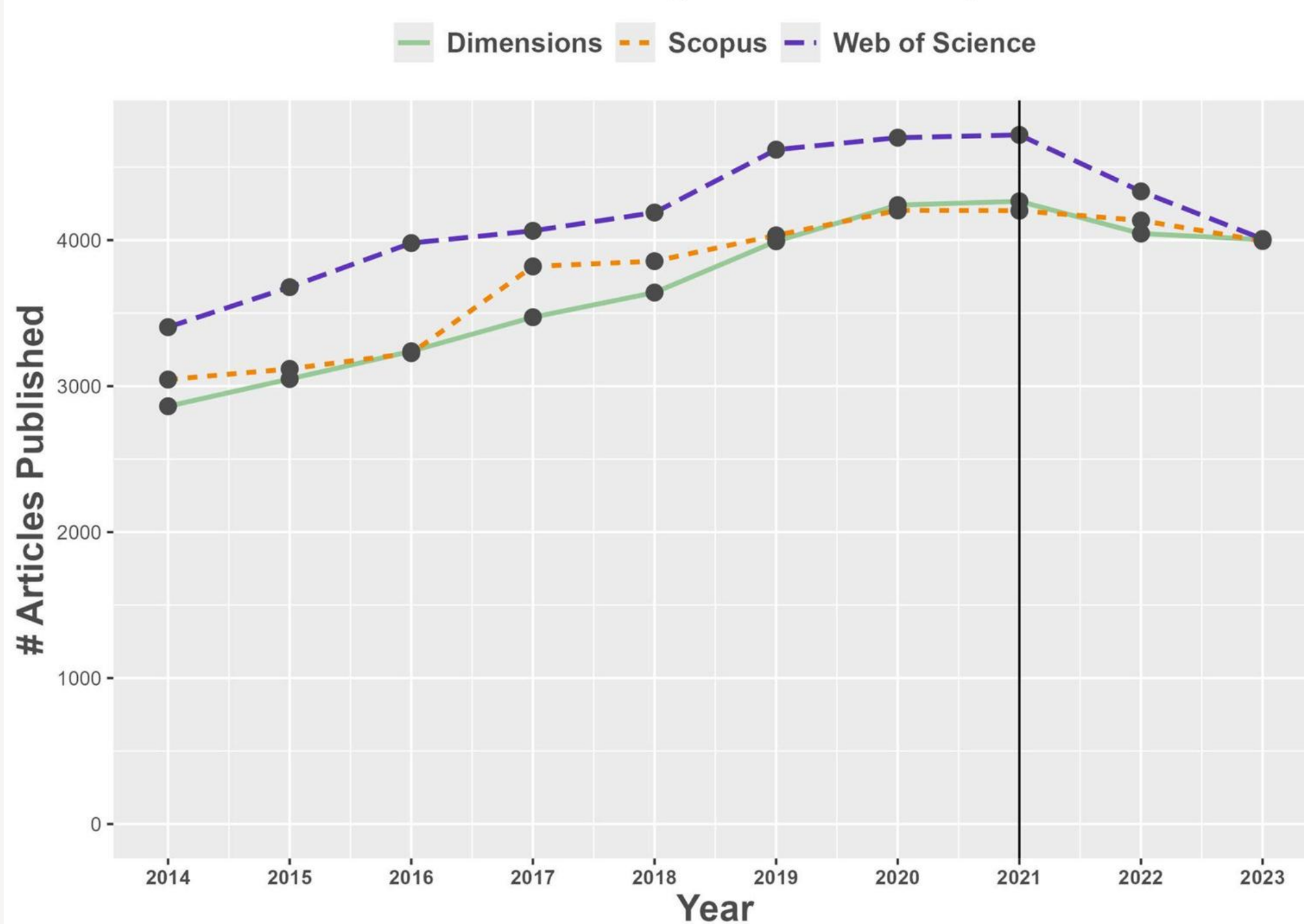


An Analytical Investigation into Scholarly Publication Trends

Background

- Scholarly publishing serves as a significant factor for a researcher's career advancement, affecting their reputation and recognition in their field.
- However, scholarly publications have declined in recent years at the University of Tennessee, Knoxville (UT Knoxville) as part of a wider trend in scholarly publishing.
- This research provides an overview of the decline while exploring potential contributing factors and their implications.

Publications at the University of Tennessee, Knoxville



Publications at UT according to Web of Science, Scopus, and Dimensions, 2014-2023.

