

Evolution of Research Assessment in Lithuania 2005–2015

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Introduction

Traditionally, governmental funding of scientific research has been based on input factors (e.g. student numbers), however since the end of the 1980s most developed countries have introduced assessment systems based on scientific output. Numerous examples of research quality assessment can be named as products of innovation and incremental change (Barker, 2007; Hicks, 2012; RDI Council, 2013). An overview of assessment methods applied in Eastern European countries in the field of Social Sciences and Humanities has recently been presented (Pajic, 2015), but information about Lithuanian assessment of research is lacking. Here, we analyse seven sequential Lithuanian methods of research assessment in the period 2005–2015, their influence and consequences.

Evolution of Lithuanian research assessment methodologies

The methodologies of research assessment in Lithuania have changed very often over the period 2005–2015. There is quite a great difference between assessment of papers in Social Sciences & Humanities (SSH) and papers in Science & Technology (S&T). While SSH researchers should have publications in any peer-reviewed journals (Table 1), S&T papers have higher requirements: to gain scores, they have to be published in journals included in *Thomson Reuters Web of Science Core Collection* (WoS) (Table 2).

The value of each research article published in a journal indexed by WoS in SSH was calculated by the following formula in 2006 only:

$$AIV = PVV \frac{N_{IA}}{N_A} \left(1 + \frac{IF_j}{IF_{AIF}} \right) \quad (1)$$

here: *AIV* – contribution of institution authors; *PVV* – [primary] value of unit in points; *N_{IA}* – number of authors from the institution; *N_A* – total number of authors, *IF_j* – journal Impact Factor (Thomson Reuters Journal Citation Reports), *IF_{AIF}* – Aggregated Impact Factor of the subject category in which this journal is listed or average of Aggregated Impact Factors of all subject categories in case the journal is listed in more than one category in Thomson Reuters Journal Citation Reports.

The value of each research article published in a journal indexed by WoS in S&T (2003–2015) and SSH (2008 and 2015) is calculated by the similar formula:

$$AIV = PVV \frac{N_{IA} \sqrt{N_{IP}}}{N_A} \left(1 + k \frac{IF_j}{IF_{AIF}} \right) \quad (2)$$

here: *N_{IP}* – number of different foreign affiliations (but, if *N_{IP}* > *N_A*, then there is considered that *N_{IP}* = *N_A*); *k* = 1 for evaluation until 2007, and *k* = 2 for evaluation of 2008 and later years;

Significant and frequent changes in the evaluation criteria were caused by the search for most fair distribution of governmental funding for Lithuanian research by the Ministry of Science and Education, in order to encourage the highest-level academic research.

All systems of research assessment since 2006 have encouraged S&T researchers to publish their papers in high impact journals and have urged Lithuanian journals to improve their quality as well as actively seek to be indexed in international databases and especially in Thomson Reuters Web of Science. When Thomson Reuters started the expansion of the Web of Science in 2007–2009, many Lithuanian (LT) journals were included into its databases. But, the methodologies used in 2010 and 2011 were disadvantageous to most LT journals as they didn't fulfil the requirements asking *only* for papers in journals which had more than 20 % of citations from journals (citing side) with an impact factor (IF) higher than the aggregate impact factor (AIF) of the respective subject field. This requirement was probably not field neutral but, instead it seemed to be disadvantageous to some fields of science and created funding for other fields. Consequently, some subject fields were downgraded by this requirement and received no score or low scores. However, this citation requirement was not used for evaluation starting from 2012 and will formally withdrawn in 2015.

Since 2009 for SSH and from 2010 for S&T, expert evaluations (by national experts) of papers and monographs presented by institutions is used in addition to previous bibliometric evaluation. Since 2010 the number of 1st level papers and monographs presented by academic and research institutions for expert evaluation is proportional to number of full time equivalent of PhD researchers in both S&T and SSH (i.e., it could be presented not more than one 1st level publication per 5 full time researchers in a research area, and if the unit has doctoral studies in a research area – it can present 1st level publication not depending on number of researchers).

