

**Technical Assistance to Support Reforms to the
Higher Education Financing System in Georgia
(P164779)**

Final report

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List of Abbreviations

ASA	Advisory Services and Analytics
ASU	Akhaltsikhe State University
BSU	Batumi State University
EU	European Union
ESF	European Social Fund
ECTS	European Credit Transfer System
ENQA	European Association for Quality Assurance in Higher Education
ESG	European Higher Education Area
ESF	European Social Fund
EUA	European University Association
GSU	Gori State University
GTU	Georgia Technical University
HE	Higher Education
HEI	Higher Education Institution
HEMIS	Higher Education Management Information System
ISU	Ilia State University
MoES	Ministry of Education and Science
MoE	Ministry of Economy and Sustainable Development of Georgia
NAEC	National Examination and Assessment Center
NCEQE	National Center for Education Quality Enhancement
NQF	National Qualifications Framework
NWO	The Netherlands Organization for Scientific Research
QA	Quality Assurance
R&D	Research and Development
SMEs	Small and Medium Size Enterprises
STEM	Science, Technology, Engineering and Mathematics
SSU	Sokhumi State University
TSU	Tbilisi State University
TSMU	Tbilisi State Medical University
UAS	Universities of Applied Sciences
UNE	Unified Entrance Examinations
WFME	World Federation of Medical Education

Executive Summary

1. This report summarizes the World Bank Technical Advisory Service to support reforms to the Higher Education Financing System in Georgia. It analyses the strengths and weaknesses of Georgia's higher education system in general and its funding arrangements in particular. The report is intended to provide a menu of policy options based international practice for the government to consider in the further development of the higher education sector in Georgia. The key findings and recommendations of the study are presented below. More elaborate conclusions and recommendations can be found in Chapter 7 of this report.

Key findings

2. In the last decade, Georgia has strongly invested in the modernization of its higher education system and the system's alignment with the European higher education and research area. As such, the three-cycle degree structure (bachelor-master-PhD), the European Credit Transfer System (ECTS), a National Qualifications Framework, a stricter accreditation system and a stronger focus on internationalization have been implemented.
3. With 53 percent of 19-20 years old's attending tertiary education, Georgia ranks among countries with very high participation rates. The students are enrolled in an abundance of higher education institutions (75) compared to the size of the population, resulting in many relatively small-size institutions, which raises questions of efficiency. Most HEIs are private institutions (55) which cater for 35 percent of the students. Georgian higher education is primarily focused on undergraduate education with only 12 percent of the students enrolled at master and PhD levels. Nevertheless, many graduates are unemployed (35 percent) or underemployed (25 percent). Higher education in Georgia has limited strategic direction. There is limited data, information and evaluations available about the basic operations of the higher education system and its development. It can be concluded that higher education is not fully aligned with the needs of society and the labor market.
4. Even though public expenditure on HE doubled between 2013 and 2017, Georgia spends only 1 percent of GDP on HE which is one of the lowest in comparison to other countries. About 75 percent of these resources come from tuition fees paid by private households. Thus, the government invests relatively little in higher education. Research & Development (R&D) investments are also low at 0.6 percent of GDP.
5. The main public funding mechanisms – the State Grants (vouchers) for students and Priority Field study places – are not well-aligned with the strategic priorities of Georgia. Neither the State Grants nor the Priority Field Grants nor the Institutional Research funding include performance incentives for students or institutions towards achieving national strategic priorities, such as: (early) graduation, labor market orientation, resource diversification, internationalization, research performance or flexibilization. The wide options for students to suspend studies encourage them, in effect, to prolong the duration of their studies. The uniform State Grants (GEL 2,250) do not reflect any cost differences between lab-based,

computer-based, or traditional lecture/instructor-based study programs and limits cost awareness.

6. The merit-based allocation of State Grants to the best scoring students in the UNE entrance exam stimulates equal competition among public and private universities. Expanding tax-exemptions on profits from the for-profit sector to the non-profit universities is expected to put both types of institutions closer to an equal par.
7. Though Georgian higher education strongly relies on tuition fees paid by students, the financial support for students is not well-developed yet. This raises questions related to equity and affordable access to Higher Education (HE). Many students are willing to substantially invest in HE, but only few students from disadvantaged backgrounds are supported by scholarships. The student loans available through private banks bear unfavorable (repayment) conditions.

Recommendations: prerequisites for funding reforms

8. Engage in transparent continuous communication with key stakeholders about the needs, aims, opportunities and risks, design and short-term and long-term objectives and achievements of envisaged reforms. Reforms require trust, balanced considerations and agreement on the way forward.
9. Accompany funding reforms with additional public budget to overcome implementation costs, resistance and the risks of losing budget for some key stakeholders. Additional budget can open the dialogue to work towards national strategic priorities. Additional public investments (from MoES and MoF) are justified given the current low public investments in higher education and the need to invest in a better quality and more relevant higher education system.
10. Implement the new authorization and accreditation framework in a consistent way to guarantee minimum quality standards across the total HE system and to align with labor market needs.
11. Collect reliable and robust data and information in a national (and institutional) Higher Education Management Information System (HEMIS) with key indicators on inputs, processes and outputs.
12. To protect current interests and balance in the higher education system, changes should not be radical.

Recommendations: regarding funding reforms

Funding options – adding and/or reforming funding instruments

FUNDING OPTIONS	Benefits	Risks	Expected timeline
CORE OPTIONS			

Add a new performance-based funding instrument	<ul style="list-style-type: none"> • new additional budget • new rules • create performance orientation • use new performance indicators • alignment with national strategic objectives: quality, equity, access, LLL, employability, innovation, research, etc. 	<ul style="list-style-type: none"> • disagreement stakeholders on objectives and design • no political support • no additional public resources 	<ul style="list-style-type: none"> • short term: if new budget • can start with piloting
Equalize tax exemption regulations	<ul style="list-style-type: none"> • already intended measure • stimulates level-playing field between non-profit and for profit HEIs • no big amounts involved 	<ul style="list-style-type: none"> • political reasons for different treatment • not doing this keeps issue of resentment on agenda 	<ul style="list-style-type: none"> • short term: already in progress
Align Priority Fields Grants with labor market needs	<ul style="list-style-type: none"> • better strategic alignment with national objectives • cancel/re-use not filled priority field places • opportunity to stimulate program innovation • option to reconsider every 3-5 years 	<ul style="list-style-type: none"> • affects funding positions of programs and HEIs • attracting students to subsidies, not to their program of intrinsic interest 	<ul style="list-style-type: none"> • short– mid term: • first reach agreement on national priorities
Keep but limit suspension options for students	<ul style="list-style-type: none"> • reduces strategic behavior of students and HEIs • less uncertainty in public funding and statistics • stronger performance incentives • link suspension to motivated reasons: maternity, activism, poor study results 	<ul style="list-style-type: none"> • reduces flexibility of students and HEIs (to maximize funding) • opposition of students & HEIs • higher dropout rates 	<ul style="list-style-type: none"> • short term: change regulations for next cohorts
Increase number of need-based grants/scholarships	<ul style="list-style-type: none"> • increase equity and access • possible to link need criteria to state grants and/or priority fields 	<ul style="list-style-type: none"> • limited data on family income 	<ul style="list-style-type: none"> • short – mid term: first extra scholarships, later change criteria for grants
Increase attractiveness and role of loans	<ul style="list-style-type: none"> • replacing grants for high income students with loans frees up resources • loans facility private investments • interest subsidies and guarantees attract student investment 	<ul style="list-style-type: none"> • loans less attractive for students • repayment problems (default) • loans require administration • need to monitor default 	<ul style="list-style-type: none"> • mid – long term: needs discussion on options, terms and conditions
ADDITIONAL OPTIONS			
Require annual reports as a funding condition	<ul style="list-style-type: none"> • sound mission and strategy statements by HEIs • demonstrate key statistics • show progress against national priorities and HEI strategic plan 	<ul style="list-style-type: none"> • resistance to deliver reports • difficulty to use common definitions on statistics 	<ul style="list-style-type: none"> • short term: start immediately requiring HEI's strategic plan and annual report

Develop funding levels that account for cost differences	<ul style="list-style-type: none"> • link funding closer to “known” relative cost differences • fairer treatment of programs • raise cost-awareness 	<ul style="list-style-type: none"> • resistance due to potential for gaining and losing HEIs and programs • requires reliable data on key parameters (students, staff, graduates, etc.) • difficulties to assign programs into cost categories 	<ul style="list-style-type: none"> • mid-long term: first discuss and estimate consequences, then pilot and finally full implementation
Reconsider tuition cap for public universities	<ul style="list-style-type: none"> • several options possible • create a level playing field between public and private HEIs (regarding the tuition limit, e.g. per discipline or for publicly subsidized students) • increase revenues for public HEIs • require HEIs that exceed the cap to compensate low SES students 	<ul style="list-style-type: none"> • political resistance • potential equity risks due to cost increase for students • privatization of public HE 	<ul style="list-style-type: none"> • mid term: first national discuss options and (dis)advantages

Recommendations with relation to system characteristics:

- Organize a transparent dialogue and communication about the role, profile and position of various institutions, e.g. in terms of access to higher education, system efficiency, infrastructural issues, and potential collaboration and division of tasks.
- To stimulate high level knowledge and innovation, Georgia should invest more in the attractiveness of graduate education (master’s and PhD education).
- Higher education institutions should develop more professionally oriented study programs with a strong labor market and employability focus and connection.

1 Introduction

13. This report has been produced under the World Bank Advisory Services and Analytics (ASA) to support reforms to the Higher Education Financing System in Georgia between December 2017 and June 2018.¹ The World Bank was invited, as an external partner, to support the further development of a higher education financing model in Georgia that better aligns with the government's strategic sector priorities, taking into account jointly developed criteria and feedback from the Ministry of Education and Science (MoES), good international practice, and stakeholder consultations. The report has been drafted by the World Bank Georgia Education team² in close collaboration with the key stakeholders and representatives of the higher education sector in Georgia.
14. Next to a general assessment of the Georgian funding model for public higher education institutions, the team was asked to pay particular attention to potential differences in cost- and funding levels between different disciplines and/or between different types of higher education institutions. In the “costing part” of this study, current practices in Georgia will be compared to international practice related to equal or different funding levels for various types of institutions, disciplines and programs.

1.1 Methodology of the Advisory Service and Analytics (ASA)

15. This advisory service is aimed at providing policy options and recommendations for the further development of higher education in Georgia, particularly through enhancing the funding model underpinning Georgian higher education. This analysis entails several elements, such as (i) a future outlook outlining the expectations and ambitions for Georgian higher education; (ii) a structured analysis of the current higher education system, its developments, funding structures and costing practices across institutions and disciplines; (iii) a comparison with international practice in higher education financing; and (iv) formulation of policy options and recommendations.
16. To enable such analyses, the advisory service relies on various research approaches. First, a literature study of relevant national and international policy documents, reports and academic publications on higher education funding in Georgia and other relevant countries. In addition, the study relies on wide stakeholder consultations during which representatives of various public and private universities as well as public governing bodies were interviewed about the challenges and potential solutions regarding higher education funding in Georgia. Third, the advisory team has collected various data from a limited number of five universities regarding their financial operations, including potential differences in costs between study disciplines. Based on the data collected, the team has developed a few future scenarios demonstrating the

¹ The term ‘higher education’ is used in this report in a comprehensive and inclusive manner; i.e., it is used to describe any form of tertiary education at the post-secondary level, if not specified otherwise.

² Members of the World Bank Education Team are Hans Vossensteyn, Natia Andghuladze, Nino Kutateladze and Roberta Malee Bassett. The team would like to thank the Georgian MoES and the institutions, as well as all other sector representatives involved for their involvement to make the preparation of this report possible.

impact of alternative funding models for universities. Finally, the advisory team translated various options into policy recommendations that can be considered by the Georgian government to further develop its higher education system while addressing its main challenges and ambitions.

1.2 Structure of the report

17. Chapter 2 discusses the main challenges and future ambitions for higher education in Georgia to present some directions for aimed improvements in the system. In Chapter 3, an analysis of the Georgian higher education system is presented. It will provide some insights into the main system characteristics and developments. Chapter 4 provides an analysis of the Georgian higher education funding regime. Based on criteria for “good funding models” the current funding model is assessed, presenting the main strengths and weaknesses of the higher education funding mechanism. Chapter 5 will provide some international examples of funding options that can serve as a benchmark for the Georgian higher education funding system. Chapter 6 is devoted to costing higher education, particularly analyzing options and approaches to deal with differences in costs between disciplines and types of higher education programs and institutions. Based on international practice and experience, the Georgian reality will be analyzed while using data from a limited group of five universities to calculate potential effects of funding approaches (scenarios) that include different costing models. The report concludes with policy options and recommendations in Chapter 7.

