Bibliometric Analysis at Wageningen University & Research – a comparison of 3 systems

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Introduction & Objective

After having received feedback from the last external peer review of five graduate schools, it was decided to critically assess the current bibliometric analysis at Wageningen University & Research (WUR). In this study, we compare the citation analysis output of the current system (Staff Publications[1]) with that of two commercially available systems (InCites (based on Web of Science) and SciVal (based on Scopus)). The main limitation of the bibliometric analysis in Staff Publications[2] is the normalisation of the indicators to 22 very broad categories (from Essential Science Indicators (ESI) available at the Web of Science platform). The two commercially available systems provide, besides basic bibliometric indicators, more sophisticated analyses that are not available in Staff Publications.

The objective of the presented study is to explore the available commercial systems and compare the bibliometric indicators with that of Staff Publications for a set of research groups.

Methodology

The three evaluated systems are Staff Publications, InCites and SciVal (see Introduction for more information on their characteristics). In the study we compare the coverage of the underlying databases, the Relative Impact[2] (Category Normalised Citation Score[3] (InCites) and Field Weighted Citation Impact[4] (SciVal)) and the number/share of publications in the top 10% best cited publications.

The selection of research groups is based on:

- the type of research field in relation to the broad ESI-categories
- low coverage of scientific articles by Web of Science
- groups with a high (>3) or a lower RI (≤1).

Publications by the groups are taken from WUR's CRIS.

Results

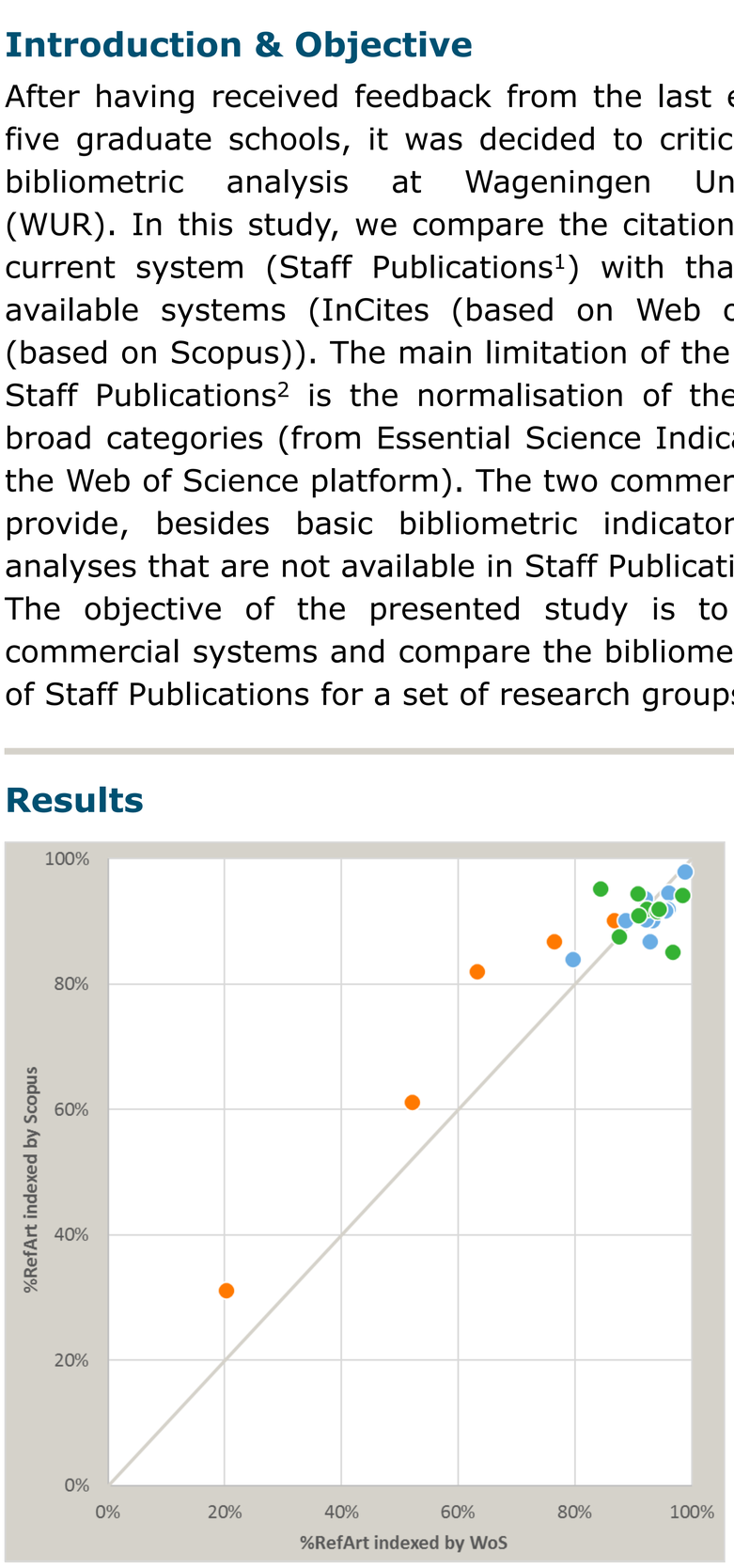

Figure 1. The share of refereed articles indexed by Web of Science versus Scopus for the studied groups.

