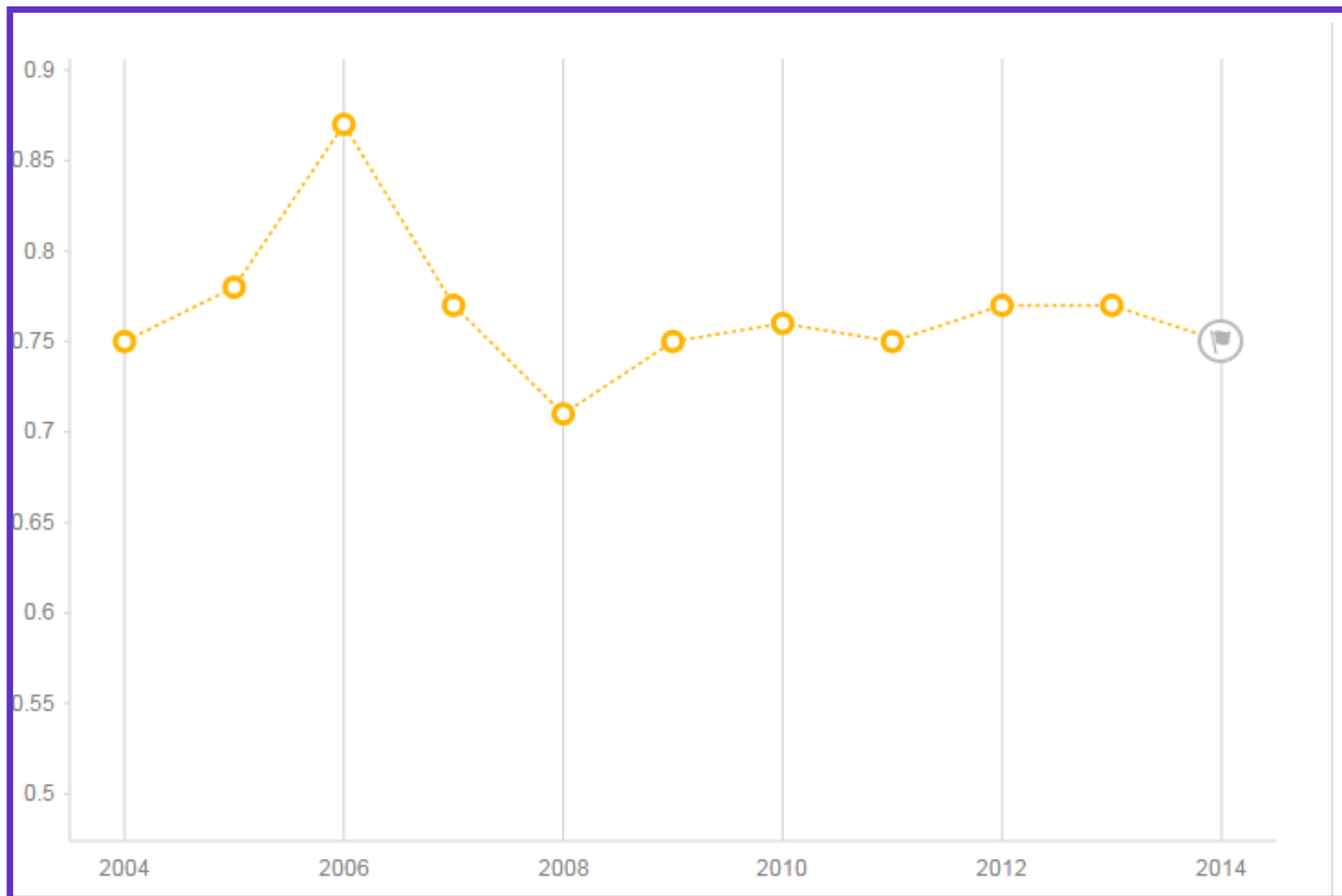
How has open access grown so far?



Indicators: Web of Science Documents. **Location Type:**Country. **Open Access:**Yes. **Time Period:**1980-2016

InCites dataset updated Aug 19, 2017. Includes Web of Science™ content indexed through Jun 30, 2017. Export Date: Sep 20, 2017.

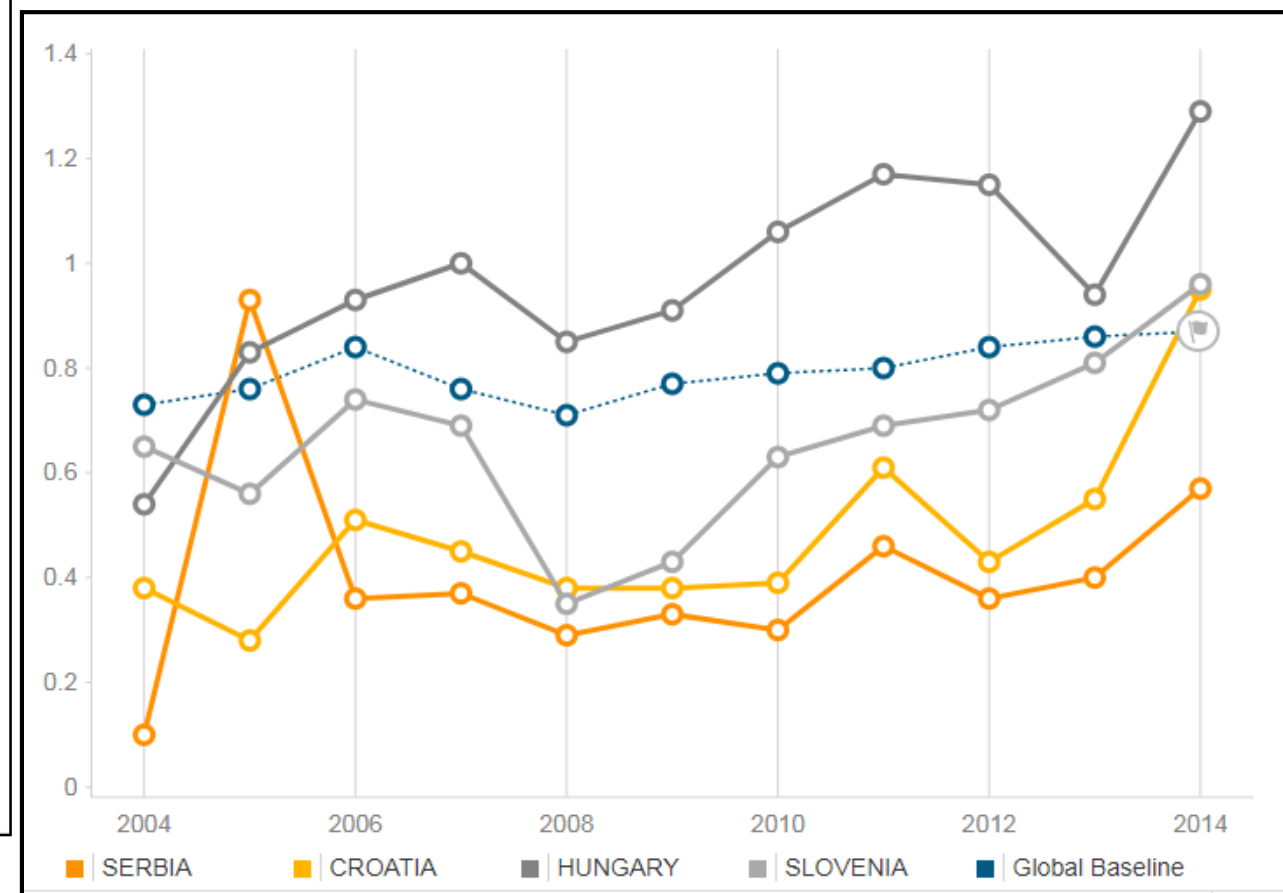
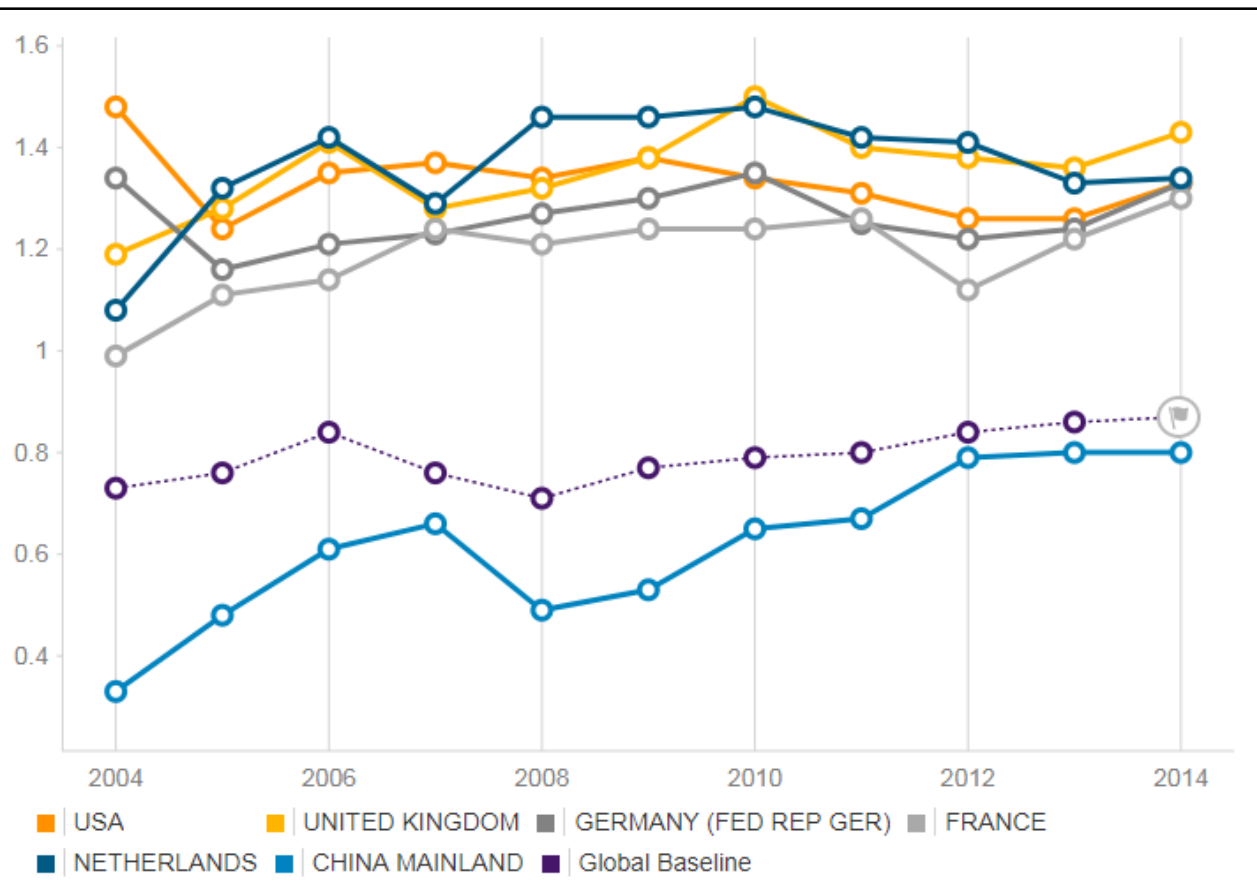
Impact of publishing in Open Access? Category Normalized Citation Impact