2 Future outlook for Georgian Higher Education

18. **This chapter provides a brief overview of the ambitions of the Georgian government and higher education system to promote the economic development and social wellbeing of the country.** The observations are based on available strategic policy reports as well as the opinions of some of the primary higher education stakeholders.
19. In the last decade, Georgia has strongly invested to align Georgian higher education with developments elsewhere and to integrate into the European higher education and research area (MoES, 2017). As such, the three-cycle degree structure (bachelor-master-PhD), the European Credit Transfer System (ECTS) credit system, a National Qualifications Framework (NQF) and national Quality Assurance (QA) system have been implemented. In addition, various initiatives are taken to stimulate internationalization in Georgian higher education, such as the development of English taught study programs, linking up with foreign universities and professional organizations such as the World Federation of Medical Education (WFME). Georgia has also become an active partner in various ERASMUS+ projects. Access to higher education has been strengthened by providing more scholarships for disadvantaged students. As a result, total public expenditure has doubled between 2013 and 2015, up to GEL 137 million (\$56 million) in 2017 (MoES, 2017).
20. Like other governments, Georgia also assigns public priority to job creation and productivity growth. The development of the right skills and competencies among workers is central to stimulate productivity and to facilitate the adoption and invention of new technologies. Georgia's labor force participation is still relatively low and concentrated in low-productivity sectors (World Bank, 2015). Despite the growth experienced in the last two decades, the country's key labor market indicators are still weak. Georgia has a relatively high unemployment rate, at 15 percent, while many of unemployed Georgians are highly educated. About 40 percent of all unemployed have a higher education degree. As such, a better transition from higher education into the labor market is a key priority for the years ahead.
21. There are two recent national strategic reports for the further development of education and science in Georgia. First, the 2013 report on the "Strategic Development of Higher Education and Science in Georgia" (Bregvadze, 2013). Second, the 2017 "Unified Strategy for Education and Science for 2017-2021" of the Ministry of Education and Science (MoES, 2017). Both strategic documents identified key strategic objectives for the further development of higher education in Georgia:
 - modernizing and aligning higher education programs with labor market needs. This entails improving the quality and learning outcomes of higher education to stimulate personal development, active citizenship and employability, including self-employment and entrepreneurship;
 - develop a stronger development-oriented and results-based quality assurance system;

- strengthen the research base of universities as well as the links between teaching and research to make knowledge creation, transfer, innovation and technology integral parts of study programs;
 - modernize the research infrastructure;
 - increase the internationalization of higher education by stimulating mobility of students and staff and the development of joint programs with foreign universities;
 - attract new generations of teachers and scientists into the higher education system;
 - improve access to (good quality) education, particularly for vulnerable student groups such as students from disadvantaged socio-economic backgrounds, students from rural areas, and students with special needs;
 - availability of scholarships (merit-based, need-based and a combination) and affordable student loans;
 - develop adapted learning materials;
 - create effective opportunities for lifelong learning, e.g. by developing more flexible study programs and procedures for the recognition of vocational qualifications;
 - develop public funding with incentives that stimulate the above-mentioned objectives and acknowledging for relative cost differences between various types of study programs or institutions.
22. Based on these objectives, current higher education policy reforms should be aimed at (i) improving quality, learning outcomes and skills formation for the Georgian labor market; (ii) strengthening the innovative capacity and entrepreneurship in the labor force; and (iii) enhancing tertiary education opportunities for underrepresented students.
23. Many of these issues must be addressed by a strong focus on the quality of higher education. The National Center for Education Quality Enhancement (NCEQE) initiated a higher education quality assurance reform in 2017 to upgrade the quality assurance and accreditation standards and procedures. As such, these will be in line with the requirements of the European Higher Education Area (ESG 2015), and the stronger criteria will strengthen the links between higher education programs, their learning outcomes and the needs in society and the labor market.
24. For Georgia, the efficient and effective allocation of financial resources is another important issue to be address in the higher education reforms. In a situation of scarce resources, it is important the system not only uses the available funding in a fair, efficient and effective way, but also encourages the higher education system to work in the direction of the country's strategic objectives in line with regional and international best practices.

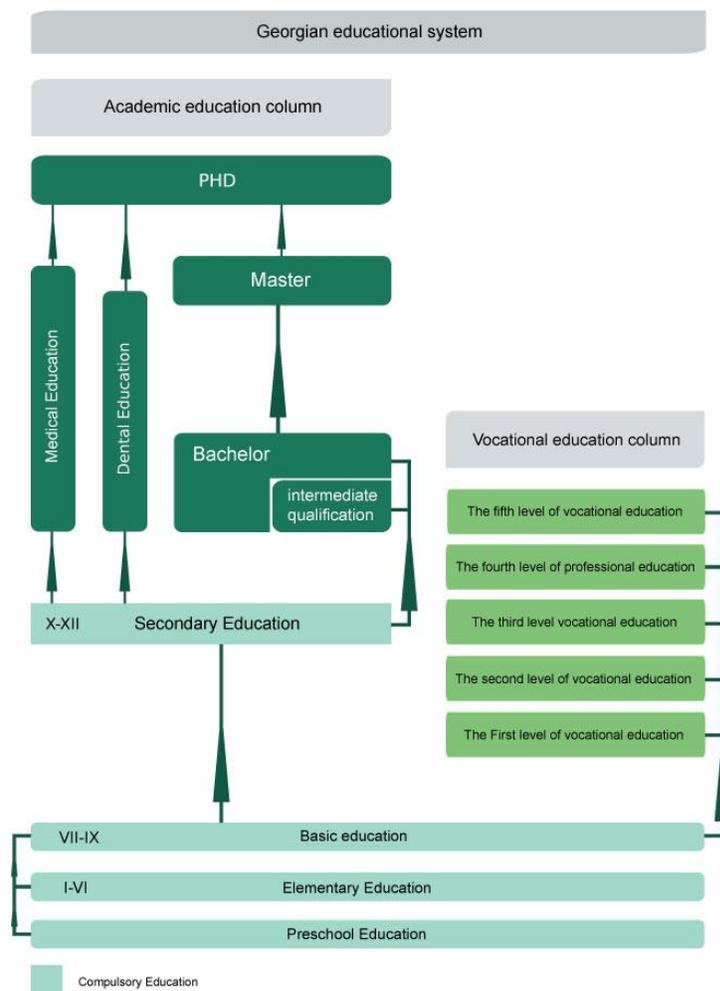
3 Higher Education in Georgia

25. This section provides a brief overview of the key characteristics and developments in the Georgian higher education sector. Based on policy documents, system level data and interviews with key stakeholders in Georgian higher education, this chapter presents a brief analysis of strengths and weaknesses of higher education in Georgia.

3.1 The higher education system in Georgia

26. Higher education is a logical part of the wider education system of Georgia, as depicted in figure 1.

Figure 1: The education system in Georgia



Source: Ministry of Education and Science

27. Higher education in Georgia is organized along the three-cycle higher education system offering bachelor programs, master programs and doctorate programs. Bachelor programs consist of no fewer than 240 credits. Only holders of state certificates confirming full general education or persons equalized with them can be admitted to bachelor programs. Master programs consist of no fewer than 120 credits. Only bachelor degree holders or persons with

equivalent degrees can enter master programs. Only programs in Medicine and dentistry have one-stage higher educational programs, which end with the awarding of academic degrees of certified physician/dentist. Such programs require 360 and 300 credits, respectively, and are considered to be at master’s level. Third cycle doctorate programs consist of no fewer than 180 credits. Only students with a master’s degree (or a comparable qualification) can pursue doctoral programs.

28. Georgian higher education consists of 75 higher education institutions (2017), which include three types of higher education institutions (Research Universities, Teaching Universities, Colleges) distributed over a public and private higher education sector (see Table 1):

- Research universities - institutions which carry out higher educational programs of all three stages and conduct scientific research.
- Teaching universities - institutions which carry out higher educational programs at bachelor and master level (no doctorate programs). They have no notable research function.
- Colleges - institutions that offer first stage higher education programs only (bachelor level) and do not conduct research.

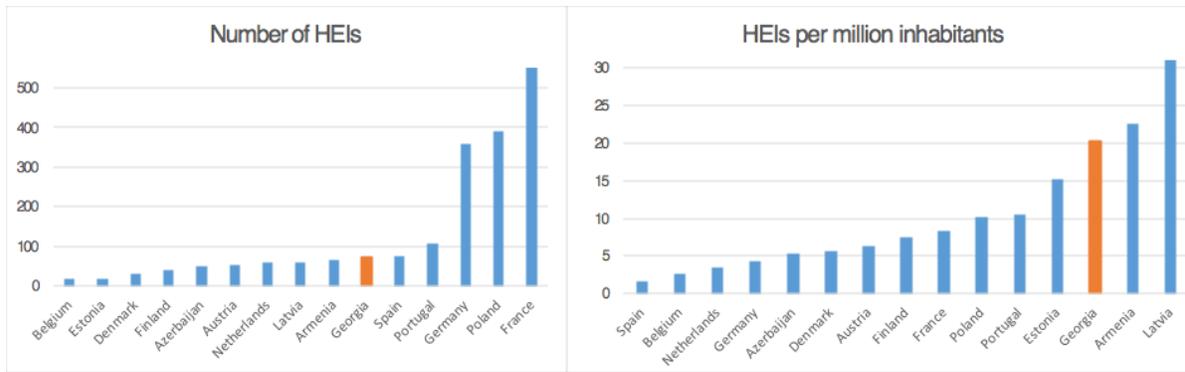
Table 1: Number of higher education institutions in Georgia

	2013	2014	2015	2016	2017
Public HEIs					
Research	8	12	12	12	12
Teaching	6	7	7	7	7
College	1	1	1	1	1
Private HEIs					
Research	20	16	17	19	20
Teaching	21	24	23	22	21
College	10	12	13	14	14
Total	66	72	73	75	75

Source: National Center for Education Quality Enhancement, 2018

29. Georgia has a medium-size higher education system in international comparative perspective (see Figure 2). However, if the number of Higher Education Institutions (HEI)s is compared to the size of the population, then Georgia has relatively many higher education institutions (per million inhabitants). Armenia and Latvia even have more institutions per million inhabitants, but Western European countries and most Central & Eastern European countries have fewer institutions per million inhabitants.

Figure 2: The number of HEIs in international comparative perspective

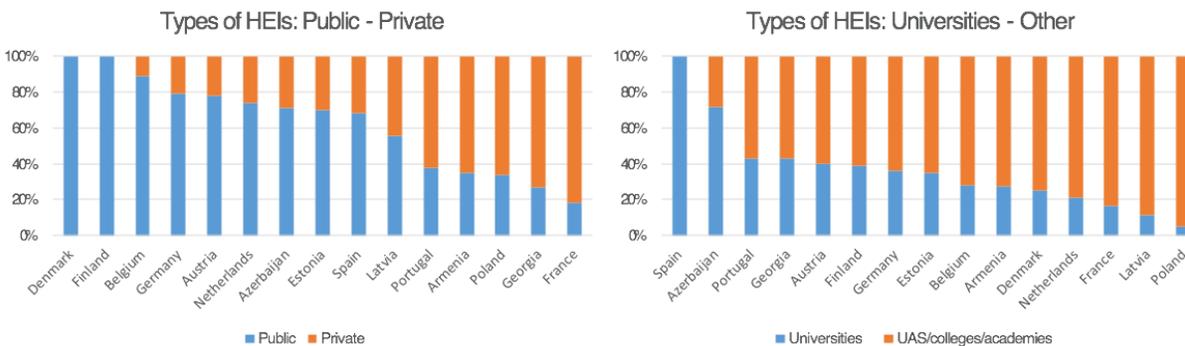


Source: Own compilation from various national statistics.

30. Various countries over the past decades have implemented merger and consolidation operations to increase focus and efficiency in the higher education system. As such, Georgia has relatively many small- or medium-sized institutions, which may be partially related to the fact that Georgia has a relatively large and competitive private higher education sector, including 55 private institutions (73 percent of the 75 HEIs).

31. In addition, 43 percent of the Georgian higher education institutions have a research function. Figure 3, demonstrates that the proportion of private HEIs and of research universities both are relatively high compared to other countries. Whereas a relatively large private sector suggests that private investments are relatively high, a large share of research universities suggests a relatively expensive HE sector as teaching is supposed to be research inspired and thus requiring relatively many staff inputs.

Figure 3: Types of HEIs in international comparative perspective



Source: Own compilation from various national statistics.

32. However, Table 2 demonstrates that, in terms of student numbers, the private higher education sector comprises about 35 percent of the student population and the public sector about 65 percent. This is opposite to the number of institutions. Nevertheless, in international comparative perspective 35 percent of Georgian students in private higher education is relatively high as average enrolment in private HE in Europe (40 countries) is about 15 percent (Levy, 2016: the PROPHE project). In addition, Table 2 demonstrates that most students are enrolled in research universities (about 82 percent).

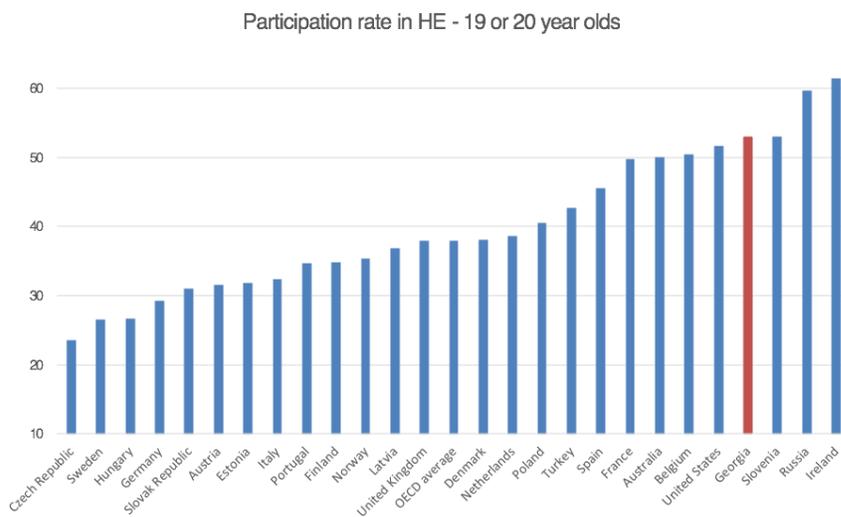
Table 2: Number of students in higher education in Georgia

	2013	2014	2015	2016	2017
Undergraduate					
Public HEIs					
Research	68,007	75,862	76,023	76,594	76,974
Teaching	5,340	4,169	4,772	5,254	5,399
College	49	48	33	32	28
Private HEIs					
Research	20,412	20,963	24,179	25,597	26,739
Teaching	11,939	12,629	12,830	13,636	16,527
College	468	702	1,239	1,390	1,763
Total	106,215	114,373	119,076	122,503	127,430
Graduate					
Public HEIs					
Research	7,820	4,574	4,986	9,912	10,019
Teaching	292	113	206	351	413
College	0	0	0	0	0
Private HEIs					
Research	2,645	1,730	2,112	4,098	4,465
Teaching	388	308	589	1329	1855
College	0	0	0	0	0
Total	11,145	6,725	7,893	15,690	16,752
Total					
Public HEIs					
Research	75,827	80,436	81,009	86,506	86,993
Teaching	5,632	4,282	4,978	5,605	5,812
College	49	48	33	32	28
Private HEIs					
Research	23,057	22,693	26,291	29,695	31,204
Teaching	12,327	12,937	13,419	14,965	18,382
College	468	702	1239	1390	1763
Total	117,360	121,098	126,969	138,193	144,182

Source: National Center for Education Quality Enhancement, 2018

35. Table 2 also shows that the total number of students enrolled in Georgian higher education has increased by about 23 percent from 117,000 in 2013 to 144,000 in 2017. This is remarkable given the decline in the overall population in the last decade. This growth in student numbers is reflected in the relatively high participation rate among 19-20-year-olds in Georgia compared to that in OECD countries. Figure 4 (next page) shows that Georgia is among the highest scoring countries with a participation ratio of 53 percent of the 19-20-year-olds in tertiary education. The stakeholder interviews demonstrated that this may be due to an under-developed role of secondary and post-secondary vocational education in the country.
36. Finally, Table 2 shows that most Georgian students are enrolled in undergraduate (bachelor) education. Only 12 percent of the students are enrolled in master's or PhD programs. This is regarded as relatively low in an international comparative perspective. EUROSTAT (2018) data show that on average in the EU-28 around 7 percent of the total student population is enrolled in short cycle programs (below bachelor level), 61 percent at bachelor level, 28 percent in master's programs and 4 percent in PhD education. The low level of participation on postgraduate education in Georgia appears contrary to the relatively high unemployment levels of university graduates (40 percent of all unemployed hold a higher education degree; World Bank 2015). One would expect students to offset unemployment with further studies.

