

LABOUR AND SOCIAL JUSTICE

HIGHER EDUCATION IN MOLDOVA AT CROSSROADS OR THROWING GOOD MONEY AFTER BAD?

Sergiu Lipcean,
Romeo V. Turcan
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This policy brief provides a multifaceted assessment of the Higher Education Sector in Moldova by highlighting the negative trends and key challenges arising from the decline of enrolment rates, oversized and ineffective institutional infrastructure, poor teaching and research capacities and inefficient allocation of funding.



The recently approved credit by the World Bank that aims to boost the quality of higher education by making it more responsive to the labour market demands and by enhancing the skillset of university graduates is unlikely to have an impact if invested in the 'status-quo' – the deplorable state the Higher Education Sector is currently in – without a radical structural and institutional reform.



To ensure high value and long-term positive impact of the credit, the World Bank should seek a commitment from the Moldovan Government to embark on radical institutional reforms of the Higher Education Sector in line with three strategic policy objectives: rationalizing, restructuring, and modernizing, and earmark part of the credit to support these reforms.

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LIST OF ACRONYMS

NARD	National Agency for Research and Development
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ARIMA	Auto Regressive Integrated Moving Average
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ASM	Academy of Sciences of Moldova
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GDP	Gross Domestic Product
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GoM	Government of Moldova
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HE	Higher Education
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HES	Higher Education Sector
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HEI	Higher Education Institution
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KPI	Key Performance Indicator
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R&D	Research and Development
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NPR&I	National Program for Research and Innovation
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WB	World Bank
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1. INTRODUCTION

This policy brief is a reaction to a recent agreement concluded between the World Bank (WB) and the Moldovan Government (see Vignette 1). Specifically, it aims at discussing a number of policy-related issues and challenges this agreement may face and suggesting policy recommendations to ensure real, effective and efficient impact such credit can have on the Higher Education Sector (HES) in Moldova.

The WB credit of almost USD 40M is a timely and much need-

ed support for the HES. However, given its aim, objectives and scope, it might just be *'throwing good money after bad'*. HES in Moldova is in a deplorable state – this will be discussed further in the brief – and 'injecting' such a large sum into a strategic public sector, which is in a sharp decline in all respects, without a radical structural and institutional reform might have an impact in a short, maybe medium term, but is unlikely to contribute to the enhancement and strengthening of the sector in the long run.

Vignette 1: Better Higher Education to Improve People's Skills in Moldova, with World Bank Support (an excerpt)

Moldova's higher education system will benefit significantly from a \$39.4 million credit for the Higher Education Project, approved today by the World Bank's Board of Executive Directors. The project aims to improve the quality, relevance and efficiency of the country's higher education system so that Moldovans can gain the necessary skills and education to access greater opportunities and improve their lives.

Improving Moldova's education system is central to the country's efforts to boost its economic growth and development. A better-educated workforce will help overcome one of the biggest constraints faced by businesses in Moldova – skilled labour – and will help foster a thriving business environment, attracting investments which, in turn, will raise people's standard of living and reduce labour migration.

The Higher Education Project supports the government's efforts to tackle the continued decline in the number of tertiary level students and better prepare young people for the demands of a rapidly changing labour market. The project is aligned with the goals of the country's National Development Strategy – Moldova 2020, which emphasizes the importance of adjusting Moldova's education system to the needs of the labour market.

Implemented over a period of five years, the project will comprise systemic interventions in higher education quality, financing and management, including a program that selected universities and pedagogical colleges will use to improve learning outcomes in engineering, information technologies, health (medicine) and pedagogy.

Beneficiaries of this project will include around 91,000 higher education students, 4,100 pedagogical college students and 4,400 teachers of public universities and pedagogical colleges. In addition, about 30,000 job seekers and 5,000 employers will benefit from a new Labor Market Information System, developed with support from the project ¹.

¹ World Bank, "Better Higher Education to Improve People's Skills in Moldova, with World Bank Support," March 5, 2020, <https://www.worldbank.org/en/news/press-release/2020/03/05/better-higher-education-to-improve-peoples-skills-in-moldova>.

It is worth noting that the WB HE project identifies, with surgical precision, the key trends, problems, shortcomings and challenges faced by the HES in the areas of the university governance, financing, labour market relevance of study programmes, oversized institutional infrastructure to name just a few². Likewise, it foresees the risks associated with the implementation of the project. More importantly, the WB HE project justly rates high most of these risks and links them to the eventual resistance from within the HES and its political allies³. We fully agree with such a diagnosis of HES in Moldova and the potential risks that might hinder and undermine the successful implementation of the project.

Nevertheless, the project's theory of change, which rests on two pillars – the HEIs' "limited labour market orientation and quality assurance mechanisms"⁴ – is incomplete. The missing pillar is epitomized by the need for radical structural reforms of a sector that is in sharp decline. While the project, indeed, acknowledges the GoM's declared scenarios to optimize public spending of HE through decreasing the number of universities, reducing managerial staff, and introducing an electronic admission system, it leaves at the GoM's discretion the decision over the scope and depth of the institutional rationalisation/consolidation. Given the fact that GoM "has not shared information on the mergers/ clustering" and plans to keep at least 9 universities, this raises doubts over the GoM's willingness to radically address the key issues of HE⁵. Likewise, the explanation provided by GoM to WB regarding the connection between optimization and priority areas suggests a limited understanding of university autonomy, in general, and financial autonomy, in particular, (we address this issue in section 2.4 Financial Autonomy), by public authorities. As we demonstrate in this study, without the third pillar

of change – radical structural reforms – the impact of the WBM project will be limited.

We believe that a long-term impact of this credit will be achieved only if – as part of the 'agreement' – HES in Moldova is *rationalized, restructured, and modernized*. These strategic objectives should be part of the 'agreement' and have an earmarked budget allocated to support their development and implementation while further WB disbursements of the funds to support "quality, relevance and efficiency" should be conditioned by the successful implementation of these objectives. This means the Moldovan Government should commit to rationalization, restructuring, and modernization of HES.

The analysis discusses existing trends in key areas of Moldovan HES by showing that all of them have negative signs and are in sharp decline – based on past and projected data. These areas include the number of current and prospective students; teaching and research funding; competitiveness of universities; teaching and research capacity; financial organization, human resources, and academic autonomy.

Data for this policy brief was collected from publicly available sources, such as the Ministry of Education, National Bureau of Statistics, international donors in Moldova, and the EU funded projects. The first part of the brief addresses the issues and challenges the Higher Education Sector is currently facing, while the second part puts forward and discusses policy recommendations for rationalizing, restructuring, and modernizing. Vignettes are used throughout the policy brief to provide examples or explanations of the points discussed.

² World Bank, "Project Appraisal Document on A Proposed Credit in The Amount of Eur 35.7 Million (US \$39.4 Million Equivalent) to the Republic of Moldova for the Higher Education Project," February 13, 2020, 8–15, <http://documents.worldbank.org/curated/en/232091583719289928/pdf/Moldova-Higher-Education-Project.pdf>.

³ World Bank, 35–37.

⁴ World Bank, 23.

⁵ World Bank, 11.

2. ISSUES AND CHALLENGES OF THE MOLDOVAN HIGHER EDUCATION SECTOR

2.1. Current and prospective students

One of the key challenges faced by the Moldovan universities in fulfilling their academic (research, teaching and knowledge transfer), social and economic roles is to ensure a constant influx of prospective students. It is more than just a challenge. It is a necessary condition for their survival in the long term. The 'golden age' of HE, when the prospective students were in abundance, has long passed and Moldovan universities are struggling more than ever to attract potential candidates from the schools. The shortage of prospective students is particularly severe given the oversized institutional infrastructure that has not shrunk at the same rate as the pool of enrolled students.

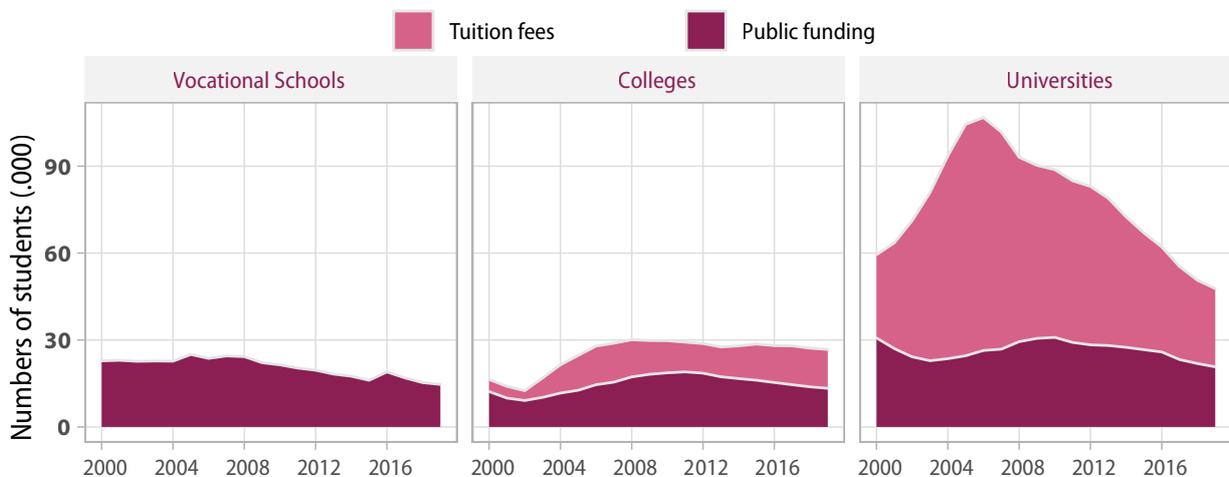
In the last 15 years, both the overall number and the pool of annually enrolled students in HEIs have been steadily declining (Figure 1 and 2). While between 2007 and 2013 the number of students declined on average by over 4% per annum, this trend has almost doubled between 2014 and 2019, thus exceeding

the threshold of 8% per year. More importantly, the decline turned out to be much steeper than previously anticipated. If initially, based on the then-existing trends, some authors projected a decrease by 27% in the number of students by 2020, reaching 75,000⁶, that forecast was *an extremely optimistic scenario*.

As Figure 1 shows, the number of students in the 2019/2020 academic year is less than 48,000, which is more than twice fewer students enrolled in public HEIs relative to the 2006/2007 academic year – the peak in terms of the overall number of students enrolled in state universities alone (above 106,000). Unlike vocational schools and colleges, the students' drop has taken a heavy toll on the universities.

