

Internationalization and Research Productivity: “Internationalists” and “Locals” in Polish Universities

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The internationalization of the Polish academic profession is studied in a comparative quantitative European context. Our study shows that research productivity of Polish academics (following European patterns) is strongly correlated with international collaboration: the average productivity of Polish academics involved in international collaboration (“internationalists”) is consistently higher than the rate of Polish “locals” in all academic fields. The impact of international collaboration on average productivity is much higher in Poland than in other European countries studied, with important policy implications.

Introduction

The relationship between international cooperation and research productivity has been widely discussed, with a general assumption that collaborative activities in research increase research productivity. But as Sooho Lee and Barry Bozeman (2005: 673) pointed out, “the benefits of collaboration are more often assumed than investigated. ... Do those who collaborate more tend to have more publications?”. Very much so, as we shall demonstrate in the Polish case.

We shall analyze two specific aspects of internationalization in research: first, the correlation between international academic cooperation in research and academic productivity, and second, the correlation between international academic cooperation in research and the co-authorship of publications with international colleagues.

Data and Methods

The data used in this study are drawn from eleven European countries involved in the CAP (“Changing Academic Profession”) and EUROAC (“Academic Profession in Europe: Responses to Societal Challenges”) projects: Austria, Finland, Germany, Ireland, Italy, the Netherlands, Norway, Poland, Portugal, Switzerland, and the United Kingdom, subsequently cleaned, weighted and integrated into a single European data set by the University of Kassel team. The total number of returned surveys was 17,211 and included 1,000-1,700 surveys in most European countries and 3,700 surveys in Poland.

For our analysis, we have used a subsample of 9,536 European academics who were employed full-time in universities (as defined by national research teams) only.

The first research question is how strongly international collaboration in research correlates with above-average research productivity and whether the relationships hold across all academic disciplines in Poland. Responses to the question “How many of the following scholarly contributions have you completed in the past three years?” with the number of “articles published in an academic book or journal” were analyzed. The analysis was conducted with reference to two separate groups of academics, termed “internationalists” and “locals” here. One group consisted of the academics indicating their involvement in international research collaboration, and the other group included those who indicated their lack of involvement (for a wider picture, see Kwiek 2014a).

Internationalization and Research Productivity

The analysis of the Polish subsample (N = 1,441) shows that Polish academics employed full-time in the university sector are less internationalized in all academic fields but cross-disciplinary differences in internationalization are much higher than in other countries. Only academics in physics and mathematics collaborate with foreign colleagues to an almost equal degree (on average about three fourth of the subsample). In life sciences and medical sciences, the proportion is about 55%, and in humanities and social sciences about 48%. The two most internationalized clusters of fields are the same in Europe and in Poland: “physics and mathematics”, and “life sciences and medical sciences”.

On average, Polish academics across all academic fields involved in international collaboration publish more articles than those not involved. In particular, in engineering, they publish on average more than four times more (332%) articles, in physics and mathematics three times more (217%), and in life sciences and medical sciences almost 50% more than their internationally-non collaborating colleagues. The difference between average publication rates for “internationalists” and for “locals” is much higher in the case of Polish academics than in other European countries studied: consequently, international collaboration has a more powerful impact on productivity in countries which are only entering European and global research communities.

Internationalization and Publication Co-authorship

The second aspect of internationalization studied here is the difference in the share of internationally co-authored publications between the subsample of “internationalists” and the subsample of “locals”. The analysis of the Polish subsample (N = 935) shows an almost identical cross-disciplinary pattern for international article co-authorship correlating with international collaboration as in the

case of 10 European countries. Across all five clusters of academic fields, the difference in percentages of internationally co-authored publications between “internationalists” and “locals” is statistically significant.

Amazingly, Polish “internationalists” are more internationalized (that is, have a higher proportion of internationally co-authored publications) than European “internationalists” in all academic fields except the humanities and social sciences, where they are slightly below the European average. There are also no big differences between Polish and European averages for “locals” except that Polish “locals” in physics and mathematics have on average twice as high a proportion of internationally co-authored publications as their European colleagues. Thus the European pattern not only holds in Poland, it is even stronger there: while the multiplication factor between “internationalists” and “locals” for European academics is on average between 4 and 7.5, the same factor for Polish academics is between 4 in physics and mathematics and 13 in life sciences and medical sciences.

Conclusions

Our study shows that research productivity of Polish academics (following European patterns) is strongly correlated with international research collaboration: the average research productivity rate of Polish academics involved in international collaboration (“internationalists”) is consistently higher than the rate of Polish “locals” in all academic fields (by 60-140%). Polish academics are less internationalized in terms of research than the European average but the productivity rate of Polish “internationalists” is on average much higher than that of the Polish “locals”. The impact of international collaboration on average productivity rates across all academic fields is much higher in Poland than in the European countries studied. International publication co-authorship is also powerfully correlated with international research collaboration: the average international co-authorship rate is between 5 and 7.5 times higher for Polish “internationalists” than for Polish “locals”, depending on the academic field. The European pattern of a higher proportion of internationally co-authored publications for academics collaborating internationally in research compared with those not collaborating internationally holds strongly in Poland: while the multiplication factor between “internationalists” and “locals” for European academics is on average between 4 and 7.5, the same factor for Polish academics is considerably higher, from 7 to 13.

In the context of the most recent Polish reforms (2009-2012), which highlighted the role of international publications, the results of the present study imply a powerful policy conclusion: more international cooperation is the best way to have more internationally visible national research output. And in the specific case of co-authoring articles with foreign colleagues, the policy lesson is even simpler: no international collaboration, no international co-authorship. Polish academics involved in international collaboration differ much less from their European colleagues involved

in international collaboration in terms of the patterns of research productivity than commonly assumed; the problem is the low research productivity of those not involved in international collaboration and a very high percentage of consistent non-publishers in the university sector (43% of full-time academics). Recent reforms resort strongly to new internationalizing mechanisms: internationalization matters heavily in institutional research assessment exercises (termed “parametrization”) which are closely linked to an institutional funding stream. Internationalization also matters as a prerequisite for getting access to competitive individual research grants distributed by the newly created National Research Council (NCN), as well as in new requirements for academic promotions. In all the three areas, research internationalization as analyzed above is important as never before. It is too early to link the correlations found to prior national strategies and ongoing reforms but internationalization boosts the competitiveness of Polish higher education (for an overview of Polish reforms, see Kwiek 2014b). What is clear is that the ever larger proportion of knowledge is being produced in selected top university departments and most productive units of the Polish Academy of Sciences: there is stable concentration of knowledge production (and research funding) in selected, most internationalized institutions.

References:

Lee, Sooho and Barry Bozeman (2005). “The Impact of Research Collaboration on Scientific Productivity”. *Social Studies of Science*. 35(5). 673-702.

Kwiek, Marek (2014a). “The Internationalization of the Polish Academic Profession. A European Comparative Approach”. *Zeitschrift für Pädagogik*. Vol. 2014. No. 5. 681-695.

Kwiek, Marek (2014b). “Structural Changes in the Polish Higher Education System (1990-2010): a Synthetic View”. *European Journal of Higher Education*. Vol. 4. No. 3. 266-280.