Figure 4: Participation ratio in tertiary education, 19 or 20-year olds



Source: Geostat and OECD, *Education at a Glance*, 2017.

32. Undergraduate completion rate at these selected five universities is comparable to some EU countries. Based on the data on five public research universities in Tbilisi (which enroll around 55 percent of all student population in the country), completion/graduation rate at undergraduate level can be estimated at around 68 percent³: of all undergraduate students

³ The completion rates were calculated based on the data provided by the National Education Quality Enhancement Center. It should be noted that public research universities are not representative of the entire

enrolled in 2011, 68 percent finished their 4 year-long programs within 6 years. Around 65 percent of master's level students enrolled in 2014 graduated their two-year-long programs within 3 years. Graduation rate at doctoral level can be estimated at around 35 percent - around a third of doctoral students enrolled in 2010 have finished their studies by 2017. However, there is a large variation in the sample of the universities and graduation rates range from 7 percent to 55 percent.

Table 1: Completion rates of full time bachelor's and master's degree program students in selected countries

Countries	Bachelor's or equivalent program (N+3)	Master's or equivalent program (N+3)
Australia	70	
Austria	58	61
Belgium (Fl.)	73	
Czech Republic	60	65
Denmark	81	
Estonia	51	54
Finland	68	
France	70	
Israel	70	
Netherlands	66	
Norway	76	68
New Zealand	81	
Sweden	53	71
United Kingdom	84	88
United States	78	
Average	69	68

Source: Education at a Glance 2016: OECD Indicators - © OECD 2016; Table A9.1. Completion rate of full-time students by level of education, gender, method and duration (2014)

Autonomy of higher education institutions and academics

system. Teaching universities, which are less selective and normally attract academically less prepared students as well as students from poorer families, enroll around 25% of total student population. Suspension rates (the share of students who suspend their studies for a period of time) in these universities are higher compared to public research universities or private research universities. For example, in 2017 36% of students in the universities suspended their studies and around 80% of these students indicated financial reasons for suspending their studies.

37. An important value and prerequisite for higher education institutions to develop in a sustainable strategic direction is having a sufficient level of autonomy to decide on key issues concerning the internal organization of universities, the programs and activities they perform, their human resource capacity and the internal allocation of financial resources (EUA, 2017). In general, Georgian HEIs can be called relatively autonomous as they can decide what study programs they offer, what staff they appoint and how they reward their staff. In 2017, a new article on academic freedom was integrated in the Georgian constitution (Article 20, Amendment issued on 3 May 2017). It states that:
1. The freedom of intellectual creativity shall be guaranteed and that the right to intellectual property shall be inviolable.
 2. Interference in creative work or censorship in the field of creative activity shall be inadmissible.
 3. Creative work shall not be seized, and its dissemination shall not be prohibited unless it infringes on the legal rights of other individuals.
38. In addition to this constitutional change, the procurement rule for public higher educational institutions to purchase literature (printed, electronic or audiovisual), computer programs, medical and laboratory equipment and databases was also simplified (State Procurement Agency order #13, 2017). Because of both developments, the autonomy of HEIs in Georgia has been further expanded.

Quality assurance, accreditation and authorization

39. In order to obtain recognized status as a higher education institution and to be allowed to offer education programs leading to official degrees, institutions require “authorization”. This means they comply with the quality standards set by the National Center for Educational Quality Enhancement (NCEQE). Students who want to enroll in a bachelor’s degree program must have passed the Unified National Examinations (UNE) carried out by the National Assessment and Examinations Center (NAEC).
40. Higher Education authorization and accreditation mechanisms have been gradually evolving since their introduction in 2004. However, up until recently, all the accountability mechanisms developed since then focused on inputs, not on outputs such as learning outcomes, employability or research outputs. Currently, the Authorization is mandatory for all higher educational institutions to acquire the right to award a diploma. The authorization also determines the enrolment quota. Authorization is basically a mechanism to set minimum quality standards and to regulate enrolment rates. Program accreditation is mandatory only for doctoral programs. However, only students enrolled in accredited programs are eligible for the state grant. Other accountability mechanisms are absent from the system and information on the quality of education processes is not available to the wider public. There is no information about the processes, student engagement, student learning outcomes or any quality indicator available to the public except for the number of applicants per available seat or the mean exam scores of applicants.

41. Because the quality of teaching or research was not the central focus of the accreditation processes, most universities set low entry barriers for students. In 2016 university admissions, of 74 public and private universities only five universities set a so-called ‘competency limit’ above the default minimum threshold in one or more exam. For example, Tbilisi State University, the largest and oldest research university in the country, set its threshold at 40 percent of the maximum score in every required exam for all programs.
42. The limited attention for quality education may have negative implications for labor market. Recent labor market studies point towards a skill mismatch resulting in a high unemployment rate among Georgian youth, particularly higher education graduates. The skills mismatch has been partly explained by the quality and relevance of vocational and higher education programs. But, studies also point towards an oversupply of higher education graduates (Bartlett, 2013; ETF, 2011; World Bank, 2013).
43. However, the quality assurance reform initiated in 2015 is a promising development. The goal of the reform is to “improve the quality of higher educational institutions and ensure a student-oriented learning environment in higher educational institutions” as well as to “create preconditions for increasing trust towards the Georgian education system, internalization, and integration in European Area of Higher Education” (EQE, 2018). The new quality assurance framework follows the Standards and Guidelines for Quality Assurance in the European Higher Education Area (ESG). Compared to the previous (2011) version, the new framework provides significant improvement in at least three aspects of the evaluation process:
 - The evaluation ensures greater validity, because the new standards provide comprehensive coverage of quality criteria and indicators encompassing resources, processes, as well as outcomes.
 - The evaluation is more formative in nature. The new evaluation framework and procedures provide universities and programs with recommendations on specific areas for improvement. Moreover, the outcomes are less punitive and give universities a chance for improvement: universities or programs can be given conditional authorization or accreditation which includes monitoring for a certain period of time depending on the evaluation outcome. This was not the case in previous versions of the authorization or accreditation.
 - The evaluation process is more rigorous. Universities have to provide strong evidence to justify that they meet the standards set by the accreditation or authorization. The accreditation and authorization visits are performed by a team of local and international experts who are carefully selected and trained. The team studies the materials provided by the university/program and generates additional information through site visits (interviews, observations). The team of experts prepares the report which is submitted to the authorization or accreditation council. The latter make the decision on awarding an accreditation or authorization status to a program or HEI. The National Center for Education Quality Enhancement is also evaluated by an independent international evaluation agency - European Association for Quality Assurance in Higher Education (ENQA).

44. A few universities participated in the new authorization and accreditation as pilot cases. The authorization process for the rest of the universities started in Spring, 2018. Though it is hard to estimate what the consequences of the stricter accreditation and authorization criteria will be and how universities and programs are going to respond to the reforms, three universities have already submitted a request to change their status from a teaching university to a college. In addition, it is expected that universities will withdraw some of their less strong programs to prevent negative accreditation or authorization outcomes. This would lead to a “self-cleaning” process in the system and improve the average quality of teaching and learning, which is a key objective of policy makers.

Admission through the Unified National Examinations (UNE)

45. Since 2005, students enrolling in higher education must qualify through the Unified National Examination. Universities can only admit a limited number of students, to make sure that only the better qualified students enroll in the system. The new system adopted in 2015 replaced a previous admission system that was not transparent and was subject to corruptive practices. Because gradually more students demanded to enter higher education and universities are heavily dependent on tuition fees from full-fee paying students (see next chapter), the government has gradually allowed public and private universities to increase their enrolment quotas. From 2005 to 2011, the number of available seats increased by 120 percent while at the same time a demographic decline is visible in shrinking youth cohorts⁴. As a result, the admission rate increased from 53 percent in 2005 to 77 percent in 2011. The net enrolment rate increased from 26 percent in 2009 to 39 percent in 2014. Table 3 shows the growth in the number of available seats and application and admission rates between 2005 and 2012.

Table 3: HE Application and admission statistics in 2005-2012, academic programs only

Year	Available seats	# Applicants/ # Available seats	Admissions rate (%)
2005	17,501	1.8	53
2006	19,714	1.7	59
2007	15,501	2.5	49
2008	15,779	1.5	76
2009	25,054	1.2	80
2010	33,681	1.1	70
2011	33,988	1	77
2012	38,738	0.9	76

Source: National Assessment and Examination Centre, 2014

⁴ From 2006 to 2017 school age population (grades 1-12) dropped from 636 thousand to 575 thousand students, which represents over 10% decrease in the student population.

3.2 Strengths and weaknesses of Georgian higher education

46. Based on policy documents, such as the World Bank's 2016 Policy Note in Georgian higher education, the Tempus Higher Education in Georgia report (2012) and the strategic development paper by Bregvadze (2013), and the interviews conducted with several higher education stakeholders, one can discern a number of strengths and weaknesses of the higher education system. Some strengths can also be regarded as weaknesses as they may bear some risks as well.⁵

47. The **major strengths** of the system include:

- Regardless of the demographic decline in Georgia, higher education participation has steadily grown in absolute and relative terms. Of a total population of about 3.7 million, Georgia has about 144,000 higher education students. With over 50 percent of 20-year-olds enrolling in higher education, Georgia has a participation rate above the OECD average of 38 percent. As such, Georgia has a strong human capital position. However, Georgia has relatively few students in graduate education, which diminishes its potential to become a knowledge intensive economy.
- Georgia has a diverse higher education system containing a variety of institutions, such as research universities, teaching universities and colleges as well as a strong private sector with 73 percent of the number of HEIs and hosting 35 percent of all students. This offers students as well as the labor market a range of alternatives and types of qualifications.
- All study programs and higher education institutions are reviewed against quality standards in an authorization process authorization. From 2017 onwards, the processes and criteria have become stricter which is envisaged to lead to higher quality of teaching practice and a reduction in the number of weaker study programs.
- The admission system that since 2005 employs the Unified National Examinations (UNE) of the National Assessment and Examination Center has resulted in a transparent and corruption-free system. This enhances the relative quality of the students entering higher education.
- The introduction of the so-called student grants/vouchers in 2005 has increased transparency and fairness in the allocation of financial resources for education.
- The introduction of “priority fields program” provides Georgian higher education an instrument to direct students towards study programs more relevant for society and the labor market. There are about 5.500 priority field study places offered, of which about 90 percent is filled.
- Georgian higher education has quite some potential to attract foreign students. The Tbilisi State Medical University is an eminent example. The English Language instruction is an

⁵ Please note that challenges with relation to the funding mechanism will be discussed in the next chapter.

important element to attract foreign students. The National statistics show that number of foreign students increased from 144 in 2005-2006 to 10074 students in 2017-2018⁶.

- Georgia has a strong private higher education sector attracting many high achieving students (the 55 private institutions host about 35 percent of the total number of students).

48. The **major challenges** of the Georgian higher education system include:

- The overall quality of teaching and learning is perceived to be unsatisfactory, resulting in limited relevance of education for Georgian society and the labor market.
- While there are several good and excellent programs, the majority of programs and universities seem to be facing major limitations in some critical areas of quality.

- There is a growing concern around the student university readiness. As a number of international assessments have shown, a large share of Georgian students reaches the secondary level (ISCED 3) without basic reading and mathematics skills. For example, the Programme in International Student Assessment 2015 results show that over half of the 15-year-old population in Georgian schools perform below the baseline level (level 2) in reading, ‘at which students begin to demonstrate the reading skills that will enable them to participate effectively and productively in life’ (OECD, 2016: 164). These students could be considered functionally illiterate. Twenty-five per cent perform at the basic proficiency level, and the remaining 23 per cent perform above the baseline level. Reasonably, many Georgian students who perform below the baseline level in reading will find it very challenging to study in a university. However, since tertiary net enrollment is high, a large share of these students move to university academic programs.

- Research productivity is another strong indicator of quality of teaching in Georgian universities. According to a recent study, research output production efficiency (measured as production per 1000 inhabitants) is lower in Georgia than in most of the comparator countries. Annual rate of production per 1000 inhabitants is 0.33 according to the Web of Science database and 0.48 according to the Scopus database. Similar indicator equals to almost 5 in Estonia (Bregvadze et.al., 2014). This level of knowledge production is indicative of university professors’ low capacity in keeping up with the developments in their respective fields (Pignatti, 2017).

- The employability of graduates is regarded as low. About 37 percent of bachelor-degree holders aged 25-34 are reported unemployed or economically inactive. Many graduates employed work in different areas or at levels below as what they were trained for (20 percent as a rough estimate). Unemployment is higher among less educated youth. Moreover, higher education degree holders have significantly higher chances of finding employment (Pignatti, 2017)). However, 25 percent of recent university graduates hold the positions that do not require higher education degree (e.g. service and sales workers, skilled agricultural workers etc)⁷. While high youth unemployment is largely due to weak labor market, skills mismatch is yet another issue which should be addressed by improving the quality of education, including the quality of higher education (World Bank, 2013; Posadas et. al, 2018).

⁶ see respective data at http://geostat.ge/index.php?action=page&p_id=2105&lang=eng

⁷ Team’s estimates based on Geostat’s National Household Survey of 2016.

