Assessing policy citation impact - we need to start discussing benefits and risks

Introduction:

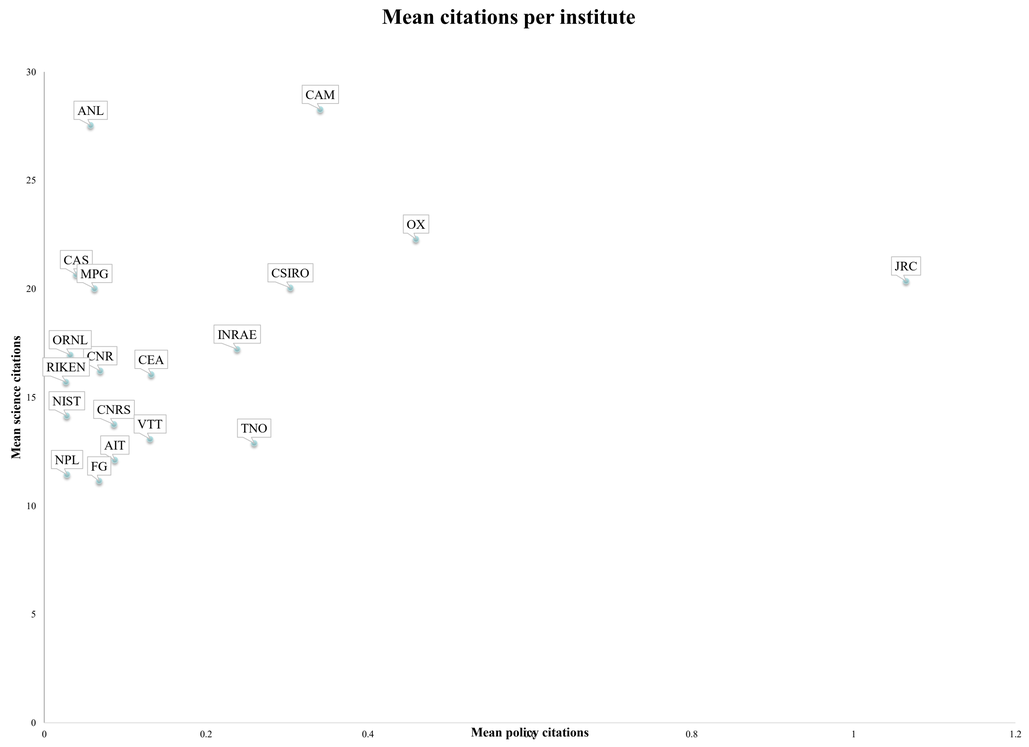
The European Commission's Joint Research Centre has over 15 years of experience in assessing the policy impact of its research through the analysis of systematically collected self-reported impact claims and the development of impact pathway case studies.

The development of new tools (Overton) which draw on a large database of policy documents allows for the quantitative assessment of policy citation impact akin to bibliometric assessments of scientific citation impact.

Each two years the JRC compares its scientific publication impact with 19 comparator organisations which cover different aspects of its broad mission.

As shown in figure 1, JRC publications have a scientific citation impact which is comparable to specialised organisations like the large research universities and the Max Planck Gesellschaft (MPG).

Considering its mission of providing scientific advice to EU policy makers, it is not surprising that its scientific publications also attract a relatively large number of citations in policy documents.



Methodological considerations:

Figure 1 only shows the policy citation impact of the scientific articles published by these organisations. Not shown in this graph is that the JRC's Non-Traditional Research Outputs (NTRO): i.e. reports and briefs attract a large number of policy citations also.

The Overton tool still has important limitations in tracking the impact of NTROs. For an organisation like the JRC and, for example, the OECD it is possible to track this impact. This is not (yet) possible for traditional research organisations like universities and public research centres.

Another methodological limitation, which applies to all bibliometric and altmetric analyses, is that the **database** underlying these tools **is evolving over time**. As a result one is unlikely to find exactly the same result if one repeats the analysis at a later point in time.

As all indicators, policy citations are only an imperfect indicator for real policy impact.

References

- Hicks, D., Wouters, P., Waltman, L., de Rijcke, S., & Rafols, I.(2015). Bibliometrics: The Leiden Manifesto for research metrics. *Nature*, 520(7548), 429–431.
- RTD Reform of Researcher Assessment statement; https://research-and-innovation.ec.europa.eu/news/all-research-and-innovation-news/process-towards-agreement-reforming-research-assessment-2022-01-18_en

Discussion:

The use of such tools has a number of clear advantages over traditional ways of assessing policy impact:

- Their relatively **low costs** both in terms of resources and time
- Their **non-intrusiveness**: neither researchers nor policymakers have to provide proof of how research outputs were used by policymakers.
- Their **perceived objectivity**. They are an indication of the use of a publication by policymakers who have found the content relevant to their work. They do not rely on analysts evaluating claims of research impact on policy. Of course, like all indicators they do need to be interpreted.
- The combination of low costs, non-intrusiveness and perceived objectivity allows for **comparison of the performance of multiple organisations** with similar missions by analysing their policy impact through the same approach.
- The **greater coverage**. Researchers and research organisations may well be unaware of (all) the references in policy documents to their knowledge claims. By relying on an automated search for references in a large corpus of policy documents, the so-called "recall" of the search may be considerably more complete than if one would rely on self-reported impact claims alone.
- Systematically measuring citations in policy documents may **incentivise policy makers** to become more transparent in their use of knowledge claims in their policy-making.

Relying only on such metrics in assessments of policy impact would also bring a number of disadvantages:

- We **do not fully understand** the value of citations in policy documents: it is unclear whether more citations to a scientific study necessarily imply a "better" or "stronger" impact.
- Related to this is that our understanding of the **actual meaning** of references to scientific texts in policy documents is less developed than our (at least theoretical) understanding of the (diverse) meanings of citations in the scientific literature.
- There is a difference in the extent to which **norms regarding citations** are fully developed, adhered to and "policed".
- Anecdotal evidence suggests parallels to the **"social interactions**" characterising citations in the scientific literature.
- Related to this, there are concerns over the **potential perverse incentives** that measuring citations in policy documents can give to individual researchers especially in an organisation like the JRC, which is very close to policy makers as it is an integral part of the European Commission.

Whereas tracking citations in policy documents may offer a potentially fruitful complement to other quantitative approaches to assessing the policy impact of research, the insight they offer can only ever be **partial and imperfect**.

These approaches should therefore not be seen as a potential replacement of qualitative assessment of policy impact that is carried out through the systematic collection and appraisal of self-reported impact claims and the Impact Pathways assessment approach.

That being said, the results presented in this analysis offer additional insights that cannot be learned through the qualitative approaches alone.

Conclusion:

Quantitative policy citation impact assessment tools offers a potentially valuable complement to the current approaches to policy impact assessment.

Of particular interest is the potential of this tool to analyse the relative policy citation impact of different other organisations and (in the future) the evolution of the policy impact of its publications over time.

The advantages of this approach outweighs its drawbacks. However, the results must be carefully interpreted to prevent misunderstanding and over-interpretation.

Bibliometric analyses have had a major impact on the way public research organisations and universities function and are assessed. In recent years, critical reflections on their limitations and impact have attracted considerably Science policy traction (RTD 2022, Hicks et al, 2015).

With the advent of new tools that allow for the quantitative assessment of policy citation impact, it is essential to start this reflection now. The Scientific Integrity community tends not to get involved in such debates at an early stage: we suggest it can and should play this role from the outset.

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