



Scientific cooperation in the Eastern neighbourhood

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No. 7 | April 2019

 EU-STRAT POLICY BRIEF SERIES

EU-STRAT Policy Brief Series

Edited by the EU-STRAT Project 'The EU and Eastern Partnership Countries – An Inside-Out Analysis and Strategic Assessment' (EU-STRAT)

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Editorial assistance and production: Hannah Fabri, Ann-Sophie Gast

Dimiter Toshkov, Honorata Mazepus, Ina Ramasheuskaya, Tatsiana Chulitskaya and Natallia Rabava: Scientific cooperation in the Eastern neighbourhood, EU-STRAT Policy Brief No. 7, April 2019, 'The EU and Eastern Partnership Countries – An Inside-Out Analysis and Strategic Assessment' (EU-STRAT).

ISSN (2566-5375)

This publication has been funded by the European Union under the Horizon 2020 research and innovation programme.

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This project has received funding from the European Union's Horizon 2020 research and innovative programme under grant agreement no. 693382.

Introduction

Cooperation is a strategic goal of the European Union (EU)'s science, research, and innovation policies. The EU's scientific cooperation endorses the principles of openness and targeted cooperation activities. The goals of scientific cooperation go beyond scientific excellence and cover economic and external policy issues, such as “tackling global societal challenges more effectively”, “creating business opportunities in new and emerging markets”, and “supporting the Union’s external policies”.¹ Scientific cooperation has the potential to serve as ‘science diplomacy’ – an instrument of external policy that can improve relations between the EU and its partners and support societal transformations in the EU’s neighbourhood.

Scientific cooperation between the EU and the countries of the Eastern Partnership (EaP) initiative is well institutionalized. At the regional level, cooperation on research and innovation is addressed in the fourth EaP policy platform (“Contacts between People”). Currently, four of the EaP countries – Moldova, Ukraine, Georgia and Armenia – are associated to the Horizon 2020 programme.²

Research and development (R&D) has been identified as one of the 20 key deliverables in the document “20 Deliverables for 2020”, prepared by the European Commission and the European External Action Service, which aims to deliver concrete results and step up actions in four key priority areas of the EaP.

Under the framework of the EU-STRAT project, we set out to take stock of the extent of participation of the EaP countries, with a focus on Belarus, Moldova, and Ukraine, in the scientific programmes of the EU. We also sought to evaluate the scientific and broader societal and policy impact of scientific cooperation with the EU on these countries. In this policy brief, we summarize the results of our research and offer policy recommendations that can further enhance the broader impact of the scientific cooperation programmes with the EU.

In sum, our analysis finds a considerable number of successful scientific cooperation projects that have clear positive effects on scientific production in the region (for example, ATLAS experiment collaboration in CERN³), but we find limited evidence for broader impact on public policies and societies in the EaP region. In response, we recommend that the EU continues to support the EaP countries’ access to the scientific cooperation programmes. To ensure that the full potential benefits of cooperation are realized, we propose that the EU supports more projects in the social sciences; encourages wider participation of EaP institutions, and university departments in particular; promotes better integration of EaP partner institutions in the collaborative research activities; and encourages more targeted efforts to disseminate project results to policy-making authorities and the general public in the region.

¹ European Commission (2012) ‘Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions. Enhancing and Focusing EU International Cooperation in Research and Innovation: A Strategic Approach’, 14.9.2012 COM (2012) 497 final, 14 September, Brussels: European Commission.

² European Commission (2017) ‘Countries associated to Horizon 2020 Framework Programme (2014 – 2020)’, available at https://ec.europa.eu/research/iscp/pdf/policy/h2020_assoc_agreement.pdf#view=fit&pagedmode=none (accessed 10 February 2019).

³ For elaboration, see: Mazepus, H., Toshkov, D., Chulitskaya, T., and Ramasheuskaya, I. (2017) ‘The Effects of the EU’s Scientific Cooperation Programmes on the Eastern Partnership Countries: Scientific Output and Broader Societal Impact’, *EU-STRAT Working Paper No. 5*, Berlin: Freie Universität Berlin.

Evidence and Analysis

EaP countries have been participating in EU-supported projects under the seventh Framework Program for Research and Innovation (FP7) and, more recently, Horizon 2020. Apart from these large research frameworks, scholars and students from the region make use of the mobility opportunities within the Erasmus Mundus and Erasmus+ programmes, as well as exchanges aimed at reforming and modernizing higher education systems within the Tempus programme. The institutional and legal bases for the national engagement in scientific cooperation with the EU in Belarus are different than in Ukraine and Moldova. While Ukraine and Moldova are currently fully associated with the Horizon 2020 programme, Belarus can only participate as a third country. In addition, of the six EaP countries, Ukraine is the only one that concluded a bilateral science and technology agreement with the EU.⁴

Research output

Our comparative analysis of the scientific productivity of the EaP countries showed that cooperation with the EU is an essential factor contributing to the scientific output (measured with bibliometric data). Yet, this is not sufficient to bring the scientific communities in the EaP countries to a new, higher level.⁵ While international collaborations have grown in importance for the EaP countries, the effects are more along the lines of substitution of other resources that are no longer available, rather than providing additional resources. This is partially due to the domestic material constraints: the gross domestic product (GDP) spent on R&D is much lower in EaP countries (between 0.4 % and 0.6 %) than in EU member states (2 % of GDP). Among the three countries studied, only Ukraine aims to increase spending on R&D to be on par with the EU member states. However, the exact timeframe and the sources for this increase are not yet clear.