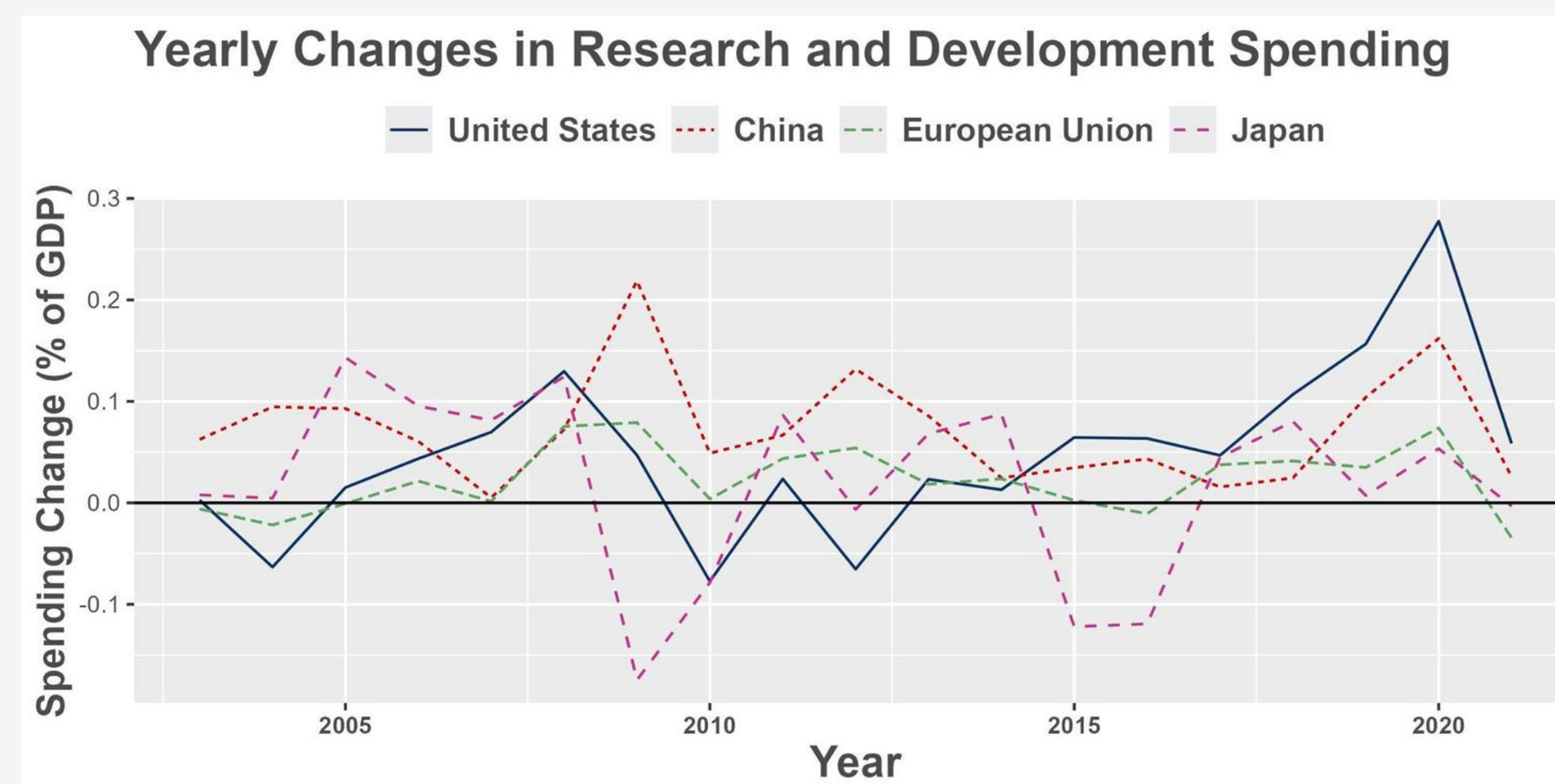
Methodology

This study takes a **mixed-methods approach** with an **explanatory sequential design**:

