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Building Research Capacity at Universities: Imagining, Strategizing, and Ordering

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Abstract

The post-Soviet countries chose different paths in terms of the organisational integration of higher education and research. There exist research universities in countries where radical reforms have taken place and also in countries where research institutes have not been merged with universities. Across the diverse region, universities remain to be seen by students, their families, and the wider public as, first and foremost, educational institutions. At the same time, selected universities frame their identity as research-active. In the context of the limited funding for research, universities and research institutes in most countries compete for the finite pot of research funding which reduces the chance of concentrating research within the higher education sector where the research activity is likely to feed into teaching activity and produce broader public benefits. We conclude this chapter by charting a vision of the unity of educational and research functions at universities and deparochialising the idea of research.

Universities in the former Soviet countries remain to be seen by students, their families, and the wider public as, first and foremost, educational institutions. At the same time, selected universities frame their identity as research-active. While the idea of the organisational separation of education and research has proponents (Marginson, 2021), higher education literature recognises research as a core function of a university (Altbach, 2013; Chankseliani, Qoraboyev, et al., 2021; Kwiek, 2012; Powell & Dusdal, 2017; Yang et al., 2021). There is a broad societal benefit of having research concentrated at universities - university education can be more engaging and intellectually stimulating for both students and academics. Research-intensive university can also offer more cutting edge education as research-active academics are likely to be on top of the latest developments in their fields. This understanding of the high value of university-based research has become more or less universally accepted globally.

In the context of the limited funding for research, universities and research institutes compete for the finite pot of research funding in the majority of the former Soviet countries. The dispersion of research funding to the two sectors leads to two consequences. First, it reduces the chance of concentrating research within the higher education sector where the research activity is likely to feed into teaching activity and produce broader public benefits. Second, it hinders the process of developing strong research universities. Thus, in the former Soviet countries with scarce funding for higher education and research, the distribution of significant amounts of research funding to institutions other than universities can have considerable implications for the sustainability of universities. In the long run, the splitting of resources may lead to mediocrity in both sectors.

The Soviet chapter in this volume described the declared relevance of research at Soviet higher education institutions which used to be rather homogeneous in terms of governance structures, funding, curricula, and approaches to teaching and learning. Yet, there were disparities in terms of the geographic concentration of research activity at Soviet higher education institutions. Selected urban centres in the Russian SFSR such as Moscow, Saint-Petersburg, Novosibirsk as well as Kiev in the Ukraine SSR had the largest concentrations of research capacity. The most important Soviet research projects were undertaken in the Russian SFSR. Russia subsequently became the legal heir of the Soviet Union, inheriting a large portion of the Soviet scientific infrastructure (Schneider, 2013). Russia and Ukraine, together with Lithuania, Estonia, Georgia, Latvia, Armenia, and Azerbaijan, had some universities prior to the Soviet era. Universities in all other countries were set up in the Soviet period.

Following the collapse of the Soviet Union, these countries explored the possibilities of setting up new governance structures and practices of research and higher education in order to establish the so-called knowledge economies. This aspiration – the myth, as Meyer et al. (2007) refer to it - has been common to most countries in the world (Verger et al., 2018). The research university as a new institutional model for this region has been part of these new national structures and discourses which emphasise global norms, global reputation, and global competitiveness (Chankseliani & Silova, 2018). Global is a condition in which individuals, institutions, and countries aspire to act. Higher education ‘international status anxiety’, a term coined by Oleksiyenko et al. (2018), does not affect universities, governments and academics in all former Soviet countries to the same extent. The Russian and Kazakhstani governments are highly ambitious ‘status seekers’ - a term borrowed from Oleksiyenko et al. (2018) - as they invest significant resources to put in place policies directed at the expansion of research capacity of their universities. Governments in other countries seem to be either mildly preoccupied with university-based research or inclined to encourage the private actors and individual universities to bear the burden of developing research capacity. Whatever path the governments take, competition is at the heart of all contemporary measures of encouraging research at universities.