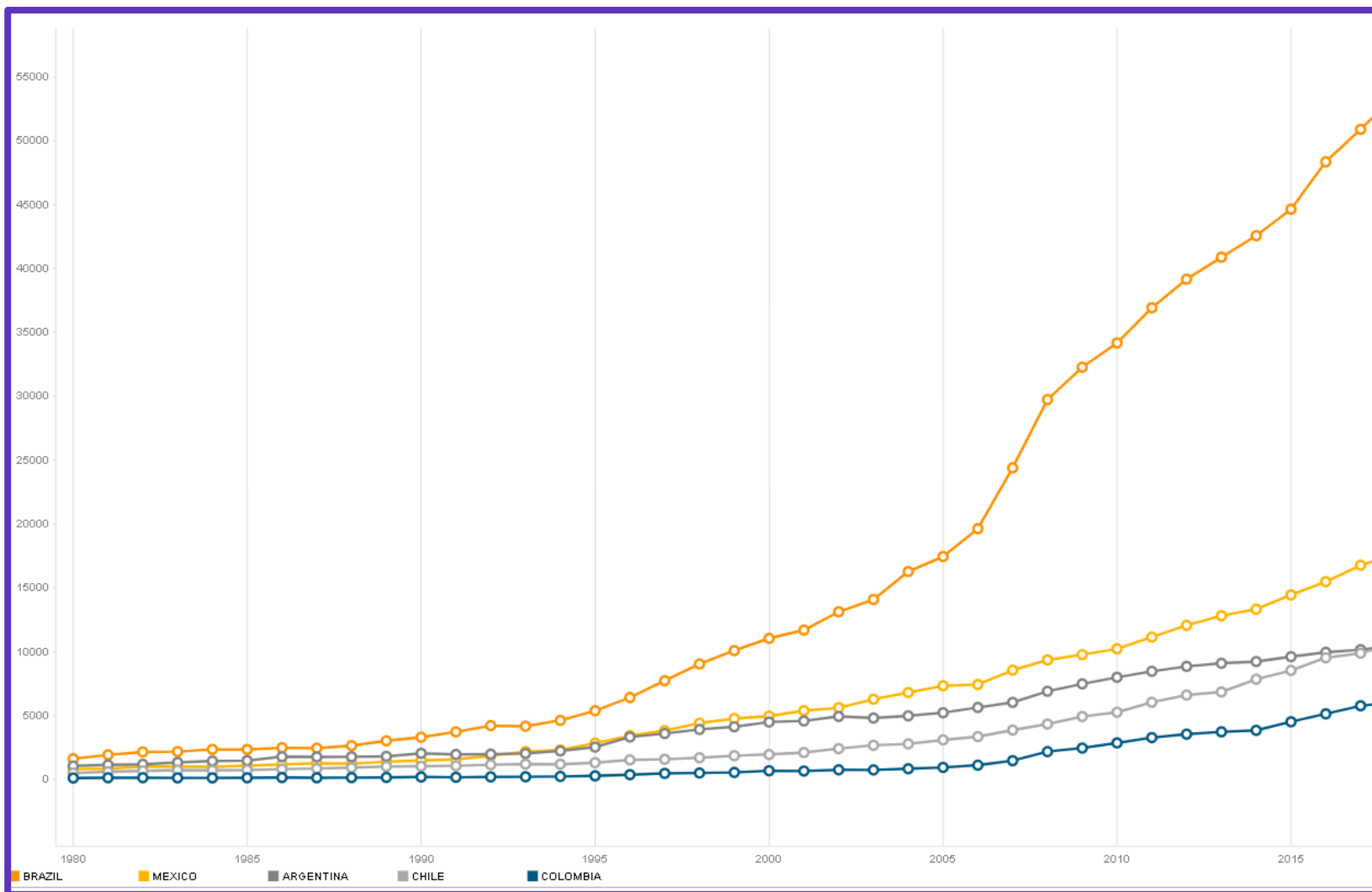
Global Baseline at 1.00

What's the Impact of publishing in Open Access?

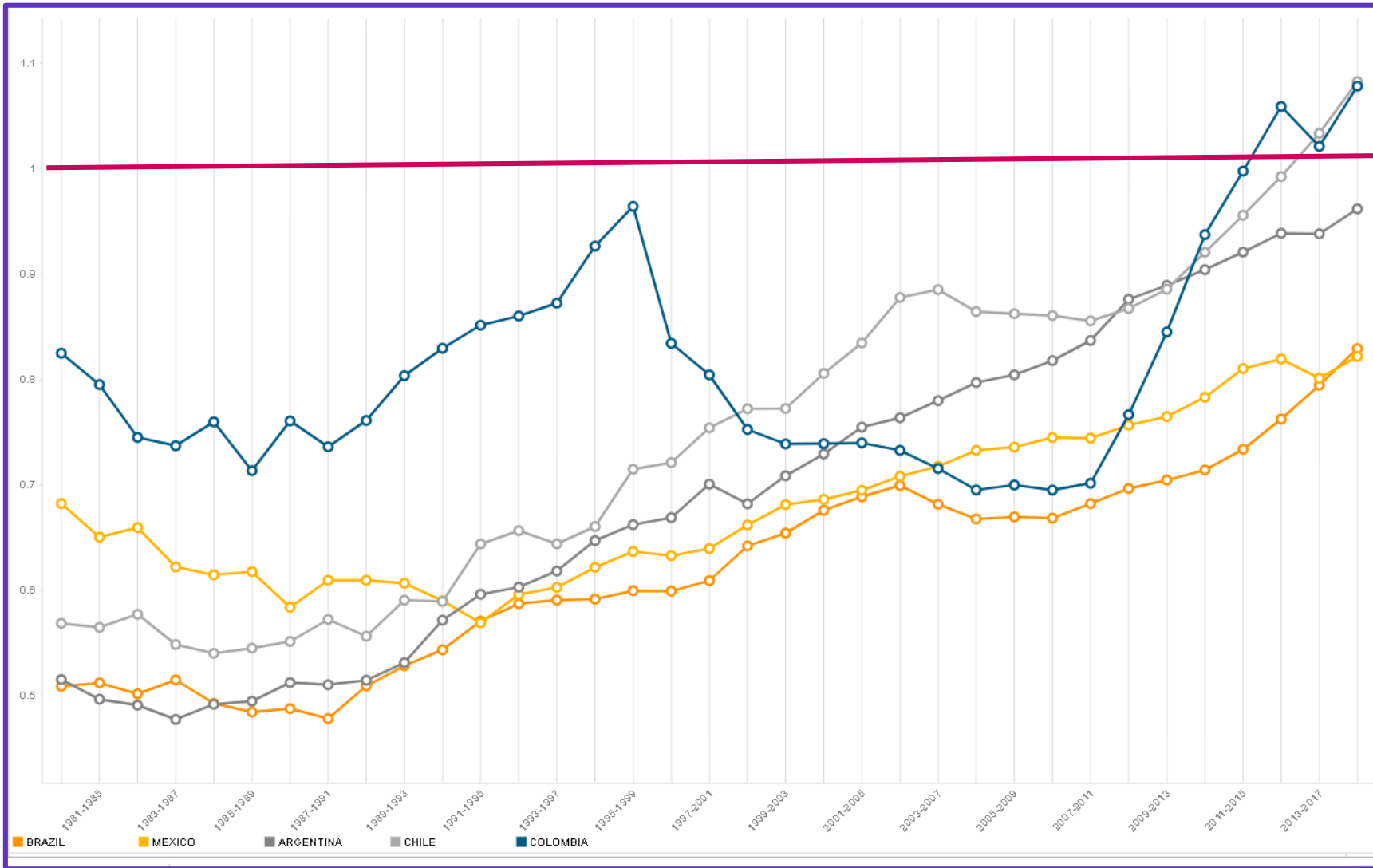
Here we look at several highly-developed European countries and on the right Central & Eastern European nations



Latin America 1980 – 2018 - articles & reviews – includes Web of Science flagship editions (SCIE, SSCI, A&HCI)



Brazil 662,000+
 Mexico 34,000+
 Argentina 181,000+
 Chile 123,000+
 Colombia 54,000+