- The resources and capacity for scientific research are limited. Most respondents indicated that time and resources for research are scarce. At Tbilisi State University, research grants from the National Research Foundation account for about 10 percent of total revenues. Together with the basic State subsidies and some bilateral/multilateral agencies one could estimate the research budget at about 20 percent of total revenues. However, for all other universities, these funds are much smaller in absolute and relative terms.
- Regardless of the high participation rates, students from minorities and lower socio-economic backgrounds are underrepresented in higher education.
- The government as well as university management provides limited strategic direction to the system and institutions, as for example visible in the broad selection of priority fields and the limited number of policies being used.
- The broad selection of priority fields is not based on solid evidence and does not develop over time in line with the needs in society and the labor market.
- The staff composition of many universities is not balanced with relatively many older and younger staff and lacking a “middle cadre”.
- Not all academic staff are well-equipped with teaching capabilities.
- There is no national management information system with systematic data to monitor the developments in higher education, e.g. detailed data on admission, dropout, transition, completion, student satisfaction, etc. is missing.
- Results from entrance examinations do not provide good predictive power regarding the study success of students due to stated vulnerability for corruption and because students’ preferences and study efforts/attitude may change over time.
- Despite important reforms, the vocational education sector remains less attractive while the labor market requires many workers with technical and/or professional skills.
- Students admitted are allowed to suspend their studies for multiple years, either to work for some time or to prevent going into the military service. This leads to an unintended use of study places and opacity regarding the claims on State Grants and the number of study places available in the system.

4 Analysis of Georgia's Higher Education Funding Model

49. **This section provides an overview and analysis of the current funding model for higher education in Georgia.** Before discussing the various aspects of the Georgian higher education funding model, we will briefly present a number of criteria for good funding models that are used in international practice. An analysis of the current funding model in Georgia will result in an overview of strengths and weaknesses.

4.1 Criteria for good funding models

50. A number of criteria can be developed that help improve public funding models for higher education in response to the above challenges (Arnhold et al., 2014, 2016):

- **Strategic orientation:** important is that funding mechanisms need to have a strategy that gives direction towards the priorities set at system- and institutional level: funding without strategy lacks orientation and strategy without funding is useless because HEIs cannot invest in the activities expected from them or have no incentive to do so. Whether we like it or not: Money is the ultimate driver of the system.
- **Sustainability and stability:** to guarantee a certain level of basic infrastructure (equipment, staff and knowledge) there should be some level of stability, continuity and longer-term planning in the funds provided to HEIs. This can be in the form of fixed footings per institution, program or core group. This should happen in a transparent way and potentially based on a basic conception of costs and cost differences between institutions and disciplines. There should be only limited room for adjustments over time with an eye for the likelihood of existence or non-existence of particular activities to promote risk-spreading and management.
- **Incentive orientation:** a part of the funds should be given based on incentives to stimulate competition, demand orientation, performance orientation and the promotion of strategic goals, profiles and innovation. Incentives need to be clear and non-fragmented, thus with rewards and sanctions that stimulate desired behavior and prevent undesired effects.
- **Legitimization:** to ensure a proper spending of tax-payer money. This implies funding needs to be transparent and considered fair. But, also, HEIs need to be transparent about how they spend their resources as well as that they are held accountable for their outcomes, performances and proper processes. Institutions should be accountable while academic freedom is guaranteed.
- **Autonomy and flexibility:** guarantee autonomy of internal resource allocation as well as income generation. This enables HEIs individual priority setting and internal allocation of the funds in an appropriate and flexible way. This also enables HEIs to achieve profiling and related resource diversification. This may also include potential for reserves and investment behavior.

51. Altogether this means that higher education funding mechanisms could contain three “pillars” that represent the core tasks of the funding model:

- a stable basic funding part to guarantee stability for performing basic tasks, offering vulnerable programs and cost orientation
- a performance-oriented part that stimulates objectives and performance orientation
- an innovation-oriented part that enables investments in strategic objectives

4.2 Funding of Georgian higher education

52. The input-based lump sum financing model of education has been transformed into per capita financing in 2005. Consequently, state grants for eligible students have been introduced which function as a voucher system. This shift was primarily aimed at increasing efficiency and transparency of financing and preventing corruption. It has well achieved these purposes and on top of that stimulated competition between public and private HEIs: students have the choice to select the institution and program that suits their preferences and capacities. They can even decide between public and private higher education institutions, which is rather unique in the world.

53. Higher education institutions in Georgia are funded primarily through tuition fees, accounting for about 75 percent to 95 percent of total income. However, public funding takes place in the form of a voucher system (state grants) for students who meet the criteria for getting subsidized. The voucher scheme takes the form of a state grant to students based on a “money follows student” principle. The state grants are intended to cover the tuition fees. Student grants are awarded both to undergraduate and graduate students. The tuition fee at public higher education institutions is set by the government at a maximum. The tuition cap resembles the maximum amount of the state grant (voucher) provided for a subsidized student at a public or private university. In 2005, when the current university financing system was introduced, the government set a tuition cap at GEL 1500, which was increased to a maximum of GEL 2250 in 2010. In 2011, average tuition fee in Georgian public tertiary institutions amounted to 41 percent of GDP per capita, 94 percent in private research universities and 51 percent in private teaching universities (Salmi and Andguladze, 2012). The tuition cap has remained stable since 2010. However, due to the increase in GDP per capita over the last few years, tuition cap has decreased to 25 percent relative to GDP per capita.

54. The tuition fee (and cap) is equal for any discipline, regardless of whether students attend a program in law, history, science, engineering or medicine. The state grants are not paid to the individual students but to the institution where voucher recipients are enrolled. Up until 2010, all students, irrespective of their field of study, would receive the grant based on their average score in the unified entrance examination.

55. In principle, only students with the best scores on the UNE admission test can receive state grants. In 2017, out of 28.000 new entrants, 6.725 students (24 percent) received a (full or partial) merit-based grant. Different grant rates are given to the students according to their performance in a national admission exam at the end of secondary education and depending

on the field of study. The value of the state grants (vouchers) is 100 percent, 70 percent or 50 percent of the maximum public tuition fee (GEL 2.250 in 2017). Most students receive the 50 percent cost-covering grant (14 percent), 5 percent a 70 percent covering grant and only 4 percent a full-tuition covering grant. The grants are used to finance tuition fees, at both public or private HEIs. Most private universities charge substantially higher tuition fees, which implies that students use the grants to partially offset the tuition levies. The proportions of grant recipients are the highest in selected private institutions, followed by public institutions and private (for-profit) institutions.

56. Next to these merit-based grants, there are limited numbers of need-based grants for students from disadvantaged backgrounds. In 2017, about 1.100 need-based grants are allocated, that is to 4 percent of the new entrants. This number has grown from 750 in 2010.
57. In addition, the government has identified numerous priority programs in which all students (up to a certain maximum number) get fully subsidized. In these priority fields, public research universities agree with the government on their enrolment quota. If students enroll in the programs financed by the state under the priority field quota, the government will pay their full tuition fees to the universities. The priority programs include: natural science and engineering programs, teacher training, social sciences and humanities.
58. Public (research) universities also receive some direct state subsidies, paid as a lump sum (block grant) to the institutions, particularly for conducting research. Private universities receive no direct funding from the government. State subsidies and institutional grants accumulate to about 16 percent of the budget of Batumi State University (BSU), 15 percent of Tbilisi State University (TSU), 8 percent for Georgia Technical University (GTU), 7 percent for Ilia State University (ISU) and 1 percent for Tbilisi State Medical University (TSMU). In addition, universities can apply for competitive research grants awarded by the state. These form about 9 percent of the revenues for TSU and up to 6 percent of the other universities. Universities can also generate income from other income sources allowed by Georgian legislation, such as revenues from economic activities (rent), international funds, private grants, contributions or legacies. These other revenues constitute about 5 percent of universities' revenues, with the exception of TSMU that generates about 28 percent of its resources from other revenues.
59. Infrastructure grants from the government are provided to public universities for infrastructure projects where necessary.
60. A student loan system was introduced in Georgia in 2006 in cooperation with the leading commercial banks of Georgia. Due to variation in coverage levels and interest rates, the number of students taking out loans is very limited.⁸
61. In the absence of any objective allocation system (such as a funding formula), lump sum payments received by HEIs are negotiated on an annual basis. The negotiating power of individual universities largely determines how much they receive. Thus, the system works

⁸ Except for a few selected private university students, the loans operate as consumer loans with no grace period and interest rates set as high as 25%.

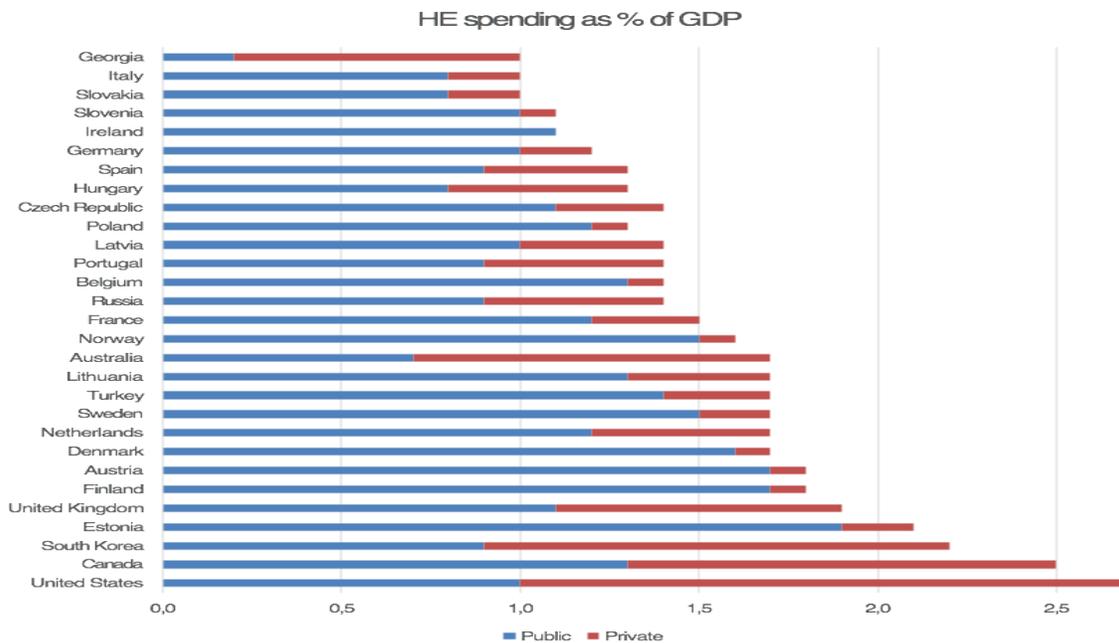
very much to the advantage of the larger universities in Tbilisi (accounting for some 10-12 percentage of total income).

4.3 Analysis of Georgia’s higher education funding model

Limited government spending and strong reliance on tuition fees

62. Public spending on tertiary education is very low, and tertiary education relies heavily on student tuition fees. In 2016, total expenditure on higher education was approximately 1 percent of GDP in Georgia which is significantly less than in most developed and post-Soviet countries. Figure 5 shows that Georgia spends less on higher education than most other comparator countries.

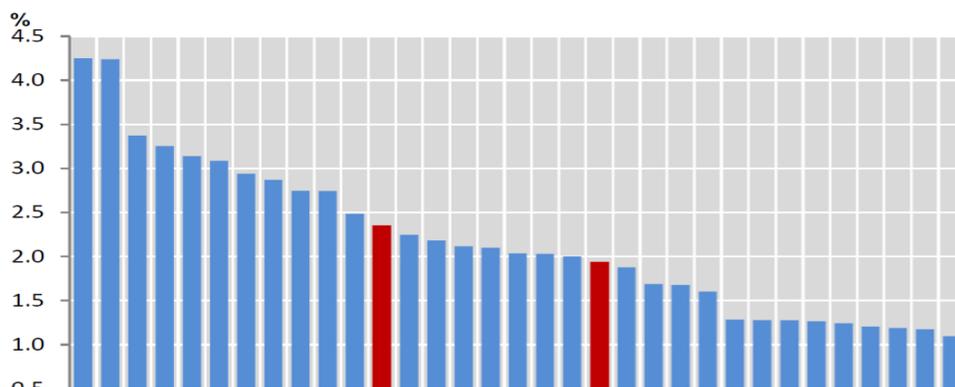
Figure 5: Expenditure on higher education, by country (public and private sources)



Source: Calculations based on Geostat; OECD (Main Science and Technology Indicators, 2018. <http://oe.cd/msti>)

63. Figure 5 also demonstrates that the relative share of private funding to higher education in Georgia is the highest among the select countries analyzed. This is a result of the strong reliance on tuition fees and very limited public spending. Research funding is also low in Georgia. Total spending on science was around 0.6 percent of GDP in 2016 of which about 50 percent was allocated to universities. Figure 6 shows that average expenditure is 2.3 percent of GDP in OECD countries. With 0.6 percent of GDP Georgia compares to least spending countries like Chile, Latvia and Mexico.

Figure 5: Expenditure on R&D, by country



Source: OECD (Main Science and Technology Indicators, 2018. <http://oe.cd/msti>)

64. State funding is allocated mostly in the form of state grants and depends on the number of grant-awarded-students a university enrolls. In 2016, 71 percent of total public expenditure on higher education is allocated through state grants for tuition fees (undergraduate and graduate), for priority fields and student scholarships for excellence (see Table 4).

Table 4: Forms of public funding for higher education

	GEL	As a % of total expenditure
State Grants for students	89,611,000	71%
Undergraduate	(80,000,000)	
Graduate	(4,400,000)	
Stipends for excellence	(4,100,000)	
Scholarships for foreign nationals	(1,111,000)	
Subsidies and institutional grants	5,000,000	4%
Research grants	31,078,000	25%
Total public expenditure on HE	125,689,000	100%

Source: Ministry of Finance, State Budget Report. Retrieved from <http://mof.ge/images/File/biujeti/gantsera-danarti-N334.pdf> on Dec 1, 2017

Limited resource diversification

65. Because income generation capacity is low and philanthropic funding is rare, Georgian universities largely depend on student tuition fees. About 70 percent of the revenues of public universities and almost 100 percent of private university revenues come from tuition fees. Even the two largest public research universities generate over half of their revenues from tuition fees. For example, in 2011, 64 percent of total annual revenues of Tbilisi State University (TSU) were from tuition fees of which only half was financed by the state. In

Georgian Technical University (GTU), in 2016, 64 percent of total revenues is generated from tuition fees. The share of tuition fees is even substantially higher for small, regional universities – 78 percent in Akhatsikhe State University (ASU) and 88 percent in Gori State University (GSU). **With little to no other funding sources besides students' tuition fees, universities are highly dependent on enrolment numbers.** Therefore, the government has gradually allowed public and private universities to increase the enrolment quotas. From 2005 to 2011, the number of available seats increased by 120 percent while at the same time a demographic decline is visible in shrinking youth cohorts (see Table 3 of the previous chapter). As a result, the admission rate increased from 53 percent in 2005 to 77 percent in 2011. The net enrolment rate increased from 26 percent in 2009 to 39 percent in 2014 and tuition revenues of universities further increased.