As part of national efforts to develop research universities, the former Soviet countries have introduced macro-level reforms of the organisational integration of higher education and research that concentrated in Academics of Sciences and state-owned applied science institutes. These countries also initiated quasi-market research policies that have been implemented at selected universities. Such policies include but are not limited to the introduction of competitive, performance-based mechanisms to distribute the research funding; assessing research outputs on the basis of quantifiable indicators; determining academic pay and incentives on the basis of their research productivity. Selected universities that work towards building their research capacity, in line with the entire higher education systems, operate within the contexts of nation-states that, in the words of Clark Kerr, ‘have designs on them’ (1994, p. 6). Balancing the global aspirations with the interests of nation-(re)building have not always been congruent and led to a considerable variation in the higher education and research landscapes. Azerbaijan, Armenia, Kyrgyzstan, Uzbekistan are good examples of countries which have global aspirations and where the national policies pertaining to the research governance and the development of research capacity hardly reflect those aspirations.

This volume has described a diversity of trajectories that the post-Soviet countries have taken in developing university research capacity. This diversity is reflective of the ways in which each of these countries has approached reforms in higher education and research, and links between these and national development agendas, as part of natural experiments of post-

Soviet transformations. The diversity is also reflective of variations in higher education traditions as well as the ways in which different external and internal stakeholders shaped the development of university research capacity, stakeholders' relative political weights, and institutional frameworks in which universities and their stakeholders operated to resist changes or to steer reforms in their preferred directions.

Organisational Integration of Higher Education and Research

The case studies presented in this volume show that most former Soviet countries have been supporting the enhancement of the research mission of universities. This has been done through the organisational integration of higher education and research, albeit to a varying degree. Selected countries moved away from the Soviet model of organising research by abolishing their national academies of science and merging research institutes with universities. The majority of the former Soviet countries have promoted university research in competition with the academy and have not implemented drastic policies directed at the institutional integration of higher education and research.

Estonia, Latvia, Lithuania, Georgia, and Kazakhstan are in the first group of countries where academies transformed into learned societies and institutes integrated with universities or became independent. The Estonian, Latvian, and Lithuanian Academies of Sciences were reformed in the early 1990s. In Kazakhstan and Georgia similar changes happened in the early to mid-2000s. Academies in these countries turned into collective bodies of academics that perform one or more of the following functions: promote research, elect research professors, support early career scholars, offer advice and recognition, prepare annual reports on the development of research nationally. Academies have lost their research governance and financing powers. Instead, universities have developed the capacity to undertake most research and produce the bulk of scholarly output. This process of institutional reorganisation was driven by the goal of establishing knowledge economies through research-based knowledge production and increasing global competitiveness by connecting research and teaching at higher education institutions (Tamtik & Sabzalieva, 2018). The drivers of these reforms might have been different in these countries. In the Baltic States, there existed a strong internal drive from academic communities to reorganise higher education and research systems. These countries received expert support from neighbouring Nordic countries in evaluating their research systems. In the 1990s, the Danish research councils evaluated the research system in Latvia, the Swedish research councils evaluated the research system in Estonia, and the Norwegian research council evaluated the research system in Lithuania (Norwegian Research Council, 1996). These evaluations led to the establishment of research council structures in the Baltic countries and legislative changes that ended the organisational separation of higher education and research. The chapters on Lithuania and Latvia offer insights into these processes. In Georgia and Kazakhstan, the reforms of the organisational integration were part of the strong modernisation agendas of respective governments who sought international legitimation of their reforms.

All other post-Soviet countries retain powerful structures of academies: Armenia, Azerbaijan, Belarus, Kyrgyzstan, Moldova, Russia, Tajikistan, Turkmenistan, Uzbekistan, and Ukraine. For example, the National Academy of Sciences of Ukraine (NASU) has been the major actor in the national research system. In 2018, the NASU went through an external evaluation which resulted in shutting down a number of research departments. An external reviewer described the academy as outdated and suggested that 'the academy's competitive labs should be merged with Ukrainian universities to create European-style research universities and to

link research and teaching' (Schiermeier, 2019, p. 163). To date, the NASU enjoys a strong political position and reports to the Cabinet of Ministers directly. Universities in Ukraine are under the Ministry of Education and Science. The status quo is slightly different in neighbouring Moldova where the Academy of Sciences is less powerful and there are ongoing debates about shifting the research funding from the Academy to universities. Kyrgyzstan is another country which has witnessed discussions between two opposing camps regarding the organisation of research. The working group that was set up to radically restructure the National Academy of Sciences in Kyrgyzstan was not successful because of the overrepresentation of conservative scholars who opposed changes to the Academy model. It is becoming increasingly possible that the Turkmenistan Academy of Sciences may dissolve altogether in the next few years. In 2019, gradual funding cuts were announced and a number of research institutes were merged with universities (Eurasianet, 2019). In Russia, the Academy of Sciences was subjected to constant attacks by policymakers, who tended to favour developing universities as hubs of research, especially in the 2000s. As described in the Russian case study, policy-makers considered the Academy structure as highly inefficient but difficult to transform, unlike universities which have been seen as easier to manage, and more keen to follow the market and industry needs in research. The Academy has lost some of its autonomy and operational control over research institutes, yet these have not been integrated into higher education institutions and the Academy itself remains a major player in terms of evaluating and planning the directions of research.