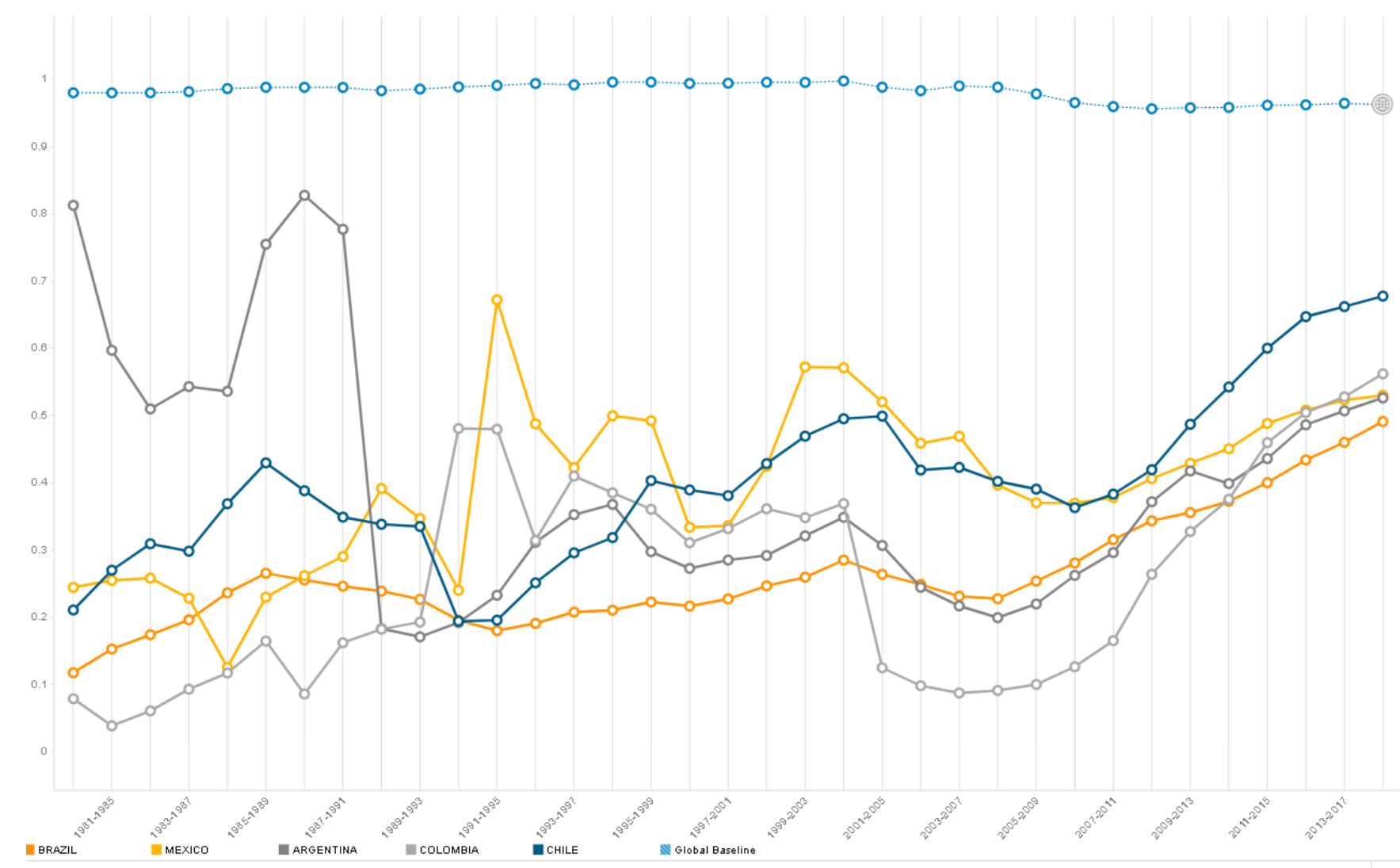
While we see Colombia, Chile & Argentina all very near the global CNCI baseline of 1.00, these countries are dwarfed when one looks at Brazil's & Mexico's publication output.

The constancy in publication output and CNCI for Brazil indicates an exponential growth in publications and impact.

If we couple these two statistics together we see tremendous growth in the high impact literature

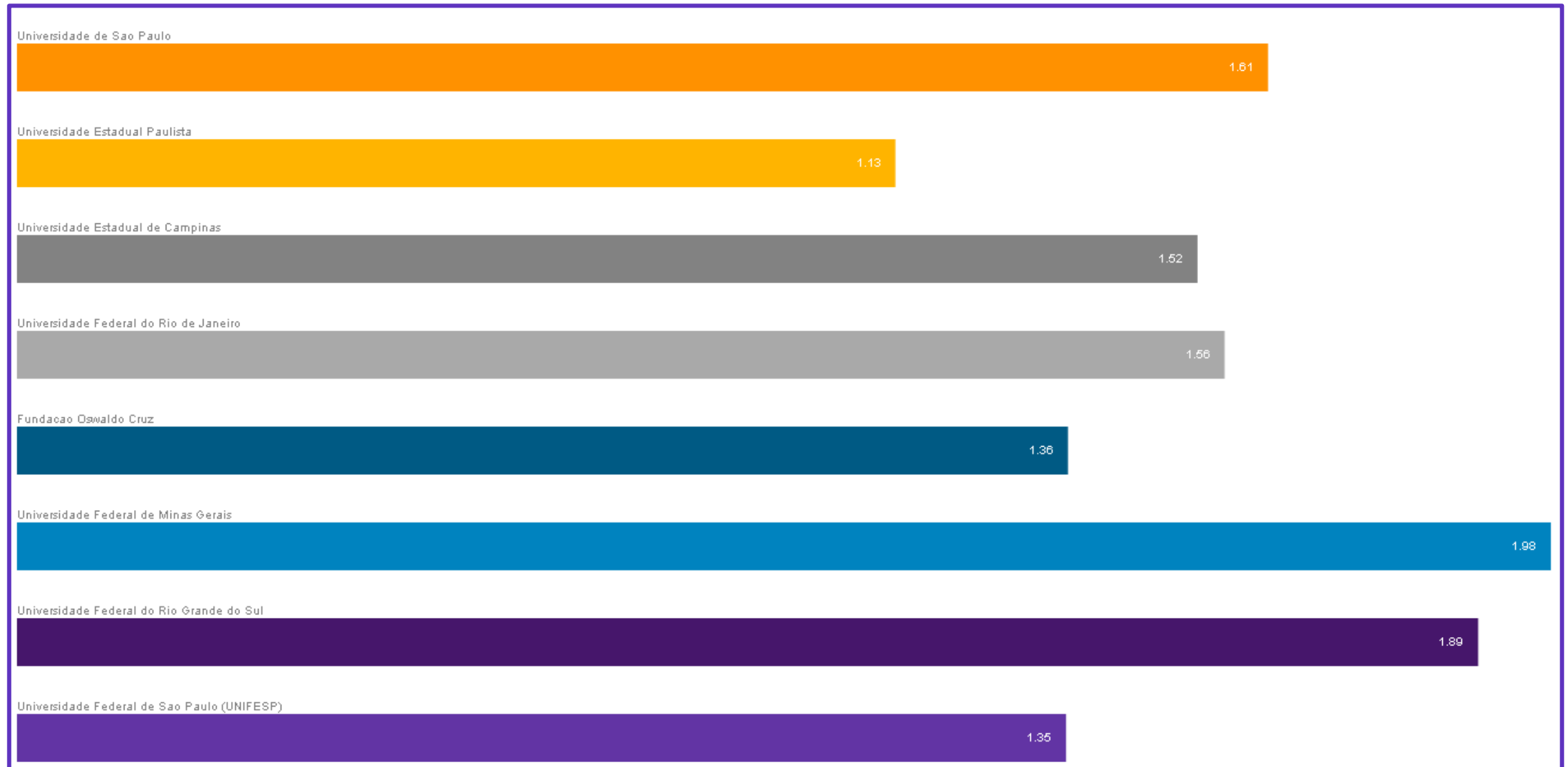
LATAM Category Normalized Citation Impact

Addition of Emerging Sources Citation Index



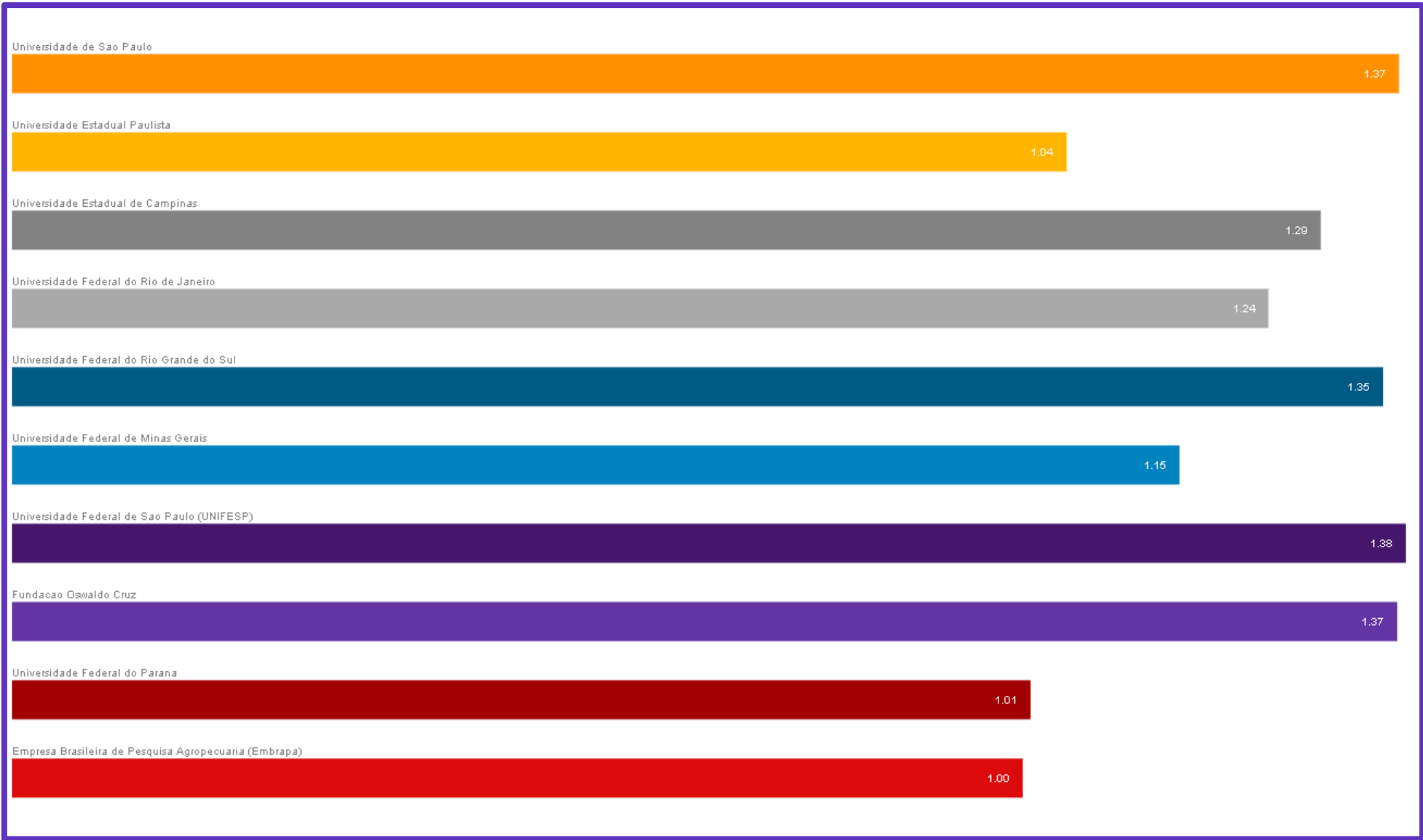
DOAJ Open Access - Category Normalized Citation Impact