6 Romeo V. Turcan et al., "Restructuring Higher Education Sector in the Republic of Moldova: Draft Legislative Proposals" (EUnIAM, TEMPUS project, www.euniam.aau.dk, 2015), 9, http://www.euniam.aau.dk/fileadmin/user_upload/EUnIAM_WP4_Restructuring-HE-Moldova_v12.pdf.

Figure 1:
Dynamics of the total number of students by type of institution and funding source



Source: Based on data from the National Bureau of Statistics

As Figure 2 further illustrates, there is a low probability that the number of prospective students would increase in the future. The evolution of the yearly enrolment rates follows, in the same way, a downward trend despite its relative stabilisation in recent years. As a result, the deficit of prospective students, even for the places financed from the state budget, started to be felt already in the 2006/2007 academic year when about 170 budget places remained vacant⁷. The number of unfilled places only grew up in subsequent years, indicating a shortage of newcomers. In 2011, the pool of unfilled budget places reached 550, in 2012 – 526, while in 2013 – 466⁸.

In recent years, the scarcity of prospective students has increased. In 2017, about 700 places funded from the state budget remained vacant, while in 2019, this figure exceeded the threshold of 1000⁹. Furthermore, during this period, the number of vacant fee-based places was much higher, which implicitly means that HEIs have not fulfilled their enrolment plans and foregone a substantial amount of financial resources.

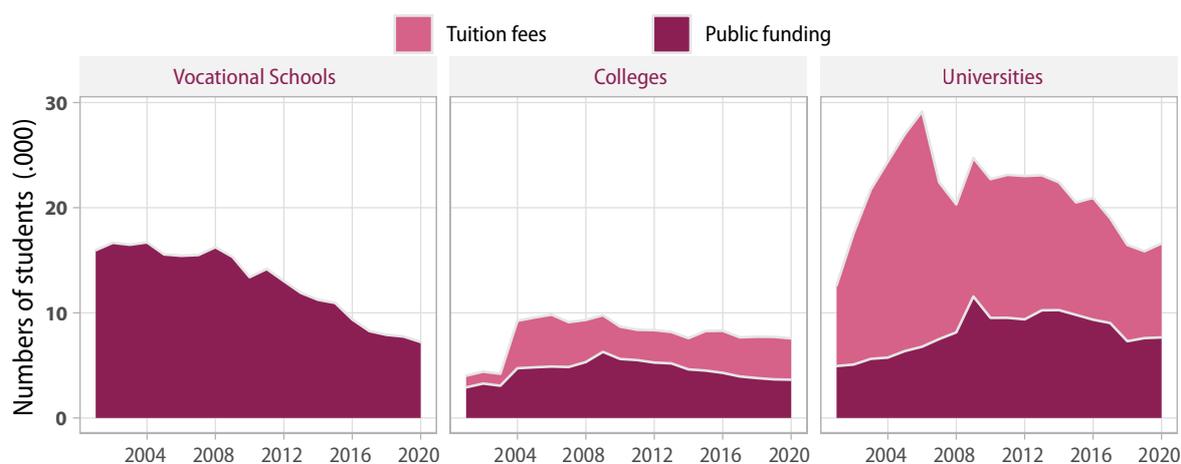
7 Moldova.org, "In universitati, 170 de locuri bugetare au ramas neacoperite," Moldova.org, August 4, 2006, sec. Social, <https://www.moldova.org/in-universitati-170-de-locuri-bugetare-au-ramas-neacoperite-15526-rom/>.

8 Politik.md, "Au Rămas 2000 de Locuri Libere În Universităţi," Politik, August 5, 2011, <http://politik.md/articles/social/au-ramas-2000-de-locuri-libere-in-universitati/6834/>; Radio Chişinău, "Admitere 2013: Peste 4 mii de locuri au rămas neocupate," Radio Chişinău, August 22, 2013, <https://radiochisinau.md/admitere-2013-peste-4-mii-de-locuri-au-ramas-neocupate-9460.html>; Radio Europa Liberă, "La universităţile de stat şi particulare au rămas peste 4.700 de locuri neocupate,"

Radio Europa Liberă, August 6, 2012, <https://moldova.europalibera.org/a/24668404.html>.

9 Cotidianul.md, "Admitere 2019: Aproape o mie de locuri bugetare au rămas neacoperite pentru sesiunea următoare," Cotidianul, August 13, 2019, sec. Uncategorized, <https://cotidianul.md/2019/08/13/admitere-2019-aproape-o-mie-de-locuri-bugetare-au-ramas-neacoperite-pentru-sesiunea-urmatoare/>; Ziarul Naţional, "ADMITEREA 2017 // Peste 5 000 de Locuri Din Universităţi Au Rămas NEACOPERITE, Inclusiv SUTE La Buget," Ziarul Naţional, September 6, 2017, <https://www.ziarulnational.md/admiterea-2017-peste-5-000-de-locuri-din-universitati-au-ramas-neacoperite-inclusiv-sute-la-buget/>.

Figure 2:
Dynamics of the annually enrolled students by type of institution and funding source



Source: Based on data from the National Bureau of Statistics

Unfortunately, the perspectives for improvements in the long term are bleak. Even without taking into account trends such as migration, scholarships to study abroad (approximately 5000 per year), and (re)-gaining Romanian citizenship that allows access to tuition-free high-quality education in the EU, the declining birth rate alone will have far-reaching – negative – consequences on the entire education sector in Moldova, including higher education. Figure 3 displays the results of two alternative forecasting methods regarding the dynamics of the yearly new-borns for the next 15 years based on the number of yearly born children from 1990 until 2018¹⁰.

The projection of the ARIMA method illustrates an extremely pessimistic scenario. The forecast indicates that by 2033 the number of new-borns will be below 11,000. Conversely, the prediction from the Damped Holt method epitomises a much more optimistic scenario¹¹, according to which the pool of new-bor-

10 ARIMA (Auto Regressive Integrated Moving Average method) and Holt (exponential smoothing method) are among the most widely employed approaches to time series forecasting. While ARIMA uses a

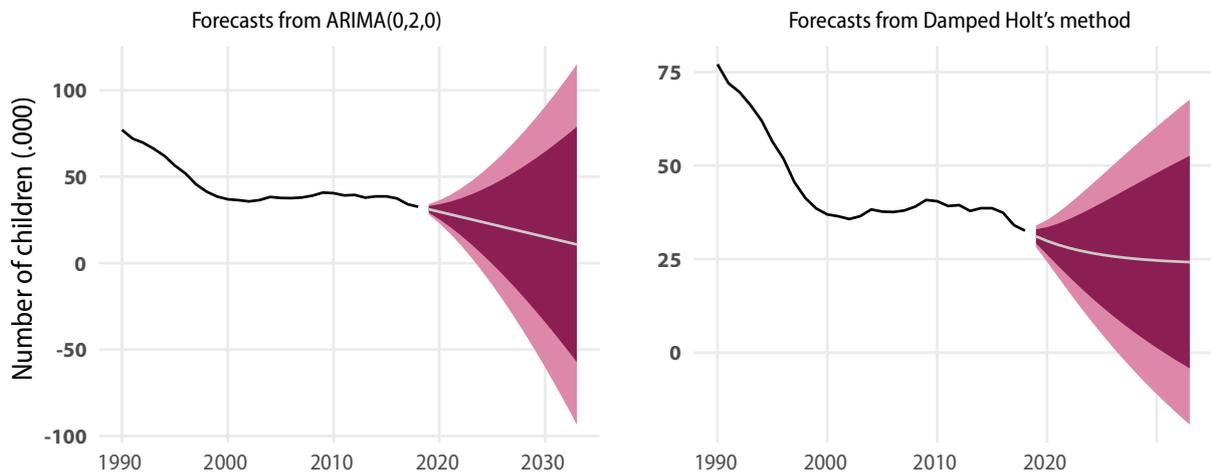
combination of lagged values and past forecast errors as predictors of future values, the exponential smoothing methods apply the weighted averages of past observations as predictors for future values, with the influence of older observations decreasing exponentially. Hence, the more recent the observation, the heavier it affects the forecast. Rob J. Hyndman and George Athanasopoulos, *Forecasting: Principles and Practice* (OTexts, 2018).2018.

11 We preferred the Holt damped method over the standard linear one, since the latter tends to over-forecast (Hyndman & Athanasopoulos, 2018, pp. 192–193).

ns will fall to about 24,000, which is, nevertheless, three times fewer newly born children compared to 1990. In both cases, however, the wide prediction intervals indicate a very high uncertainty regarding the potential outcome. Even if one takes the optimistic scenario as more likely to unfold, it still displays a

rather unfavourable outcome for the entire education sector, let alone the HEIs. For instance, if the current yearly enrolment rates for the vocational schools, colleges and universities stay at the same level, the universities are likely to enrol only about a half of available pupils in the future.

Figure 3:
15-year forecast of the number of yearly born children



Source: Based on data from the National Bureau of Statistics

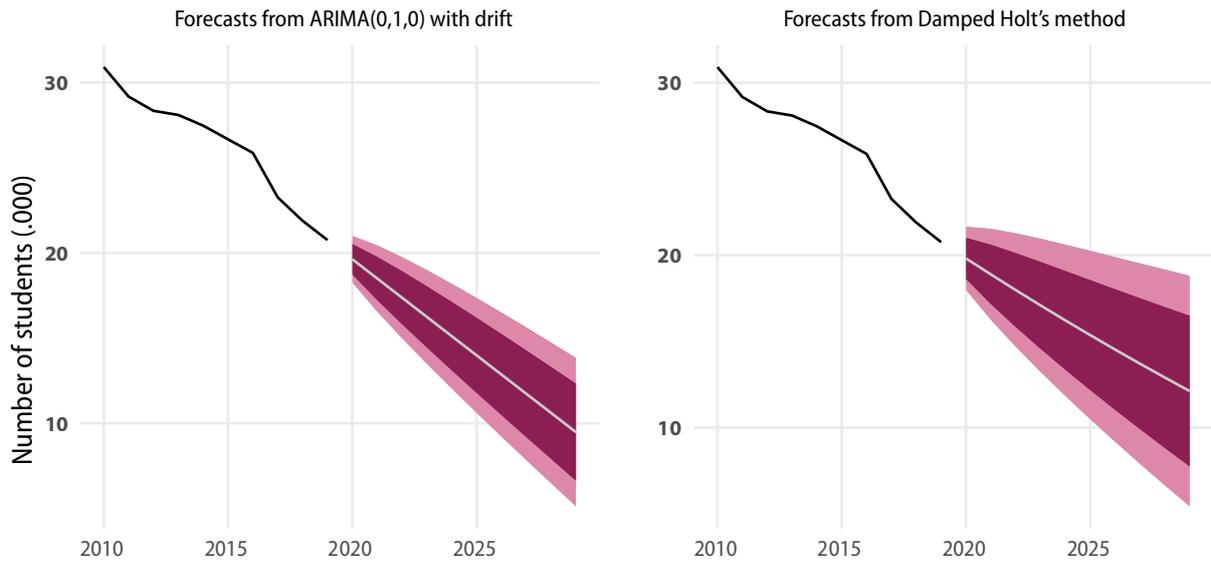
The demographic trends are much more optimistic compared to the actual and forthcoming shrinkage of the pool of prospective candidates. Figure 4 and 5 are quite compelling in this regard by displaying a sharp decline in both the total and yearly-enrolled students. Again, we employ the same forecasting methods to estimate the decline for the next decade. Indeed, as data and forecast show, the Moldovan HEIs will be affected dramatically. While ARIMA and Holt approaches display a sharp downward trend, the latter method provides a slightly more conservative estimation.