One hypothetical reason for maintaining the research institute sector in these countries could be the avoidance of the Anglo-American multiversity model where research is the driving force of reputation and funding and the educational function is, therefore, side-lined. There is no evidence that in any of these countries this is the reason for keeping the organisational separation. On the contrary, all of these countries show the signs of aspiring to develop research universities, following the Anglo-American multiversity model. Selected universities use global rankings to formulate their aspirations and research productivity determines universities' standing in global rankings. Yet, the strategies of achieving this, especially in the context of keeping the research institute sector alive, are not clear.

There are significant differences between these two groups of countries – the radical reformers and others – when it comes to the ways in which doctoral training is organised. Doctoral training is a focal domain where the education and research missions of universities intersect most vividly. Globally competitive research universities in all parts of the world are not only sites of research but also producers of researchers. The Soviet model of doctoral training went through various degrees of transformation in a number of these countries. The Baltic States were the champions of full transformation to Western-style doctoral training in the 1990s. Georgia and Kazakhstan have also transformed their doctoral training systems; in these countries universities award the highest academic degree. Moreover, Kazakhstan introduced very high standards for doctoral dissertations, requiring one foreign academic as co-supervisor. In the rest of the countries, there are some signs of transformation, with the doctoral education being in a limbo with a mixture of the Soviet and Western model attributes, such as the introduction of the Western PhD but retaining the Candidate of Sciences degree; higher attestation commissions still in place and universities not in the position to independently award doctoral degrees. Most countries also retain the so-called 'doktor nauk' degree which requires the second dissertation. There is no evidence that offering this second degree supports the development of research capacity. The fact that doctoral training is not under the full purview of universities in most former Soviet countries is a serious detriment to the development of university research capacity.

Funding for Research

The evidence on public funding for R&D is a good illustration of how declared global aspirations are not aligned with material manifestations of those aspirations. The Gross Domestic Expenditure on R&D (GERD)¹ ranges between 0.10% and 0.13% of GDP in Tajikistan, Kyrgyzstan, Kazakhstan, and Uzbekistan (Table 1). In contrast, Belarus, Latvia, Lithuania, and Russia allocate between 0.61% and 0.99% to R&D. Three countries in the South Caucasus, Moldova, and Ukraine spend between 0.18% and 0.47% of their GDP on R&D. Estonia spends the largest proportion of its GDP - 1.43% - on R&D. Compare this with the Soviet Union's spending on science which was 6% of Gross Domestic Income (USSR, 1988).

Table 1. Key Indicators Pertaining to Research Funding

	GERD as % of GDP [2018]	GERD per capita in current PPP\$ [2018]	GERD per researcher, head count (in '000 current PPP\$) [2017-2018]	GDP per capita in current US\$ [2018-2019]
Armenia	0.19%	\$20	\$17	\$4,623
Azerbaijan	0.18%	\$33	\$23	\$4,794
Belarus	0.61%	\$121	\$65	\$6,663
Estonia	1.43%	\$504	\$77	\$23,660
Georgia	0.30%	\$32	\$12	\$4,769
Kazakhstan	0.12%	\$34	\$36	\$9,731
Kyrgyzstan	0.11%	\$4	\$8	\$1,309
Latvia	0.63%	\$193	\$37	\$17,836
Lithuania	0.94%	\$333	\$45	\$19,455
Moldova	0.25%	\$19	\$22	\$4,499
Russia	0.99%	\$275	\$115	\$11,585
Tajikistan	0.10%	\$3	\$11	\$871
Turkmenistan	no data	no data	no data	\$6,967
Ukraine	0.47%	\$44	\$32	\$3,659
Uzbekistan	0.13%	\$9	\$9	\$1,725

Sources: own calculations using the data from UIS (2018) and World Bank (2019, 2020)

