

# Open Access Influence on Argentinean Scientific Community's Publishing Patterns



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## Abstract

The objective of this study is to estimate the influence of Open Access on publication patterns of the Argentina scientific community in different disciplines (Medicine; Physics and Astronomy; Agriculture and Biological Sciences; and Social Sciences and Humanities), based on an analysis of the access model that the chosen journals used to communicate their research results during 2008-2010. The sample was taken from the SCOPUS database and the journals' access models were selected through searches done using the following sources: DOAJ, e-revist@s, SCielo, Redalyc, PubMed, Romeo-Sherpa, and Dulcinea. The real and potential accessibility of national scientific production was analyzed following both golden and green routes, respectively, as well as through subscription to the Science and Technology Electronic Library that belongs to the Argentinean Ministry of Science, Technology and Productive Innovation. Our results show that, on average, and involving the studied group of themes as a whole, 70% of internationally visible Argentinean scientific production is published in journals that, in one way or another, adhere to the Open Access movement, with a ratio of 27% for the golden route and 43% for the green route, with variations according to areas of academic discipline. Between 16% and 30% (according to areas) of the articles that were published in journals that adhere to the green route were accessed via subscription. The percentage of journals without access is around 30% for Social Sciences and Humanities, and it reaches nearly 45% for the other areas. In conclusion, Argentina offers very favorable conditions to release a high percentage of the scientific literature that is generated in the country through Open Access options, as well as to optimize its investment in journal subscriptions through an increase in the number of publications that are available via institutional repositories and self-archiving mandates, contributing also to increased visibility and long-term preservation for its national scientific and technological production.

## Objectives and Research Questions

This study aims at estimating the influence of Open Access on publication patterns of the Argentina scientific community in different disciplines, based on an analysis of the access model that the chosen journals used to communicate their research results. The study tries to find answers to the following questions:

- What is the number represented by Open Access journals and journals that allow self-archiving in repositories in Argentina's scientific production?
- To what extent is the production that is published in those journals accessible for the country's scientific community itself, through Open Access journal portals or through subscription via the Electronic National Library of Science and Technology (BECyT) from Ministry of Science, Technology and Productive Innovation (MINCYT)?

## Materials and Methods

### Data Sources

SCOPUS was chosen as our primary source to identify Argentinean scientific production for the 2008-2010 period (5482 articles from 1428 journals). Subjects: Medicine, Physics and Astronomy, Agriculture and Biological Sciences, and Social Sciences and Humanities.

Sources that were used to identify journals according to access model in this study:

- *Directory of Open Access Journals (DOAJ)*
- Scientific Electronic Library Online (SCielo) (<http://www.scielo.org/php/index.php>)
- Network of Scientific Journals from Latin America and the Caribbean, Spain and Portugal (Redalyc) (<http://redalyc.uaemex.mx/>)
- Spanish and Latin American Scientific Electronic Journal Platform, e-Revistas (<http://www.erevistas.csic.es/>),
- PubMed Central (PMC) (<http://www.ncbi.nlm.nih.gov/pmc/>),
- ROMEO Project portal developed by the SHERPA group
- Dulcinea (<http://www.accesoabierto.net/dulcinea/>),
- Science and Technology Electronic Library Portal from MINCYT (<http://www.biblioteca.mincyt.gov.ar/>)