Regardless of the preferred approach, there is a high probability that universities risk to be depleted of prospective students. By 2030, the number of students in the sector might decrease to approximately 12,000-14,000, which represents on average about 700-800 students per HEI provided that the institutional infrastructure is maintained at

its current size. Even assuming that the government takes the commitment to reduce the number of HEIs from 18 (academic year 2019-2020) to 9, the average number of students per institution is going to double, which is still not an optimal result. (18 state HEIs as of the academic year 2019-2020).

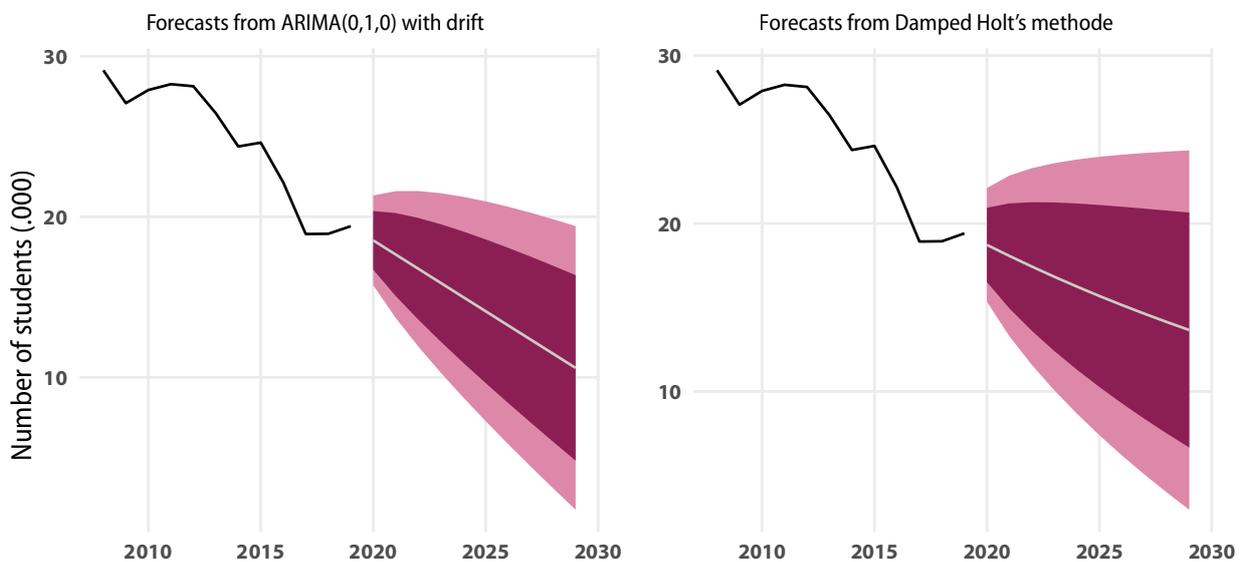
It goes without saying that these forecasts ought to be taken with a pinch of salt given the extremely short time series used to forecast these developments and the wide prediction intervals pointing to a high uncertainty. Nonetheless, the cumulative effect of demographic and migration trends, plus domestic (vocational schools & colleges) and international competition suggest that such a negative and sharp decline in prospective students will be hard to mitigate, let alone to reverse. *Preserving and encouraging a status quo will only accelerate the decay of HES.*

Figure 4:
10-year forecast of the total number of students in HEIs



Source: Based on data from the National Bureau of Statistics

Figure 5:
10-year forecast of yearly enrolled students in HEIs



Source: Based on data from the National Bureau of Statistics

2.2 Research capacity

HES inherited from the Soviet period a long-standing tradition of separating research from teaching. The former was concentrated at the Academy of Sciences of Moldova (ASM), whereas the latter – at HEIs. This meant that the research-related activities such as research funding, human and infrastructure capacity were mostly concentrated at ASM. HEIs were responsible for

teaching the first and second cycle students as well as providing doctoral education, a task shared with ASM. In other words, ASM had a quasi-monopoly position regarding the access to and the distribution research financing from the public purse.

Since 2014 this monopoly has started being dismantled by gradually 'shifting' research and research-related activities from ASM

to HEIs¹². This triggered a series of structural and institutional reforms, such as allocation of research funding to HEIs, the institutionalization of doctoral education, including the establishment of doctoral schools at HEIs. In 2018, the National Agency for Research and Development (NARD) was established, becoming operational in 2019. While the Ministry of Education, Research and Culture is still responsible for the R&D policy development, NARD is responsible for the implementation of R&D policies, including the management and distribution of public funding. Despite these positive trends, the structural and institutional R&D capacity at HEIs remains weak, manifested in underfinancing, ageing of academic staff, outdated equipment, low research output/performance, lack of incentive mechanisms, and inefficient internal support structures, to name just a few¹³.

R&D funding – in terms of size and allocation criteria – is a major issue and challenge. The National Program for Research and Innovation (NPR&I, 2020-2023) – the key instrument designed to manage R&D – rather spurred more controversies¹⁴. One aspect relates to the internal inconsistency of the NPR&I due to the mismatch between the overly ambitious objectives, actions and expected results, on the one hand, and the financial resources earmarked to implement them, on the other¹⁵. Another issue pertains to the shrinkage of research funding for institutional consolidation purposes for the next four years - 2020-2023. This is at odds with previous recommendations according to which institutional research funding (core, basic research funding), which does not depend on research projects, must be preserved along with the increasing of funding allotted on a competitive basis, i.e. universities and other research institutions would fight for¹⁶.

12 Monitorul Oficial, №. 319-324, art. 634, “Codul Educației” (2014).

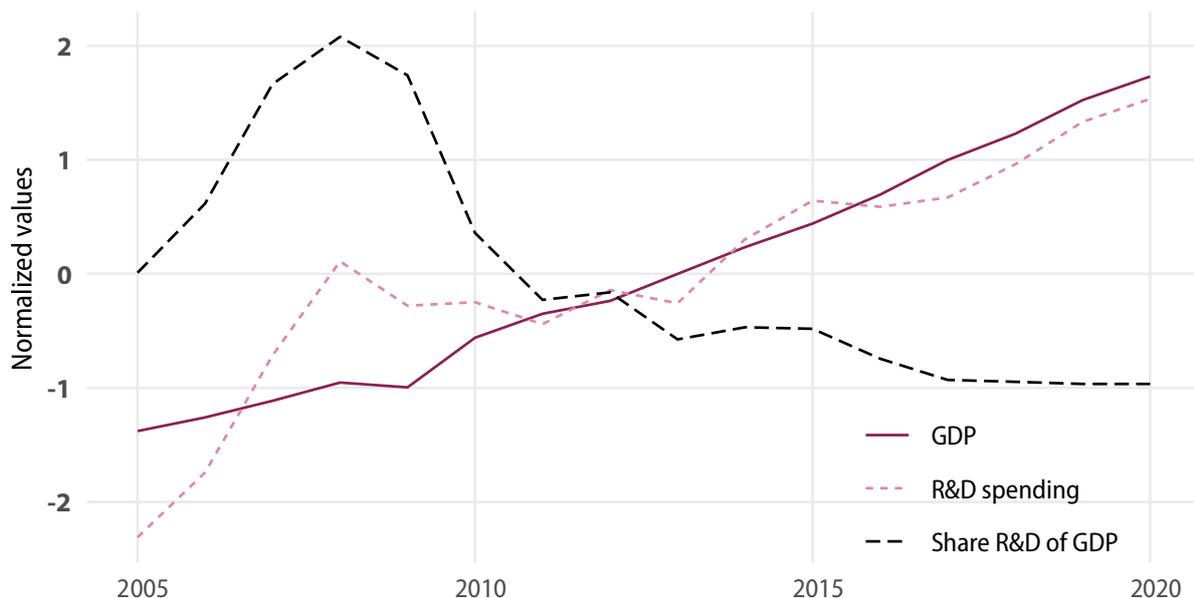
13 Gheorghe Cuciureanu, “Perfecționarea Managementului Sistemului Național de Cercetare-Dezvoltare În Contextul Proceselor de Globalizare” (Chișinău, Institutul Național de Cercetări Economice, 2015); Heinrich Pingel-Rollmann, “Analysis of Moldovan Science: Structure, Results, European Integration, Challenges and Recommendations,” Akademos, no. 3 (2015): 39–45; Toivo Räm et al., “Peer Review of the Moldovan Research and Innovation System,” Horizon 2020 Policy Support Facility (Luxembourg: European Commission, 2016); Manfred Spiesberger and Gheorghe Cuciureanu, “Background Report: Peer Review of the Moldovan Research and Innovation System,” Horizon 2020 Policy Support Facility (Luxembourg: European Commission, 2015).

14 Monitorul Oficial, №. 256-259, art. 506, “Hotărâre Nr. 381 Din 01-08-2019 Cu Privire La Aprobarea Programului Național În Domeniile Cercetării Și Inovării Pentru Anii 2020-2023 Și a Planului de Acțiuni Privind Implementarea Acestuia” (2019).

15 Andrei Chiciuc, Gheorghe Cuciureanu, and Vitalie Minciună, “Programul Național În Domeniile Cercetării Și Inovării Pentru Anii 2020-2023 ca Reflectare a Politicii Științei În Republica Moldova,” Intellectus, no. 3–4 (2019): 124–31.