66. Though normally tuition fees are regarded as a structural element of resource diversification, in the Georgian situation it is the main revenue source. Because resource diversification is regarded important to make universities less dependent on a single revenue source – which makes them vulnerable in case of policy changes or fluctuations in demand – the strong reliance on tuition fees in Georgia is not regarded as a resource diversification strategy. Nevertheless, the strong reliance on tuition fees demonstrates that Georgia has been capable to have most students contributing to the (full) costs of higher education and are willing to invest in their qualifications. This is a practice that should be maintained. **However, the dominance of tuitions fees in Georgia's HE financing model and the low public investments endanger a sustainable development of HEIs in the direction of high quality education.**
67. Part of the direct state subsidies allocated as a lump sum to universities is subsidized for salaries of the research staff in research institutes. These institutes were merged with the universities in the period from 2005 to 2007. Such funding is not attributed to a specific objective or program. Resources generated for competitive research represent only a small proportion of university funding. Research grants, generated from either national or international funding instruments, is 14 percent of the total revenues in Tbilisi State University (as of 2015), 8 percent in Ilia State University (2016), 6 percent in Batumi State University, 5 percent in Georgian Technical University, and 1 percent in Sokhumi State University.
68. Public universities are free to generate resources from various economic activities. For the majority of the universities this particularly consists of rent, while other revenue generating activities are rare. The State Medical University is an exception. Their budget report shows that 28 percent of its revenues is generated mostly from the university's medical services, besides substantial tuition revenues from foreign students. However, though some universities show their resources form various revenue streams, there is no structured collection of such data available. As such, a comprehensive picture of resource diversification cannot be given, and the government cannot know what universities exactly do in this area.

Uniform and capped tuition levels in public and private universities

69. In 2005, when the university financing system was reformed, a per student financing mechanism was started, and the government set a tuition cap and maximum amount of the

state grant (both merit and need-based) at GEL 1500, which was increased to GEL 2250 in 2010. The cap has not been raised since 2010. Since then the tuition cap has remained stable. Six public research universities responded to the change by setting their fees for all their programs at the cap level. Three less popular public universities at first kept lower fees but currently charge all their programs at the cap level. The rest of the public universities charge at or below the tuition cap level. Tuition fees in private universities range from GEL 1000 in a teaching non-for-profit university established by the church to GEL 14000 (Joint degree business administration program in a private for-profit research university). Eight private research universities and two teaching universities (with maritime and medical programs) charge fees that are higher than the tuition cap. Five teaching universities and four research universities have either lowered the fees during the last five years on some of their programs or introduced new programs with tuition fees at the cap level. Nine private teaching universities charge all their programs below or at the cap level. Overall, major contributors to the variation in the fees in private universities are:

- university profile (research universities charge higher fees);
 - university prestige (number of applicants per available study place);
 - the language of the program (joint programs and programs taught in English vs programs in Georgian);
 - popularity of the field of study among applicants: universities charge more for business administration and law programs compared to other programs with seemingly similar or higher cost of delivery (e.g. the Free University charges more for the business administration program than for the physics program);
 - cost intensive programs: medicine, maritime navigation;
 - location of the university: universities in the regions charge lower fees compared to the universities in Tbilisi.
70. The tuition cap also sets the maximum tuition fee public universities can charge from students, irrespective the institution, type of study program or background of students. However, private universities can charge tuition fees beyond the level of the tuition cap, even for students who enrol in private universities with a state grant. In many cases they must pay top-up fees of a similar or even higher amount. As such, such state grants do not form a strong access instrument, though it may enable non-wealthy students to attend a program of their interest at a private university.
71. The tuition cap as well as the state grants do not account for differences in the costs associated with delivering study programs across disciplines, types of institutions or regions. This particularly appears problematic for programs in the fields of engineering, medicine, and sciences. These programs are generally perceived to have higher costs due to laboratory staff, equipment, supplies, maintenance, etc. Interviews demonstrated that universities internally try to cross-subsidize the more expensive study programs, even though this may lead to substantial resistance from faculties that see their resource “entitlements” decline. Different

tariff redistributions are used, ranging from 30 percent - 300 percent extra for the “expensive disciplines”.

72. The interviews also suggest that some public universities would welcome the opportunity of decreasing enrolment numbers and developing a regime with higher fees (“no fee cap”). This could also address the relatively high unemployment rate among university graduates. **However, increasing tuition fees or raising the tuition cap for public universities can create equity risks, because student financial support mechanisms are weak.** As noted above, in 2010 the annual tuition fee cap for public universities institutions was set at GEL 2250, now equivalent to US\$ 2546 (ppp-adjusted) and represents 25 percent of GDP per capita. This level of tuition fees is common to some post-soviet countries (Azerbaijan, Armenia, Kazakhstan), but is very high when compared to countries in Europe and Northern America as well as other OECD countries (Japan, South Korea, Australia) (see Table 5).

Table 5: Average tuition fee (in US\$) at public HEIs in OECD countries

	Tuition fee in US\$ (ppp)	As % of GDP per capita
Denmark, Estonia, Finland, Norway, Poland, Slovakia, Slovenia, Sweden, Turkey	0	0%
French com. (Belgium)	420	1%
Flemish com. (Belgium)	0 to 1 115	0%-2%
Luxembourg	227 to 3 629	0%-3%
Austria	914	2%
Switzerland	1 168	2%
Hungary	757	3%
Italy	1 658	4%
Spain	1 580	4%
Netherlands	2 420	5%
Israel	3 095	8%
Australia	5 012	11%
Canada	4 963	11%
New Zealand	4 295	11%
Japan	5 214	13%
Latvia	1 010 to 4 344	4%-17%
Korea	2 635 to 6 024	7%-17%
Georgia	2 546	25%
England (United Kingdom)	11 951	28%
Chile	7 675	32%
Portugal	1 124 to 10 661	3%-35%

Source: OECD countries and economies: Column1: Education at a Glance 2017: OECD Indicators; Column 2 is estimated using World Bank Data Bank, GDP per capita for relevant years, PPP converted. Georgia: Column 1: NAEC bulletin, 2017; Column 2: Ministry of Finance GDP indicators and Bank of Georgia exchange rate for 2016 (mean for the year)

73. Through the state grants (vouchers) system about a third of the students receive partial or full tuition waivers. Only 2 percent of grants are awarded based on financial need. There are three financing mechanisms that help students finance their university studies: merit-based grants (17 percent of students), needs-based grants (2 percent of students) and tuition free places in priority fields (14 percent of students) (see Table 6). It should be noted that the table below does not represent the total number of grant recipients because some students receive both

needs based and merit-based grants, and there is an overlap between partial merit and partial needs based recipients.

Table 6: Grant allocation in 2017 student cohort at public and private accredited universities

	Number of students	As % of students admitted in 2016
(1) Merit-based grants		
50% merit based grant	4,079	10%
70% merit based grant	1,456	4%
100% merit based grant	1,206	3%
(2) Priority field students	5,655	14%
(3) Need-based grants	853	2%
(4) Total number of new enrolments 2016	41,702	n/a

Source: (1) National Assessment and Examination Center, 2016; (2) Ministry of Education and Science; (3) #310 Ordinance of the Government of Georgia retrieved from Matsne.gov.ge.

74. When students receive a merit-based grant, this is a full or partial tuition waiver: 10 percent of students receive 50 percent tuition waiver (GEL 1,125 off their tuition), 4 percent receive 70 percent tuition waiver (GEL 1,575 off) and 3 percent receive 100 percent tuition waiver (GEL 2,250 off). In private HEIs, where tuition fee exceeds the maximum grant value (i.e. GEL 2,250), the grant value available for students is based on the maximum grant value itself. Merit based grants are awarded based on the scores in the UNE Exams. The grants, therefore, usually go to non-poor students as in all countries across the world, children of higher socio-economic classes on average do better in primary and secondary education and are better prepared for entrance examinations. Georgia is no exception. This aspect will be further elaborated in the next section.

Affordability, equity and access

75. A study conducted by the National Assessment and Examination Centre in 2016/17 shows that **applicants' socio-economic background characteristics are positively associated (significantly) with the likelihood of receiving merit-based grants.** Likewise, students from major urban areas and/or with better educated parents appear better prepared for tertiary education than their rural peers. As illustrated in the Table 7 below, students from Tbilisi are 3.71 times more likely to receive merit-based grants than students from remote areas; students with parents who both hold a higher education degree are 2.86 more likely to receive the merit-based grant compared to students whose parents have no higher education; students who graduated from private schools are, on average, 1.78 more likely to receive the merit-based grant compared to students from public schools (Andguladze, 2017). Moreover, proliferating private tutoring further exacerbates the equity issue. According to the ISET Higher Education Report (2017), children of better off families can get better care and be followed by more qualified private tutors. This makes them more likely to develop greater competences and skills and to pass the National Admission exam to the university (possibly

with a higher score, that will lead to a higher government grant).⁹ This issue is particularly relevant as only a limited number of students each year (about 1,000 students) receives a full grant and a few thousands more receive partial grants.

Table 7: Odds ratios from logistic regression odds ratios for the likelihood of receiving merit-based grants for HE in 2016

Merit Based Grant	
Predictor	Odds ratio
Location	
Tbilisi and Rustavi	3.71 ***
Other cities (Batumi, Kutaisi)	2.74 ***
Small cities and towns	2.61 ***
Rural	1.87 **
<i>Remote village (reference group)</i>	1
Parents' education	
Both parents with higher education	2.86 ***
One parent with higher education	1.76 ***
<i>None of the parents with higher education (reference group)</i>	1
High school status (private=1, public=0)	
	1.78 ***
N	12277
Pseudo R square	0.149 ***

*p < .05. **p < .01. ***p < .001.

76. Need-based grants are awarded to around 1100 students annually (approx. 2 percent total number of students admitted). These particularly include students from minority language schools, schools in remote areas, students from conflict zones, orphans and students with several siblings, students eligible for social assistance, etc. Need-based grants also have a merit component. Students who apply for need-based grants are ranked by their test scores within their quota group (e.g. minority language school graduates, applicants from conflict zones etc.), and the ones with the highest scores receive the grants. Students who receive partial merit-based grants are also eligible for need-based grants. For example, if a student

⁹ The unified entrance exam is also the main instrument to determine the amount of support provided by the government to students planning to enroll in higher education. Depending on the results in the unified entrance exam, Georgian students planning to enroll in a BA program can receive a grant covering respectively: the full amount of the tuition fee charged by public universities (currently 2,250 GEL); 70% of the full amount or 50% of the full amount. Students planning to enroll in a MA program instead can receive, always depending on their results in the unified exam, a 2,250 GEL (100%) grant.

receives a 70 percent merit-based grant and applies for a need-based grant, he/she can receive a 30 percent need-based grant. Altogether one can state that only a small proportion of public funding is allocated to students from disadvantaged backgrounds.

Priority fields: investing in strategic alignment

77. In 2012, the government introduced a new financing instrument: funding for priority fields. The Ministry of Education and Science identified various programs in education, agriculture, engineering, hard sciences, social sciences, and the humanities as priority study areas. Based on negotiations between public research universities and the MoES, the number of places (quotas) in various programs in the priority fields was agreed. In 2013 the government financed around 3800 places in 7 public research universities, which increased to 5655 places in 8 public research universities (see Table 8). This is about 13 percent of all new entrants (42.250 in 2016). Some of these universities are less selective than others, particularly as only 90 percent of all priority program study places are filled. Moreover, some fields are not popular among youth (e.g. education, agriculture).

Table 8: Allocation of priority fields students among universities: agreed quotas and filled seats

	2013		2016	
	quotas	filled %	quotas	filled %
Tbilisi				
<i>Tbilisi State University</i>	1,225	98	1,225	100
<i>Ilia State University</i>	350	66	310	100
<i>Sokhumi State University</i>	75	95	200	97
Regions				
<i>Telavi State University</i>	25	52	230	84
<i>Kutaisi State University</i>	695	98	970	97
<i>Batumi State University</i>	175	89	460	91
<i>Georgian Technical University</i>	1,250	93	1,900	87
<i>Akhaltshikhe State University</i>			360	38
Total	3,795	93	5,655	90

Source: Ministry of Education and Science. Provided by the Department of Higher Education. 2017

78. **The objective of the priority fields program was to attract students to traditionally less popular programs.** In addition, some stakeholders mentioned that the priority program policy also intended to provide additional resources to programs with obvious higher costs, like science, engineering and agriculture. If true, this is an indirect way of acknowledging cost differences and mixing them with other arguments, like labor market incentives.

79. University-level disaggregated data is not yet available but assuming the universities above are the largest universities in the country, the table below is a good illustration of the dynamics in the student population in the priority fields before and after starting the priority fields program. As the Table 9 shows, since 2011 the number of students in science programs has increased from 11 thousand students to 15 thousand students but so did the total student population – the share of the students in sciences has increased by only 2 percent. The same is true for education programs. There is a significant growth in the share of students in engineering, manufacturing and construction fields: the number of students increased from 3.7 thousand to 10 thousand, which represents a growth from 6 percent to 15 percent. The growth was also substantial in agriculture programs (from 0.5 percent to 2 percent of the total student population). As such, the priority field policy can be called a success. However, some stakeholders argue that the quotas made universities to fill all study places and admit various students to such fully subsidized programs who would normally not be able to pass the entrance-score threshold. This is said to have a detrimental impact on the quality of education. There is no evidence yet on the employability of graduates from priority programs.