2008 – 2018 Top Ten Universities in WoS Core Editions – Science Citation Index Expanded, Social Sciences Citation Index, Arts & Humanities Citation Index, Articles & Reviews



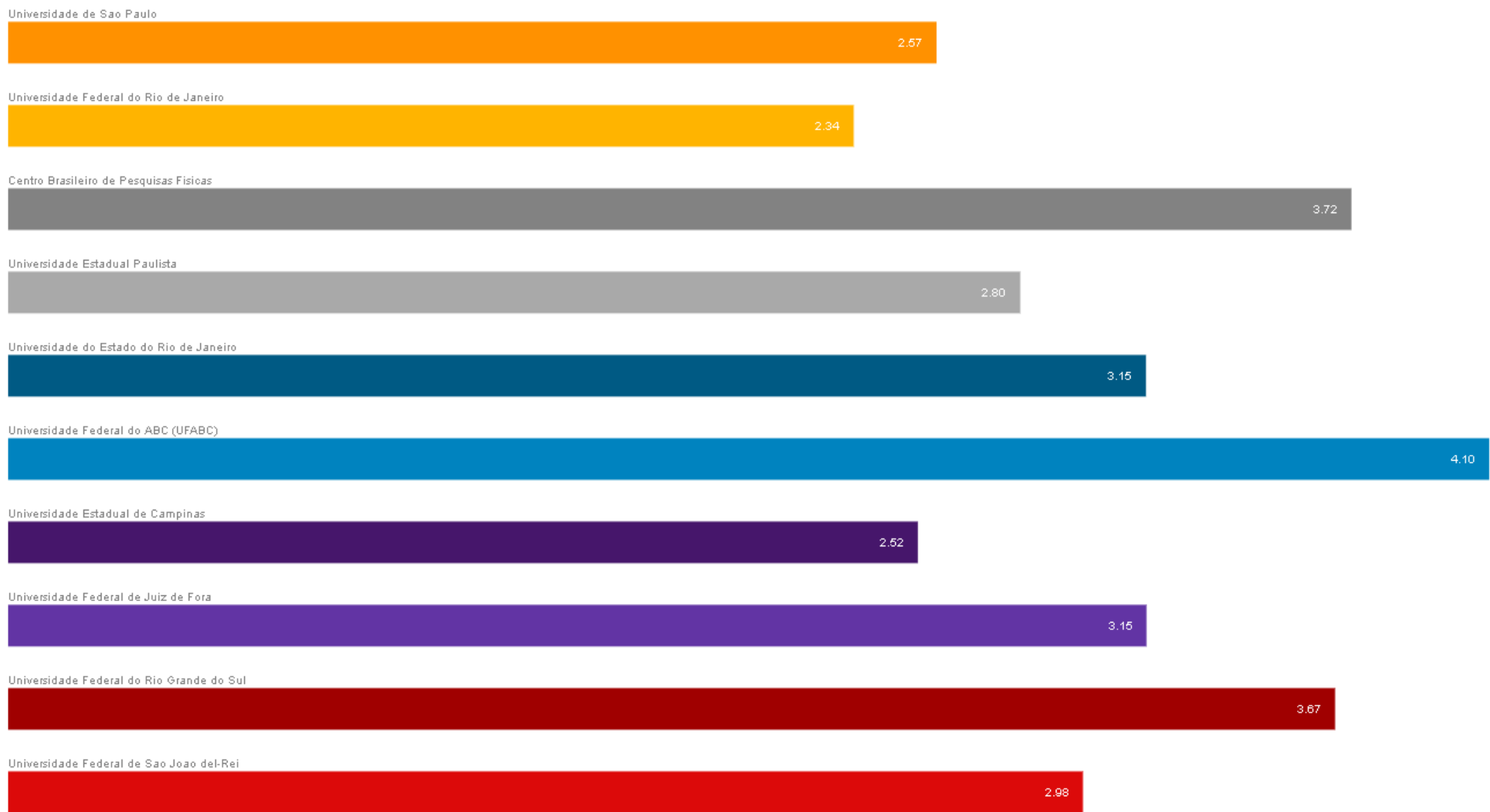
Category Normalized Citation Impact – Bronze Open Access

2008 – 2018 Top Ten Universities in WoS Core Editions – Science Citation Index Expanded, Social Sciences Citation Index, Arts & Humanities Citation Index, Articles & Reviews



Brazil Open Access – Other Gold (Hybrid)

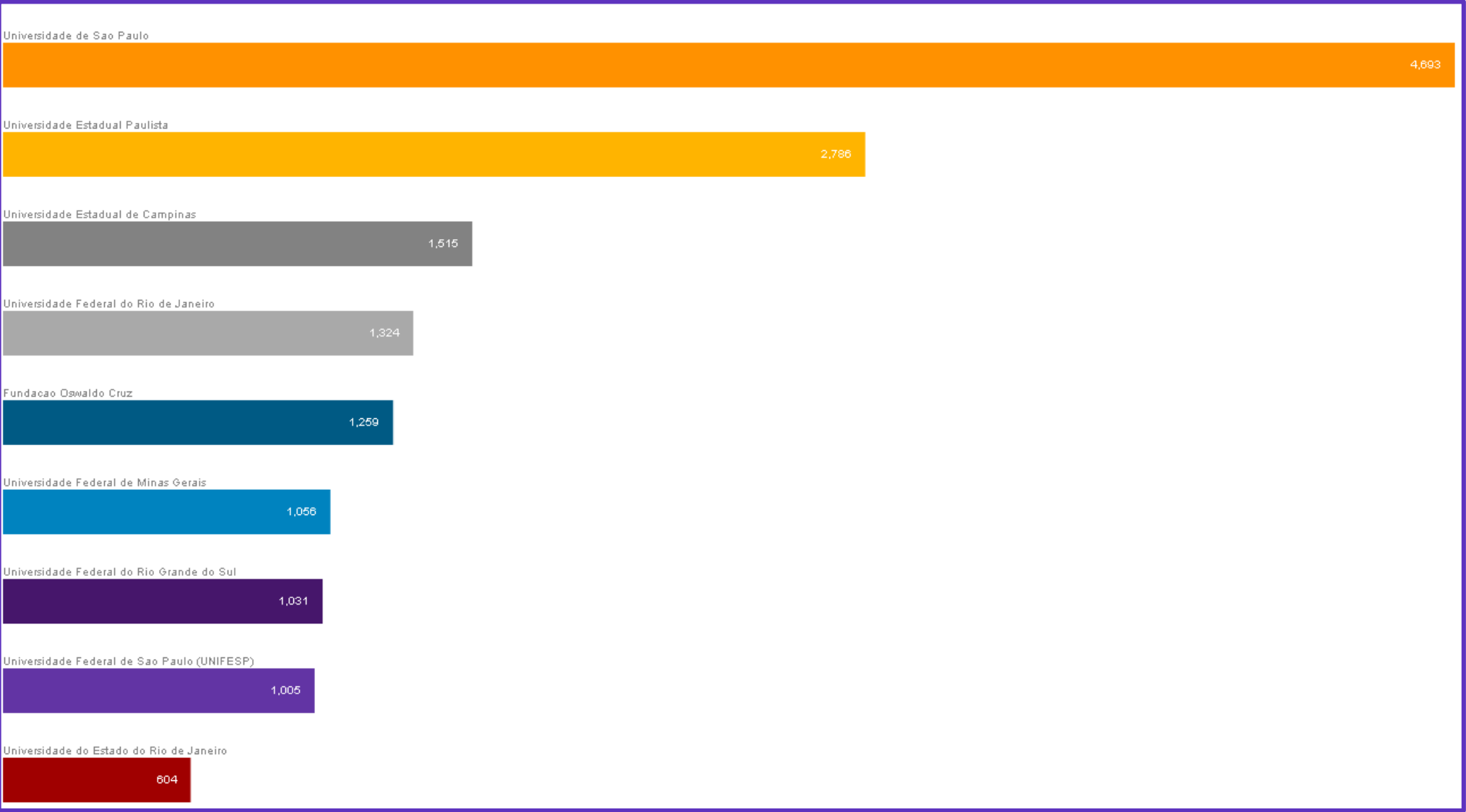
2008 – 2018 Top Ten Universities in WoS Core Editions – Science Citation Index Expanded, Social Sciences Citation Index, Arts & Humanities Citation Index, Articles & Reviews



Green OA – Category Normalized Citation Impact

Accepted for Publication

2008 – 2018 Top Ten Universities in WoS Core Editions – Science Citation Index Expanded, Social Sciences Citation Index, Arts & Humanities Citation Index, Articles & Reviews



Plan S and an analysis of 2017 data in Web of Science Core Collection

Funders and Open Access

What is Plan S? cOAlition S <https://www.coalition-s.org/>

Plan S requires that, from 2021, scientific publications that result from research funded by public grants must be published in compliant Open Access journals or platforms.



The individual members of cOAlition S will align their grant agreements and/or contracts with Plan S and monitor compliance and sanction non-compliance through enforcing contractual requirements

Why should the one care about Plan S?

It could have a significant impact on the publishing landscape in terms of:

- New OA journals
- Journals changing business models
- Changes in APCs (article processing charges)
- Impact on institutional subscription decisions; read and publish; publish and read agreements
- Etc.