16 Räm et al., “Peer Review of the Moldovan Research and Innovation System.”

Figure 6:
Dynamics of R&D spending against GDP



Source: Based on data from the National Bureau of Statistics and Ministry of Finance

Note: GDP data for 2020 was forecasted based on the previous growth rate and annual values

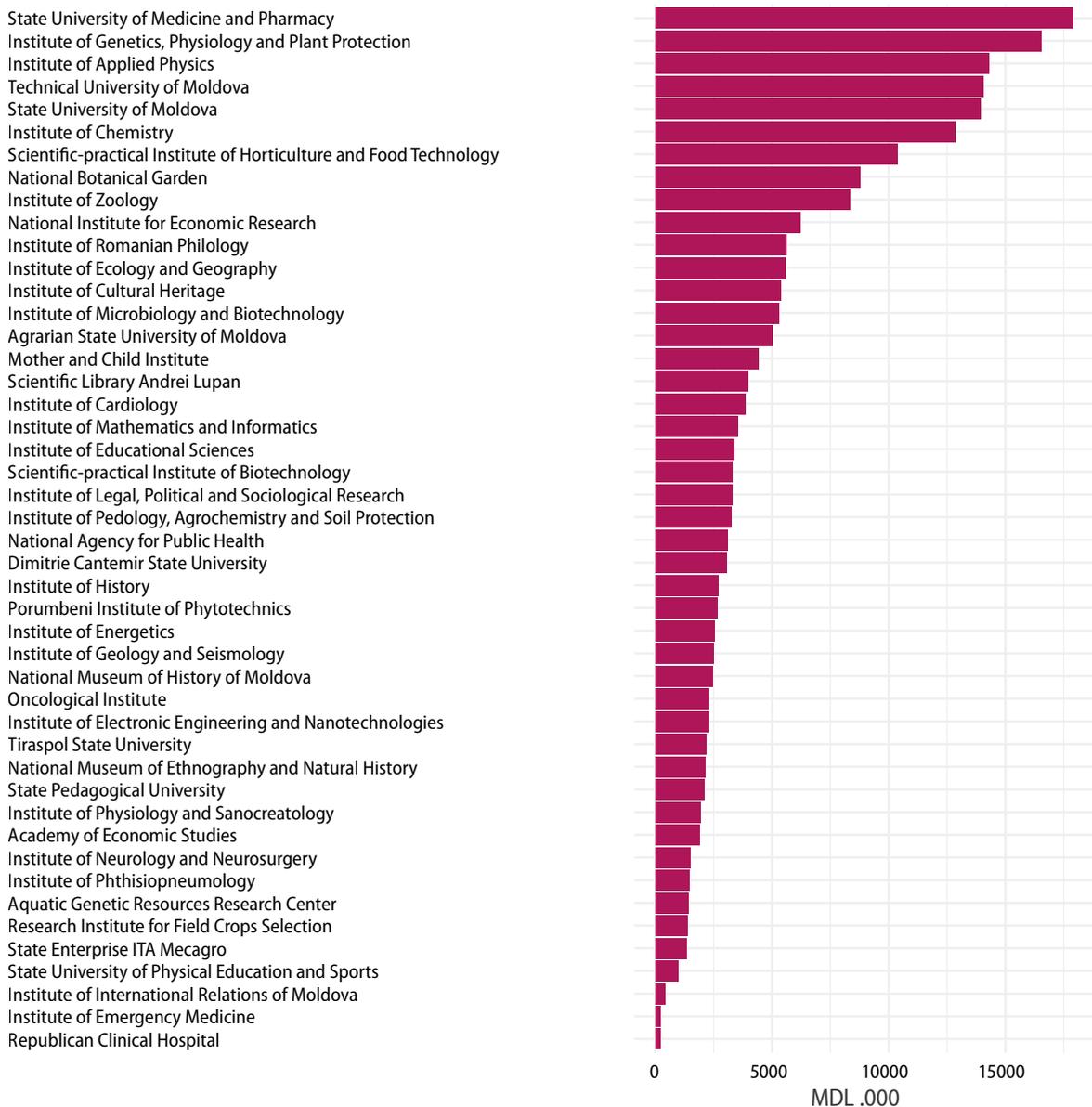
Nevertheless, between 2020-2023, NPR&I foresees cuts for the institutional research funding by almost 40% from MDL 150M in 2020 to 92M in 2023. Despite the increase in the R&D funding in absolute terms figures, its GDP share remains very modest and is far behind the global and European levels¹⁷. As Figure 6 shows, the share of R&D spending has followed a downward trend since 2008 and stopped at about 0.25% of GDP for the

last years¹⁸. The key conclusion from this glimpse into the latest developments of R&D is that under such a severe underfinancing, the entire sector cannot compete successfully at European level, let alone internationally. Despite getting access to a bigger chunk of public money through competitive funding (e.g., via research projects), the prospects of catching up with the latest R&D trends, at least at the European level, are not very optimistic for HEIs.

17 Gheorghe Cuciureanu and Vitalie Minciună, "Finanțarea Științei în Urmatoarea Perioada – Cale de Lichidare a Cercetării Organizate în Republica Moldova?," Akademos, no. 3 (2019): 27–32.

18 Since the disparity between GDP and R&D spending is high and the proportion of R&D from GDP is measured in %, we performed data normalization to make the indicators comparable on the same scale. This is also more informative for our purpose, which is to show the dynamics over time.

Figure 7:
Amount of funding secured by public institutions in 2020 within NPR&I 2020-2023



Source: Own elaboration based on the NARD Ordinance on the approval of the selected projects for financing and the volume of budgetary allocations for the year 2020 within the framework of the "State Programme" contest (2020-2023)

The inefficiency of research funding is partially confirmed by the allocation of MDL 222M on a competitive basis to public institutions by NARD within the NPR&I 2020-2023 framework (Figure 7). While three of the largest HEIs are in the top five institutions that managed to secure the highest amount of funding, the aggregate financing obtained by all HEIs accounts for less than 28% or MDL 61.5M of the total. Moreover, out of MDL 61.5M, almost MDL 46M (75%) account for the research funding secured by the top three universities – State University of Medicine and Pharmacy, Technical University of Moldova and State University of Moldova. These results are not very encouraging for the smaller universities that are rather poorly endowed to compete on equal footing with their bigger counterparts.

Although NARD developed and adopted a new mechanism for allocation of research funding to public institutions on a competitive basis, transparency and fairness of the resource allocation for research projects are of major concern. The lack of transparency regarding the expert selection criteria and process, as well as the considerable disparity in the experts' evaluation scores for many projects, raised doubts about the fairness of

competition¹⁹; Vignette 2 offers a snapshot into these concerns.

The weak research capacity affects eventually the research outputs of HEIs in Moldova. Table 1 provides a comparison of RG (Research Gate) scores between the top six universities in Moldova and a selection of HEIs from Romania (the selection matches the specialization of HEIs in Moldova and regional aspects of HE, with 4 universities in the capital city and 2 regional universities). As it can be seen, the combined RG score of the top MD universities is close to a score of a regional university in Suceava that has 3.8 publication/ member productivity, while the top MD universities – only 1.5. The overall RG score of these Romanian universities is 46,341 with 5.7 publication/member productivity.

¹⁹ Gheorghe Cuciureanu, "Concursul propunerilor de proiecte de cercetare pentru anii 2020-2023: un eșec previzibil?", December 16, 2019, <https://cuciureanu.wordpress.com/2019/12/17/concursul-propunerilor-de-proiecte-de-cercetare-pentru-anii-2020-2023-un-esec-previzibil/>; Gheorghe Cuciureanu, "La TVR Moldova despre "concursul" de proiecte," January 16, 2020, <https://cuciureanu.wordpress.com/2020/01/16/la-tvr-moldova-despre-concursul-de-proiecte/>.

Table 1:
Comparing research performance between Moldovan and Romanian HEIs

HEIs	RG score	Members	Publications
Romania			
Bucharest Academy of Economic Studies	4,418	1,707	5,440
Polytechnic University of Bucharest	15,712	3,896	14,122
Iasi University of Medicine and Pharmacy	8,622	861	7,042
University of Bucharest	10,939	2,873	28,268
Stefan cel Mare University of Suceava (regional, north)	2,210	576	2,172
University Dunarea de Jos Galati (regional, south)	4,440	796	3,645
Moldova			
Top six MD universities	2,171	544	826

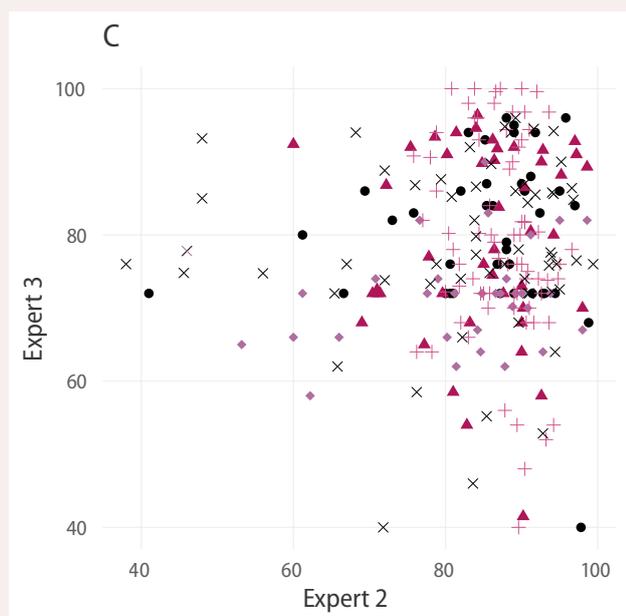
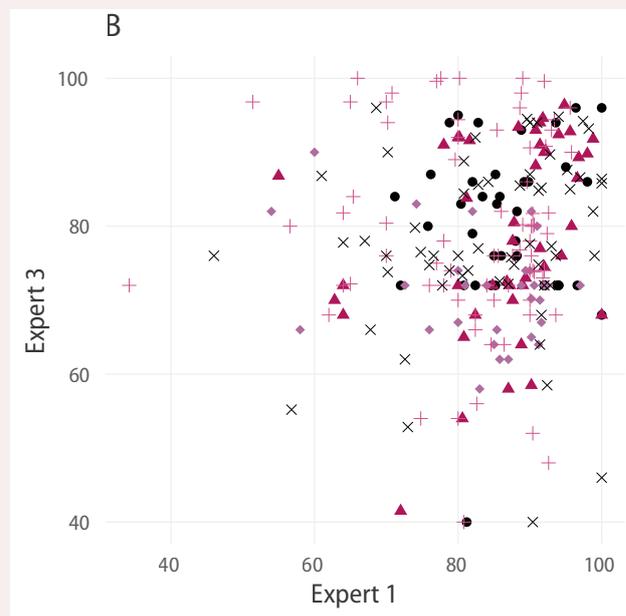
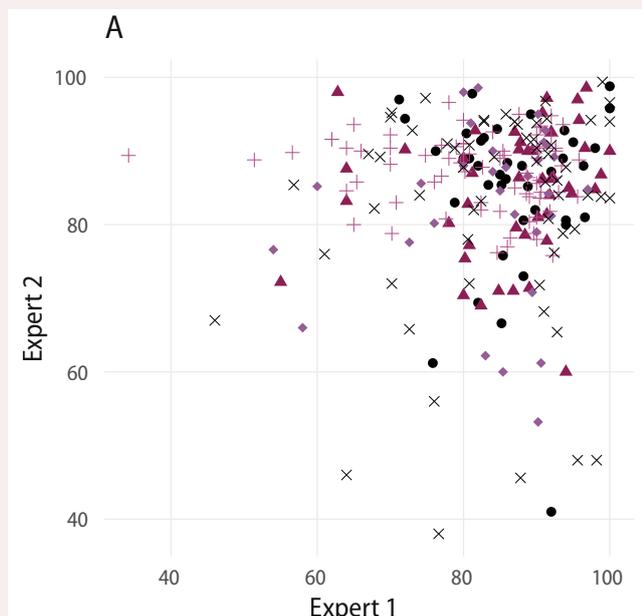
Note: Top six MD universities – ASEM, USARB, USBPHC, USM, USMPh, UTM – based on two EU funded projects: EUniAM (www.euniam.aau.dk) and PBLMD (www.pblmd.aau.dk).