Table 9: Number of students in undergraduate priority field programs, 2011-2016

	Science	Engineering, manufacturing and construction	Agriculture	Education
2011-2012	11,352	3,689	294	985
	19%	6%	0.5%	2%
2012-2013	10,124	4,603	505	1,381
	14%	7%	1%	2%
2013-2014	9,281	5,738	430	1,979
	13%	8%	1%	3%
2014-2015	8,924	9,160	1,126	2,142
	12%	12%	1%	3%
2015-2016	15,218	8,126	1,374	2,421
	21%	11%	2%	3%
2016-2017	15,194	10,456	1,644	1,760
	21%	15%	2%	2%

Source: Geostat. Number of Students in Public Institutions by Programme. Retrieved from www.geostat.ge on 04/12/2017

Tax Regulation

80. A final issue regarding the funding of higher education is related to profit taxes. Since 2016, all private for-profit universities are exempted from paying profit taxes in cases where profits are invested in the university development. Non-for-profit universities, however, were not included in this profit tax exemption regulation. This led to an unequal position between the two types of institutions. The current government-initiated reforms to include non-profit universities in the profit tax exemption regulation. **If the government then puts for profit**

and non-profit universities at equal footing regarding such funding issues, it should be very careful to do so whenever possible so as not to put either type of institution at a disadvantage.

4.4 Strengths and weaknesses of Georgia’s higher education funding model

81. Based on the literature and the interviews conducted in the first mission of this project, one can identify strengths and weaknesses of the higher education funding mechanism in Georgia.

82. The major strengths of the funding mechanism include:

- The higher education system to a large extent relies on tuition revenues paid by students and their families, both in private and public higher education. The budget reports from State universities show that tuition fees (including the state student grants) make up about 40 percent to 85 percent of institutional revenues. This is close to 100 percent in private higher education institutions. Excluding the state student grants this is about 30 percent to 75 percent. This demonstrates a strong willingness to pay among higher education students and thus secures long-term financial viability.
- The “money follows student” principle is transparent and provides students the power and opportunity to choose the institution and program that suits their preferences and capacities. They can even decide between public and private higher education institutions, which is rather unique in the world.
- The uniform state grants (vouchers) constitute a transparent funding mechanism.
- The merit-based competitive state grant system guarantees that the most talented students can attend higher education.
- Because students winning state grants remain eligible until they complete their studies, they guarantee stability, which increases the likelihood of study success.

83. Building on literature, and the interviews with several higher education stakeholders and the analyses above, the following major challenges are evident in the Georgian higher education funding system:

- The current funding mechanism does not include performance incentives that stimulate universities to contribute to national strategic objectives, such as high quality and labor market-relevant education.
- Because students who win the State Grants can keep these until the end of their studies, public funding may be inefficient when these students do not perform well during their studies. At that moment, public funds do not go to the “best students” anymore.
- Because students can suspend their studies (every year for 5 years) a distortion in public funding to higher education may occur, particularly as recently many students have taken advantage of this opportunity according to some stakeholders that we interviewed (university rectors and representatives of the ministry) Even though the money falls back to the ministry and is spent the next year, such mass behavior leads to unintended public allocations. If students use the suspension opportunity to prevent military service, this indicates that

regulations around military service may have to be changed. Higher education financing should not depend on issues outside the scope of higher education policy.

- The list of programs identified as priority fields is indicated to be partially outdated, too broadly defined, and not efficient. A strategic focus is lacking.
- The uniform level of state grants and uniform level of tuition fees in public universities does not differentiate for cost differences between different disciplines, whereas these are argued to be obvious, with medicine, agriculture, science and engineering programs to be much more costly than social sciences and humanities. Public universities are not compensated for any cost differences. Earlier work done on applying different funding tariffs has not been used yet.
- Public universities are not allowed to charge higher tuition fees than the tuition cap of GEL 2250, while private universities are allowed to and also do this. Though the tuition cap at public universities can be argued well from the perspective of equity and access, it is odd compared to the level-playing field between public and private universities regarding State Grants (which are also intended to promote access to higher education). However, if private universities use their right to charge higher tuition fees, also to students with State Grants, then the “access and equity function” of State Grants is reduced. Although it should be noted that some private universities (i.e. Free University, Black Sea University) provides state grant recipients with scholarships so that their tuition fees are third of the university’s fixed tuition level. Overall, Of course such approach can help students to realize their prioritized institution and program.
- Knowing that most state grants are allocated on the basis of merit, and high achievements in the UNE exam are very likely to be related to family wealth (and education attainment of parents), this implies that the grants often will help students from wealthier backgrounds who can afford paying (private) tuition fees, also without government support. This does not appear as the most efficient use of the very limited public resources available.
- Even though many students are willing to pay for higher education, the level of tuition fees is relatively high compared to the average GDP per capita. Particularly higher tuition levels in private universities may lead to affordability problems for students from lower- and middle-income families.
- The dilemma between need-based and merit-based support for students currently is more focused on high achieving students rather than those in financial need. So far, the philosophy is that government should do something for everyone (rich and poor). Society wants to redistribute to high-achievers, not to the poor or the rich. This is likely to harm access for students from lower socio-economic backgrounds.
- Limited resources in the system also prevent easy cross-subsidization within (public) universities.
- There are limited incentives for resource diversification in the system. Though the strong reliance on tuition fees is a form of resource diversification, public funding does not trigger HEIs to develop other initiatives, e.g. in collaboration with public or private entities.
- The current student loans system is not very attractive for students due to unfavorable repayment conditions (the rate of interest is considered high). This prevents students from using this opportunity.

- Philanthropy legislation could be improved to stimulate private donations.
- There is no structured approach to exploit the Georgian potential to attract foreign students, particularly in view of the EU accession process.
- A structured central higher education information system lacks and therefore there are limited key statistics on higher education inputs, processes, outputs and outcomes. This implies that public funding cannot be easily linked to performance measures. As such, there is a strong need to improve knowledge on basic data on students, staff, finances, student performance, employability, student satisfactions, etc.

5 International trends

84. Positioning the Georgian financing model within the context of European trends in higher education provides additional context for the evaluation. Importantly, it should be noted that the team does not consider European trends to be the main criterion to evaluate the strengths and weaknesses of Georgian financing model. What seems to be popular or good in Europe does not automatically mean that it would be applicable or good for Georgian higher education financing. Funding models are tightly bound to the features (society, economy, demographics, etc.) of different countries, and it is acknowledged that Georgia differs in these features with many respects. The following sections present a number of main features of funding models and the main trends observed in the international literature and practices in Europe.

Arguments and development of funding mechanisms for HEIs

85. Historically in many OECD countries, universities were funded through a single grant, normally provided by an education ministry, intended to cover both teaching and research. Over time, university reforms have reduced or eliminated the role of the central state in university administration, staffing policies and close funding regulations and execution. At the same time, education ministries have increasingly specified the allocation of institutional money towards teaching or research, more recently connecting them to various indicator systems related to inputs, outputs or performance (OECD, 2016b).

86. In recent decades, the growing role of research councils, innovation agencies and other government and non-government funding bodies in offering university research grants has meant that the public funding is only one element in university research funding, although it is almost universally the largest individual income stream for any university. Education ministries tend to provide institutional funding for three reasons:

- to provide continuity and a stable basis for planning;
- to provide strategic resources enabling universities to invest in new fields, themes and research methods ahead of the point where they can credibly persuade third-party funders to support their work;
- to enable all academics to pursue a minimum level of research without depending on third-party funding.

86. Recently-established performance-based funding systems aim to make part of institutional funding flexible and contestable by providing additional incentives for quality and performance. Education ministries often provide a second research funding stream through research councils or national science foundations. This funding is allocated at the project level, by assessing competing proposals based on quality or “excellence” criteria. The academic community generally plays a strong role in this decision, which provides incentives for producing excellent research. Project-level funding is also believed to provide implicit quality assurance of the institutionally funded research effort to produce sufficiently high-quality applications to external funders.

87. A third funding stream comes from other ministries, which provide incentives to carry out mission-oriented research. This category includes both innovation-related research (often funded by an industry ministry through an innovation agency) and work related to other ministry, such as transport, health, energy and the environment.

European trends related to higher education funding

88. To benchmark the Georgian higher education financing mechanisms against a number of trends in international higher education policy practice, we present a number of tables (10 to 13) that provide a quick overview of European trends. In a separate column, we will develop the Georgian position vis-à-vis these trends. The trends are categorized according to 4 major elements of funding mechanisms: models of public funding, resource diversification, financial autonomy and student funding.

Table 10: Models of public funding – European trends

MODELS OF PUBLIC FUNDING	European trend	Current situation in Georgia
Structure of funding model	<ul style="list-style-type: none"> • Three typical pillars for allocating public funding for HEIs can be found from most of the European countries: <ol style="list-style-type: none"> (1) basic funding; (2) performance funding; and (3) innovation-/profile-oriented funding • Performance contracts / target agreements are in use in 15 out of 22 European 	<ul style="list-style-type: none"> • The largest portion of the public funding is allocated through student grants and block grants for research institutions. •
Basic funding and performance-based funding : modalities	<ul style="list-style-type: none"> • Basic funding: Formula-based approaches with demand-based input-oriented indicators are substituting incremental funding with historical emphasis (mixed approach is common) • Performance-based funding: Majority of systems consider their funding allocation mechanisms at least partially performance-based • In 2008, 24 European systems considered output-related drivers important or extremely important (in 1995: 6 systems) 	<ul style="list-style-type: none"> • Input-based formula funding has been used in allocation of so called priority program financing scheme: universities receive funds based on the number of students enrolled in the priority programs
Innovation-/profile oriented funding: modalities	<ul style="list-style-type: none"> • Innovation-/profile-oriented funding is used more frequently to support national policy priorities and development of institutional profiles • The relevance and weight of the innovation-/profile-oriented funding component is likely to increase; especially in the form of competitive and targeted funding 	<ul style="list-style-type: none"> • No innovation/profile-oriented funding is used

Table 11: Resource diversification – European trends and Georgia

RESOURCE DIVERSIFICATION	European trend	Current situation in Georgia
Public / private funding diversity	<ul style="list-style-type: none"> • Private expenditure on HEIs has increased in 16 out of the 19 European OECD countries between 2000 and 2010 • EU21 average of private expenditure on HEIs was 23% in 2010 	<ul style="list-style-type: none"> • Tuition fees make up about 70% of higher education revenues in Georgia.
Diversity of sources	<ul style="list-style-type: none"> • Funding of European public HEIs in 2008: <ul style="list-style-type: none"> -67% from public sources through operational grants (in 1995: 78%) -12% from private households as tuition fees (in 1995: 8%) -21% as third-party funds (in 1995: 15%) • On average, EU funding ranges from 3-4% (EUA 2011) to over 10% (EUA 2013) of the total income of HEIs 	<ul style="list-style-type: none"> • The data available on a few universities suggest that the largest share of revenues come from private households as tuition fees.

Table 12: Financial autonomy – European trends and Georgia

FINANCIAL AUTONOMY	European trend	Current situation in Georgia
HEIs freedom in internal allocation of public funding	<ul style="list-style-type: none"> • Block grants are used in 25 systems, line-item budgets in 3 systems • No restrictions on the internal allocation of the block grant in 14 systems • Some restrictions for internal allocations of the block grant in 11 systems 	<ul style="list-style-type: none"> • There are some restrictions on the allocation of funds for public universities. Public universities, as legal entities of public law should submit their budget reports to the relevant Ministry and spend the resources on issues they are intended for (teaching and research).
HEIs ability to keep a surplus	<ul style="list-style-type: none"> • HEIs can keep a surplus in 27 systems, not able to keep in 4 systems • No restrictions in keeping a surplus in 15 systems • Some restrictions in keeping a surplus in 12 systems 	<ul style="list-style-type: none"> • HEIs can keep surplus

HEIs ability to borrow money	<ul style="list-style-type: none"> • HEIs are able to borrow money from financial markets in 23 systems, not able to borrow in 7 systems • No restrictions for borrowing in 7 systems • Some restrictions for borrowing in 16 systems 	<ul style="list-style-type: none"> • Not able to borrow money without approval from the MoES and MoF.
HEIs ability to own their buildings	<ul style="list-style-type: none"> • HEIs are able to own their buildings in 22 systems, not able to own in 6 systems • No restrictions in selling assets in 8 systems • Some restrictions in selling assets in 14 systems 	<ul style="list-style-type: none"> • Some restrictions: the decision on renting out or selling buildings should be approved by the relevant Ministry
HEIs ability to set the salaries of their staff	<ul style="list-style-type: none"> • HEIs are not able to set salaries freely in 28 systems, salaries can be set freely in 5 systems 	<ul style="list-style-type: none"> • Can set salaries freely. However, budget reports are subject to examination from the relevant Ministries
HEIs ability to set the level of tuition fees	<ul style="list-style-type: none"> • In most European systems, HEIs ability to set the level of tuition fees is restricted by the external authority, especially in the case of domestic/EU students. 	<ul style="list-style-type: none"> • Restricted for public universities

Table 13: Student funding – European trends and Georgia

STUDENT FUNDING	European trend	Current situation in Georgia
Tuition fees / fees	<ul style="list-style-type: none"> • A large diversity of fee systems, no clear European trend • Majority of students pay fees in 28 systems, minority of students pay fees in 13 systems (2009/10) • During the past years, some systems have abolished fees, whereas some systems have introduced fees or raised the level of fees 	<ul style="list-style-type: none"> • Majority of students pay fees or the largest part of their fees.
Student support	<ul style="list-style-type: none"> • A large diversity of student support systems, no clear European trend • Need-based grants are most frequently used in European higher education systems, but still 20 out of 39 European systems still apply also merit-based schemes • Publicly-supported student loan systems exist in 2/3 of European countries 	<ul style="list-style-type: none"> • Need-based grants are available. The number of students who receive needs-based grants has increased over time. However, due to concurrent increase in the student population, the share of need-based grant recipients has not changed (only 4% of students).

6 Reckoning with differences between institutions and disciplines

89. In this chapter the costing of higher education is central. We will discuss the reasons for cost difference (Section 6.1) and international practice and experience to serve as an example for policy alternatives in Georgia (Section 6.2). In Section 6.3 we will explore the opportunities and potential effects when assumed cost difference are applied to the funding model in Georgia.