The role of social sciences

Our systematic overview of collaborations⁶ showed that although Moldova, Ukraine, and to a lesser extent, Belarus, have participated in major scientific cooperation projects within the EU's framework, these collaborations take place mainly within scientific disciplines concerning hard sciences and technologies. The number of cooperation projects within social sciences is low: our estimates show that in each country they constitute around ten per cent of the projects and exchanges. This is partly a consequence of these disciplines being underdeveloped during the Communist period, but also due to the lack of commitment to developing social sciences on the side of the new ruling regimes. Policy-makers in the region continue to perceive social science research as less useful and potentially sensitive, as it might deal with topics such as ideology and democracy. The lack of development of research capacity in social sciences is problematic, as knowledge about how states, societies, political systems, and economies work is essential for the existence of free and prosperous societies. Moreover, running joint research projects in social sciences could facilitate acquiring knowledge about new research methods, theories, and state of the art evidence. The lack of capacity in social sciences may also impede

⁴ European Commission (2018) 'Countries with EU international agreement on science and technology', available at https://ec.europa.eu/research/iscp/pdf/policy/st_agreement_ec_euratom.pdf#view=fit&pagemode=none (accessed on 10 February 2019).

⁵ See: Mazepus, H., Toshkov, D., Chulitskaya, T., and Ramasheuskaya, I. (2017).

⁶ Chulitskaya T., Mazepus H., Ramasheuskaya I. and Toshkov D.D. (2017) 'Science Policies and International Cooperation in the Eastern Neighbourhood of the European Union: An Overview', *EU-STRAT Working Paper No. 2*, Berlin: Freie Universität Berlin.

the dissemination of results from other (hard science) disciplines to public policy-makers and to society, because scholars of public administration and public policy often facilitate the incorporation of scientific findings into public decision-making.

Participating institutions

Another important result of our stocktaking exercise of past and present scientific projects is that a small number of research organizations account for a large share of all collaborations. Such concentration is to some extent inevitable in relatively small (with the exception of Ukraine) and developing countries, such as the ones in the EaP. But this can be problematic in the longer term, because it reinforces existing inequalities in capacities, ambitions, and research infrastructures. A related problem is the fact that university departments rarely participate in scientific cooperation projects with the EU, while research institutes of the national academies of sciences do. Again, this imbalance is an inheritance from the communist past and it impedes the incorporation of research results into teaching, which is provided by the universities. This is problematic because integration between research and teaching is of utmost importance to train new generations of experts and scholars with the most up to date knowledge and skills.⁷

Moreover, our research has demonstrated that there are entry barriers for potential newcomers wanting to join scientific collaboration projects. The main barriers include: lack of established contacts in the EU countries; lack of commitment from home university administration; unfamiliarity with application procedures and required documentation; lack of research infrastructure and internal administrative barriers (especially relevant in Belarus). A recent assessment conducted by the EaP Plus project shows that these barriers might be constraining the participation of EaP partners in European projects to such an extent that the numbers of participants in Horizon 2020 by the time of its completion will be lower than the number of participants in the FP7 framework⁸. The authors of the assessment also report that the success rate of the Eastern partners is dropping, showing that their competitiveness might be in decline.

The impact of cooperation according to project participants

As evidenced by our interviews, the scholars of the EaP countries as well as their Western counterparts evaluate participation in the scientific cooperation positively. They believe it has significant impact on the quality of research, for example by introducing new materials, ideas, and technologies. They also see the cooperation as having an impact on their research institutions, for example in terms of planning, administration and management of projects, and establishing networks with other scholars. However, the broader societal impact or direct effects of scientific cooperation with the EU on national public policies is minimal. Although the effects of scientific research on public policies are difficult to assess in general, to some extent, this could be explained by the dominance of the EU-funded projects mainly in fundamental (hard) science. Specific projects aimed at societal changes in all three countries under investigations are rare. If the goal of the EU is to support the balanced

⁷ European Forum for Enhanced Collaboration in Teaching (2017) 'European Principles for the Enhancement of Learning and Teaching', available at <https://eua.eu/downloads/content/ten%20european%20principles%20for%20the%20enhancement%20of%20learning%20and%20teaching16102017.pdf> (accessed 7 February 2019).