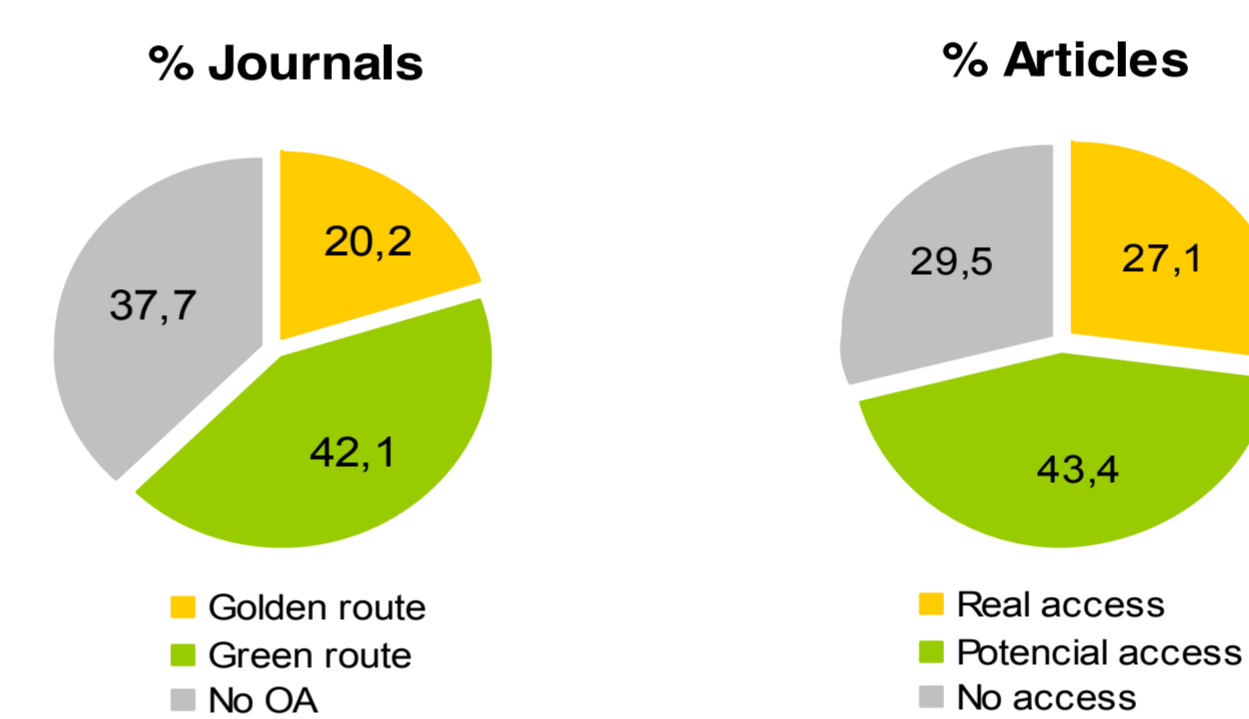
### Journal Classification According to Access Model

Journals were classified according to the access model:

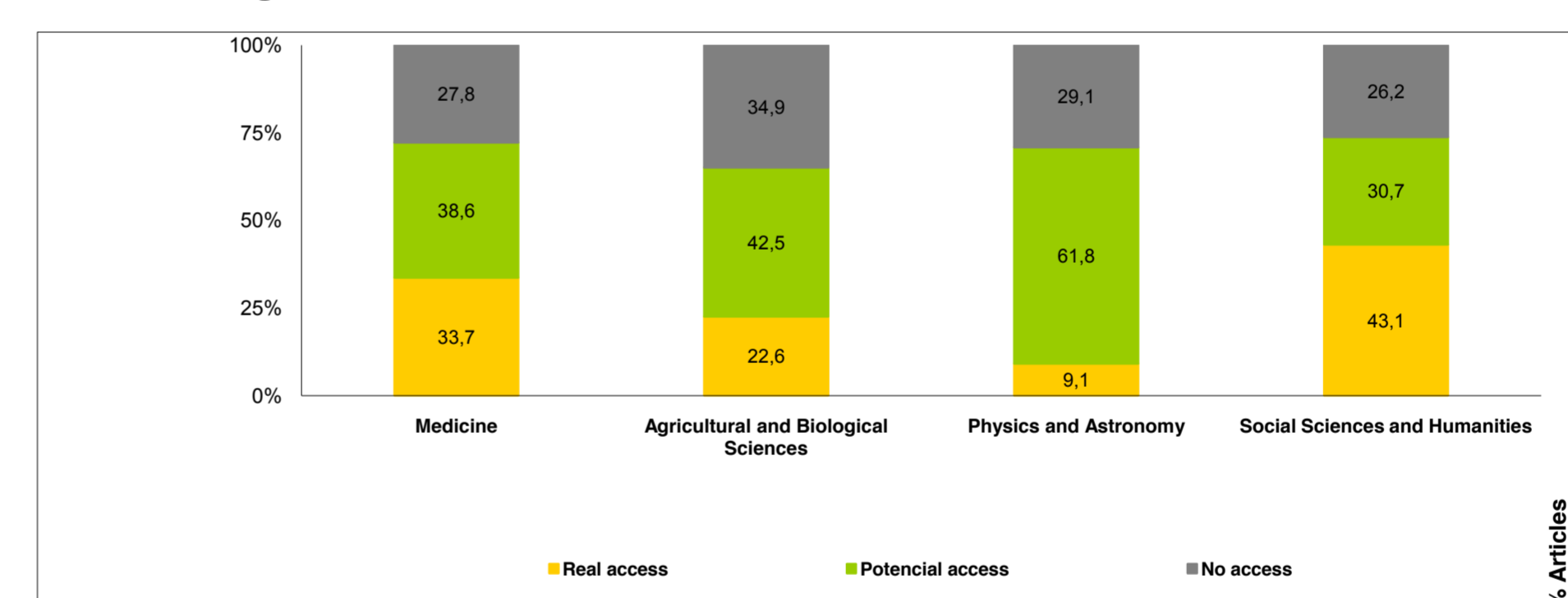
- Golden route/real access: journals found in DOAJ, e-revistas, PubMed, SciELO and Redalyc.
- Green route/ potential access: journals that had explicit policies about self-archiving adherence, and were found in the Romeo-Sherpa and Dulcinea portals, regardless of the requirement of an embargo period or not.
- Without information about access: journals that were not found in any of the sources, or, after been found, they did not allow self-archiving (white) or did not have explicit policies in that regard.

