



# The Future of Bioethics: Developing a Methodology for the International Comparison of Bioethics Funding



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## Introduction

Bioethics research is being affected by rapidly changing scientific, political, and social challenges, yet little is known about how this work is funded across different national contexts. Examining funding patterns offers a way to better understand the development of bioethics as a global discipline.

This project, thus, develops a methodology to study *how much bioethics research is being published, who is funding it, and how funding patterns differ across countries and over time. It focuses on bioethics research in China, the United Kingdom, United States and South Africa in 2020.*

## Methodology

Scopus: A comprehensive abstract and citation database for impact makers

I used Scopus—a large, multidisciplinary abstract and citation database—to look for bioethics articles and use the **volume of publications as a proxy for the formal research activity occurring in that country.**

China, the United Kingdom, and the United States emerged as the countries with the greatest volume of bioethics-related publications; South Africa was added as a comparison case from the Global South.

```
TITLE-ABS-KEY(
  "bioethic*" OR "medical ethic*" OR "clinical ethic*" OR "research
  ethic*" OR "public health ethic*" OR "global health ethic*" OR
  "neuroethic*"
)
AND PUBYEAR > [Year before Year of Interest]
AND PUBYEAR < [Year after Year of Year of Interest]
AND (
  LIMIT-TO ( AFFILCOUNTRY,"[Country of Interest]" ) )
```

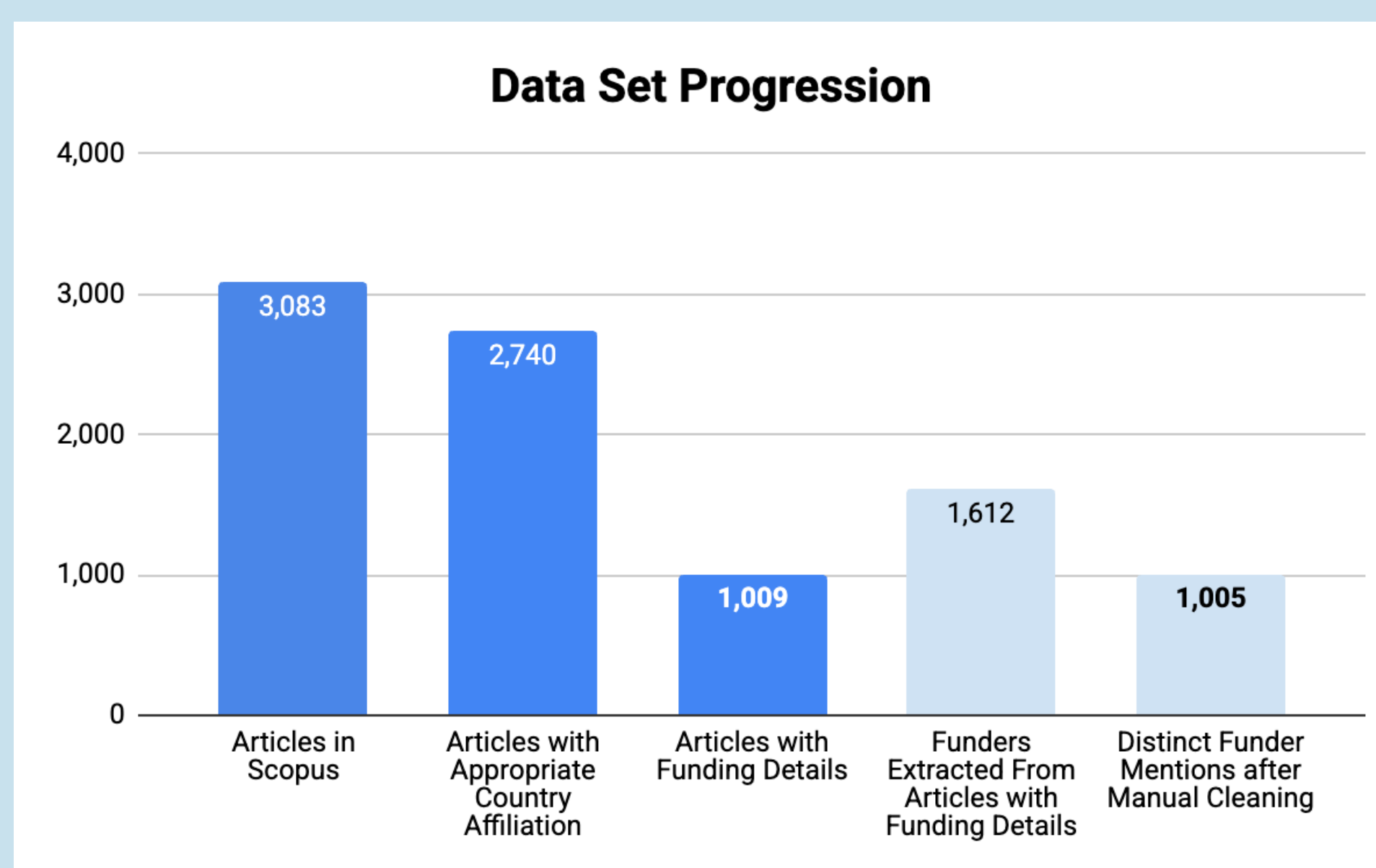
The Scopus search was refined and 2020 bioethics publications were exported by country as a baseline. The same analysis will be repeated for 2024 and 2028, **with 2028 expected to reflect 2026 trends and political changes due to the publication lag.**