Despite the de-monopolization of R&D, hence the fact that the research has been gradually 'shifting' to HEIs from ASM, the impact of institutional reforms such as the new funding mechanism and the establishment of doctoral schools at universities is yet to be seen. What is clear, however, is that there is a wide gap between the research related policy aspirations and requirements and the capacity of HEIs. The existing shortcomings will

certainly affect the research capacity and will hinder substantially the quality and competitiveness of Moldova HEIs at regional and European levels. The recent scandal over the research funds allocation further emphasizes the gravity of the situation not only at the policy-formulation but also at the implementation stage. *Preserving and encouraging a status quo will not enhance HES research competitiveness.*

Vignette 2: NARD project evaluation process and its outcomes

The suspicion over the fairness of the evaluation process became evident when NARD dismissed 108 appeals on procedural grounds without their substantive examination. As a result, a part of the research community, mostly those who failed to secure funding, have complained about the political favouritism and clientelism in the allocation of funds.²⁰



In this context, it should be underscored that every project was evaluated by three experts for each of the five research clusters: healthcare, sustainable agriculture and food safety, environment and climate changes, societal challenges and economic competitiveness.

To have a better understanding of the differences in the expert evaluation, we correlated the individual scores of each expert against the scores of other experts for all 249 project applications submitted to NARD for funding. The result of this crossing, presented in Figures A, B, and C, displays indeed quite striking differences between the expert scores for the same project. On a 0-100-point scale, a 15-20-point difference already should raise a red flag, let alone much wider disparities. Yet, as data exemplifies, there are plenty of project applications with a much wider gap across all research clusters, thus casting doubts over the fair play and the credibility of the evaluation process.²¹

Legend: ● Sustainable agriculture; ▲ Economic competitiveness; ◆ Environment; + Social challenges; × Healthcare

Source: Own elaboration based on the expertise results of the proposals submitted to the „State Program” contest (2020-2023)

²⁰ Anticoruptie.md, „Angajații institutelor Academiei de Științe, lăsați de luni de zile fără leafă, anunță acțiuni ample de protest,” March 5, 2020, <https://anticoruptie.md/ro/stiri/angajatii-institutelor-academiei-de-stiinte-lasati-de-luni-de-zile-fara-leafa-anunta-actiuni-ample-de-protest>; JurnalTV.md, „Istoricii au organizat o acțiune de protest, nemulțumiți de politicile Guvernului; Ei au creat un comitet de grevă,” JurnalTV.md, March 5, 2020, <https://www.jurnal.md/ro/news/e5fdd99347738a80/istoricii-au-organizat-o-actiune-de-protest-nemultumiti-de-politicile-guvernului-ei-au-creat-un-comitet-de-greva.html>; Moldova Suverana, „Cine Beneficiaza de Pseudoreforma Sistemului de Cercetare?,” April 3, 2020, http://moldova-suverana.md/article/cine-beneficiaza-de-pseudoreforma-sistemului-de-cercetare_31397; Radio Chișinău, „Reacția lui Ion Chicu la protestul istoricilor și cercetătorilor. „Aveți suficientă finanțare din alte surse”,” Radio Chișinău, March 6, 2020, <https://radiochisinau.md/reactia-lui-ion-chicu-la-protestul-istoricilor-si-cercetatorilor-aveti-suficienta-finantare-din-alte-surse---105048.html>.

²¹ Building and enhancing institutional and HR capacity of NARD will be essential during rationalizing, restructuring and modernizing the HES in Moldova (see Section 3). One of the key lessons of this scandal was that NARD should have a high-quality assurance team of international, cross-disciplinary experts (outside Romania) who will assess submitted research projects. This will require, for example, inter alia, to allocate a budget to support such independent, high quality assessment process and have internal staff fluent in English. The HELs will need in turn to have internal capacity to write applications in English, grow, and expand their international network.

2.3 Teaching capacity

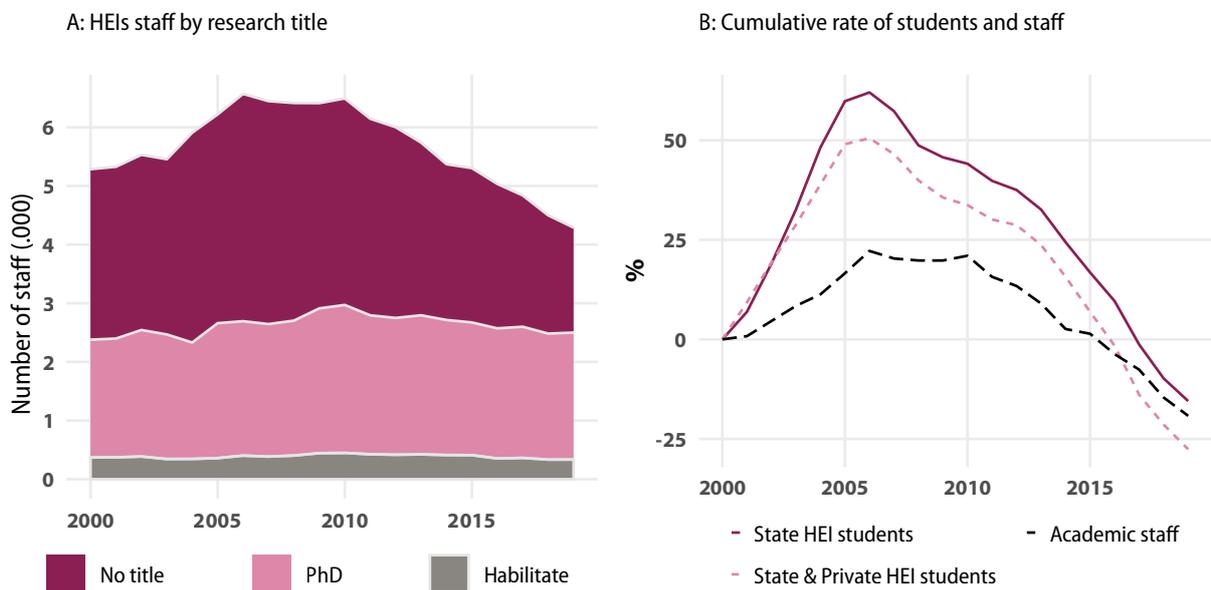
TEMPUS and ERASMUS+ – EU capacity-building tools – have been instrumental in enhancing the teaching and learning capacity at HEIs (www.erasmusplus.md/en), including the introduction of new teaching and learning tools, training of staff, student and staff mobility, introduction of new study programmes, including teaching in foreign languages.

This enhanced capacity in teaching and learning, however, is not sufficient and to a large extent inefficient among other things due to a dramatic decrease in the number of students, lack of modern governance, management, and administrative struc-

tures and operations, the poor research capacity of academic staff, and mismatch between what universities ‘produce’ and what the economy ‘needs’.

One of the key challenges has been human capital. During the expansion and massification of higher education, as the demand for HE soared, especially for fee-paying students, universities had employed staff, many of whom lacked a PhD degree. Once the demand for HE began to fall, HEIs were caught rather unprepared to adjust quickly to new circumstances. Those without a doctoral degree were the first to pay the price: they quit or were laid off. This adjustment took place however at a slower rate than the falling number of students as Figure 8 demonstrates.

Figure 8:
Dynamics of teaching staff indicators over time

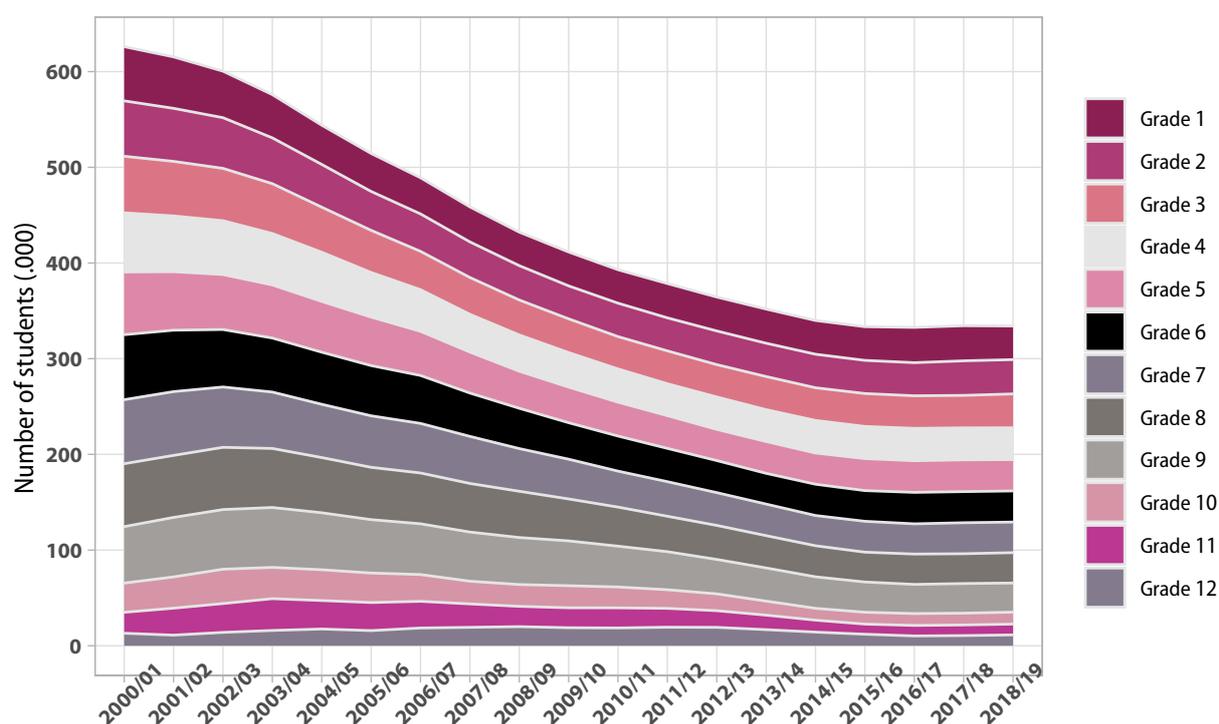


Source: Based on the National Bureau of Statistics

This situation worsened recently for staff without PhD degree. As of September 2019, a PhD degree is one of the mandatory requirements for employment at HEIs. This requirement already affects about 40% of the current faculty teaching staff who do not hold a PhD. Furthermore, about 55-60% of those who hold a PhD, are close to retirement. Accordingly, together with other factors such as migration, the unattractiveness of the sector, ageing, attracting and maintaining high quality academic staff represents a fundamental challenge.