These indicators compare unfavourably with Israel and South Korea, each spending almost 5% of their GDP on R&D, as well as Sweden, Japan, Austria, Germany, and Denmark, each spending around 3% of their GDP on R&D. Considering the substantial differences in post-Soviet countries' GDP per capita and population numbers, the variation in GERD as a percentage of GDP translates into vast differences in the GERD per capita (Table 1).² Tajikistan, Kyrgyzstan and Uzbekistan spend \$3 to \$9 per capita on R&D. In Moldova, Armenia, Georgia, Azerbaijan, Kazakhstan, and Ukraine, the GERD per capita ranges between \$19 and \$44. Russia (\$275) spends more than twice as much as Belarus (\$121). Finally, the three Baltic States differ significantly in their per capita investment in R&D, with

¹ Gross domestic expenditure on R&D (GERD) is total intramural expenditure on R&D performed in the national territory during a specific reference period (OECD, 2015). Intramural R&D expenditures are defined as all current and gross fixed capital expenditures for R&D, irrespective of the source of funds (UIS, 2020b).

² The UNESCO Institute of Statistics defines GERD per capita as the "total intramural expenditure on R&D performed during a specific reference period per inhabitant" (UIS, 2020a).

Latvia spending \$193, Lithuania - \$333, and Estonia - \$504 (Chankseliani, Lovakov, et al., 2021).

Considering the differences in the institutional integration of higher education and research in these countries, there are large variations in the proportion of GERD performed by the higher education sector (Figure 1). Georgia, Latvia, Estonia, and Lithuania have relatively larger proportions of GERD performed by higher education institutions. In other countries (including Kazakhstan), the higher education sector remains relatively insignificant while the government and the business enterprise perform the bulk of R&D. As the case studies in this volume demonstrate, the countries with relatively larger shares of the higher education sector in R&D expenditure have successfully overhauled their organisational structures of higher education and research (Figure 1).

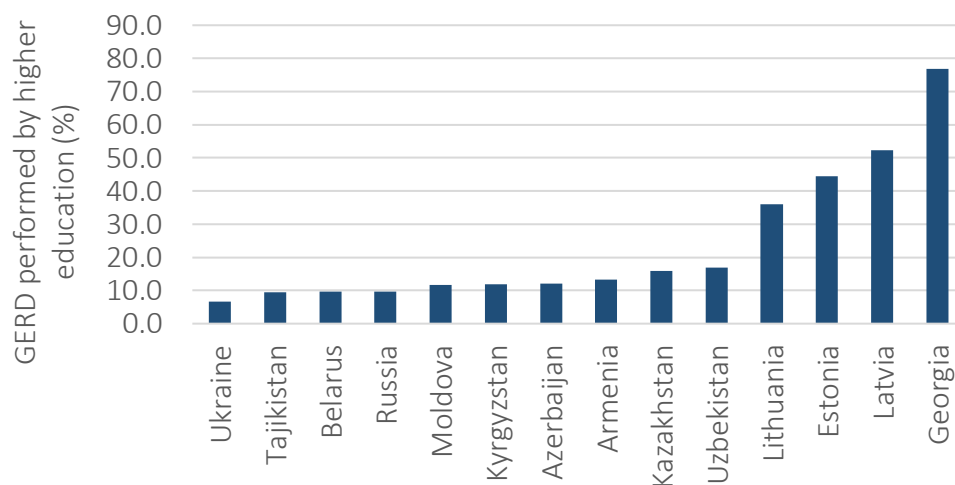


Figure 1. GERD performed by higher education (%), by country

Source: own calculations using the data from (UIS, 2018a)

The GERD performed by higher education is an important indicator as it gives an idea how research-active the university sectors are in these countries. This indicator has also been positively linked with productivity growth in the OECD country context. In other words, it has been shown that the OECD countries where universities perform a higher proportion of the GERD tend to achieve higher rates of productivity growth overall (Eid, 2012). While this volume assumes that there are multiple societal benefits of research-intensive universities, we recognise that the economic development argument tends to be most influential when it comes to resource-allocation decisions.

The analysis of the share of public funding in overall R&D expenditure shows that in the contexts where higher education and research are organisationally integrated, lower shares of the R&D funding tend to come from public sources. More than three-quarters of the R&D funding comes from the government in Tajikistan, Kyrgyzstan, and Moldova. In the next group of countries - Ukraine, Uzbekistan, Russia, Armenia, and Azerbaijan - 46% to 68% of the overall R&D expenditure is covered by their respective governments. Finally, the government contributes only 36% to 44% to the total R&D expenditure in Lithuania, Estonia, Belarus, Georgia, Latvia, and Kazakhstan (UIS, 2018a). This finding could potentially indicate that research institutes within the Academies of Science are less successful in obtaining research funding from non-public sources than universities. Further research and analysis is required in this area.