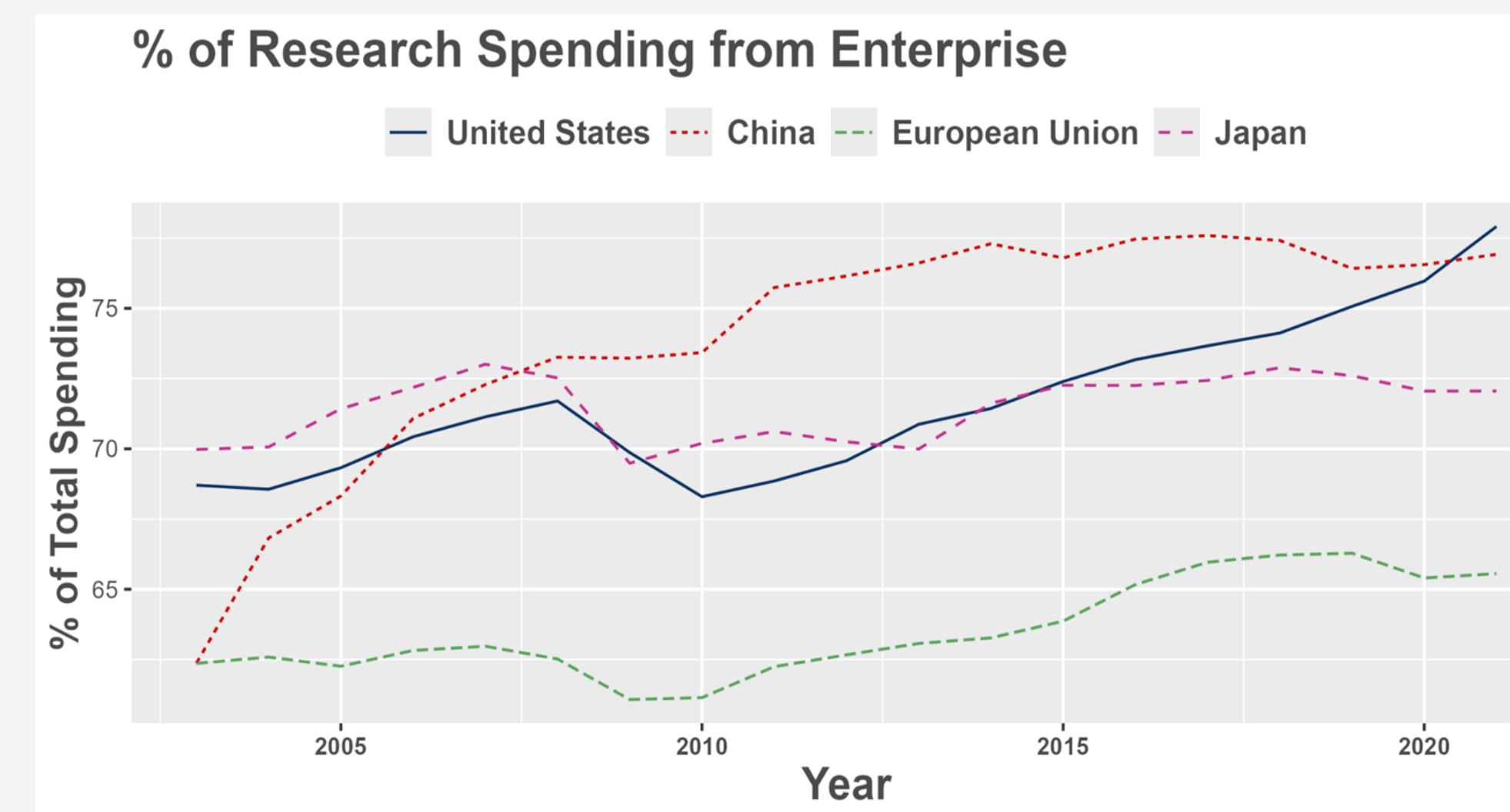
- Quantitative** - Publications were selected from the **Web of Science** (n = 22,385 publications at UTK), **Scopus** (n = 20,568) and **Dimensions** (n = 20,547) databases to analyze citation counts from 2019-2023. Additional data from **InCites** was used to identify publication trends.
- Qualitative** - A literature review using **Web of Science** and **Scopus**, supplemented by **Google Scholar** and the **Nature Index**, was used to contextualize the quantitative findings. The Keyword Searching method was applied using “academic publishing metrics”, “publication decline”, “publication trends”, “scientific productivity”, “research quality”, “authorship”, and “open access”.

Descriptive Analytics

Several major publishing regions saw funding rise in the last few years, thanks largely to enterprise funding sources.