From 2011 the assessment system is carried out every third year (not annually as before). That helps aca-

demographic and research institutions to minimize the drawbacks of productivity fluctuations. The last assessment period was 2009–2011. In 2015, there will be an evaluation of 2012–2014; which will determine the allocation of budgets for 2016–2018 for all universities and governmental research institutions. However it is rather complicated to evaluate the dynamics because of rather frequent changes in evaluation criteria. The benchmarking of Lithuanian research 2009–2013 was run on April 2014 – April 2015 by the Research and Higher Education Monitoring and Analysis Centre (MOSTA), following the methodology prepared by Technopolis Group and involving only international European experts. Here the experts have noticed the need for greater internationalization of Lithuanian Social Science research.

Conclusions

The shift in methodologies for formal assessment of scientific publications produced by Lithuanian higher education and research institutions has urged researchers to communicate their results in international scientific journals, and for the Lithuanian scientific journals to seek inclusion in international databases (especially Thomson Reuters Web of Science, Journal Citation Reports) and to improve their quality. The effect of changes in journals' indicators up until 2012

is the focus of a parallel poster presentation (Dagiene & Sandström, 2015). Whether the introduction of national expert evaluation will change this overall pattern or not is yet to be investigated.

References

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Table 1. Shift in criteria used for Lithuanian research papers assessment in Social Sciences and Humanities.

2005		2006		2008		Assessment categories	2009		2010; 2011		2015	
Requirements	Value, points	Requirements	Value, points	Requirements	Value, points		Requirements	Value	Requirements	Value	Requirements	Value
Papers in internationally recognised journals	20 (24*)	Papers in publications indexed by Thomson Web of Science	30 (S)* 20 (H)*	Thomson [Reuters] Journal Citation Reports (JCR) IF ≥ 0	25**	1 st level	National expert evaluation of papers presented by institutions as highest level	1–10 score	National expert evaluation of papers presented by institutions (proportional to researchers' number)	1–5 score	National expert evaluation of papers presented by institutions (proportional to researchers' number)	1–10 score
						2 nd level	Papers in peer-reviewed journals	15 points	Papers in peer-reviewed journals & book chapters	3 points	Thomson Reuters JCR IF ≥ 0	3** points
							Papers in other peer-reviewed journals	5			Papers in peer-reviewed journals & book chapters	2 points
Papers in other peer-reviewed journals	10 (12*)	Other papers, etc.	2–4	Other papers, etc.	2							
Other papers	4 (5*)						Other papers, etc.	5 points	Other papers, etc.	1–2 points	Other papers, etc.	1 point

– in research on Lithuanistics; * calculation by formula (1) ** calculation by formula (2)

Table 2. Shift in criteria used for Lithuanian research assessment of research papers in Physical, Biomedical and Technological Sciences (according to Lithuanian science classification).

Assessment categories	2005		2006 and 2008		2009		2010; 2011		2015	
	Req. for a journal	Value, points	Requirements for a journal	Value, points	Requirements for a journal	Value, points	Requirements for a journal	Value	Requirements for a journal	Value
A-category papers 1 st level	Thomson ISI Master Journal List	10	Thomson [Reuters] Journal Citation Reports (JCR) IF ≥ 0	30**	Thomson Reuters JCR with IF > 20% AIF	15**	National expert evaluation of papers presented by institutions (proportional to researchers' number)	1–5 score	National expert evaluation of papers presented by institutions (proportional to researchers' number)	1–5 score
B-category papers (% of A-cat.) 2 nd level	–	5 [#]	Thomson [Reuters] ISI Proceedings	6	Thomson Reuters ISI Proceedings	15	Thomson Reuters JCR with: (1) IF > 20% AIF; (2) 20% citations from journals with IF > AIF	3** points	Thomson Reuters JCR with IF > 20% AIF	3** points
B-category papers (% of A-cat.) 2 nd level	–	1	List of databases by the Research Council of Lithuania	6	Peer-reviewed journal	5				
B-category papers (% of A-cat.) 2 nd level	–		Physical sciences: B ≤ 0.1 A Biomedicine: B ≤ 0.2 A Technologies: B ≤ 0.3 A		Physical sciences: B ≤ 0.2 A Biomedicine: B ≤ 0.2 A Technologies: B ≤ 0.3 A					

paper published in any publication cited at least 90 times by journals listed in ISI the Master Journal List. Those citations are calculated since 1990 only. ** Calculation by formula (2).