Records were screened using **first- and last-author affiliations** as proxies for primary and senior intellectual contribution. Funding entries were then split into individual funder records for cleaning and analysis.

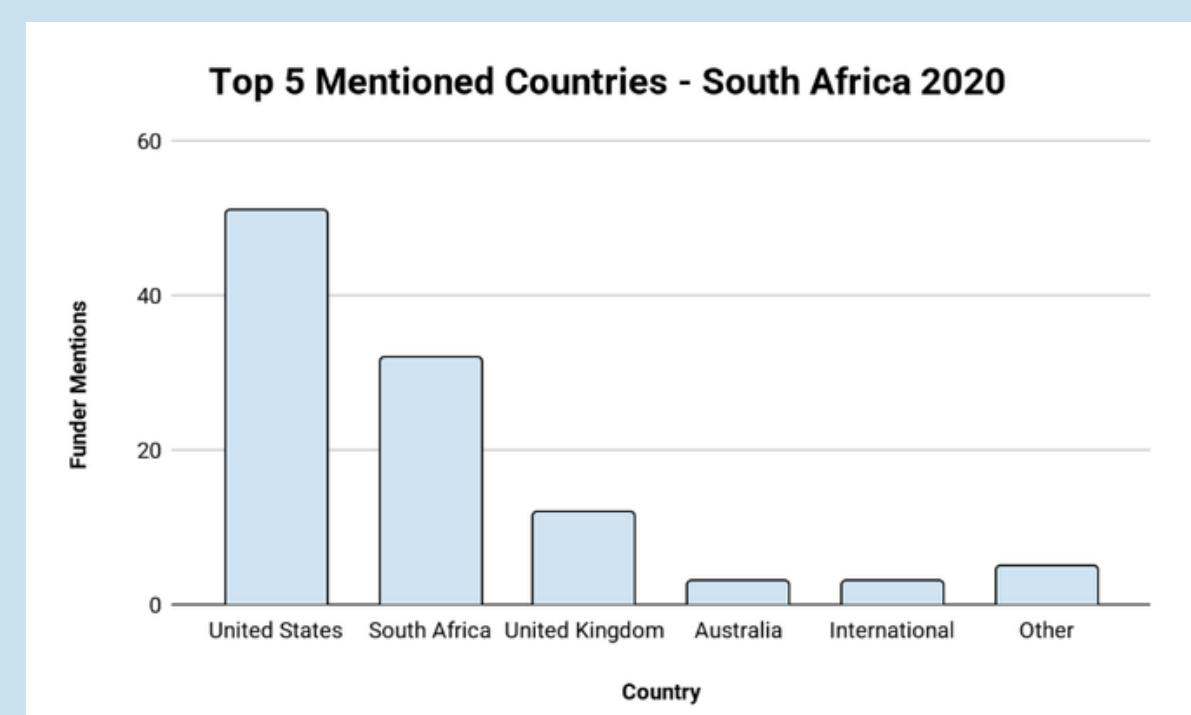
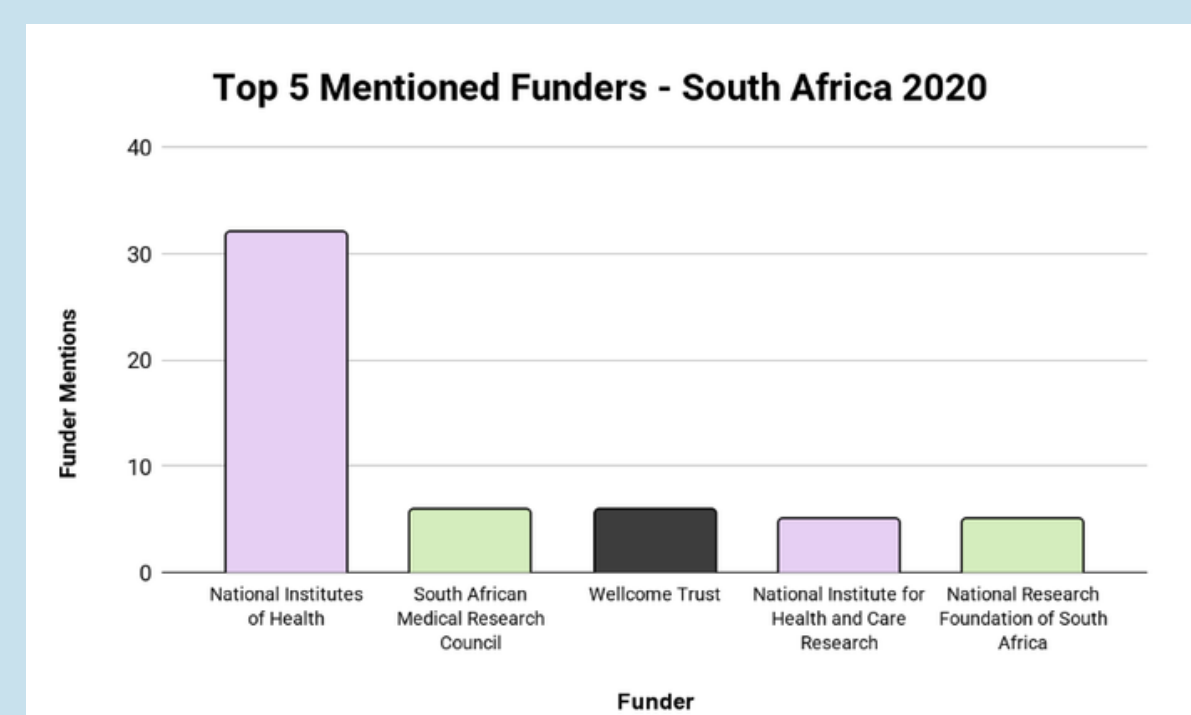
Funders were extracted and normalized in Python, then manually classified as **Government Agency, Foundation/Charity, Public International Agency, Private International Agency, Academic Institution, Hospital System, or Corporation**, and assigned a country of origin.