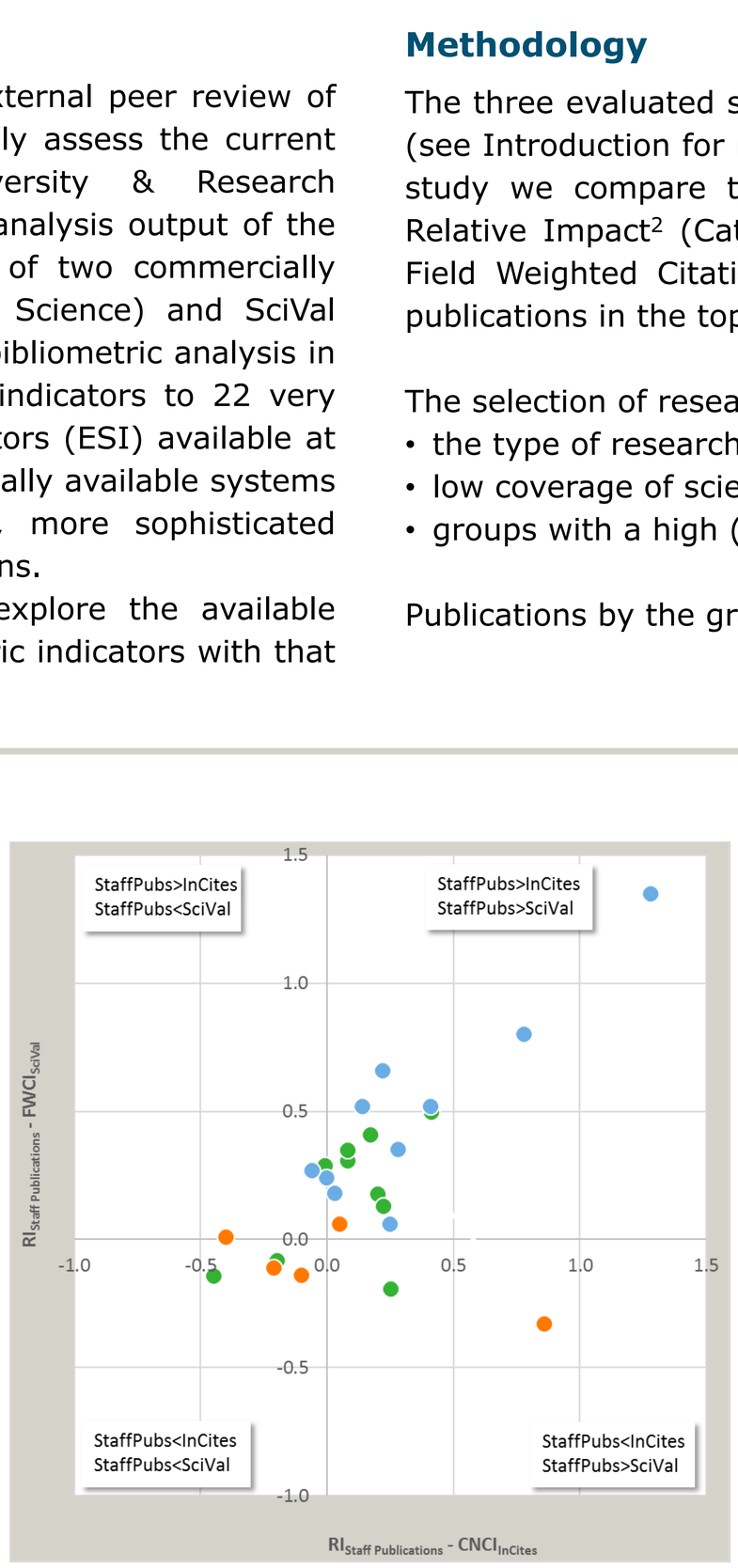

Figure 2. Difference in normalised citation score (by category) between the WUR-system Staff Publications and the two other systems (InCites and SciVal).