If universities wish to adjust to the economy needs and compete successfully with vocational schools and colleges, they should diversify their portfolio since a substantial part of secondary education graduates opt-out in favour of vocational schools and colleges after the 9th grade. Figure 11 provides evidence in this regard by displaying the structure and dynamics of pupils enrolled in secondary general education. As it can be observed, the aggregate number of pupils enrolled in 10-12 grades is almost the same compared to the 9th grade.

Figure 9:
Structure and dynamics of pupils in the secondary general education system



Source: Based on National Bureau of Statistics

This clearly indicates that a substantial fraction of pupils opts for vocational schools and colleges after the 9th grade. Hence, there is a demand for short-cycle, professional education that currently is not provided by HEIs in Moldova that focuses only on research-scientific-driven educations (ironic, though, given the lack of research capacity in HEIs). Adding this type of education to their teaching and learning portfolio will not only boost the students' numbers but also contribute to the enhancement of efficiency and effectiveness of teaching and learning. *Preserving and encouraging a status quo will not make this possible.*

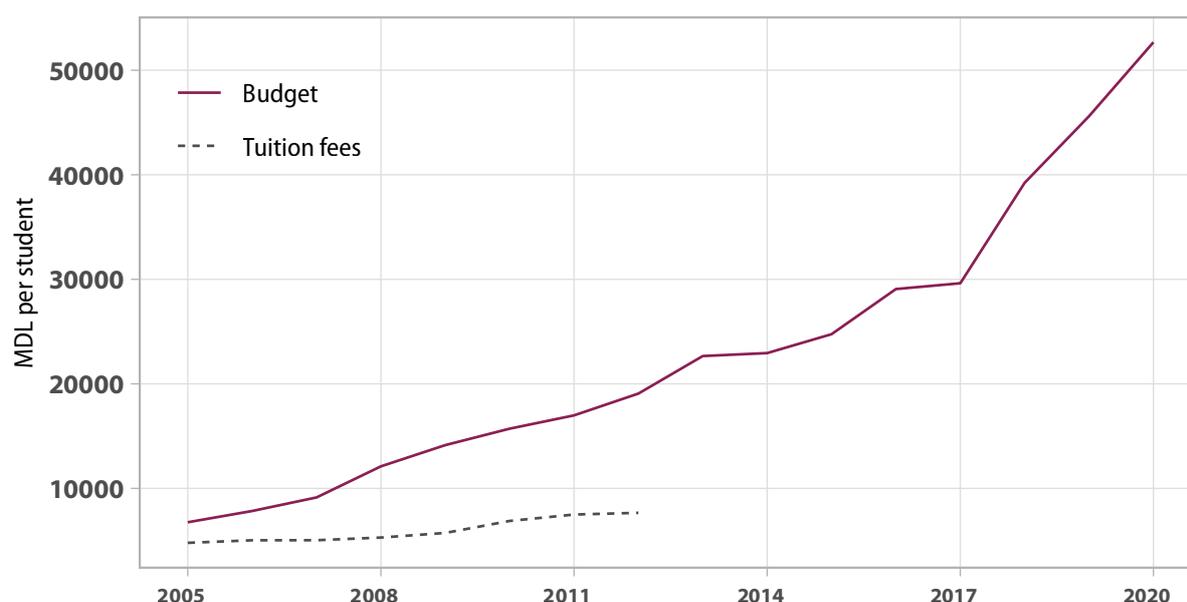
2.4 Financial autonomy

Financial autonomy is the least understood, the most non-transparent and politically 'charged' of the other three types of autonomy: organization, human resources and academic – all being introduced in 2012 as part of university autonomy legislative

package. Traditionally, financial autonomy was a bargaining chip between universities and the government regarding the size and allocation of funding to HEIs. Over the years, due to the decreasing number of budget and fee-paying students, the lack of real structural and institutional interventions and changes, inefficient governmental policies and internal organizational decisions, HEIs experienced heavy financial losses²². As a result, they lobbied for more budgetary funds to maintain their expanded infrastructure and operational costs. This, in turn, not only increased the cost per unit/student but also resulted in the subsidization of tuition fee-paying students. Given the fact that the fees were lower than the actual educational cost per student incurred by HEIs, the state has partially borne the cost of education for fee-paying students. Hence, the constant increase in the state funding, accompanied by the drop in the number of students, contributed to the explosion of the cost per unit (Figure 10), without entailing however a better quality of education.

²² Cornel Ciurea and Leonid Litra, "Impactul Politicilor Autorităților Publice Centrale Asupra Sistemului Universitar Din Republica Moldova," Politici Publice (Chișinău: IDIS "Viitorul," 2009).

Figure 10:
The dynamics of educational cost per student by funding source in state HEIs



Source: Based on data from the National Bureau of Statistics and Ministry of Finance (BOOST and Budget Laws)

Note: The database of public expenditures BOOST (Consolidated Public Budget) does not contain information on financial means collected from tuition fees after 2012.

Another contentious issue relates to the allocation of public funds among universities, a subject that was usually omitted from the public debate. Despite the adoption of the Education Code that included much clearer criteria of financial management and resource allocation²³, their actual implementation lagged behind. At the same time, financing of HEIs lacked a transparent mechanism and methodology for the allocation of public funds among universities. While the total funding increased over time, some universities benefitted more than others in terms of budgetary transfers. Prior to the adoption of the Education Code, the 2012 governmental decision on the HEIs financial autonomy institutionalized an incremental funding mechanism whereby the financing level from the previous year was taken as reference for the following year allocations²⁴. Although the number of students should have also been considered as an allocation criterion, it was not actually taken into account. This approach, inevitably, increased the already existing

disparities among HEIs as to the educational costs per student (Figure 11).

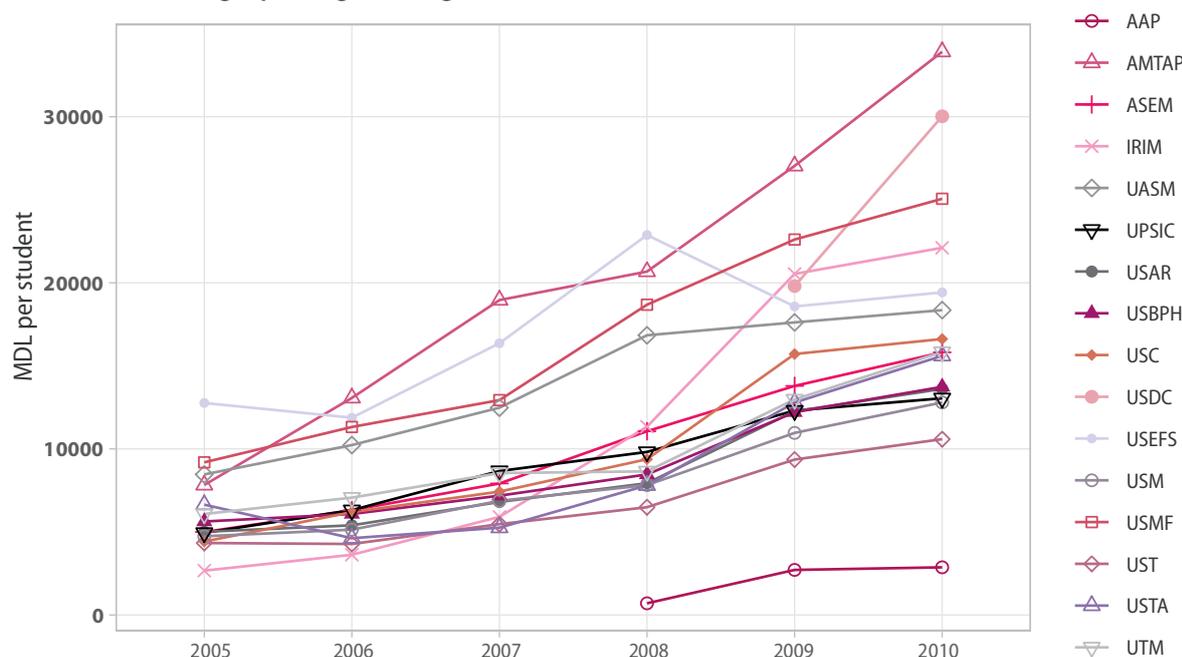
Data shows not only a substantial gap among HEIs in educational spending per student but also increasing disparities over time²⁵. The most likely explanation for the increasing inequalities over time relates to the variation in enrolment rates. Although the entire sector was affected by a steep drop in the enrolment rates, this took a heavier toll on some universities compared to others, contingent on the peculiarities of their education programmes. This, in turn, cast doubts over the fairness of the allocation process since the gap in spending per student only widened over time. There is a high probability that these differences are even higher between large and small universities by now with the latter driving up the overall average cost as reflected in Figure 10.

²³ Monitorul Oficial, Nr. 319-324, art. 634, Codul Educației, sec. 145.

²⁴ Monitorul Oficial, Nr. 270-272, art. 1057, "Hotărâre Nr. 983 Din 22-12-2012 Cu Privire La Modul de Funcționare a Instituțiilor de Învățământ Superior de Stat În Condiții de Autonomie Financiară" (2012).

²⁵ Note: While the information is outdated because public expenditures data (BOOST) lack disaggregate information for each university after 2012, it is even more relevant to highlight the potential increase in the inequalities in terms of financial transfers after 2012.

