3rd Edition

Data Research meetup by MagIC

Banking on Research: Who leads? Who follows? Who cares?

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INTRODUCTION

Public institutions and state-based agencies are no strangers to practices involving the development of new knowledge. Central, development, and investment banks have been noted to significantly invest in the pursuit of useful knowledge (Marcussen, 2009; Rotolo et al., 2022; Zapp, 2017).

This pursuit of new knowledge is not accidental; it is, in fact, the reflection of institutional norms (Drori and Meyer, 2006).

Such norms are disseminated through the interaction of organizational fields, which are characterized by shared roles, rules and goals (DiMaggio and Powell, 1983). Central, development and investment banks, as distinct yet interconnected entities, operate within these defined fields, adhering to institutionalized patterns of behavior.
Previous studies have explored the adoption of knowledge production as an institutional norm within these organizations (Marcussen, 2009; Rotolo et al., 2022; Zapp, 2017), the dynamics of interaction between these fields remain underexplored.

The goal of this work is to assess the interactions and diffusion of knowledge across these three organizational fields.

Studying these relationships is important because research production functions both as a form of cultural authority and as a strategic tool, reflecting institutional power (Drori and Meyer, 2006).

METHODS AND MATERIALS

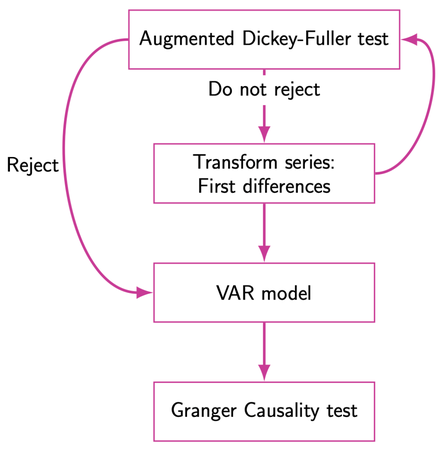

Figure 1. Linear Approach

To determine causal relationships and leader-follower dynamics, we adopted a two-fold approach:

1. assessing possible existing **linear relationships** through Granger-Causality analysis by estimating a VAR model.

2. assessing possible existing **nonlinear relationships** through multivariate Markov models: MTD and GenMarkov.

The GenMarkov model allows to control for the number of authors (which increases citations and research production).

The dataset includes **peer-reviewed journal articles and their corresponding citations**, where at least one author is affiliated with a central, development, or investment bank.

The **number of articles** will serve as proxy for their **cognitive activity** and the corresponding **citations per article** as a proxy for the **impact of their work**.

The data were retrieved through the Web of Science search engine and includes the published records from the first record published (1966) until 2023.

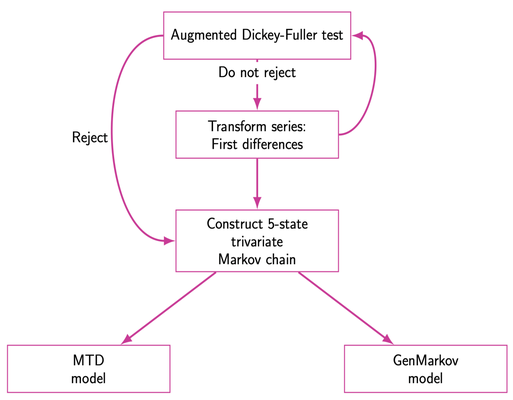

Figure 2. Non-linear approach

RESULTS & DISCUSSION

- The findings from the **Granger-Causality analysis revealed an absence of linear causal relationships** among these banks' research production.

- The **MTD model captured a complex dynamic between institutions**, however it did not control for the number of authors, which influence research productivity and impact.

- The **GenMarkov model**, accounting for the average number of authors per publication/year, **yielded significant results thus suggesting non-linear** relationships among these institutions. Specifically, **central banks emerged as leaders** influencing development and investment banks' research production.

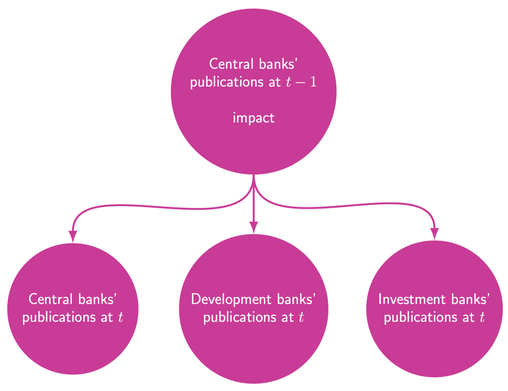

Figure 3. Publications' time series results for GenMarkov

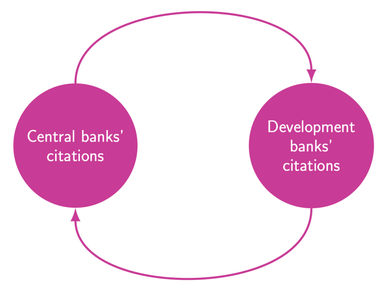

Figure 4. Citations' time series results for GenMarkov

- Regarding **research impact, central banks and development banks share a codependent relationship,** driven by European Central Bank (ECB) and World Bank (WB).

- Excluding these top producers, **central banks' citations impact those of investment banks.**

- The network analysis showed the **co-dependency in citations** between ECB and WB.

- The network analysis also showed that **central banks maintain the strongest and most consistent collaboration with academia**. Such ties enhance their epistemic legitimacy

Hence, central banks lead, while development and investment banks follow. Yet, "who cares?"

If knowledge production is shaped by a small set of powerful institutions, then understanding how that knowledge is produced, diffused, and legitimized becomes a matter of public concern.

CONCLUSION

While science is often perceived as independent, objective, and impartial, the intersection of policymaking and scientific production raises concerns about the validity of such research.

The results of this work call for closer examination of whether scientific production reflects unbiased knowledge or primarily advances institutional perspectives that may then be replicated by similar organizations and adopted across other fields.

This study presents some limitations that open future lines of research. First, the aggregation of time series data prevents us from capturing finer-grained dynamics between specific institutions or understanding how research flows across individual citation networks. Future studies could address this by incorporating micro-level citation network analysis or topic modeling to trace how knowledge diffuses through specific fields and communities and if this changes according to historical events, such as the 2008 financial crisis.

REFERENCES

DiMaggio, P. J. & Powell, W. W., 1983. The Iron Cage Revisited: Institutional Isomorphism and Collective Rationality in Organizational Fields. *American Sociological Review,* Volume 48, p. 147–160.

Drori, G. S. & Meyer, J. W., 2006. Scientization: Making a world safe for organizing. in: *Transnational governance: Institutional dynamics of regulation.* s.l.:Cambridge University Press Cambridge, p. 31–52.

Marcussen, M., 2009. Scientization of Central Banking: The Politics of A-Politicization. in: *Central Banks in the Age of the Euro: Europeanization, Convergence, and Power.* s.l.:Oxford University Press.

Rotolo, D., Camerani, R., Grassano, N. & Martin, B. R., 2022. Why do firms publish? A systematic literature review and a conceptual framework. *Research Policy,* Volume 51, p. 104606.

Zapp, M., 2017. The scientization of the world polity: International organizations and the production of scientific knowledge, 1950–2015. *International Sociology,* Volume 33, p. 3–26.

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