The availability and distribution of funding for R&D have been key themes emerging from case study interviews with academics, administrators, and policy-makers. The former Soviet countries have put in place different policies for the distribution of public funding for research, with a prevailing assumption that it is the applied research that is valuable for society. There are two broad observations that emerge in relation to the expectations from university-based research and the distribution of research funding. First, a number of countries in the region have committed considerable public funding to the so-called ‘strategic’ initiatives under the umbrella of science and technology parks and have discursively and financially supported an orientation on innovation, understood largely as technological innovation. It is assumed that technology-led innovation often generates productivity gains; this happens either through technology replacing labour or through technology increasing the hourly productivity of labour. Governments supporting these technology parks hoped that such spaces would directly result in more spinoffs and start-ups, leading to more innovation. Such spaces might also have the potential to make innovation smoother by improving the flow of knowledge and technology. Examples of such initiatives include Lomonosov Moscow State University Science Park, Latvia Technology Park, Science and Technology Park of Belarusian National Technical University ‘Polytechnic’, Batumi Shota Rustaveli State University Technology Park, Science and Technology Park in Tashkent, Al-Farabi Kazakh National University Science Park among others. These examples serve as one demonstration of a general assumption in policy circles that universities should drive innovation. In an interview with *Times Higher Education*, a Russian-British scientist, Nobel Prize-winner Sir Konstantin Novoselov argues that governments all over the world look to higher education for technology transfer out of ‘desperation’. He explains that contemporary universities are fundamentally incapable of doing this. ‘If you want to be successful on the patent landscape in any area – material science, computer engineering, anything – you need a package of maybe 10, 20, 100 patents. You cannot even think about financing this from the university,’ he explains (Bothwell, 2019). Globally, this tendency is closely aligned with the aspiration to build knowledge economies which rely on the ‘formation of knowledge-intensive manpower, applied research and knowledge transfer’ (Verger et al., 2018).

The second observation regarding the public funding allocation for research is that most former Soviet countries now operate competitive national schemes for research project-based funding. A number of countries, such as the Baltic States, Georgia, Ukraine, Moldova, Russia, have set up research funding agencies, modelled on Western quasi-public agencies which are intermediaries between government and research organisations. National funding agencies are tasked with administering competitive schemes for project-based funding. While such schemes aim to distribute public funding based on the excellence of the proposal, there is a risk that project-based funding can lead to a serious underfunding of basic research. There seems to be very limited recognition that basic research, funded via block grants or research council-type appropriations, can eventually lead to tangible benefits such as specific industrial applications, innovation, and ultimate economic growth.

A number of universities across the region have competitive research funding schemes in place and operate institutional grants programmes for encouraging research activity. Some universities also offer financial incentives to academic and research staff to recognise and encourage research productivity. Financial incentives often take a form of end-of-year bonuses which are determined by research productivity (e.g. Azerbaijan State University of Economics pays twice the amount of salary to the top 10 most cited scholars; in selected Kazakhstani universities bonuses are paid based on academics’ H-index); financial incentives per publication (e.g. the University of Latvia pays a reward of 1000 Euros per Q1 or Q2

international publication. Similar incentives are in place at selected universities in Russia and Uzbekistan); and various competitions with monetary prizes for winners (e.g. Ilia State University's Pascal Award for Early Career Academics who publish a single-authored paper in an internationally peer-reviewed, Thomson Reuters journal). It has been argued that financial incentives are likely to reinforce a managerial culture, encourage performative objectification of academics, and weaken their agency (Xu et al., 2021). At the same time, a recently conducted meta-analysis of global evidence shows that financial incentives help performance, especially in interesting tasks. However, the incentives–performance relationship is less positive for performance measured as quality, especially in interesting tasks (Kim et al., 2021).