Figure 11:
Variation in the average spending of a budget student between HEIs



Source: Based on data from the National Bureau of Statistics and Ministry of Finance (BOOST)

Note: AAP - Academy of Public Administration; AMTAP - Academy of Music, Theater and Fine Arts; ASEM - Academy of Economic Studies of Moldova; IRIM - State Institute of International Relations of Moldova; USDC - University of the Academy of Sciences of Moldova; UASM - State Agricultural University of Moldova; USAR - A.Russo Bălți State University; USBPH - Bogdan Petriceicu Hasdeu State University; USEFS - State University of Physical Education and Sport; USMF - State University of Medicine and Pharmacy; USC - Comrat State University; USM - State University of Moldova; UST - Tiraspol State University; USTA - Taraclia State University; UPSIC - Ion Creangă State Pedagogical University; UTM - Technical University of Moldova

It was only in 2018 that the revision of the *teaching* funding allocation formula was put on the agenda²⁶. The new methodology, drafted by the Ministry of Education, appears to rely on and borrow heavily from the recommendations contained in the “*Restructuring Higher Education Sector in the Republic of Moldova: Draft Legislative Proposals*”, which have been developed and proposed to the Government in 2015²⁷. The formula will calculate the overall funding for each HEI based on several components, including performance and output-based financing. By the end of 2019, the methodology was still at the discussion stage with the main stakeholders²⁸, but the process does not seem to be easy.

Misunderstanding, genuinely or conveniently, of difference between types of public funding, creates unease, anxiety among HEIs. On the one hand, rectors should be able to allocate freely, at their discretion and judgment, the public funding they receive from the Government for the study programmes they consider necessary and/or strategic. In this respect, the relevance of current and future study programmes (required/needed by the labour market) and employability of the university graduates are valid performance criteria the rectors should use to make allocation decisions of public funding. On the other hand, the Government may ask – ‘place an order’ – universities to educate certain specialists, pay for their education and be responsible for their employment. These types of *teaching* funding – both public – should be considered as part of the overall university revenue.

²⁶ Tatiana Manole, “Noua Metodologie de Stabilire a Costurilor Privind Finanțarea Instituțiilor de Învățământ Superior În Republica Moldova,” *Administrație Publică*, no. 3 (2019): 68–80; *Monitorul fiscal*, “O Noua Formula de Finantare a Invatamantului Superior,” May 10, 2018, <https://monitorul.fisc.md/editorial/o-noua-formula-de-finantare-a-invaamantului-superior.html>.

²⁷ Turcan et al., “Restructuring Higher Education Sector in the Republic of Moldova: Draft Legislative Proposals.”

²⁸ Ministerul Educației, “Metodologia de finanțare bugetară standard a instituțiilor publice de învățământ superior discutată în cadrul ședinței Consiliului Rectorilor din Republica Moldova,” November 25, 2019, <https://mecc.gov.md/ro/content/metodologia-de-finantare-bugetara-standard-institutiilor-publice-de-invatamant-superior>.

Another major source of revenue made available due to the recent de-monopolization of the R&D sector, is research funding. The *research* funding formula, likewise proposed in the “*Restructuring Higher Education Sector in the Republic of Moldova: Draft Legislative Proposals*”²⁹, is a performance-based formula that takes into account basic/core- and competitive

²⁹ Turcan et al., “Restructuring Higher Education Sector in the Republic of Moldova: Draft Legislative Proposals.”

research funding. The international practice suggests these two types of funding are managed by agencies similar to NARD. Both types of research funding – basic and competitive – should contribute to the consolidation of the overall university revenue.

Transparent, performance- and output-based teaching and research funding formulae are essential to a successful operation of HES as well as the implementation of the WB project.

2.5 Organization, HR and Academic Autonomy

Since the introduction of the university autonomy in 2012, it underwent a series of substantial and, to some extent, positive transformations. For example, two agencies were created and made operational: the National Agency for Quality Assurance and Accreditation and the National Agency for Research and Development (as the latter was established only in 2018, it lacks the capacity to perform as intended); the Education Framework, recently approved, is less intrusive, offering HEIs more teaching freedom³⁰.

However, there is clearly room for improvement. Within the scope of the WB credit, three areas for enhancement are highlighted that are pivotal for successful implementation of the credit. These are mainly drawn from the 'Restructuring Higher Education Sector in the

Republic of Moldova: Draft Legislative Proposals' (2015). In terms of *organization autonomy*, clear separation of governance and management is critical. There is currently no clear separation of these two functions; and rectors are still responsible and accountable to the Ministry of Education, Research and Culture. *Separating governance and management will ensure, inter alia, transparency, accountability, and responsibility in the management and administration of universities.*

From the perspective of *HR autonomy*, the concept 'academic' is not legitimated and institutionalized in HES in Moldova. Academic refers to three main activities that university staff should perform as part of their job, mainly, teaching, research, and knowledge transfer. Nowadays, however, only teaching or didactic qualifier is institutionalized, with the corresponding financial implications. Accordingly, *institutionalizing research and knowledge transfer as part of academic load to complement teaching, having direct financial, organizational and academic implications*, is a key requirement for a fully-fledged HR autonomy.

Within the academic autonomy, one of the main issues is the freedom of universities to decide on the structure and content of their study programmes. As mentioned above, the Education Framework has been improved in the last three years, but it still restricts academic freedom when it comes to the structure and content of the study programmes. *Without genuine and true academic autonomy in this regard, the successful implementation of the WB credit will not be possible.*

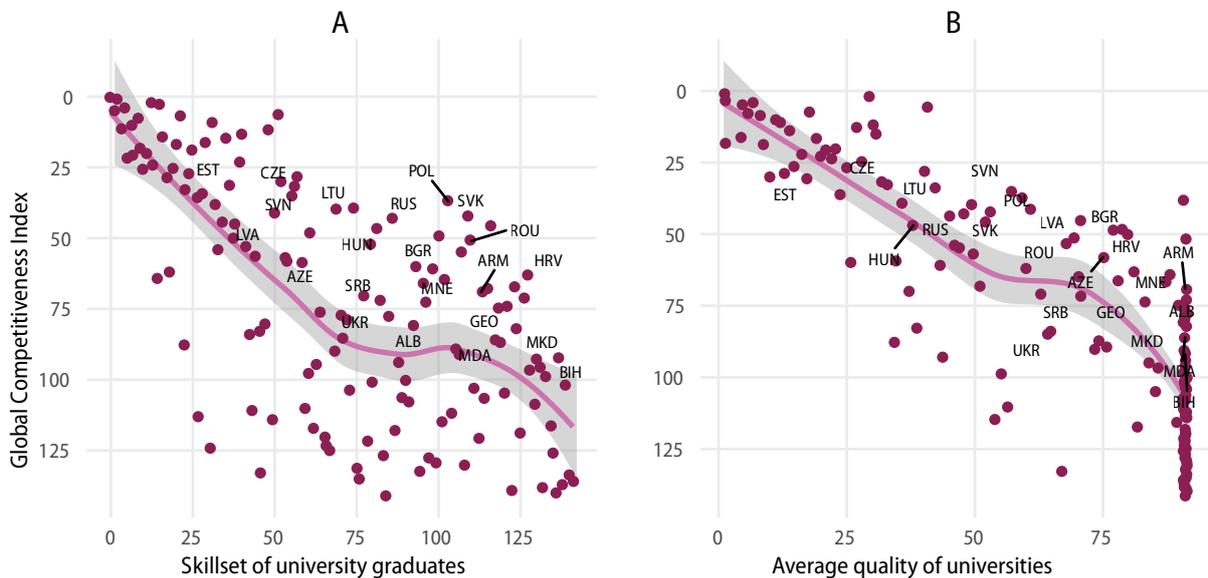
³⁰ Ministerul Educației, "Plan-Cadru pentru studii superioare de licență (ciclul I), de master (ciclul II) și integrate" (2020), <https://bit.ly/2TZS03W>.

3. CONCLUDING REMARKS

The delaying of reforms in HES resulted in low competitiveness of Moldovan universities that are not included in the international university rankings such as QS World University Rankings (1000 universities) or the Times Higher Education World University Rankings (1400). The top Moldovan universities: the Technical University of Moldova, the State University of Moldova and the State University of Medicine and Pharmacy are ranked on 2962, 3262 and 7152 places respectively

in the 2020 Webometrics ranking. They also perform poorly at regional level (MDA in Figure 12). The correlation between the global competitiveness index (GCI 2019) and the two HEIs indicators reflecting the county ranks – the skillset of university graduates (GCI 2019) and the average quality of HEIs (Legatum Prosperity Index 2019) – show that higher education system in Moldova needs to improve its quality and competitiveness.

Figure 12: Correlation between the Global Competitiveness Index, the skillset of university graduates and the average quality of HEIs (2019)



Source: Based on the Global Competitiveness Index (World Economic Forum 2019) and the Legatum Prosperity Index (Legatum Institute 2019)

The discussion above highlights several challenges and issues HES in Moldova currently faces. It also underscores the need for immediate and radical reforms to mitigate internal and external threats and weaknesses. Moreover, the analysis suggests that

these reforms are critical for the successful assimilation of the WB credit and without which WB will just through 'good money after bad'. Finally, as compellingly argued, maintaining and investing in the status quo will not "improve the quality, relevance

and efficiency of the country's higher education system"³¹. Urgent and structural changes are needed at sector level before substantial investment in quality, relevance and efficiency is made by WB. These are reflected in the three policy recommendations: rationalizing, restructuring, and modernizing.

To ensure the aim of the WB project is achieved, it is recommended that these three policies: rationalizing, restructuring, and modernizing, (i) become part of the 'agreement between WB and the Moldovan Government, (ii) have an earmarked budget allocated in the credit agreement to support their de-

velopment and implementation; and (iii) disbursements of WB funds are conditioned, subject to the successful implementation of these policies. This will require the Moldovan Government to commit to the respective rationalization, restructuring, and modernization of HES. Without such commitment from the Moldovan Government to these policy objectives, the impact of the WB credit on HES will be marginal. Thus, investing the WB credit in the status-quo will be no more than just *throwing good money after bad money*. The next section will focus on policy recommendations related to such changes.

31 World Bank, "Better Higher Education to Improve People's Skills in Moldova, with World Bank Support."

4. POLICY RECOMMENDATIONS

These policy recommendations are derived from the *'Restructuring Higher Education Sector in the Republic of Moldova: Draft Legislative Proposals'* (Turcan et al., 2015), incorporating respective enhancements operated in the last five years; page numbers will refer to this document unless otherwise stated.