6.1 Reasons for differences in costs between institutions and disciplines

90. Whether national funding models apply different tariffs to differentiate between the funding for different universities starts with the identification of the funding drivers, countries are using or willing to use. The drivers for funding can vary substantially and can, for example, be focused on inputs or outputs. Typical input drivers include the following parameters:

- The number of students (within the nominal duration of studies) (volume)
- The number of study places (allowed volume or maximum funding level)
- The number of academic staff appointed (teaching and research) (volume)
- The number of new entrants (attractiveness of a program/institution)
- The number of square meters in buildings or teaching facilities

91. Typical output drivers include the following parameters (De Boer et al., 2015; Arnhold et al., 2014):

- Number of Bachelor and Masters graduates / degrees
- Number of exams passed or credits earned by students
- Number of students from underrepresented groups
- Study duration
- Number of PhD graduates
- Research productivity
- Research performance in terms of winning (research council) contracts
- Research quality
- Third party income
- Revenues from knowledge transfer
- Internationalization (students or staff)
- Quality of education based on student surveys
- Employability indicators, e.g. the number or proportion of employed graduates

92. If the main drivers of a funding model and thus the types of activities the government – in agreement with the higher education system – finds important and wants to stimulate are known, then one is left with the question what tariffs need to be applied within the parameters used. This mostly is related to the variation in costs to produce a certain volume of teaching or research. However, it remains difficult to objectively determine the costs of teaching or research as these often depend on multiple choices with regard to the “production technology” being used, e.g. didactical approaches, student/staff ratio, laboratory support, desired quality, modernity of facilities, location and rent of facilities, etc. In practice, the reality is that universities spend the income they generate.
93. Many countries using different tariffs for study programs or research across various disciplines use a sense of cost-information as well as assumptions about what is fair. If already a cost calculation has been used to “objectively” define differences in funding levels, the levels develop over time and are or must be adjusted over time due to various fluctuations, e.g. in terms of changes in the staff mix, student population, teaching and research facilities, etc. Also, variation in expenditure decisions by managers of different institutions and programs due to lump sum funding and partial financial autonomy have an impact on the “cost per student or research unit”. As such, one can imagine that research into the average costs per student or per academic output has several pro’s and con’s (Jongbloed et al., 1994; 1998; and 2004). The real cost or the necessary costs are often hard to determine objectively as they depend on many (subjective) decisions on the necessary conditions for teaching and research in different disciplines, institutions or programs. Therefore, in some cases one uses the level of expenditures applied per student or per research output. However, the expenditures often depend on the level of budgets and labor productivity of staff.
94. Next to the direct costs or expenditures for teaching and research, a detailed cost calculation also has to include an attribution of costs or expenditures for joint costs and overheads and buildings and facilities to teaching and research. One could for instance do so on the basis of time-spent by academic staff on teaching, research and other activities.
95. Another approach to differentiate between cost levels among institutions and programs is to look at the internal redistribution of the budget within universities themselves. However, the practical choice for particular parameters and weights will strongly depend on the strategic and practical objectives of the institutions. In addition, the interconnectedness between teaching and research may lead to further complications if one would like to exactly and objectively calculate the costs or expenditures for teaching and research.

6.2 Alternative approaches to address cost differences: international examples

96. Various countries use several approaches and tariffs to accommodate for cost differences between study programs and research across disciplines. The Dutch and Latvian cases have already demonstrated a more crude approach (the Netherlands with 3 tariffs – 1 : 1,5 : 3) and more detailed approach (30 different tariffs in Latvia: 1 up to 6).

97. Flanders, Belgium: The tariff coefficients that aim to reflect cost differences for universities vary between 1 for history and sociology to 4.2 for medicine and dentistry. Within the universities of applied sciences such coefficients vary between 1 (e.g. business studies) to 1.6 (e.g. teacher training and health care programs).
98. England: The HEFCE nowadays only provides some additional support as students pay the primary part of funding through tuition fees (about £10.000 per annum). As such, HEFCE mainly funds expensive programs or programs at risk ('high cost subject funding'). To this end they use 5 tariff groups: group A (clinical studies in medicine, dentistry and veterinary, £10.000), group B (lab-based science, engineering, technology and some healthcare programs, £1500), group C1 archaeology, design & creative arts, information technology and the like, £250) and C2 and D (humanities and social sciences: no additional budget).
99. Finland: The educational subsidies are primarily a result of delivered performances, like the number of (international) students and graduates. They use only one funding tariff without differentiation between bachelor's or master's students or type of program. However, their share of graduates in arts, engineering, science, medicine, dentistry and veterinary sciences will provide a university additional specific budget (9 percent of the total budget).

6.3 Current reallocation practices in Georgian universities

100. There is limited "evidence" from universities stating that they internally reallocate funding. TSU taking part of the funding from law, business and social sciences to support science and engineering up to 130 percent of the maximum state grant level. The Free University has made an elaborate internal analysis of its cost structures and respectively reallocates parts of the budget over the various faculties. This information, however, is not shared for reasons of competition, but it indicates that Georgian universities do reckon that cost-differences exist.

6.4 Estimated cost differences in Georgian universities

101. The current unitary approach in the Georgian public funding mechanism does not stimulate a strong awareness of cost differences among higher education institutions, faculties and programs. This makes the system less cost sensitive and responsive to changing cost structures and leads to unequal positions between faculties and/or disciplinary groups. For example, as a result of the flat tuition cap and flat public subsidy per student, faculties with many students and a low-cost teaching technology (mass lectures) are in a relatively well-of situation compared to faculties with only a few students and a high-cost teaching methodology. Regardless off the scarcity of resources this may lead to inefficiencies in the system, such as substantial differences in the salary levels of academic staff across and within universities, even if staff of similar academic rank work equal hours per week.
102. If the funding mechanism should be more sensitive to differences in the real cost of various programs, the funding mechanism should incorporate at least some differentiation in funding tariffs. Based on the assumption that it costs more to educate students or to produce graduates or to produce research outputs in some programs compared to other programs, the funding level should be higher. Students in medicine and engineering are generally perceived to cost more than students in business and law because medicine and engineering are more

laboratory intensive. Laboratories require support staff, additional materials, equipment, space and often use smaller group instruction technologies than programs in humanities and social sciences.

103. However, to determine the extent to which such costs differ, one needs to have a (reliable) estimate of inputs and outputs. There must be a rationale that justifies the tariff levels (the ratios between different tariffs) and the allocation of tariffs to programs.

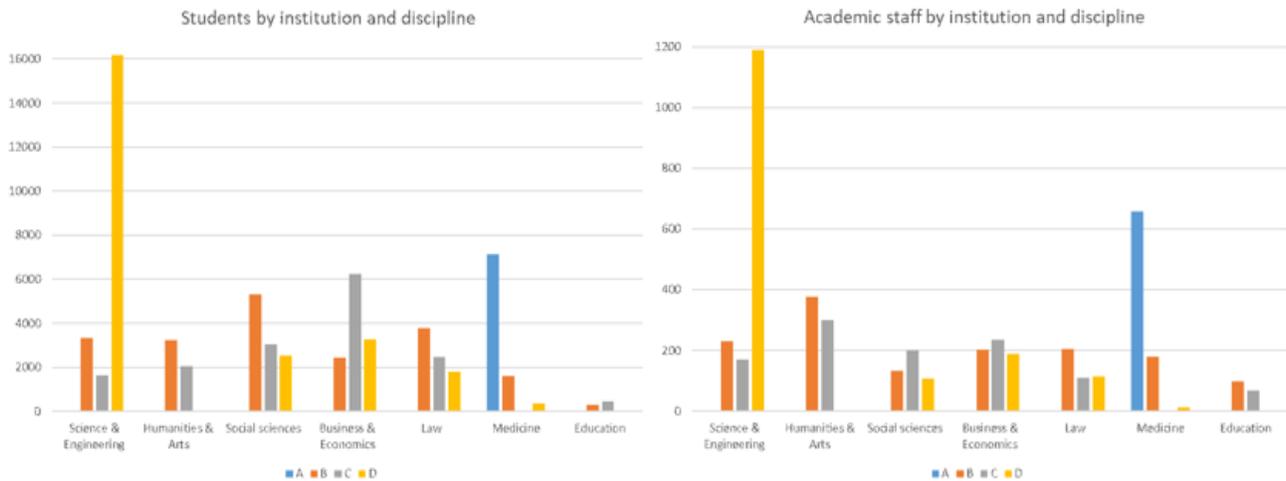
104. The ratios between funding tariffs may be calculated by examining what it costs to educate a student or graduate. However, the question about what it costs to educate a student is rather normative and subjective. In practice it often comes down to the question how much is spent, in terms of money, staff time, equipment, materials and use of square meters. To make such calculations, one needs the following data per institution and per program, department or discipline:

- the number of students
- the number of graduates
- the number of academic staff (as the largest cost determining factor)
- overheads: administration and support (staff), offices, ...
- the infrastructures used for teaching purposes: m², operational and maintenance costs, ...
- the research income (to get an idea of the amount of time spent by academic staff on research vs teaching).

Student-staff ratios as a proxy for cost differences in Georgian higher education

105. The current data available for Georgian higher education is however limited. To estimate cost differences between different higher education institutions and disciplines, we selected 4 case study universities (3 public and one private institution, all relatively large institutions). We collected data for these institutions from the Ministry of Education & Science. It appeared that mainly the numbers of students and of academic staff were available by institution and disciplinary field. The number of graduates is only available at disciplinary level for the whole public and private higher education sectors, not per institution (yet), so we could not use that. Therefore, we calculated the student/staff ratios per discipline by institution to have an indication of the relative teaching intensity between various universities and disciplines within them.

Figure 8: The number of students and staff by discipline, 4 example universities (2017)



Source: Own calculations based on data from MoES, 2018

Notes: As for about 20 percent of the students the discipline was missing or “interdisciplinary”, we redistributed these numbers proportionately over the disciplines. We also corrected in some cases where staff in some disciplines was not matched with any students or vice versa.

Students include bachelor, master and PhD students.

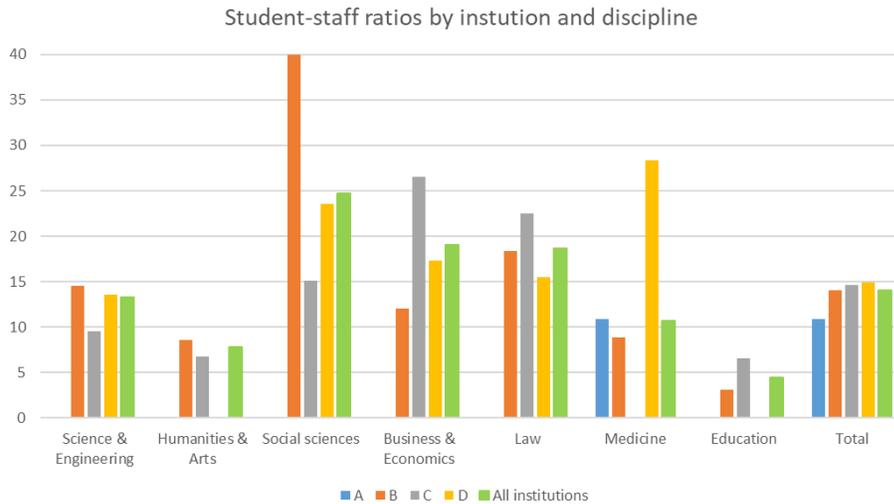
Staff include all categories of teaching staff (Professors, Associate and Assistant Professors, Assistants and Invited Teachers (divided by 2); Researchers have been excluded from the data.

106. Based on these data it is apparent that the four case universities show differences in their total number of staff and coverage of different disciplines, which may provide a good basis to calculate student/staff ratios to explore differences in instruction intensity. These ratios are presented in Figure 9.

107. Figure 9 demonstrates a few interesting findings regarding the student/staff ratios and thus the relative intensity of instruction technologies used as a proxy for relative costs of teaching. Overall, 3 universities show a student-staff ratio of about 14.5 while one university has a student/staff ratio of 11. The latter appears logical as it only includes medical education. Overall, Georgia applies relatively intensive teaching methods as the European average student/staff ratio is 15.6 (EU-28; EUROSTAT, 2018).

108. Another interesting finding is that Education and Arts & Humanities appear to use the most intense teaching methods with student/staff varying between 4 and 8. This is at odds with expectations and international practice. Medicine and Science & Engineering show mid-intense student/staff ratios (11 to 13) and Social Sciences, Business and Law the least intense instruction methods with student/staff ratios of 19 to 25.

Figure 9: Student/staff ratios by discipline, 4 example universities (2017)



Source: Own calculations based on data from MoES, 2018

109. Altogether this exposes three distinct cost-levels based on student staff ratios: a high cost-level for Education and Arts & Humanities; a mid-cost-level for Medicine and Science & Engineering; and a low cost-level for Social Sciences, Business and Law. As the high cost-level for Education and Arts & Humanities is unexpected, whereas in most countries these are considered low cost study programs, we suspect that these programs suffer from low student numbers while a substantial teaching capacity (including staff numbers) is sustained by the universities. This may reflect relatively inefficient teaching methodologies.

Estimating the financial impact of relating different tuition levels to different cost-levels

110. In a next step we estimated the impact if the different cost-levels due to differences in the student/staff ratios are translated in different funding tariffs. For reasons of simplicity we discern two funding tariffs: low (Social Sciences, Business and Law) versus high (Medicine; Science & Engineering; Education and Arts & Humanities). To simulate the financial impact for the different universities in the sample of case studies, we applied three scenarios with different relationships between the tuition levels of low versus high tariff groups and benchmarked that against the current uniform tuition level:10.

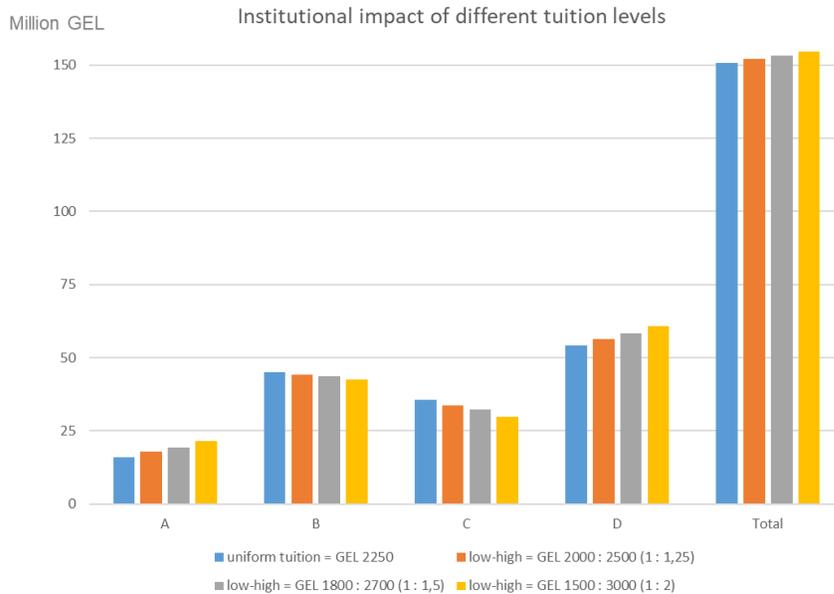
- Scenario 1: uniform tuition (GEL 2,250 for all students)
- Scenario 2: low-high tuition (1: 1.25 = GEL 2,000 – GEL 2,500)

10 Education and Arts & Humanities are not treated as a separate tariff group because we suspect inefficiencies in the teaching methodology. Though they would in other countries be in the low tariff group, we did not include them here as to not change their situation too much from current practice. As such, we located them in the “high tariff group” together with Medicine; Science & Engineering to reflect a high cost structure.