The financial incentive schemes, institutional research grants programmes, and other initiatives to encourage research are often coordinated at the institutional level. Therefore, academics within the same country may have access to very different resources for research, depending on their institutional affiliation. The Russian case study, for example, clearly describes such institutional hierarchies in the largest higher education and research system in the region. There is some evidence offered in other case studies to argue that the distribution of research capacity within each country is likely to be unequal. Similar to trends in other parts of the world, in the former Soviet countries there appear to be singular institutions with a concentration of research capacity and research funding. While there are benefits to such an approach, it perpetuates an understanding of research as a high-end technical and/or laboratory-based activity rather than as a capacity with democratic potential. We will return to this idea at the end of this chapter.

Global Visibility of Universities

The post-Soviet countries chose different paths in terms of the organisational integration of higher education and research. There exist research universities in the group of radical reformers (Estonia, Latvia, Lithuania, Georgia, and Kazakhstan) as well as other countries where research institutes have not been merged with universities. We have examined the 2021 rankings of global universities from THE and QS to observe that all countries from the group of radical reformers have between one and four universities included in these global rankings. Kazakhstan has the largest number of research universities (three in THE and 10 in QS) included in the rankings. From the rest of the countries, only universities from Russia, Ukraine, and Belarus appear in the global rankings. More specifically, Russia has the largest number of universities (48 in THE and 28 in QS) included in the rankings, followed by Ukraine (nine in THE and six in QS), and Belarus (one in THE and two in QS). The majority of countries that retain the powerful structures of academies, such as Armenia, Azerbaijan, Kyrgyzstan, Moldova, Tajikistan, and Uzbekistan, do not have a single university included in these rankings.

The divergent paths that countries have taken in terms of the organisational separation of higher education and research is also reflected in the proportion of globally visible research produced by university-based authors. A recent bibliometric analysis shows that in a number of post-Soviet countries, universities have become key producers of global knowledge. In Georgia, Kazakhstan, Estonia, Lithuania, and Latvia, more than 80% of all publications included in the Web of Science database have a university-based author. In Russia, Belarus, Turkmenistan, Ukraine, and Kyrgyzstan more than half of all Web of Science publications have a university-based author. In contrast, only between 40 and 50% of publications from Uzbekistan, Moldova, Azerbaijan, and Tajikistan are authored by university-based academics. Armenia has the lowest proportion of publications (36%) with at least one

university-based author (Chankseliani, Lovakov, et al., 2021). Very large proportions of these papers are internationally co-authored.

Interviews conducted for the purposes of the case studies demonstrate that international research collaborations have contributed significantly to the development of selected universities' research capacity. A recently published bibliometric analysis confirms that these countries have been actively engaged in international collaborations and that there is a very high proportion of internationally collaborative research that emerges from this region (Chankseliani, Lovakov, et al., 2021). It has been shown that in 1993-2019, every post-Soviet country had a higher proportion of internationally co-authored publications than the world average of 20%. Three in ten publications produced by researchers from this region were internationally co-authored, with significant country-level variations observed. Turkmenistan, Kyrgyzstan, Georgia, and Moldova have about seven in ten publications co-authored internationally. These are followed by Kazakhstan, Latvia, Tajikistan, Armenia, and Estonia, with about six in ten internationally co-authored publications. Russia has the lowest proportion of internationally co-authored publications – less than one in three – but still above the world average of one in five (Chankseliani, Lovakov, et al., 2021). Thus, while the aggregate evidence on the international funding is not available, it is clear that international funding supplements national funding for R&D. The lifting of the 'iron curtain' led to the overall increase in international contacts in education and research, with more students and academics from the region seeking mobility opportunities, undertaking international research projects, and engaging in knowledge exchanges with colleagues worldwide. These international engagements appear to be positively influencing the research motivation, expertise, and opportunities for university-based academics, as well as the visibility of universities.

Deficit and Colonial Lenses

Many of the case studies included in this volume adopt a deficit lens to investigate the barriers to the development of university research capacity at three levels - individual, institutional, and systemic. Based on the analysis of the case study evidence, the insider knowledge, and the existing literature, we have identified a number of barriers to the development of university research capacity across the region. While these do not pertain to each and every country, they do offer a broad indication. At the individual level, the following barriers have been identified: limited time to dedicate to research; concerns about job security; poor remuneration; scarcity of research funding; bureaucracy associated with funded research; limited knowledge of English. At the organisational level, we note the following barriers: a lack of institutional strategy and action plan for supporting the development of research capacity; one-man management, i.e. top-down leadership culture; outdated or insufficient infrastructure; limited allocations of funding for research; teaching and research formalised as two distinctly different responsibilities; precarious contracts of employment; administrativisation of universities; lack of a critical mass of academics at different career stages who work in the same area and are engaged in research; attraction and retention of academics engaged in research; limited or no availability of sabbatical leave with pay; unequal availability of time for research based on discipline, with less time available for research in disciplines popular among students; insufficient practices of mentoring; over-preoccupation with research metrics. Last but not least, at the systemic level, the barriers include a lack of national strategy and action plan for supporting the development of research universities; underdeveloped institutional autonomy; doctoral training being left in limbo between the Soviet and Western models; frequent changes in political landscape and priorities; unequal institutional distribution of research capacity; scarcity of funding for