4.1 Rationalizing

This is the most difficult policy objective of all to adopt from the political, social and psychological perspectives. It entails reducing the number of HEIs and epitomizes the 'carrot' and a 'stick' at the same time. While the former allows the rectors to discuss and negotiate mergers and acquisitions, the latter ensures that rationalization happens when rectors are not able to reach a decision. The rationalization process was initiated in 2015 when the Ministry of Education circulated a letter to all rectors of public universities by asking them to submit to the Ministry "concrete proposals" regarding the rationalization of

HES.³² However, the initiative of the Ministry of Education was not welcomed and supported by the rectors,³³ who might have reactivated their political connections to halt this process given their long-standing experience in 'flirting' with political parties.³⁴ The then-status-quo is still here today.

Vignette 3 offers a glimpse into the process of rationalization that took place in Denmark. The process took 12 months; as a result, 8 universities were formed out of 11, and 13 research institutes out of 15 joined newly formed universities (Denmark's population is over 5.6M).

³² <https://www.facebook.com/euniam.tempus/posts/2390612794513921>

³³ Telephone interview with a top public official of the Ministry of Education in 2015.

³⁴ Unimedia, "Nouă rectori au aderat la PLDM. Grigore Belostecinic: 'Ader la PLDM, pentru că este o alternativă pentru PCRM,'" UNIMEDIA, July 1, 2010, sec. Politic, <https://unimedia.info/stiri/-20765.html>; Anticoruptie.md, "Averile, afacerile și interesele rectorilor universităților de stat," December 8, 2016, <https://anticoruptie.md/ro/investigatii/integritate/averile-afacerile-si-interesele-rectorilor-universitatilor-de-stat>.

Vignette 3: Rationalization of HES in Denmark (an excerpt)

Following that emergent need to reform/rationalize the higher education sector, in January 2006, the Minister of Higher Education wrote letters to 11 universities and 15 research institutes/centres, asking them to discuss/examine the possibility of mergers. Chairmen's and Rectors' councils, as well as academic and technical representatives of universities, took part in discussions/rationalization process. The negotiation and rationalization process took place without an external negotiator. Universities were given 12 months to merge; after this period the Ministry would step to finalize the process for universities/research institutes (this did not happen as the merger/rationalization process was finalized voluntarily in time).

- The first merger took place between University of Pharmacy, University of Agriculture and University of Copenhagen. University of Pharmacy and University of Agriculture were disestablished and joined University of Copenhagen that strengthened its position as a classical university. Some of the rectors of absorbed universities have become deans of faculties.
- Regional universities such as University of Southern Denmark (Odense) and Aalborg University (Aalborg) stayed. A number of research institutes and a research centre from Danish Technical University wanted to join Aalborg University (AAU) –located in the Northern part of Denmark –which led to the creation of a large campus of AAU in Copenhagen.
- There was an instance when a university remained unchanged as no perfect merger match was found.

- The Minister suggested that the Pedagogical University (in Copenhagen) merges with the Copenhagen Business School (CBS); but the Pedagogical University decided to merge with Aarhus University (located app. 200 km north-west of Copenhagen).
- CBS proposed a merger with the IT University or the Aarhus Business School, but the two turned the proposal down. The Minister would prefer a merger between CBS and the University of Copenhagen, but CBS turned that down and in the end stayed independent. So did the IT University; the Aarhus Business School merged with Aarhus University.
- As a result of rationalization/merger process, 8 universities were formed.
- Out of 15 research institutes, 2 stayed independent and the rest joined the newly formed/rationalized 8 universities.
- The rationalization/merger process was finalized in 12 months.
- It went without any bad publicity; Students and labour unions had no objections to the merger/rationalization process because neither employees (there were no dismissals) nor students were affected, it had only a positive effect.
- The integration process within the merged universities took app3 years.
- In the process of rationalization, state funding was not reduced; in fact, constantly increased, including an additional 1% of GDP for research.

Source: Turcan et al., 2015, p. 38

Based on the earlier identified threats and trends, the establishment of four large specialized universities with regional branches (North, South, and East) - Business, Technical, Medicine, Social Science and Humanities – might represent an optimal institutional structure. The establishment

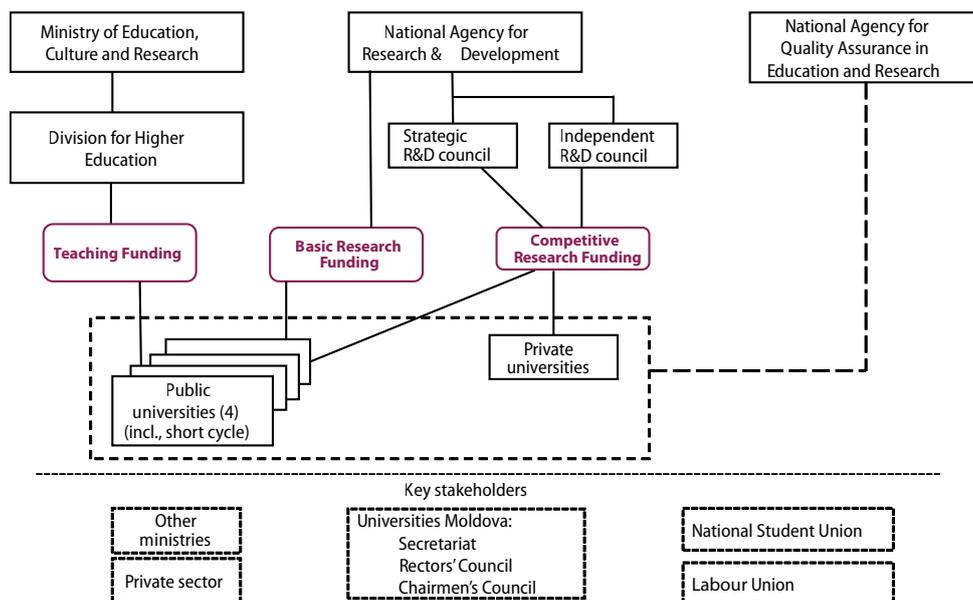
of regional branches might take the form of joint ventures. The university regional presence is imperative to regional development.

Duration of this policy: 12 months.

4.2 Restructuring

This policy will deal with the restructuring of HES, undertaken during and/or following the rationalization of the sector; the suggested structure is presented in Figure 13.

Figure 13:
Proposed structure of HES



Source: Derived from Turcan et al. (2015)

This policy objective will require, minor, fine-tuning but critical changes to the current structure to ensure the successful implementation of next policy objectives such as:

- approve teaching and revise research funding formulae;
- separate governance and management by formally institutionalizing (by Law) and implementing (via new HEI bylaws) university governing boards;
- change HE Framework to give HEIs full, genuine autonomy, freedom to structure and implement own study programmes;
- strengthen internal capacities of the two key Agencies, NAQAA and NARD, especially NARD;
- create research councils (Turcan et al., 2015, p. 37), under NARD but independent from NARD to ensure transparency of the project application process;
- strengthen the internal capacity of the HE division within the Ministry of Education, Research and Culture;
- institutionalize Short Cycle as part of the university portfolio (Turcan et al., 2015, p. 34)
- develop HES KPIs for academic (teaching, research, and knowledge transfer) and management activities

Duration of this policy: 12 months, some activities implemented in parallel with Rationalizing policy.

4.3 Modernizing

This policy aims at modernizing newly formed HEIs. It is about new governance and management, infrastructure, study and pedagogical training programmes. It is also about creating inter-disciplinary and inter-institutional platforms for teaching, research and knowledge dissemination at all three cycles. This is the stage where the WB credit will have its highest impact on “the quality, relevance and efficiency of the country’s higher education system”³⁵

4.4 Financing the action

Three main sources of funding will support the development and implementation of these policies:

- State budget: HES receives app. 1.5% from GDP which is approximately MDL 3,2 billion or about Euro 160M (estimations are based on the 2019 data on GDP and HES funding). In 2019 HES received just below MDL 1 billion which is approximately 0.47% of GDP;
- The proceeds from the sales of the assets of the rationalized HEIs;
- WB credit

Other sources of funding to support academic activities of HEIs are external funding, such as Horizon Europe: The next research and innovation framework programme and private funding.

³⁵ World Bank, “Better Higher Education to Improve People’s Skills in Moldova, with World Bank Support.”

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ABOUT AUTHORS

Sergiu LIPCEAN, researcher, university professor at “Dimitrie Cantemir” State University (USDC), doctor of political sciences (European University Institute, Florence)

Romeo V. TURCAN, professor of International Entrepreneurship at the Department of Business and Management at Aalborg University.

IMPRESSUM

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HIGHER EDUCATION IN MOLDOVA AT CROSSROADS OR THROWING GOOD MONEY AFTER BAD?



The Higher Education System in Moldova is at a critical juncture. Despite the legal framework improvement during the last years, the results have not met the expectations. The delay of institutional reforms targeting the optimisation of the oversized organisational infrastructure and the revision of the financing mechanism have cancelled out the positive effects of the new legislation and has led to the deterioration of higher education. The lack of political will, combined with the resistance from within the Higher Education Sector, to implement the much needed but politically and socially sensitive reforms have only amplified the problem.

The key stakeholders failed to anticipate and identify appropriate solutions to the overlapping challenges epitomized by the negative demographic trends, emigration, and the domestic and external competi-



on, which deeply affected their capacity to replenish the university ranks with new students and competitive academic staff – a critical condition to ensure the survival of the entire sector in the long term. As a result of these developments, the quality and competitiveness of HES fell down despite substantial financial injections during the last years. Likewise, given the prioritisation of teaching as the key task performed by the academic staff, universities, especially the small ones, proved to be poorly endowed to compete on equal footing with other institutions for research grants following the implementation of a controversial reform of the research and development sector.

The \$40M credit approved by the World Bank and designed to rescue the HES by increasing its quality, competitiveness and the relevance for the labour market



will entail higher payoffs only under certain conditions. To achieve its declared goals and policy objectives requires radical institutional reforms. A long-term impact of this credit can be achieved only if the HES in Moldova is rationalized, restructured, and modernized. Thus, these three strategic policy objectives – rationalizing, restructuring and modernising – should be part of the ‘agreement’ between the World Bank in Moldova and the Government of Moldova. This will require the Moldovan Government to commit to these policy objectives in reforming the Higher Education Sector. Without such a commitment from the Moldovan Government, the impact of the World Bank credit on the Higher Education Sector will be invisible or marginal at best. The World Bank credit investing in the status-quo will be no more than just throwing good money after bad.

More information about this subject can be found here:

www.fes-moldova.org