⁸ Bonas, G. and Karas, S. (2018) 'Annual policy brief on issues highly relevant to the EaP-EU collaboration. EaP PLUS' available at https://www.eap-plus.eu/object/document/163/attach/D1_1_2016-2017.pdf (accessed 9 January 2019).

development of the EaP countries, then this balance could be better reflected in promoting the advancement of different disciplines in both hard and social sciences. While the rules and values of scientific research can be transmitted to EaP scientific communities through collaboration in any discipline, transmission of values such as democracy, rule of law, or human rights to societies and authorities seems unlikely to be achieved by projects focusing on physics or chemistry.

Our research showed that another obstacle to achieving higher societal impact of science more broadly is the very limited interest on the part of the public. Another important issue is the mismatch between what economic and political agents expect from scientific projects and what scientific institutes want and can deliver within EU-funded projects. In Belarus, in particular, the government expects immediate economic returns from research projects, or at least practical tangible results that industrial sector can immediately use. This is contrary to the motives of research institutions, especially those under the Academy of Science umbrella, that are more interested in fundamental research.

Political regimes and science cooperation

The political regimes of the EaP countries play a significant and mostly constraining role in the development of science in the respective countries. As a result, there are many barriers that prevent local scientists (especially those in the social sciences) from cooperating with EU partners: lack of funding or dependence on state funding; utilitarian and technocratic attitude to possible cooperation projects; low level of administrative capacity and independence; and ideological restrictions. Even if the EaP institutions take part in cooperation projects, often they are used as subcontractors, are not fully integrated into the research process, and are not even part of the final publications. This leads to a situation in which the EaP institutions receive European funding, but are not in the spotlight and do not get international recognition. Such a misbalance contributes to a ‘vicious cycle’ situation for the EaP project partners, with few opportunities for development and preparation for more intensive participation in future projects.

Policy Recommendations

Based on our research, we can make the following recommendations for enhancing the broader impact of scientific cooperation between the EU and the countries of the Eastern Partnership.

- The EU should **continue to offer opportunities for the EaP countries to participate** in its programmes for scientific cooperation and exchange. It should continue to support these countries in their efforts to participate actively, and it should increase its own efforts to promote the inclusion of academic institutions from these countries in EU-funded transnational research consortia.
- The EU should pay particular attention to the increased participation of institutions from the EaP countries in **scientific cooperation in the social sciences** in order to boost the broader societal impact of cooperation. To make this possible, the capacity of academic and non-academic social science institutes in the EaP countries to design and deliver quality research should be strengthened.
- If the goals of scientific cooperation transcend scientific excellence, the EU should make efforts to ensure that the participation of the EaP countries **is not limited to a small number of select institutes**.

Concentration of the benefits of scientific cooperation on the one hand creates pockets of excellence, while on the other hand, further exacerbates existing inequalities within the EaP countries. Relatedly, attention should be paid to the **inclusion of university departments** in scientific cooperation programmes, rather than limiting cooperation to institutes of the national academies of sciences.

- The EU should make sure that participating institutions from EaP countries are **integrated into the research process** when taking part in project consortia. Using EaP institutions only to execute specific research activities, without involving them in the planning, design, publication, and dissemination stages of the research process, fails to transfer all the benefits from cooperation to the participating EaP institutions and limits the learning potential of cooperation.
- The EU should consider how to assist the **dissemination of relevant research findings** to the policy-making authorities and to the general public in the EaP countries. This is especially important for findings from cooperation projects in the social sciences, but also applies to other fields with public policy implications, such as the environment. Given the institutional and political context in these countries, this would not be easy, but otherwise the broader transformative potential of scientific cooperation will not be realized.

Methodological note

The analysis and recommendations offered in this policy brief build on research conducted using different methods. The identification of relevant cooperation programmes and projects between the EaP countries and the EU and other partners was done on the basis of desk research. The assessment of the scientific impact of cooperation uses bibliometric analysis of all publications with an author based in one of the EaP countries between 2000 and 2017. The assessment of the broader impact of scientific cooperation is based on two waves of semi-structured interviews conducted between October 2017 and April 2018 with policy-makers, researchers, experts, and project coordinators from Belarus, Moldova, Ukraine and some current EU member states (N=51).



The EU and Eastern Partnership Countries An Inside-Out Analysis and Strategic Assessment

Against the background of the war in Ukraine and the rising tensions with Russia, a reassessment of the European Neighborhood Policy has become both more urgent and more challenging. Adopting an inside-out perspective on the challenges of transformation the Eastern Partnership (EaP) countries and the European Union face, the research project EU-STRAT seeks to understand varieties of social orders in EaP countries and to explain the propensity of domestic actors to engage in change. EU-STRAT also investigates how bilateral, regional and global interdependencies shape domestic actors' preferences and scope of action. Featuring an eleven-partner consortium of academic, policy, and management excellence, EU-STRAT creates new and strengthens existing links within and between the academic and the policy world on matters relating to current and future relations with EaP countries.