20,000

Papers have at least one US author and have been funded by PlanS funders in 2017

2nd

US is the 2nd highest producer of Plan S funded papers in 2017

75%

of papers that acknowledge a Plan S funder also acknowledge funding from another source

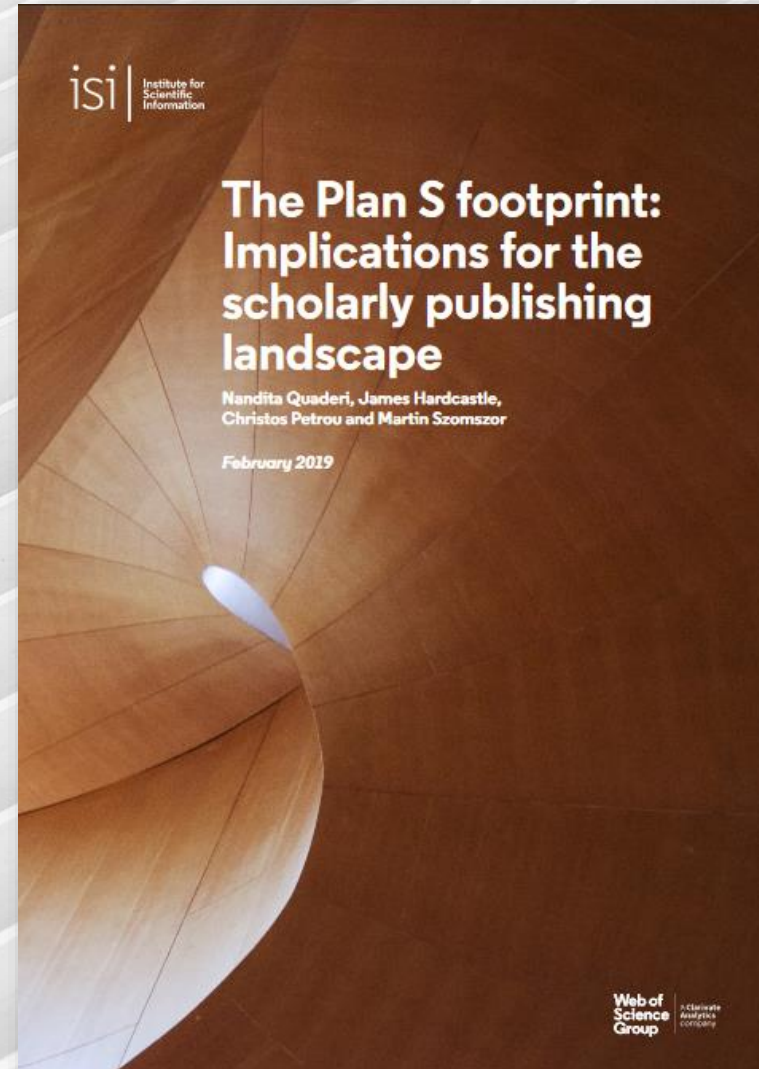
Report Findings

<https://clarivate.com/g/plan-s-footprint/>

Re-establishment of ISI within Clarivate Analytics

ISI serves as a home for analytics expertise and is our R&D group.

- ISI maintains the foundational knowledge and editorial rigor upon which the Web of Science database and its related products and services are built.
- Disseminates that knowledge to our colleagues, partners and all those who deal with research in academia, corporations, funders, publishers and governments. An example being the two reports produced by ISI this year.
- ISI is focused on the development of existing and new bibliometric and analytical approaches, fostering collaborations with partners and customers across the global research community.



The Plan S Footprint: Implications for the Scholarly Publishing Landscape

Nandita Quaderi, James Hardcastle, Christos Petrou and Martin Szomszor
Institute for Scientific Information, Clarivate Analytics

- The report looks to provide an **unbiased and data-driven background analysis** to inform debate around Plan S, based on journal data taken from the *Web of Science Core Collection*
- The report examines **potential implications** for funders, publishers, institutions and researchers
- Questions posed in the report are backed up by *Web of Science Core Collection* data
- Web of Science Group **remains unbiased** in Plan S discussions.
- Report was published in February 2019. Plan S has published revised implementation guidelines in May 2019 <https://www.coalition-s.org/rationale-for-the-revisions/>

Data source

Publication records were drawn from Web of Science Core Collection (Science Citation Index Expanded, Social Sciences Citation Index, Arts & Humanities Citation Index and Emerging Sources Citation Index).

Characteristics of Core Collection:

- 20,900 active journals
 - 4,200 DOAJ open access journals
- Records from 1900-present
- 74.7 million records
 - 10.3 million records OA (includes all types-gold, green, bronze)
 - 13 million records with funding acknowledgements
- All document types, all authors, all addresses

Parameter for Report:

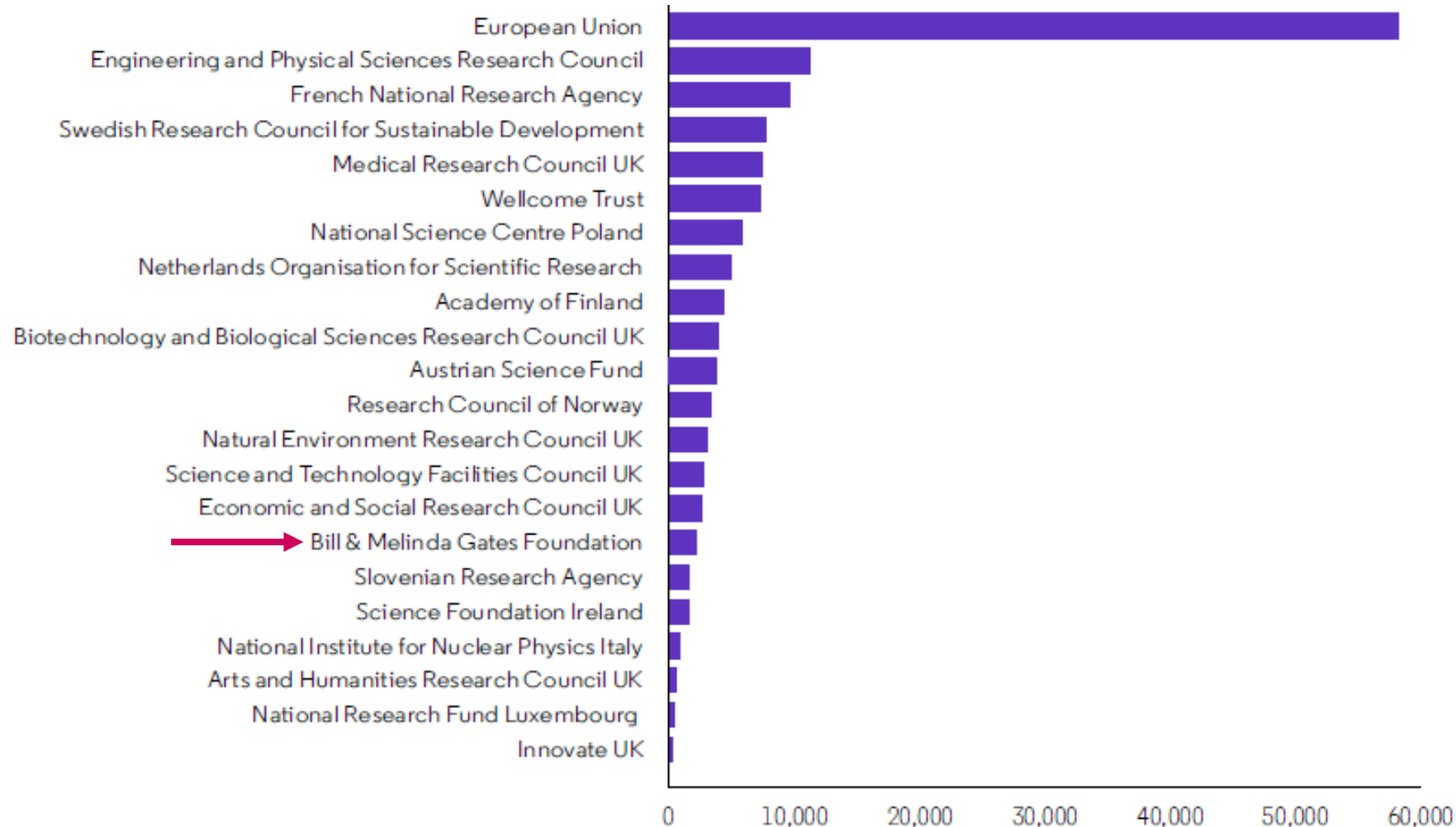
Publication year: 2017

Document types: articles, reviews

Date extracted: January 10, 2019

Papers funded by Plan S organisations

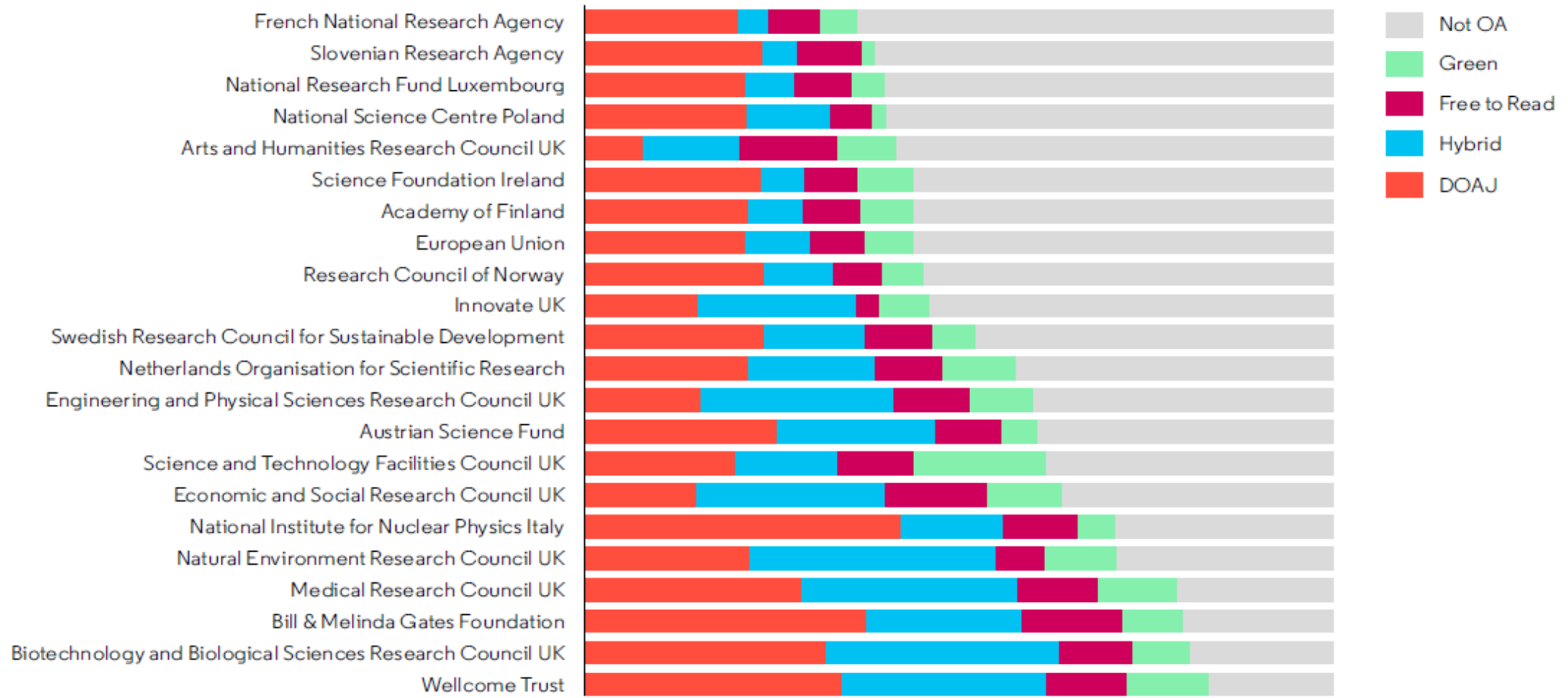
Plan S-supported research led to circa 6.4% of 2017 papers indexed in Web of Science; the EU funded about half of this.



Count of papers published in 2017 and indexed in Web of Science that acknowledge one or more funding organizations that have indicated support for Plan S.

Papers funded by Plan S organisations

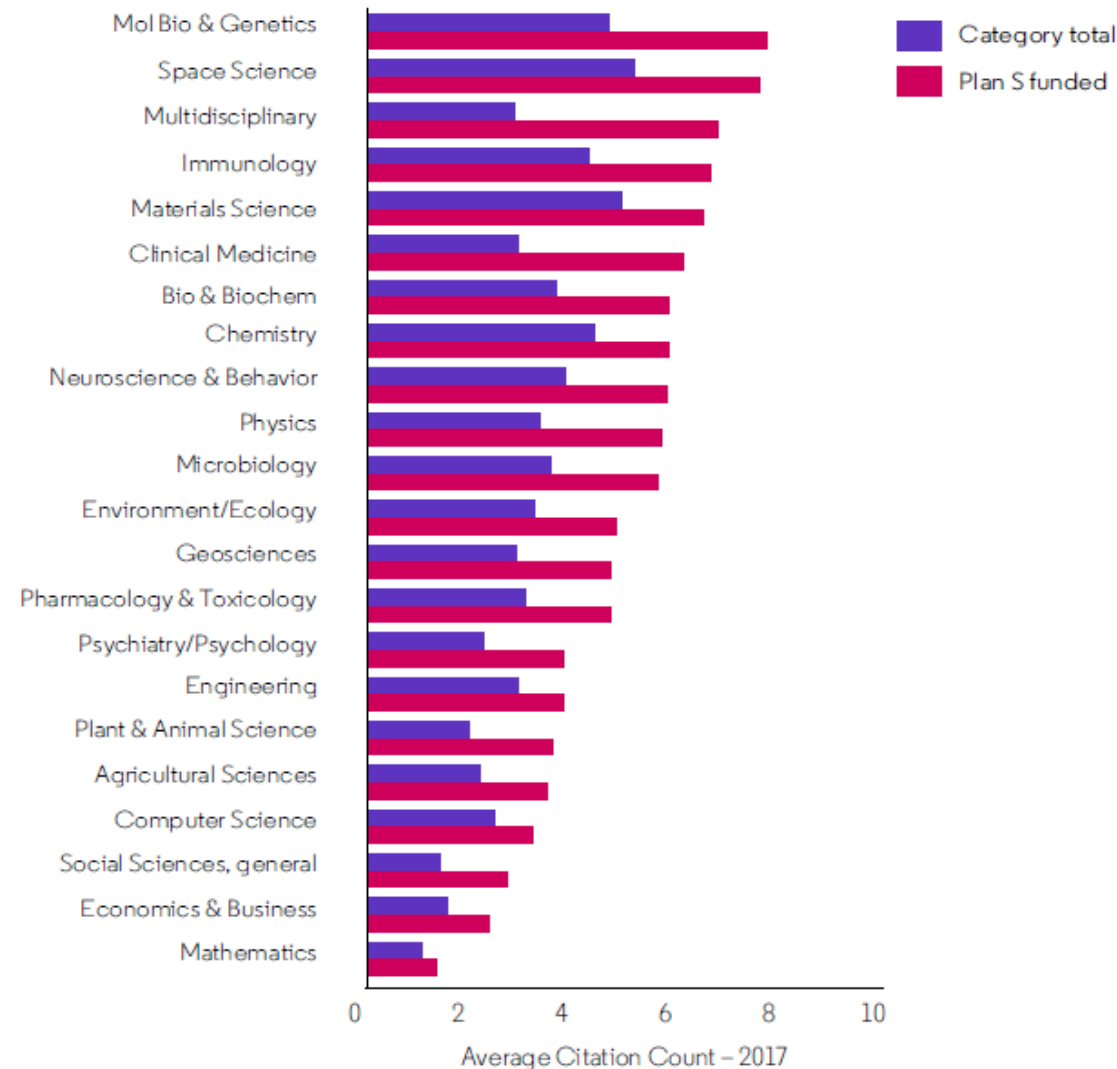
Although OA compliance is already substantial, the proportion varies by funder; funders that have a strong existing OA mandate have high Gold OA take up



The proportions of papers published in 2017 that acknowledge one or more funding organizations that have indicated support for Plan S grouped by Open Access status.

How frequently are Plan S papers cited?

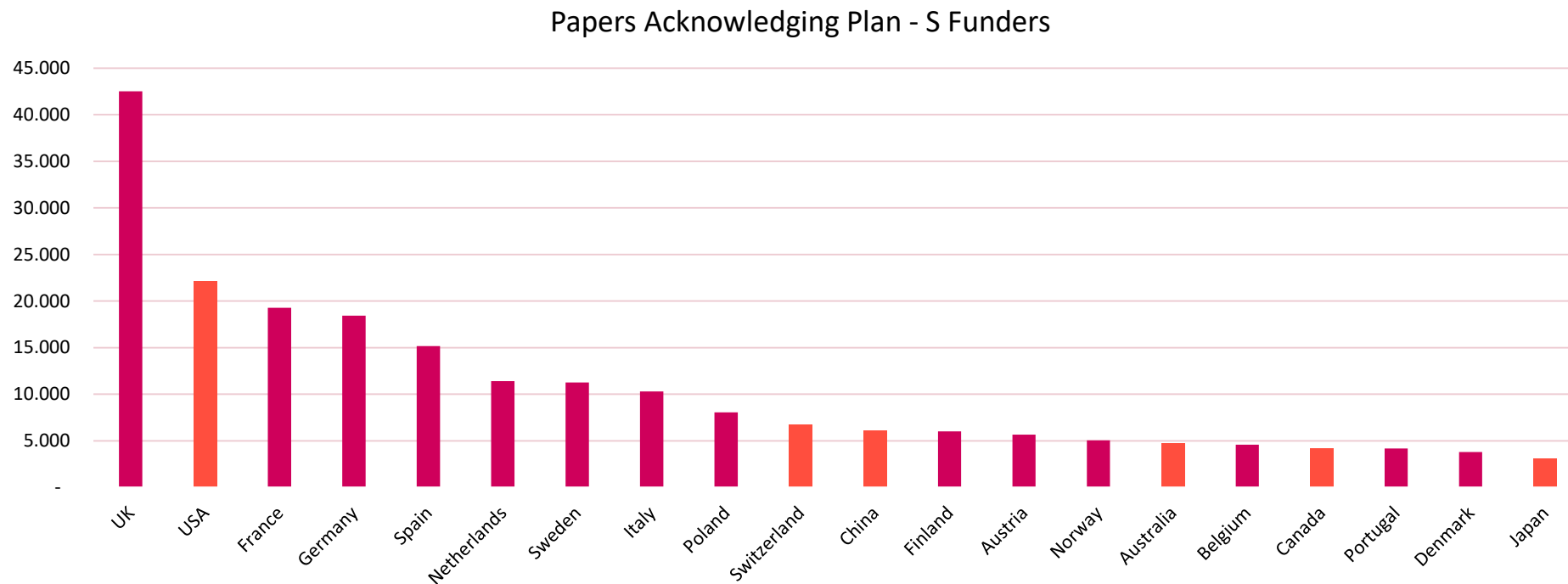
On 2017 citation counts, Plan S funded papers are cited more frequently on average than other papers, and this is true in all research areas.



Average citation counts for papers published in 2017, grouped by Essential Science Index research categories, comparing those funded by Plan S agencies with overall Web of Science content.

How does Plan S affect countries and regions?

In absolute terms, the papers with a United States co-author make the United States the 2nd largest producer of Plan S funded work after the United Kingdom. Half of all Plan S acknowledged collaborative research indicates co-authorship with researchers in the United States.