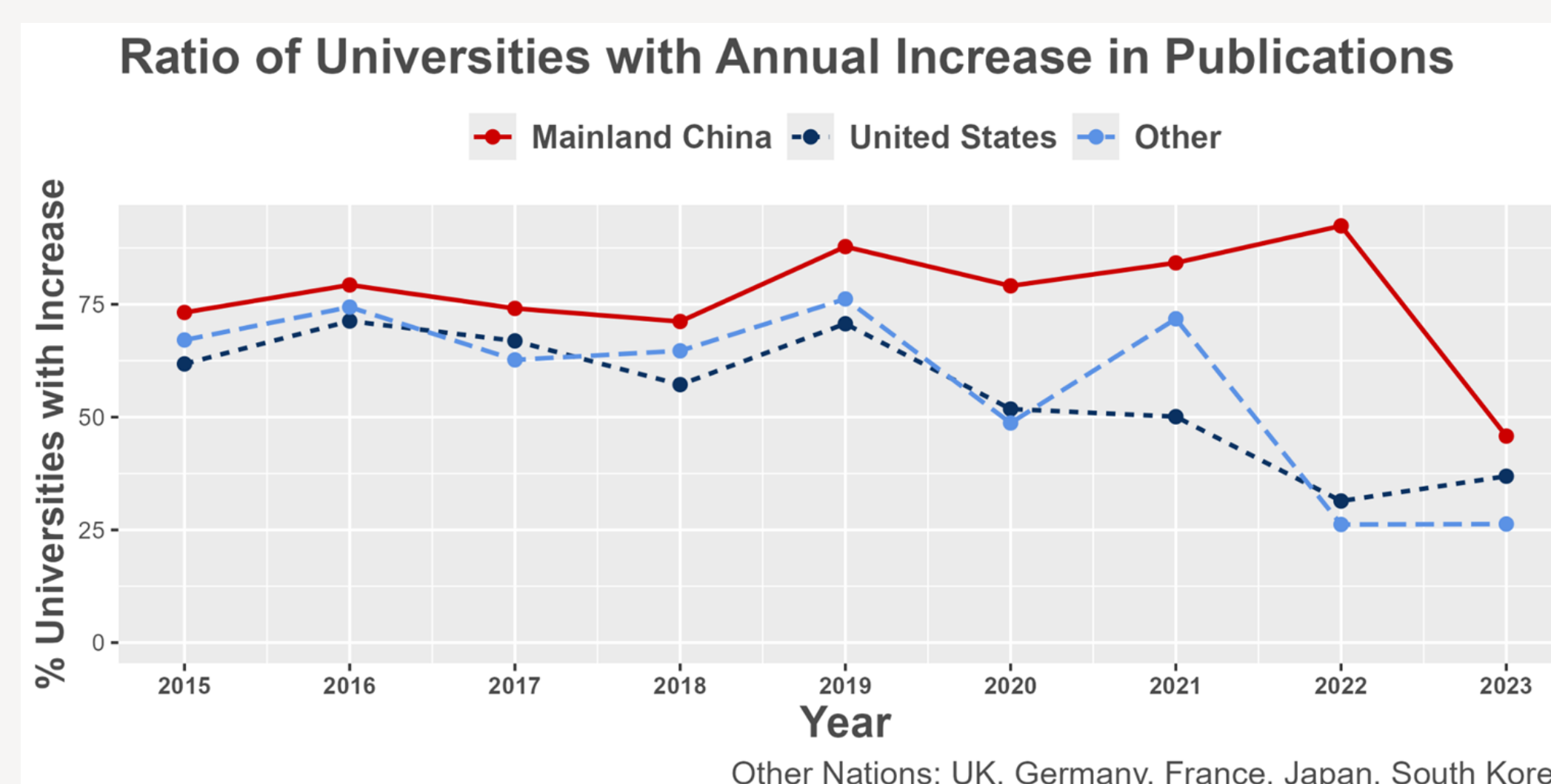


Change in R&D Spending as % of GDP, 2003-2021

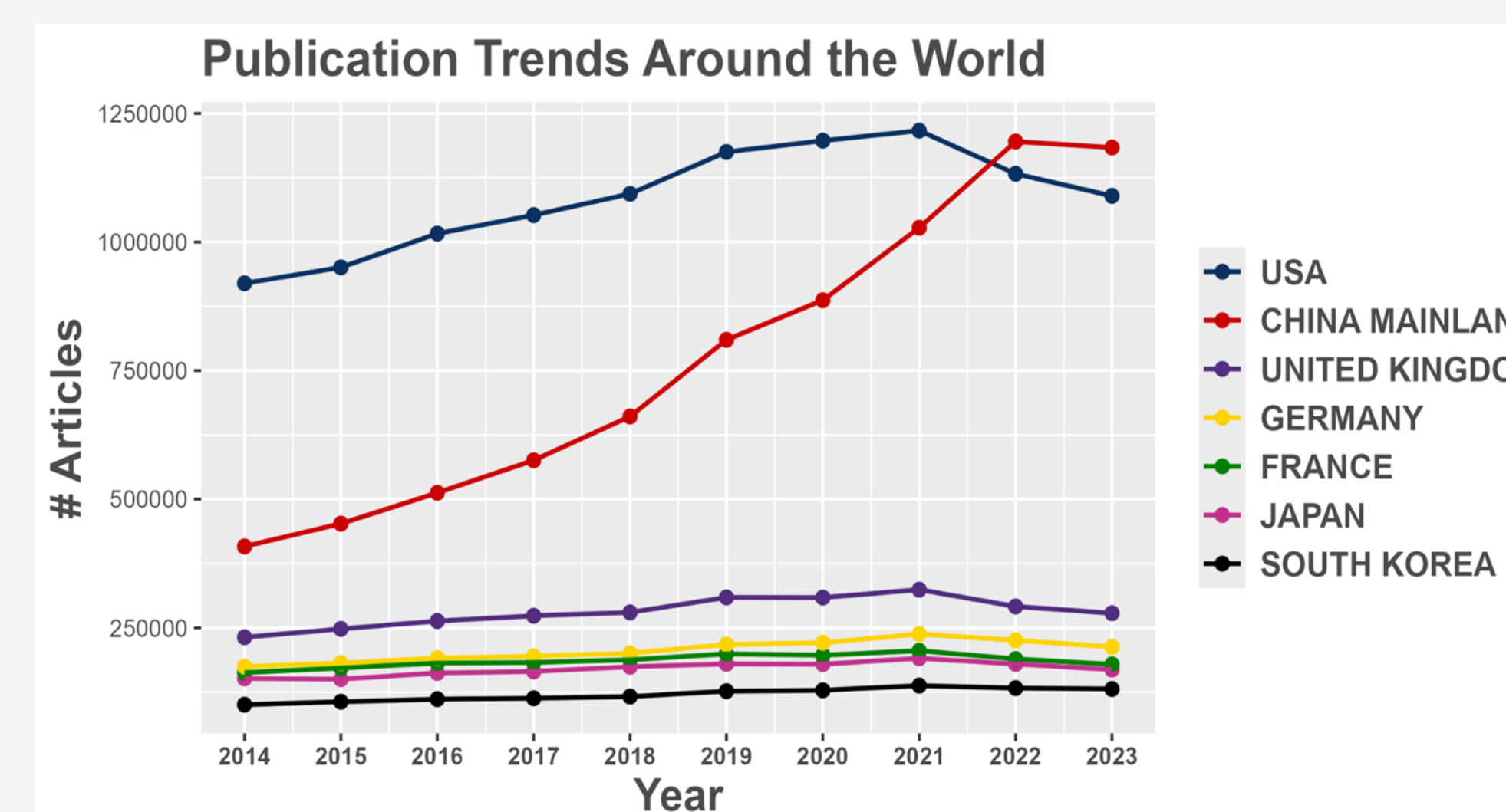


% of annual research spending from Enterprise sources, 2003-2021

Despite increased funding, many publishing universities and nations saw publishing declines entering the 2020s.