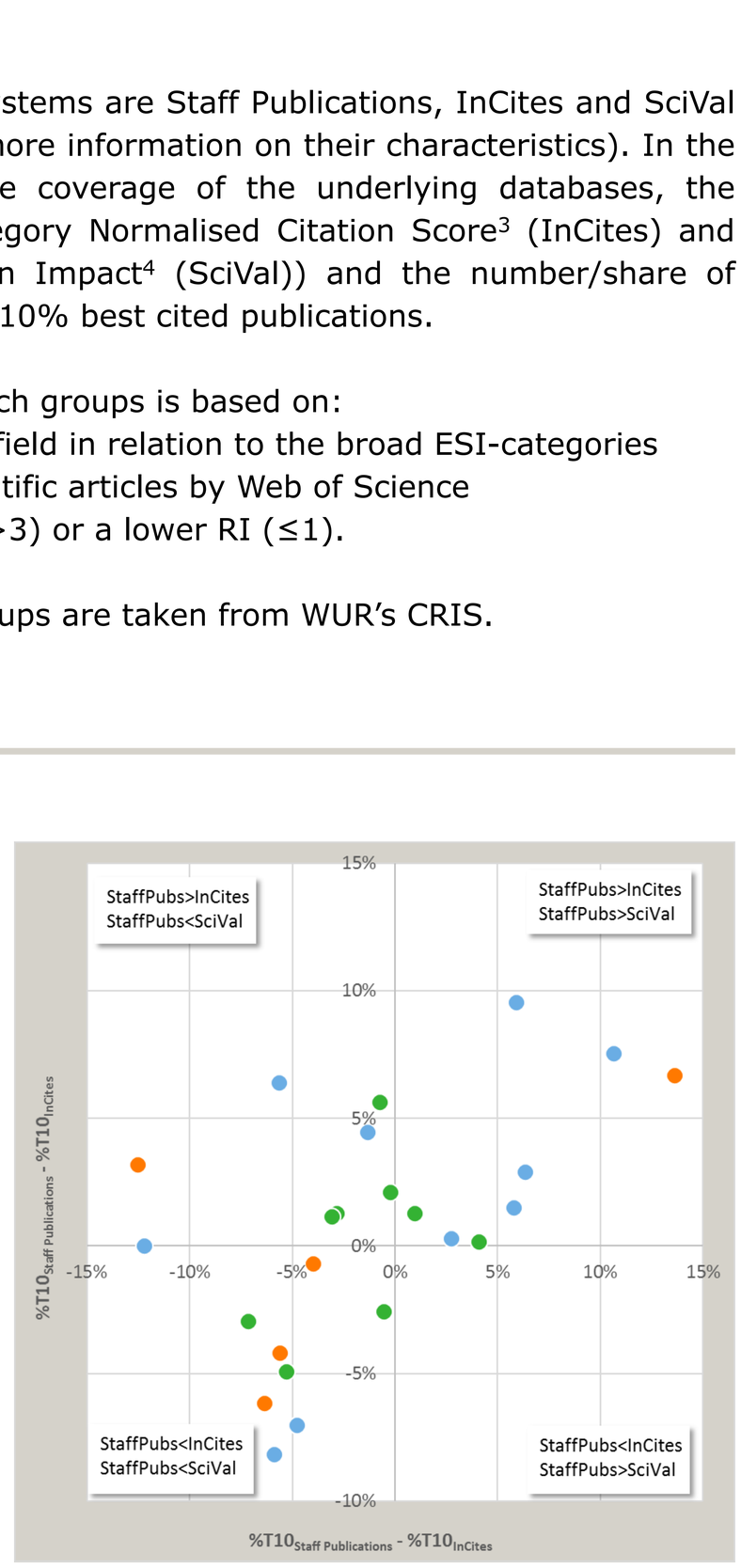

Figure 3. Difference in share of Top 10% best cited publications between the WUR-system (Staff Publications) and the two other systems (InCites and SciVal).

● Wageningen University chair groups ● Wageningen Research – institutes and business units ● Social Sciences – University and Research

- For some group, in particular Social Sciences groups), a higher coverage was reached in Scopus (see Figure 1). Lower coverage by Scopus is partly caused by differences in assigning publication type (conference paper vs. article) by the databases.
- For most groups, citation impact is systematically higher in the WUR-system than in the other two systems. However for some groups (social science and research institutes) a switch to SciVal/ InCites increased citation impact. Most university groups end up with a lower impact (Figure 2).
- Switching to these other two systems leads more often to an increased share of top 10% publications than it does to an increased citation impact (Figure 3).

Conclusions

A methodology based on smaller categories than those in ESI will give a better representation of the citation impact of WUR-groups. For Social Science a switch to SciVal is desirable, because of the better coverage of their output. As a result of this study, WUR library will consult all involved parties to work toward a SciVal-based bibliometric evaluation system.

References

[1] http://library.wur.nl/WebQuery/wurpubs/show
[2] Van Veller, M. G. P., W. Gerritsma, P. L. van der Togt, C. D. Leon & C. M. van Zeist (2010). Bibliometric analyses on repository contents for the evaluation of research at Wageningen UR. In: A. Katsirikou and C. H. Skiadas eds. Qualitative and Quantitative Methods in Libraries: Theory and Applications. p.19-26. http://edepot.wur.nl/7266.
[3] InCites Indicator Handbook http://ipscience-help.thomsonreuters.com/inCites2Live/indicatorsGroup/aboutHandbook.html
[4] Elsevier (2014) SciVal metrics guidebook. https://www.elsevier.com/research-intelligence/resource-library/scival-metrics-guidebook

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