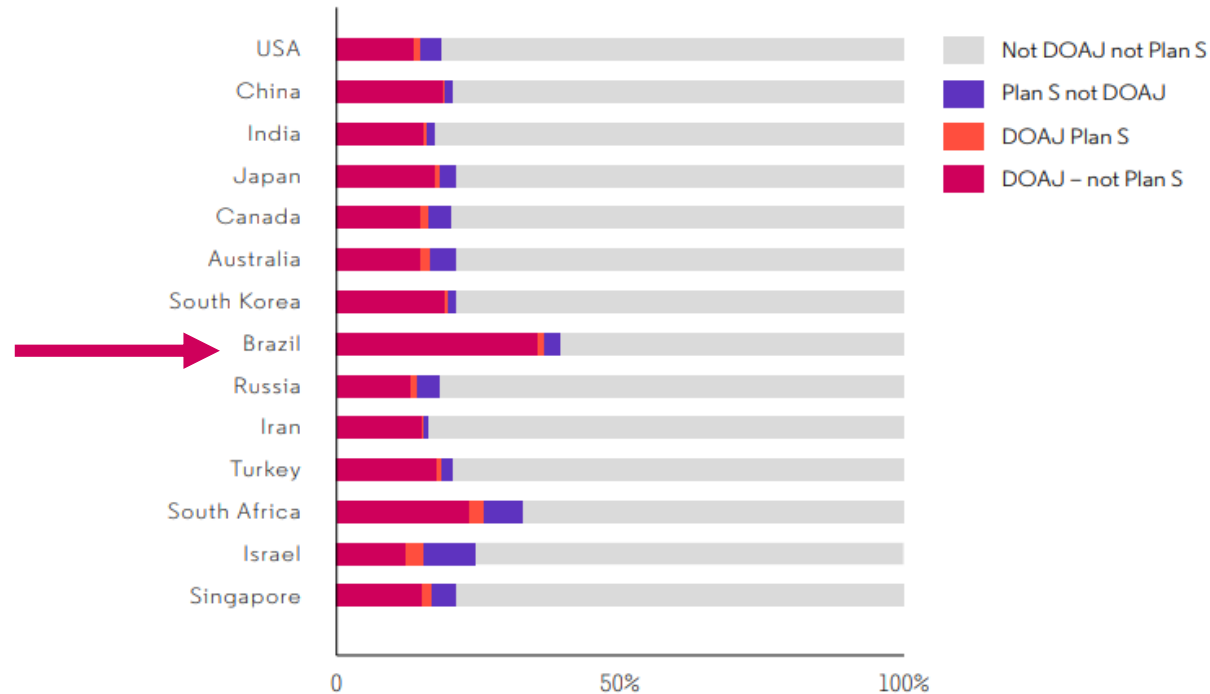


There are several American institutions, including MIT and Caltech, that have over 15% of papers that list Plan S funding, which is primarily driven by their high levels of international collaboration.

How does Plan S affect countries and regions?

The balance of OA papers and research funding in selected countries and regions outside Europe, ranked by volume output.

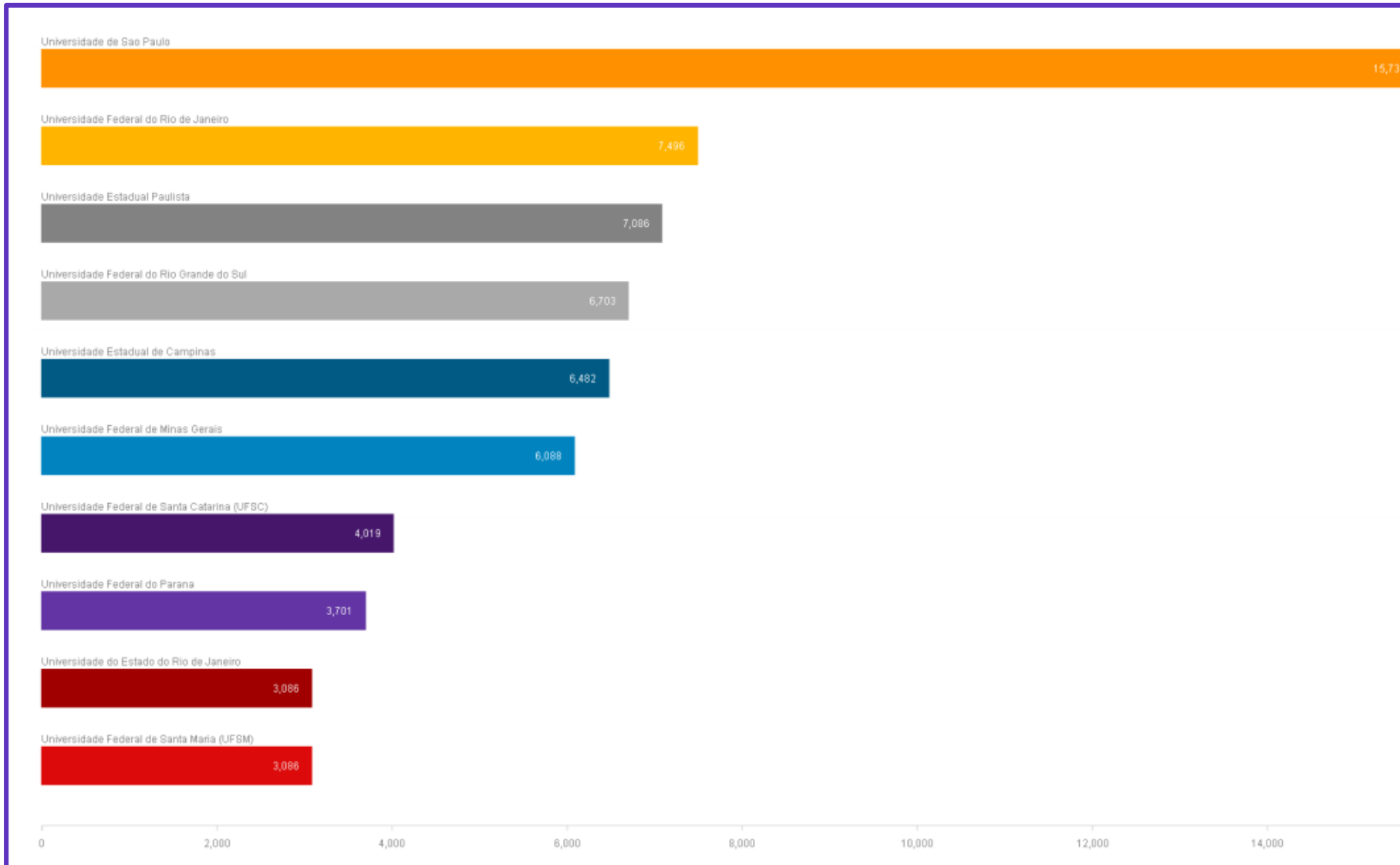
Figure 10.



14% of US total output was published in DOAJ Gold journals in 2017 (pink and orange segments). Of all Plan S funded papers from the US, 77% were not published in DOAJ Gold journals.

In Brazil we see that over 50% of papers were published in non-DOAJ publications

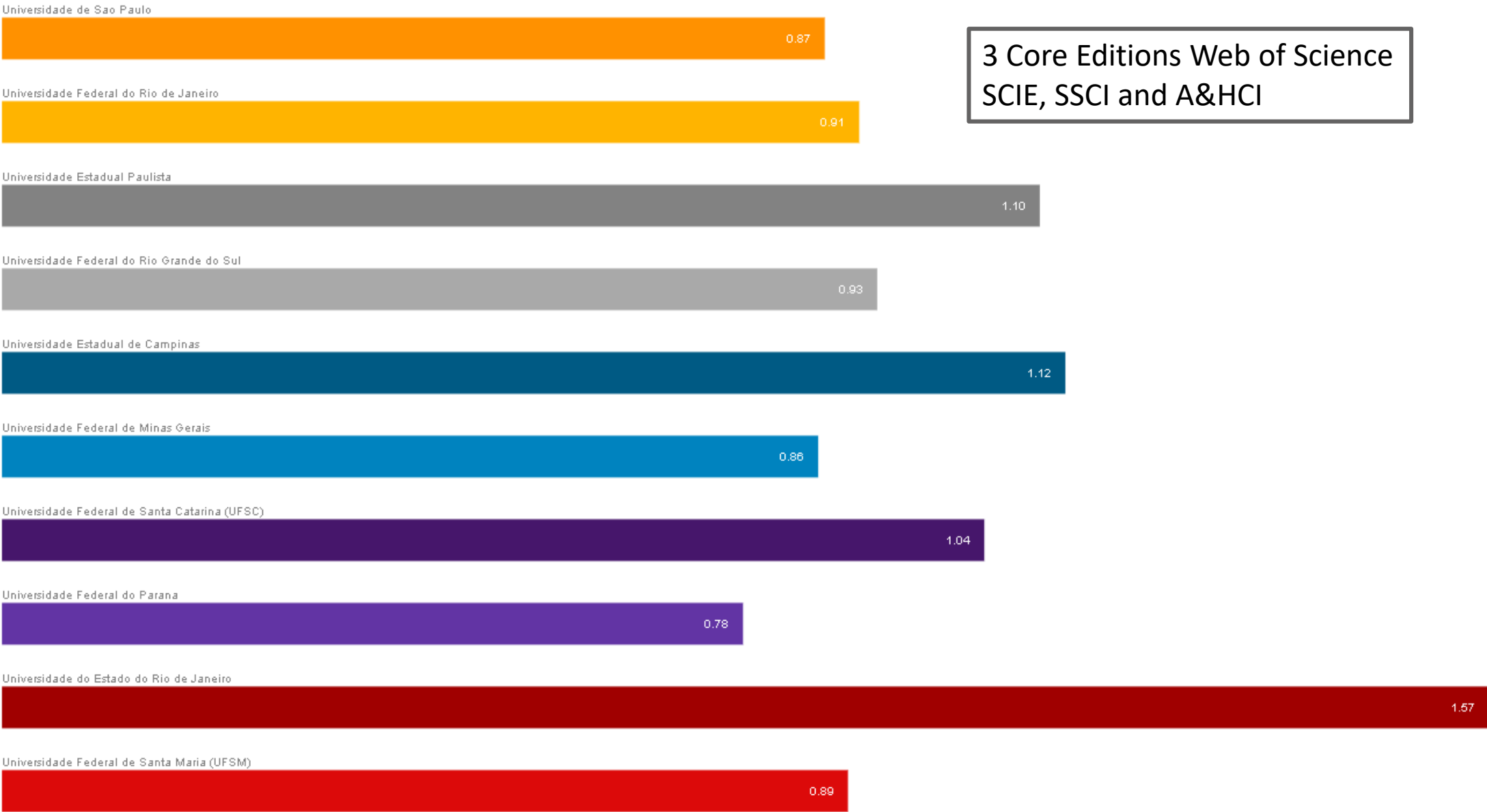
CAPES Funding – 2008-2018 – Web of Science Core Collection Documents