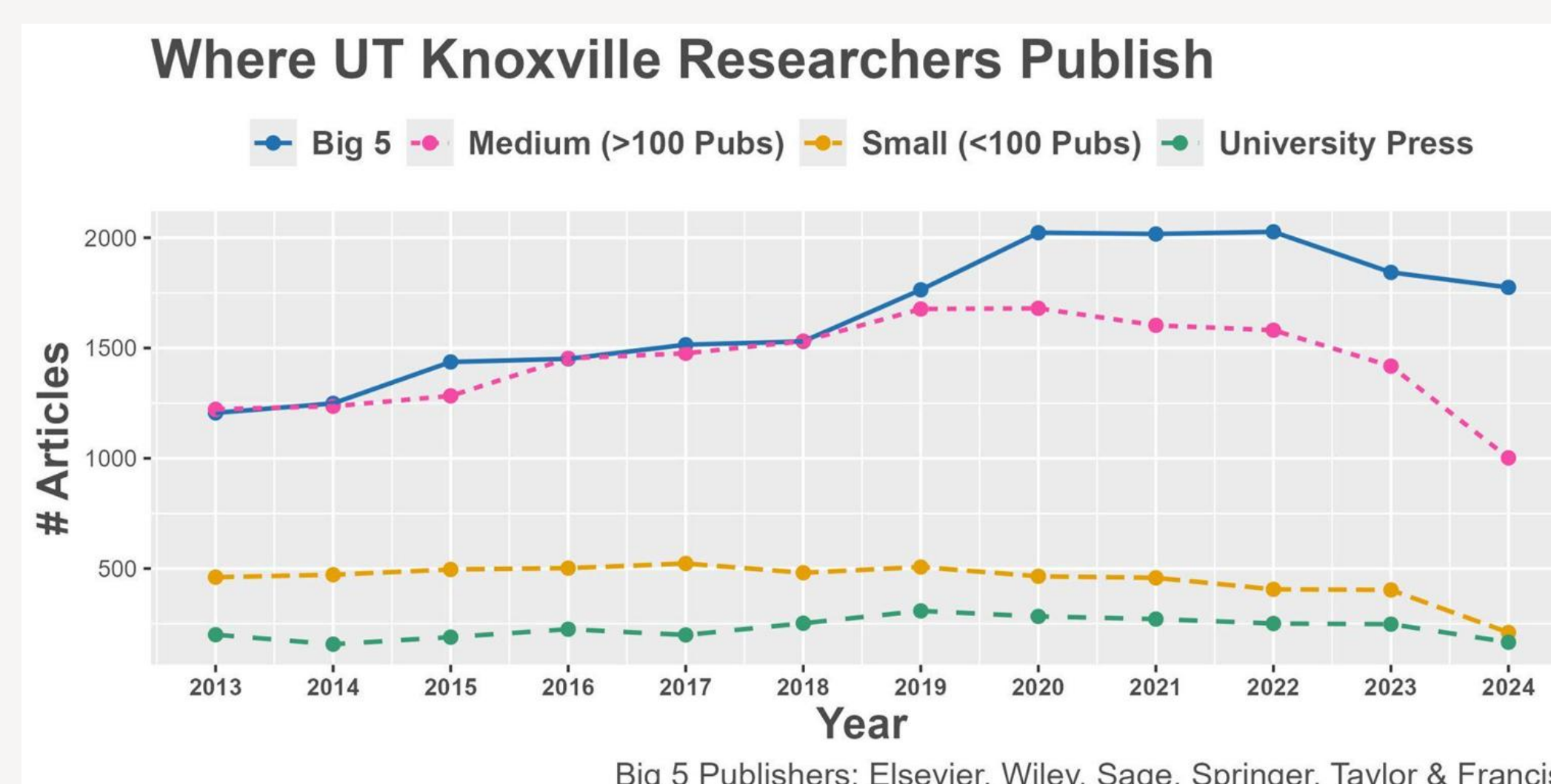


of universities whose InCites publication count increased from previous year, 2015-2023.

