Dynamics between National Assessment Policy and Domestic Academic Journals

Eleonora Dagienė¹ and Ulf Sandström²

² eleonora.dagiene@vgtu.lt Vilnius Gediminas Technical University, Sauletekio al. 11, LT-10223 Vilnius (Lithuania)

> ² ulf.sandstrom@indek.kth.se KTH, Indek — Department of Industrial Economics and Management, Lindstedtsvägen 30, 10044 Stockholm (Sweden)

Introduction

Normally research assessment methodologies assume that the highest scores should be given to articles published in recognised high impact journals. While these high impact journals are mostly published in the US and UK, lower citation rates are particular to journals published in other countries. Subsequent to expansion of the Web of Science in 2007–2009, the research platform was generously augmented with scientific journals issued by local publishers of non-English speaking countries (Leeuwen et al., 2001; van Raan, van Leeuwen, & Visser, 2011). Analysts agree that papers in national journals are usually less frequently cited in comparison to articles published in English (Haiqi & Yamazaki, 1998; Meneghini & Packer, 2007; Moed, 2002; Ponomariov & Toivanen, 2014; Russell, 1998; Tijssen et al., 2006). Research evaluations in several Eastern European countries largely build on data from Thomson Reuters and Elsevier databases. An overview provided by Dejan Pajić (Pajić, 2014) demonstrates that methodologies of most countries award papers in leading international journals rather than national ones. In some countries, articles published in national journals either receive a lower score or are given no score. The Lithuanian methodology is but an illustration of this.

The way a journal reflects the internationalized nature of science may be determined by many methods, one of which is based on the distribution of authoring and citing countries (Zitt & Bassecoulard, 1998).

The aim of the paper is to analyse the impact of the national assessment policy on the development of research journals published in the same country.

Lithuanian Assessment Methodologies and Journal Publishing in Lithuania 2005–2013

Five Lithuanian research assessment methodologies were designed in the period 2005–2010. It should be underlined that there is a great difference between assessment of papers in Sciences and papers in Social Sciences & Humanities. While in Social Sciences and Humanities, researchers have to be published in peer-reviewed journals only, papers in the Sciences have especially high requirements: to gain a score, they have to be published in journals indexed by Web of Science and have an impact factor. The methodology of 2010 was grossly disadvantageous to most Lithuanian journals as it was centred on papers published in high ranking journals (Maskeliūnas, 2011). Lithuanian research journal publishing and other quantitative indicators as well as technical publishing issues have already been analysed in several papers (Dagiene, 2011, 2013). In 2006, Thomson Reuters Web of Science database had only 5 indexed Lithuanian journals; while in 2007, it had 21; and since 2008, there were 29 journals in WoS with Lithuania as the publishing country. One supplementary journal-BALT J OF MANAGEMENT-has been added to this list although its country of origin is England and it is published by Emerald, the Editor-in-Chief and the Managing Editor are from Lithuania.

Data and Methodology

All data analysed in this research has been retrieved from the Web of Science databases: SCIE, SSCI and A&HCI. All indicators employed in this research and listed below have been analysed for two periods: 2008-2010 and 2011-2013. This is done because Lithuanian methodology was changed in 2010, using not only journal impact factors but also JCR data with thresholds measuring the "citation quality" of journals. The main quantitative and qualitative indicators of the Lithuanian journals are presented in the appendix. NJCS - Normalized journal citation score is the impact of the journal set normalized in relation to its sub-fields (average=1.00) (Sandström, 2009).

Citation indicators showed an improvement over the recent years: in 2011–2013, the number of cites by foreign researchers increased by 10% compared to 2008–2010; besides, citation from core journals increased by 19%, which confirms the growing internationalization of Lithuanian journals.

Figure 1 presents dynamics of internationalization indicators of Lithuanian journals.



Figure 1. Dynamics of internationalization indicators of Lithuanian journals.

Authorship: from period I to period II, there's an overall drop in LT share and growth of foreign researchers from 36% to 49% if we count averages of all LT journals.

Conclusions

National policy has an influence on scholarly communication and puts the pressure on the national journals. There is some tension but also a response from the journals; thus, over a short period of time we see rather substantial changes.

Firstly, from 2008–2010 to 2011–2013, the relative share of the Lithuanian authors in authorship became smaller; secondly, papers published in Lithuanian journals are more often cited by researchers affiliated to non-Lithuanian institutions; thirdly, papers published in Lithuanian journals are more often cited by papers published in core journals defined as such by Leiden (CWTS 2014).