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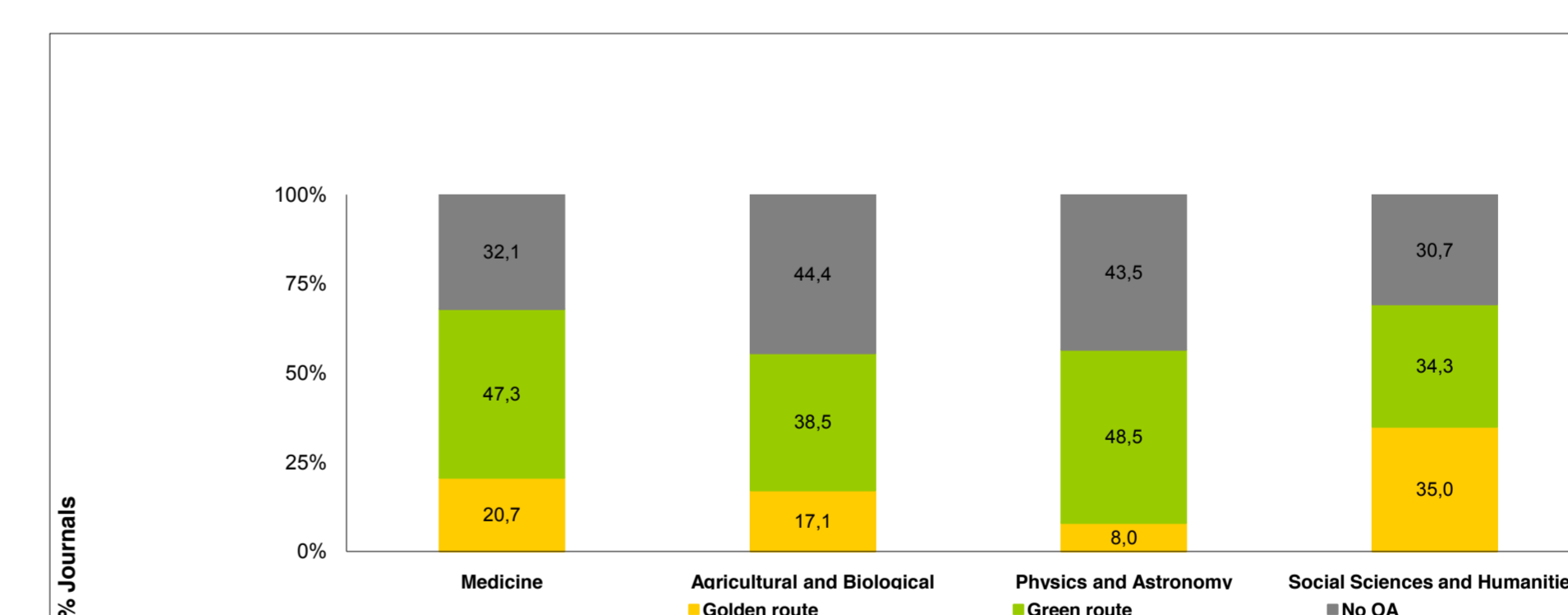
## Results



Percentage of Journals and Argentinean Scientific Production According to Access Model



Percentage Distribution of Articles According to Access (Real or Potential) per Thematic Areas



Percentage Distribution of Journals According to Access Model per Thematic Areas

## Conclusions

This study shows a positive influence of Open Access on Argentina's scientific community publication patterns in different fields, at least from the perspective of the scientific production that is internationally visible through the SCOPUS database. On average, 70% of production is published in journals that adhere to some form of Open Access, in a ratio of 27% for the golden route and 43% for the potential green route. This means that, in general terms, Argentina has a great potential for increasing Open Access to its national scientific production through the green route by creating new repositories and expanding the existing ones, along with researchers adopting self-archiving practices. On the other hand, this study confirms that the influence of Open Access is not the same across all fields.