research; insufficient consideration given to research ethics and academic integrity; limited recognition of research diversity when it comes to incentives systems. This may not be an exhaustive list. Similar barriers have been identified in other global settings (Malekzadeh et al., 2020; Sawyerr, 2004; Zink, 2017). While there is a great heterogeneity by country, by institution, and at the level of individual academics, these barriers appear to have a strong negative influence on the development of research motivation, expertise, and opportunities in the region.

Some of the case studies included in the volume describe the barriers in relation to modern, Western, global, European, or Anglo-American norms and standards of university-based research. Funding and knowledge flows between the former Soviet countries and Western countries have been influential in supporting higher education and research in this region. The idea of westernisation is in itself controversial; it can be linked with the aspirations for full academic freedom, institutional autonomy, and academic integrity. It can also be linked with increased inequalities, individualism, cultural imperialism, and the disappearance of indigenous traditions. The idea of modernisation which is often equated with westernisation has been generally viewed positively in the region. At the same time, there exists a body of critical scholarship on the westernisation, Americanisation, modernisation, Europeanisation of former Soviet countries (Amsler, 2007; Bruno, 1998; Chankseliani, 2017; Mignolo, 2006, 2011, 2012). This scholarship explores how the former Soviet countries ‘fell prey to Eurocentrism’s magic and its belief in the myth of scientific knowledge over subjectivity’ (Mignolo, 2006, p. 484). This critical discourse fits with the discourse on the Western Enlightenment principles of modernity and progress being underpinned by the logic of coloniality, domination, and development (Mignolo, 2012). Western influences form one part of the multi-layered coloniality framework proposed by Chankseliani (2017) for the analysis of the academic knowledge generation in former Soviet countries. This framework brings together the Western and Russo-Soviet influences in higher education and research pertaining to this region. The multi-layered coloniality framework can be suitably used to interpret most of the case studies included in this volume which show that the Soviet influences are still alive and well in a number of countries. The strongest remnant is the organisation of research through the Soviet-style Academy of Science model. At the same time, most case studies indicate how research in these countries is in deficit of financial, human, and policy resources. These deficits are described in relation to Western standards and norms; sometimes with a hint of naïve idealisation. To a certain extent, there is an impression that some of these countries share a predicament of ‘self-colonization’ due to the overemphasis on Western standards and norms. The reader may have an impression that the development of university-based research is a struggle between the Soviet and the Western traditions and has been largely viewed in rather pessimistic terms.

One theme that received relatively little attention in case studies was research ethics. When asked about ethics, most respondents spoke about plagiarism and academic integrity and few referred to the ethical conduct of research involving human participants. Considerable variation was detected by country. In Armenia, participants reported the existence of ‘unwritten rules’ which are not institutionalised. In Lithuania, ethics committees seem to operate in all universities and in Kazakhstan a new ethics code was adopted in 2020 to regulate this domain of research activity. There were some extreme cases relating to ethics and research which involved corruption allegations. In Tajikistan, government officials allegedly delay approvals of externally funded/international research projects in order to receive a share of the funding. Overall, there is an impression, which includes the experiences

of preparing case studies for this volume,³ that strict ethical guidelines may be seen as ‘Western’ impositions guiding research that is funded from international sources and/or targets international peer-reviewed publications.

Deparochialising the Idea of Research

Most chapters in this volume delineate the educational and research functions of universities. This reflects the reality in former Soviet countries where teaching and research contracts are clearly demarcated. Case studies refer to designated workload, funding and human resource allocations for each of these functions. This is, however, not an exclusive characteristic of higher education in this region. In many other parts of the world, staff contracts, funding, and incentives are focused explicitly on one of these functions.