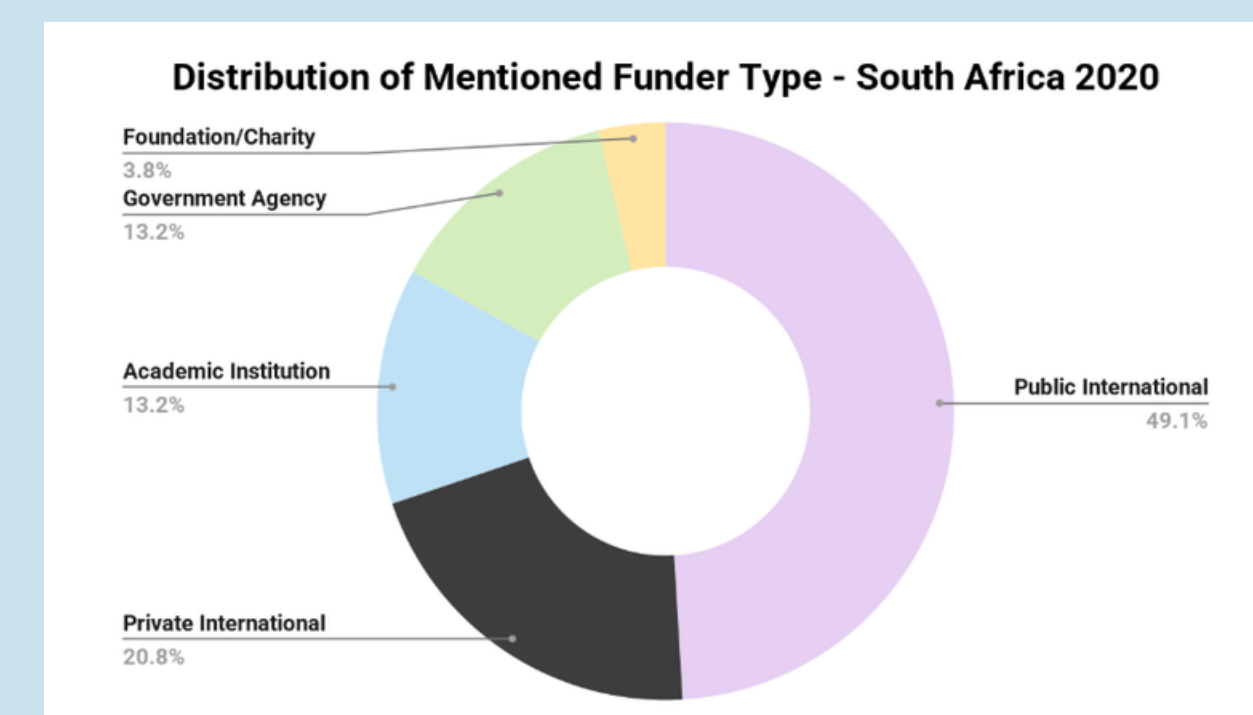
## Results



The graph above show the **progression from the full set of Scopus records to the smaller subset ultimately used for funding analysis.** Each stage reflects a more specific level of inclusion, culminating in the manually reviewed funder dataset used to generate the final comparisons of leading funders, funder types, and countries of origin. These manually reviewed funder datasets were used to generate **final summary tables of the most frequently mentioned funders, funder types, and countries of origin for publications from each country.**