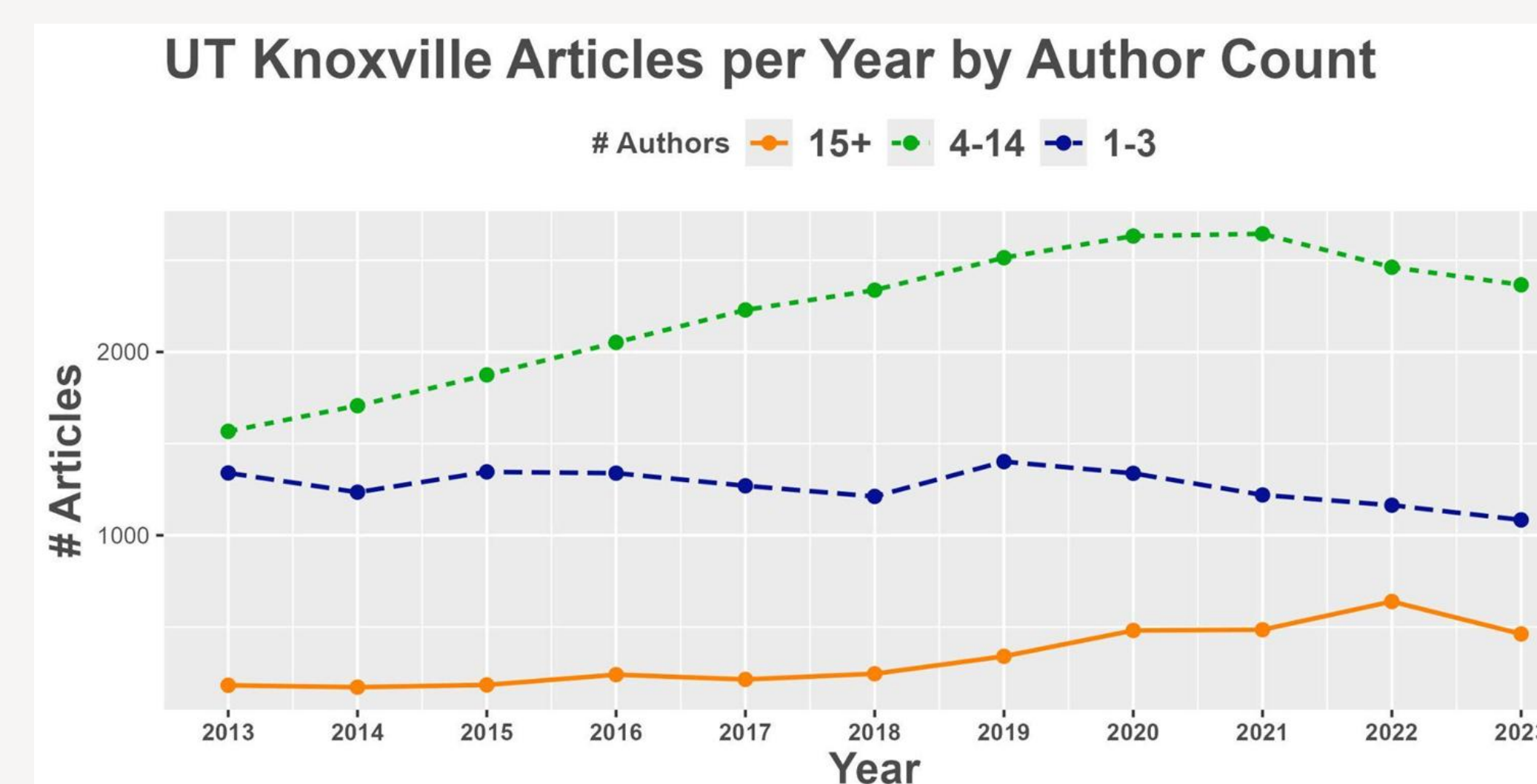


of Total Publications in InCites by nation, 2014-2023.

From 2019-2023, medium-sized publishers and low author count work saw the largest drop-off in publications at UT Knoxville.



of UT Knoxville articles published by publisher size, 2013-2024.



of UT Knoxville articles published by author count, 2013-2024.

Factors Influencing the Decline

- Research Spending:** U.S. research relies more on private funding despite high overall spending.
- Institutional Collaboration:** U.S. single-institution and international collaborations are down.
- Open Access Publishing:** Pay-to-publish models boost access but raise equity and cost concerns.
- Market Consolidation:** A small number of major publishers dominate over 50% of published research, increasing paywalls and high Article Processing Charges (APCs).
- Hyper-Authorship:** More co-authors per paper has led to a decline in lower authorship output.
- Author Leadership Shifts:** Both senior and early career researchers take on first author roles less often.
- Academic Discontent:** Rising publication pressure is leaving researchers overwhelmed.
- Rise of Preprints:** Preprint platforms are growing rapidly, allowing researchers to share findings before peer review.
- COVID-19 Pandemic:** Global research was disrupted due to laboratory closures, funding cuts, and travel restrictions. Research on COVID-19 surged by mid-2021 but declined in 2022.
- Gender Disparities During Pandemic:** Women's submission rates dropped sharply in early pandemic months. Senior roles experienced the largest decline.

Conclusion

- COVID-19 disruptions, shifts in authorship, and the financial pressures of open access and other publishing models have reshaped research priorities.
- As recent research funding uncertainty threatens further declines in scholarly output, researchers will need to embrace uncertainty and cultivate a more resilient mindset when facing these challenges moving forward.