Recognising that top universities globally accumulate vast social power with research being the principle source of their reputation and funding, Marginson (2021) develops an argument in support of the organisational separation of higher education and research. The Anglo-American multiversity model of the comprehensive university, Marginson argues, needs to be disrupted so that education becomes the main source of funding and reputation for top universities. The research function can be separated to research institutes as it is in Germany or France. Marginson (2021) adds that the latter model does not prevent research scientists from keeping links with universities, for instance by delivering guest lectures.

We argue that the genuine development of research capacity and research intensive universities requires a vision of the unity of educational and research functions. Let us explain this by using Arjun Appadurai’s thought from *The Future as Cultural Fact: Essays on the Global Condition* (2013). Appadurai explains that research has been seen as a high-end technical and/or laboratory-based activity rather than as a capacity with democratic potential. All humans are, to a certain extent, researchers as we need to be able to obtain the ‘knowledge of the world’, assess the trustworthiness of information, organise and analyse information. Think of a journalist, hotel manager, tour guide, or designer. Research is part of our everyday lives. Therefore, it is important, argues Appadurai, to ‘deparochialize the idea of research and make it more widely available’ to people, irrespective of their interests and aspirations (Appadurai, 2013, pp. 282–283). Thus, research needs to be understood not only as the production of original knowledge but also as ‘the capacity to systematically increase the horizons of one’s current knowledge, in relation to some task, goal, or aspiration’ (Appadurai, 2013, pp. 282–283). Research can and should be part of the educational function of a university as universities need to develop individuals’ aspiration to know more, and unless individuals have systematic tools to help them learn more about the world, ‘aspiration degenerates into fantasy or despair’ (Appadurai, 2013, pp. 282–283). Moreover, capacity to research is essential for taking part in democratic society, especially in the context of rapid global changes, flows of information and technological developments (Appadurai, 2013, pp. 282–283). The evidence presented in the case studies that are included in this volume does not demonstrate that there exists a vision of the unity of the research and educational missions of universities in these countries and that much consideration has been given to the democratic potential of developing research capacity at universities.

We offered the following definition of research capacity in the introduction of this volume: university research capacity is conceived as the most and best research that could be undertaken now if there were the will and the necessary resources for it to be done. Research

³ The editors had to invite new authors for case studies where originally selected authors did not agree to follow ethics guidelines.

capacity is dependent on the presence of adequate expertise, motivation, and opportunity (McIntyre & McIntyre, 2003; Murray et al., 2009). This definition builds on the economic and sociological assumptions of university research capacity and broadly reflects the understanding of research capacity in the region. Building on this definition, higher education institutions can develop into research universities by creating environments with sufficient research expertise, motivation, and opportunities for academics and students. We fully share this view. At the same time, we recognise that there is a large void between where most aspiring research universities stand and the ideal institutional form they would like to achieve. Therefore, at the end of this concluding chapter, we would like to invite our readers to try to expand this understanding by thinking about research capacity as embedded within a broader notion of research culture. Think about research culture as an ecosystem that nurtures intellectual curiosity, creativity, academic freedom, academic integrity and ethical values, as well as collective identity.

Research expertise, motivation, and opportunities can flourish only in the conditions of a well-developed research culture. Thinking about research culture here is informed by Arjun Appadurai's work on the capacity to aspire (Appadurai, 2013). Perhaps universities need to nurture what Appadurai (2013) refers to as 'collective aspiration'/'collective horizon' for establishing a well-developed research culture. This can be accomplished only through the empowerment of academics as academics facing all the individual, organisational, and systemic barriers described above, can be ambivalent and sometimes disengaged. This ambivalence can be overcome through the processes of recognition and redistribution, and through the encouragement of critical collective debates about the development of research culture. Academics as communities need to find ways of voicing their thoughts and identifying 'locally plausible ways' (Appadurai, 2013, p. 186) of making changes. Appadurai (2013) treats voice as cultural capacity. Collective discussions and decision-making fits with the ideas of self-governance and institutional autonomy which remain somewhat unattended across aspiring research universities in this region. The nurturing of a research culture within universities by academics can also lead to the broader ideal of the democratisation of research and the recognition that research and education are two intertwined missions of universities.

The development of research capacity within a well-developed research culture is a process that requires patience and a long-term approach. It also requires locally negotiated and agreed goals rather than top-down orders, regulations, and inspections. In other words, the foundation of this process is trust in academics and in universities. Trust brings freedom, the freedom for academics and universities to decide on their own paths of developing research culture as part of their countries' broader development aspirations.

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