In the graphs, **“mentioned” refers to the country of origin of the funders acknowledged in the publications.** The results therefore identify the countries whose funding organizations appeared most frequently in the final dataset.



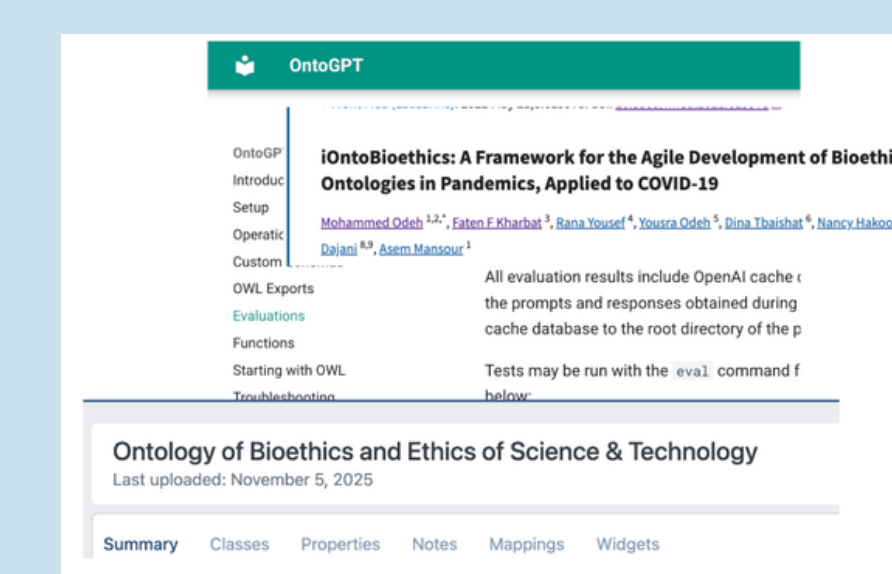
## Key Findings

- China:** Funding is predominantly domestic and government-based, with most frequently identified funders originating in China and classified as government agencies.
- South Africa:** Funding shows the greatest international dependence among the four countries studied, with a substantial share of frequently identified funders originating outside South Africa.
- United Kingdom:** Funding is more diversified across funder types and countries of origin, with support coming from both domestic and international organizations, including European funders.
- United States:** Funding is strongly concentrated in federal government agencies, with the NIH appearing particularly frequently among funders of American-affiliated bioethics publications.

## Next Steps & Limitations

The next phase of the project will focus on developing a feasible and reliable method for classifying articles by topic to understand what research is being funded and how research interest are changing over time. Three approaches are being considered:

**Ontology-based coding:** May provide standardized, pre-defined categories and reduce researcher subjectivity (OntoGPT, OBEST, and iOntoBioethics).



**Author keywords:** Simpler alternative that reflects how researchers describe their own work and may better capture emerging topics.

**Indexed keywords:** MeSH and Emtree, may provide more standardized grouping across related biomedical and bioethics publications.

Key limitations include reliance on Scopus indexing and incomplete metadata.

## Selected Bibliography

- DuBois, J. M. (2009). *What counts as empirical research in bioethics and where do we find the stuff?* The American Journal of Bioethics, 9(6–7), 70–72. <https://doi.org/10.1080/15265160902874338>
- Franceschini, F., Maisano, D., & Mastrogiacomio, L. (2016). *Empirical analysis and classification of database errors in Scopus and Web of Science.* Journal of Informetrics, 10(4), 933–953. <https://doi.org/10.1016/j.joi.2016.07.003>
- Guan, J. (2026). *Construction of the ontology of bioethics and ethics of science & technology. In Governance and Management of Medical Scientific Data Sharing and Application* (pp. 235–265). Springer Nature. [https://doi.org/10.1007/978-981-95-2806-6\\_8](https://doi.org/10.1007/978-981-95-2806-6_8)
- UNESCO. (2005). *Universal Declaration on Bioethics and Human Rights.*
- The complete bibliography is available in the full report. The references listed here were central to the project's theoretical framework.**

## Full Report

Scan the QR code to access the **full research report** and the project's **GitHub repository**, which includes a **README** and open access to the Python code used for Scopus article classification and data processing.