References

- CWTS Leiden Ranking (2014) Retrieved, March 3, 2014, from: http://www.leidenranking.com/ methodology/indicators
- Dagiene, E. (2011). Changes in Lithuanian research journal publishing in 2009–2010. *Sciecominfo*, 7(1). Retrieved from http://nile.lub.lu.se/ojs/index.php/sciecominfo/a

rticle/view/2005

- Dagiene, E. (2013). Progressive Opportunities for Research Journal Publishing. Proceedings of the 5th Belgrade International Open Access Conference 2012: Journal Publishing in Developing, Transition and Emerging Countries (pp. 11–23). Centre for Evaluation in Education and Science. doi:10.5937/BIOAC-94
- Haiqi, Z., & Yamazaki, S. (1998). Citation indicators of Japanese journals. *Journal of the American Society for Information Science*, 49(4), 375–379. doi:10.1002/(SICI)1097-4571(19980401)49:4<375::AID-ASI7>3.0.CO;2-X
- Leeuwen, T. N. Van, Moed, H. F., Tijssen, R. J.W., Visser, M. S., & Raan, A. F. J. Van. (2001).Language biases in the coverage of the Science Citation Index and its consequences for

international comparisons of national research performance. *Scientometrics*, *51*(1), 335–346. doi:10.1023/A:1010549719484

- Meneghini, R., & Packer, A. L. (2007). Is there science beyond English? Initiatives to increase the quality and visibility of non-English publications might help to break down language barriers in scientific communication. EMBO Reports, 8(2), 112–6. doi:10.1038/sj.embor.7400906
- Moed, H. F. (2002). Measuring China's research performance using the Science Citation Index. *Scientometrics*, 53(3), 281–296. doi:10.1023/A:1014812810602
- Pajić, D. (2014). Globalization of the social sciences in Eastern Europe: genuine breakthrough or a slippery slope of the research evaluation practice? *Scientometrics*. doi:10.1007/s11192-014-1510-5
- Ponomariov, B., & Toivanen, H. (2014). Knowledge flows and bases in emerging economy innovation systems: Brazilian research 2005–2009. *Research Policy*, 43(3), 588–596. doi:10.1016/j.respol.2013.09.002
- Russell, J. M. (1998). Publishing patterns of Mexican scientists: Differences between national and international papers. *Scientometrics*, 41(1-2), 113–124. doi:10.1007/BF02457972
- Sandström, U. (2009). Bibliometric evaluation of research programs. The Swedish Environmental Protection Agency, 81 p.
- Tijssen, R. J. W., Mouton, J., van Leeuwen, T. N., & Boshoff, N. (2006). How relevant are local scholarly journals in global science? A case study of South Africa. *Research Evaluation*, 15(3), 163–174. doi:10.3152/147154406781775904
- Van Raan, A. F. J., van Leeuwen, T. N., & Visser, M. S. (2011). Severe language effect in university rankings: particularly Germany and France are wronged in citation-based rankings. *Scientometrics*, 88(2), 495–498. doi:10.1007/s11192-011-0382-1
- Zitt, M., & Bassecoulard, E. (1998). Internationalization of scientific journals: A measurement based on publication and citation scope. *Scientometrics*, 41(1-2), 255–271. doi:10.1007/BF02457982

Appendix. The main quantitative and qualitative indicators of the Lithuanian journ	als.
------------------------------------------------------------------------------------	------