3 Core Editions
Web of Science
SCIE, SSCI and
A&HCI

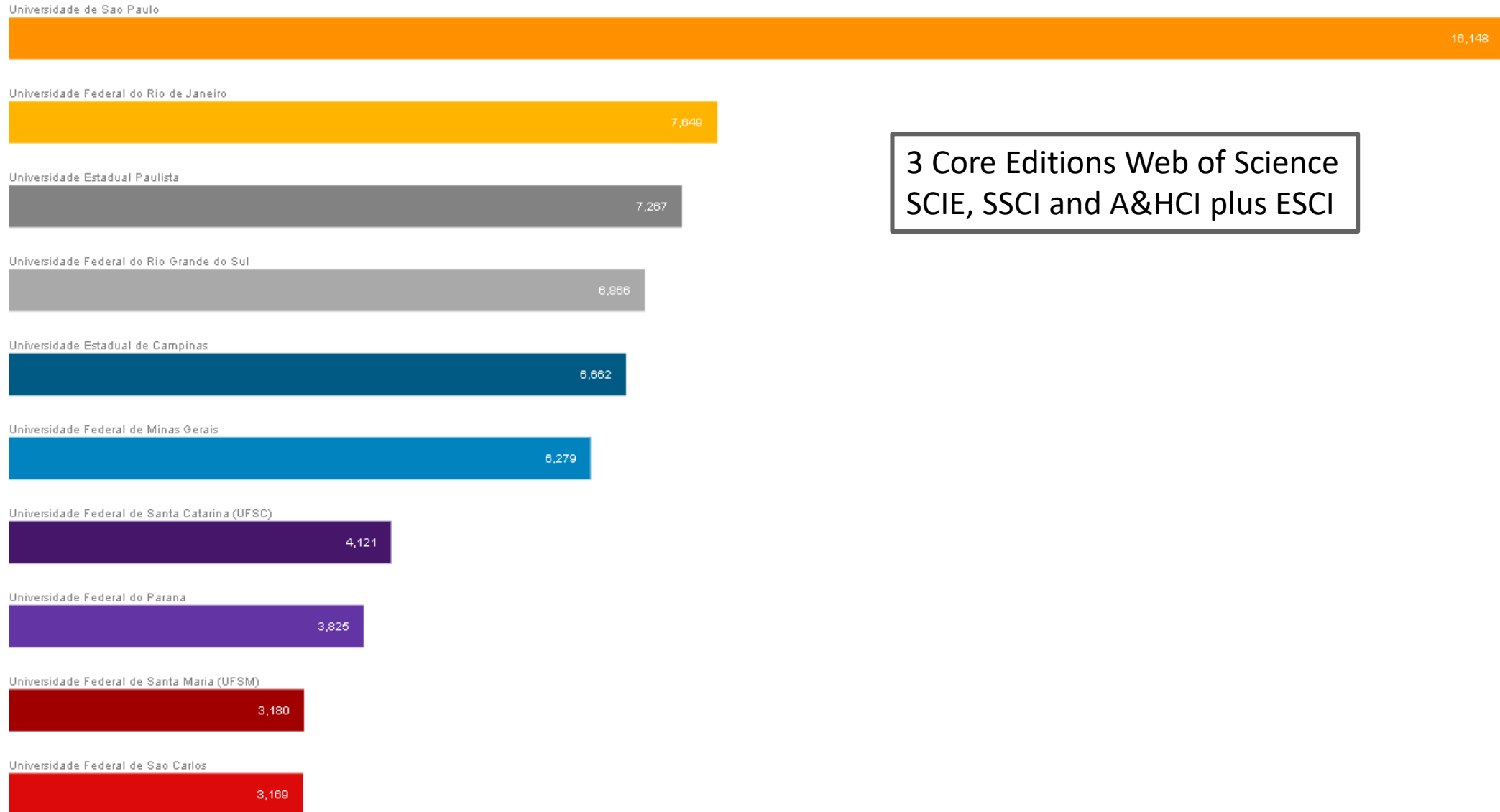
CAPES Funding – Category Normalized Citation Impact (CNCI) - 2008-2018

3 Core Editions Web of Science
SCIE, SSCI and A&HCI

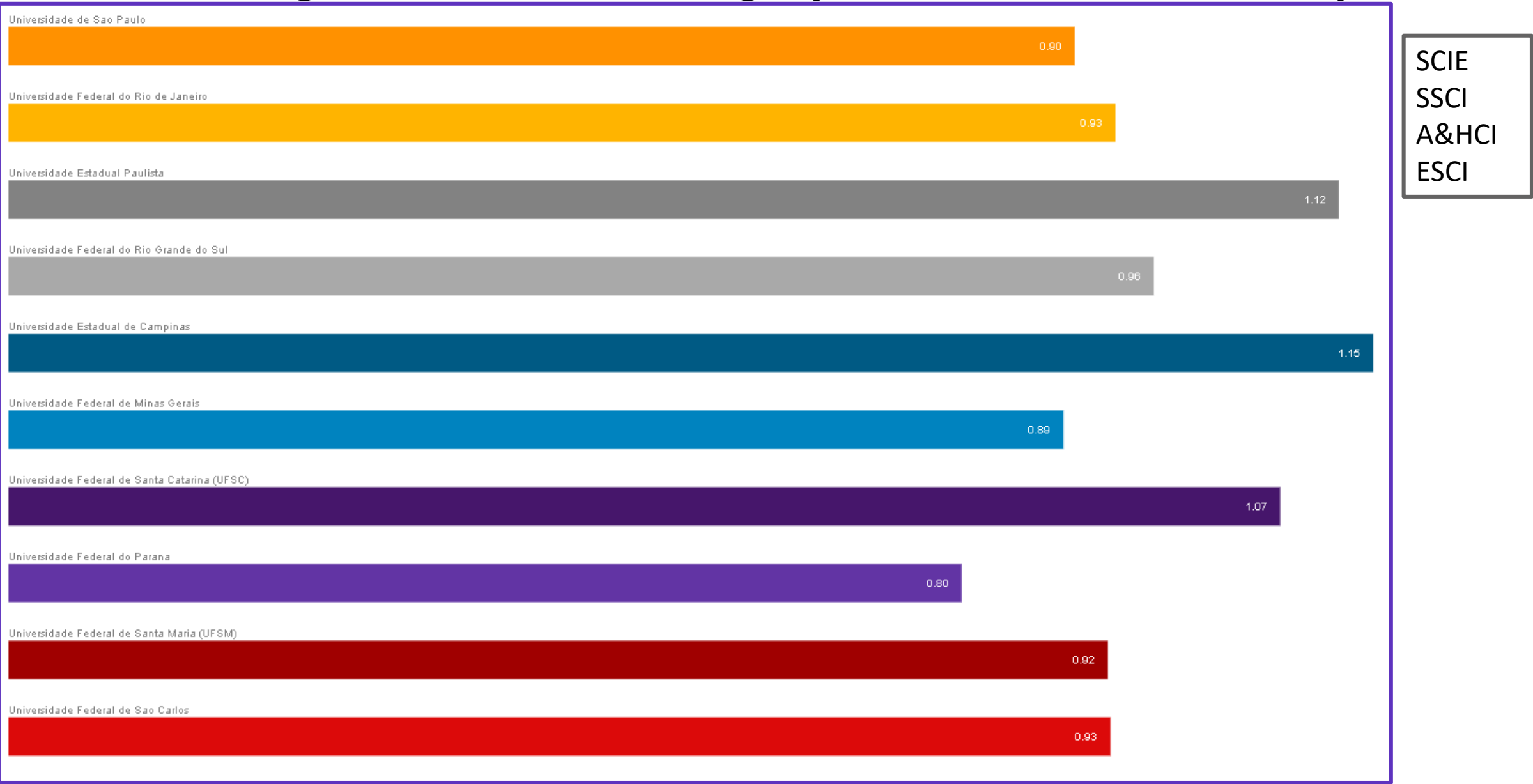


CAPES Funding – 2008-2018

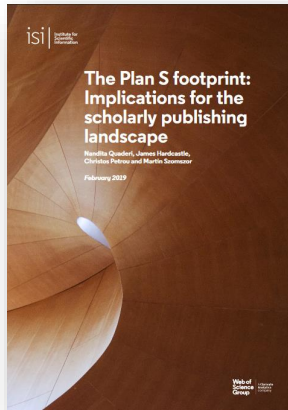
Web of Science 3 Core Editions with Emerging Sources Citation Index



CAPEX Funding – 2008-2018 – Category Normalized Citation Impact



Global Research Reports



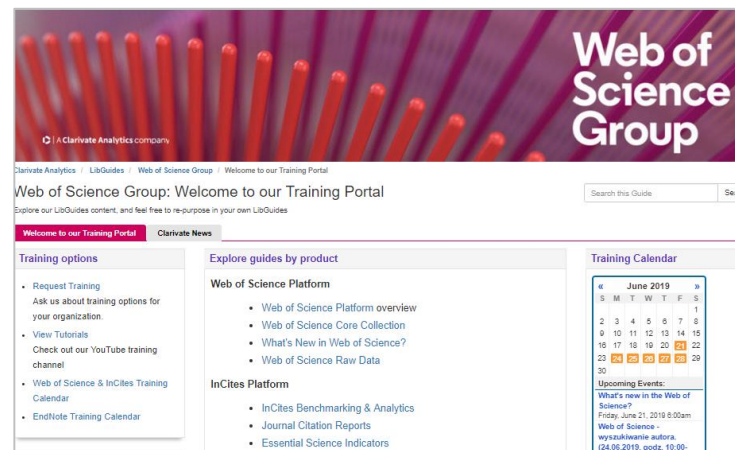
Read the Plan S report here

<https://clarivate.com/g/plan-s-footprint/>



Watch this video about Open Access in Web of Science

<https://youtu.be/F98qREBO7M>



Access Web of Science training resources at our Libguide

<http://clarivate.libguides.com/home>

Thank you

Jeff Clovis

Director, Solutions Consultants/Education

Jeff.Clovis@clarivate.com