Journal title	Period I – 2008-10 II – 2011-13	THREE MOST FREQUENT COUNTRIES (TOP3) in the authors' affiliations	LT Authorship	TOP3 Authorship	Shift Towards International	NJCS 1=Global avg.		
Included in Science Citation Index Expanded (SCI-EXPANDED) – Web of Science Core Collection								
BALT ASTRON	-	LITHUANIA CZECH REPUBLIC USA	22.17%	46.95%		0.11		
	11	LITHUANIA ESTONIA USA	6.95%	34.89%	25.7%	0.07		
BALT FOR	1	LITHUANIA ESTONIA FINLAND	35.96%	77.34%		0.21		
	11	LITHUANIA ESTONIA FINLAND	30.54%	62.29%	19.5%	0.19		
BALT J ROAD BRIDGE E	I	LITHUANIA SOUTH KOREA ITALY	62.95%	77.07%		0.65		
	Ш	LITHUANIA POLAND ITALY	45.74%	66.60%	13.6%	0.68		
BALTICA	I	LITHUANIA ESTONIA LATVIA	36.47%	70.20%		0.29		
	11	LITHUANIA ESTONIA RUSSIA	74.93%	85.57%	-21.9%	0.12		
CHEMIJA	I	LITHUANIA IRAN INDIA	94.01%	98.33%		0.14		
	11	LITHUANIA IRAN BULGARIA	85.94%	91.06%	7.4%	0.08		
ELEKTRON ELEKTROTECH	1	LITHUANIA LATVIA ROMANIA	61.67%	77.21%		0.25		
		LITHUANIA LATVIA PEOPLES R CHINA	40.10%	58.08%	24.8%	0.21		
INFORMATICA-LITHUAN	I	LITHUANIA SLOVENIA PEOPLES R CHINA	57.78%	74.81%		1.08		
	Ш	LITHUANIA PEOPLES R CHINA TAIWAN	46.00%	62.77%	16.1%	1.04		
INF TECHNOL CONTROL	1	LITHUANIA POLAND ALGERIA	81.15%	86.89%		0.34		
		LITHUANIA TAIWAN PEOPLES R CHINA	61.51%	88.17%	-1.5%	0.56		
J CIV ENG MANAG	I	LITHUANIA POLAND TURKEY	43.73%	69.33%		1.28		
	11	LITHUANIA POLAND TAIWAN	30.03%	54.69%	21.1%	0.71		
J ENVIRON ENG LANDSC	1	LITHUANIA TURKEY ESTONIA	70.28%	80.47%		0.47		
	11	LITHUANIA TURKEY INDIA	71.68%	82.57%	-2.6%	0.26		
J VIBROENG	I	LITHUANIA LATVIA POLAND	66.10%	82.03%		0.11		
	11	LITHUANIA PEOPLES R CHINA POLAND	28.57%	84.18%	-2.6%	0.41		
LITH J PHYS	I	LITHUANIA UKRAINE INDIA	88.91%	91.61%		0.12		
	11	LITHUANIA LATVIA RUSSIA	69.43%	83.55%	8.8%	0.09		
LITH MATH J	I	LITHUANIA GERMANY HUNGARY	72.27%	83.33%		0.42		
	11	LITHUANIA PEOPLES R CHINA GERMANY	51.10%	75.64%	9.2%	0.31		
MATER SCI-MEDZ	1	LITHUANIA ESTONIA CZECH REPUBLIC	83.44%	90.16%		0.18		
		LITHUANIA ESTONIA LATVIA	64.50%	79.20%	12.2%	0.22		
MATH MODEL ANAL	I	LATVIA ESTONIA LITHUANIA	20.61%	59.02%		0.51		
	Ш	LATVIA LITHUANIA PEOPLES R CHINA	18.28%	55.28%	6.3%	0.51		
MECHANIKA	1	LITHUANIA ROMANIA ALGERIA	71.28%	83.67%		0.51		
	Ш	LITHUANIA PEOPLES R CHINA IRAN	48.57%	76.89%	8.1%	0.41		
MED LITH	I	LITHUANIA ESTONIA USA	92.33%	94.77%		0.11		
	11	LITHUANIA LATVIA ESTONIA	67.40%	84.24%	11.1%	0.17		
NONLINEAR ANAL-MODEL	1	LITHUANIA INDIA BANGLADESH	64.86%	82.97%		0.50		
	11	LITHUANIA INDIA PEOPLES R CHINA	47.62%	75.62%	8.9%	0.61		
TRANSPORT-VILNIUS	I	LITHUANIA PEOPLES R CHINA TURKEY	56.83%	67.51%		1.19		
	11	LITHUANIA PEOPLES R CHINA SERBIA	43.10%	65.38%	3.2%	0.56		
VET ZOOTECH-LITH	1	LITHUANIA POLAND ESTONIA	82.13%	91.88%		0.13		
	1	LITHUANIA POLAND ESTONIA	69.36%	83.67%	8.9%	0.11		
ZEMDIRBYSTE	I	LITHUANIA ITALY POLAND	73.74%	86.59%		0.19		
	1	LITHUANIA TURKEY POLAND	59.79%	80.30%	7.3%	0.35		
Included in Social Sciences Citat	ion Index (SSC	CI) and Arts & Humanities Citation Index (A&HC	I) – Web of Science	Core Collection				
BALT J OF MANAGEMENT	I	ESTONIA LITHUANIA USA	17.30%	62.89%		0.29		
		ESTONIA LITHUANIA FINLAND	16.34%	67.91%	-8.0%	0.35		
FILOS-SOCIOL	1	LITHUANIA POLAND NETHERLANDS	88.31%	96.10%		0.41		
	1	LITHUANIA POLAND LATVIA	90.57%	96.60%	-0.5%	0.41		
INT J STRATEG PROP M	I	LITHUANIA FINLAND ENGLAND	25.71%	58.57%		0.80		
	1	LITHUANIA PEOPLES R CHINA ENGLAND	24.27%	59.75%	-2.0%	0.86		
INZ EKON	1	LITHUANIA ESTONIA POLAND	93.03%	97.23%		0.92		
		LITHUANIA CZECH REPUBLIC SPAIN	65.78%	77.47%	20.3%	0.77		
J BALT SCI EDUC	I	TURKEY USA SLOVAKIA	3.92%	60.10%		0.09		
		TURKEY SLOVENIA FINLAND	2.25%	74.36%	-23.7%	0.43		
J BUS ECON MANAG	I	LITHUANIA TURKEY ESTONIA	52.07%	65.70%		1.52		
		LITHUANIA TURKEY SPAIN	20.11%	49.84%	24.1%	0.99		
LOGOS-VILNIUS	I	LITHUANIA FRANCE	99.32%	100%		0.14		
		LITHUANIA POLAND FRANCE	99.44%	100%	0.0%	0.35		
PROBLEMOS	I	LITHUANIA BYELARUS POLAND	92.64%	96.93%		0.52		
	II	LITHUANIA ESTONIA USA	82.81%	93.75%	3.3%	n.a.		
TECHNOL ECON DEV ECO	I	LITHUANIA POLAND LATVIA	64.55%	80.43%		1.81		
		LITHUANIA PEOPLES R CHINA POLAND	37.85%	62.22%	22.6%	2.46		
TRANSFORM BUS ECON	I	LITHUANIA POLAND ROMANIA	42.41%	76.70%		0.51		
		LITHUANIA POLAND ROMANIA	39.89%	79.45%	-3.6%	0.14		