- Scenario 1: low-high tuition (1: 1.5 = GEL 1,800 – GEL 2,700)
- Scenario 2: low-high tuition (1: 2 = GEL 1,500 – GEL 3,000)

111. Figure 10 shows the financial impact on the four case study institutions (A, B, C, D).

Figure 10: Institutional impacts of applying different tuition levels (2017)

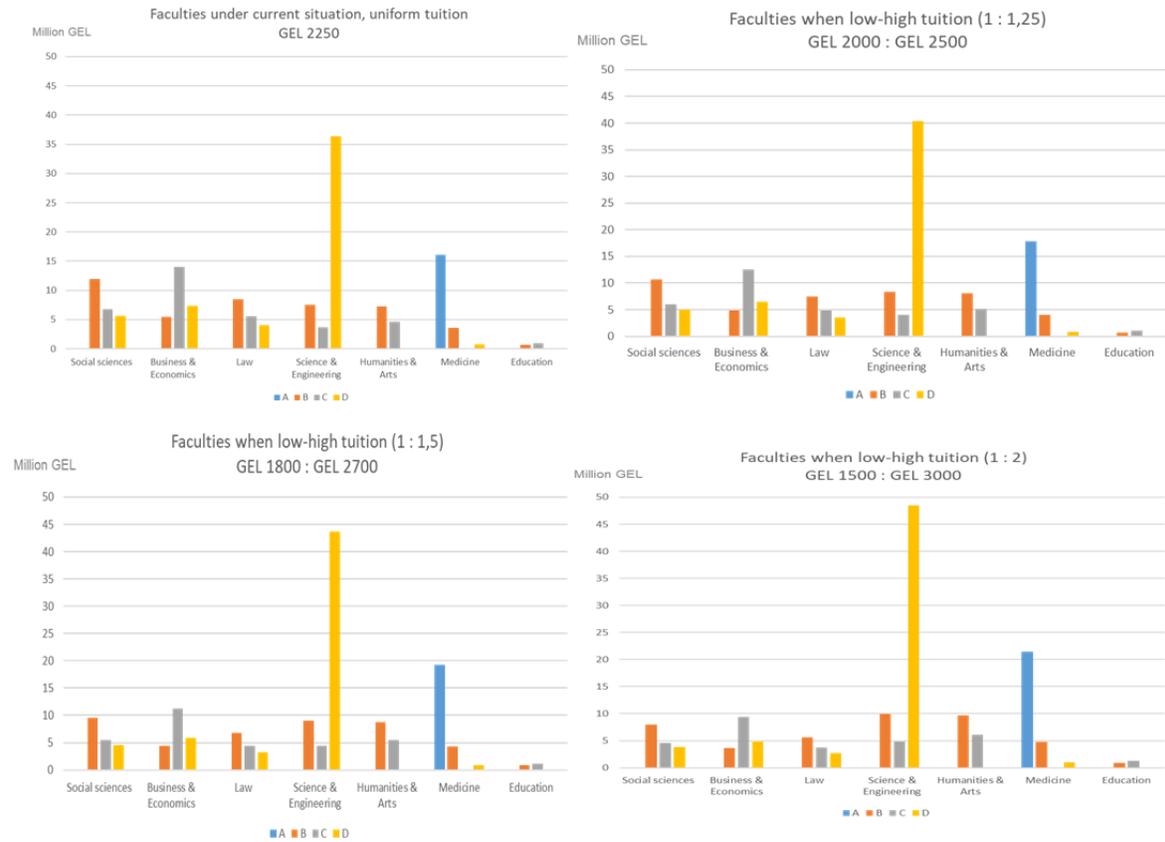


Source: Own calculations based on data from MoES, 2018

112. The major conclusion that can be drawn from this exercise is that the financial impact on the institutions is not enormous, but if the tariff differences are stronger, there will be bigger differences between the institutions. Institution B, which has a dominance of students in Social Sciences, Business and Law will experience the strongest impact. Institutions with high cost programs benefit most from applying different tariffs for tuition fees (and State Grants). A final observation is that the overall budget for universities will slightly increase (see the right-hand bars for “Total”), since the case study institutions together have more than 50 percent of the students in “high-cost study programs”. The total simulated tuition revenues for the 4 universities will increase from 151 million GEL (current level) to 155 million GEL with tariff differences of 1:2.

113. However, the impact at faculty or disciplinary level would be a bit stronger as the revenues per student may be lower or higher depending on tariff level of the discipline. As such, faculties in Medicine, Science & Engineering, Education and Arts & Humanities will gain, while Social Sciences, Business and Law will lose some funding. These fluctuations will be stronger when the tariff differences are larger. This is reflected in Figure 11, showing the four scenarios.

Figure 11: Financial impacts of different tuition levels for faculties (2017)



Source: Own calculations based on data from MoES, 2018

114. These scenarios are open to debate and reflection. For example, one could challenge the choice to put Education and Arts & Humanities in the high funding tariff if there are good reasons to assume that the current high student-staff ratio is due to inefficiencies rather than to real (necessary) costs of instruction.
115. Another observation relates to the fact that the simulations are only based on the student-staff ratios, which is a limited approach to estimate cost differences. Student-staff ratios may be subject to distortions by system characteristics, such as the opportunity for students to suspend their studies, differences between larger and smaller HEIs, the proportion of “vulnerable” or popular study programs a HEI has, etc. In addition, data limitations may impact the analyses. Unfortunately, the current exercise could not include data on graduates. In addition, one could also think of making a more detailed analysis by differentiating undergraduate and graduate students and different staff categories.
116. Regardless data limitations, the simulation exercise has shown that in Georgian higher education there is reason to believe that the cost of educating students differs across disciplines. However, the average student-staff ratio’s do not differ very much between universities, which points at rather similar teaching approaches and standards, probably related to the funding universities receive. Normally universities spend what they receive.

117. The current data available to make proper cost estimations is not available at a national level. The lack of a National Higher Education Management Information System is not supportive to underpin evidence-based policy initiatives. It appears that quite some information is gradually coming available through the new authorization and accreditation processes of the National Center for Educational Quality Enhancement (NCEQE). One should consider where to develop key statistical information to inform other national and institutional policy initiatives.
118. In conclusion, applying some form of differentiation in the funding levels in Georgian higher education would be a logical next step in the reforms of the higher education finance system. That would more closely link public funding to the financial reality of HEIs. However, measuring the exact costs per student in a particular field is an illusion. There will always be differences in student-staff ratios, or graduate-staff ratios due to various circumstances: fluctuations in student numbers over the years, popularity of study programs, staff fluctuations, teaching methodologies, initiatives to invest in modernizing study programs, etc. In addition, other cost drivers, such as capital infrastructure, maintenance, laboratories and equipment may vary across institutions and programs due to different strategic choices, the locations (Tbilisi or elsewhere in the country), the state of buildings, etc. As a result, applying a crude tariff differentiation to reckon with cost differences across disciplines in Georgian higher education is a reasonable option. This would stimulate cost-awareness and a more efficient use of resources across disciplines. However, one should not start with a strong variation compared to the current situation because this could have detrimental effects on some universities.

7 Conclusions and recommendations

119. Based on the analyses presented in the previous chapter, this study arrives at several conclusions regarding the Georgian higher education system in general and its financing mechanisms.

120. Regarding the higher education system in Georgia the following conclusions can be drawn:

- Georgia has a high level of participation in higher education. With about 53 percent of 19-20 years old's attending tertiary education, it ranks among countries with a very high participation ratio.
- Though many students participate in higher education, many graduates are unemployed (35 percent) or underemployed (25 percent). As such, the high private investments do not always have a positive private return on investment. Experts indicate that the high participation rates in HE and graduate employability issues are a result of a variety of factors:
 - The labor market cannot absorb all graduates;
 - The vocational education sector is underdeveloped and too many students try to qualify through higher education;
 - The priority field grants and programs are not aligned with labor market needs and national strategic priorities.
- Higher education in Georgia includes relatively many higher education institutions (75) compared to the size of the population. This implies that there are many relatively small-size institutions, many of them being private institutions (55) which cater for 35 percent of the students. The relative high number of HEIs should be considered in terms of efficiency as well as regional coverage and access to higher education.
- Georgian higher education is primarily focused on undergraduate education. Only 12 percent of enrolled students are studying at master- and PhD level. This appears odd acknowledging the high graduate unemployment rate. Many other countries stimulate graduate participation to stimulate the knowledge economy. This situation requires further exploration.
- In 2017 the authorization and accreditation systems have been renewed and made more rigorous. As such, quality assurance is now more focused on quality outcomes and urges universities and study programs to deliver value for money. It is expected that poor performing entities will be closed. As a result, one can expect that accredited public and private programs and institutions are worth of public funding.
- Higher education in Georgia has limited strategic direction. The government does not apply a wide and specific set of policy instruments with related performance incentives to stimulate national priorities. Besides the recent reform of the quality assurance mechanisms, no policy initiatives, monitoring and funding is hardly available to steer higher education institutions and

students towards quality (excellence), graduation (in time), internationalization, employability, resource diversification, etc.

- There is limited data, information and evaluations available about the basic operations of the higher education system and its development. A structured approach to collect statistics and qualitative information about institutional and system performance would be highly encouraged.

121. Regarding funding of higher education in Georgia, the following conclusions can be drawn:

- Georgia ranks very low in terms of higher education investments. About 1 percent of GDP is being spent on higher education compared to the OECD average of 2.4 percent. In addition, about 75 percent of these resources come from private households through tuition fees. This implies that the government invests relatively little in its higher education system. Also, research investments are low with 0.6 percent of GDP spent on Research and Development (R&D).
- Georgian higher education strongly relies on tuition fees paid by students. Revenues from tuition cover about 75 percent of total university income. Only 33 percent of the students are (fully or partially) subsidized by State Grants or Priority Field Grants. This means that students are strongly willing to pay tuition fees in contrast to students in many western European countries. This private income source should be cherished in higher education. However, in connection to the previous remark, it appears that the government heavily shifts the burden of educational investments on the shoulders of students and their families.
- The State Grants that award public subsidies to students to cover tuition costs in the accredited institution and study program they want to attend stimulate equal competition among various universities – whether these are public or private entities. Because these “vouchers” are awarded to students based on their scores in the Unified National Exam, this is a merit-based funding mechanism. As such, the best students or those who prepared best for the UNE exam, get public subsidies with which they can select a study program and institutions that best matches their interests, capacities and expectations.
- The current tuition fee cap of GEL 2,250 and maximum State Grant of the same level are a uniform tariff applying to all students in public universities regardless of the discipline. As such, tuition fees and vouchers do not reflect any cost differences between lab-based or computer-based study programs. This does not stimulate universities to be cost-aware and sensitive.
- The funding model used with uniform funding levels and allocating the funding via the students does not contain strong performance incentives. Institutions that attract more students – e.g. based on their reputation, quality, price, location or services – also attract more money. However, the funding model neither stimulates the students to perform nor the institutions, e.g. to graduate within a certain period of time, to pass sufficient credits, to attract more international students, to deliver good research results, or to attract more funding from external resources, such as funding from international (EU) programs, from industry or part-time education. Besides collecting tuition fees from students, resource diversification is not stimulated.
- The vouchers may also stimulate unintended behavior. The fact that the voucher stays with the student who originally was awarded secures stability for a student as they know they finish their

degree with public subsidies. However, once a student with a voucher does put little effort in their studies, public money goes to poor performing students, which violates the merit-based character of the State Grants. In addition, the opportunity to suspend one's studies for a period of five years while remaining entitled to the State Grant, makes the allocation of public subsidies less predictable. Particularly because a student can do this every academic year she/he is enrolled. As such, students may prevent going into military services. Such outcomes cannot be the intended effects of public funding of higher education.

- The State Grants create an equal level-playing field between public and private institutions. However, in other areas public and private institutions are treated differently. Public institutions cannot charge higher tuition fees than the tuition cap of GEL 2m250 per year while private institutions can do so. In addition, Private for-profit universities are exempted from profit taxes if they re-invest these profits in the development of the university. Non-profit institutions must pay taxes over such profits. However, the latter issue appears to be resolved by new legislation.
- The State Grants are also intended to enable students to pay the tuition cost of the study program of their choice and as such to overcome financial hurdles that could endanger access to higher education. However, in line with international practice and research results, also in Georgia the bulk of public funds will subsidize students from higher socioeconomic backgrounds as these generally have better school achievements and can afford better private tutoring for the UNE test. As such, the access and affordability function of the voucher is less well addressed. In addition, if private universities top-up the tuition levels beyond the state subsidies, students anyhow have to pay for educational costs. This means that the state subsidies not only enable access, but also allow students to make more expensive choices. From the point of view of spending public subsidies efficiently, it is important that in such cases students also receive good or even better value for money.
- Finally, related to the previous issues, Georgia offers limited support for disadvantaged students as there are relatively few State Grants awarded on the basis of financial need (combined with good achievements in the UNE exam). In addition, the student loans offered in close collaboration with private banks appear to have unattractive conditions for students (relatively high interest rates and short repayment period). As such, only few students who are confident they will be able to repay their debt easily after graduation will take up such loans. Many other students, who may need financial support to afford higher education investments find such loans too risky. They either turn to other financial resources or refrain from entering higher education.

7.1 Recommendations

122. Based on the analyses conducted as part of this study, we formulate a number of recommendations regarding Georgian higher education and its funding arrangements.

123. Recommendations with relation to the funding of Georgian higher education:

124. To implement funding reforms, particularly with the aim to increase performance orientation, one needs to work on several **prerequisites:**

- Transparent continuous communication and engagement with key stakeholders about the need (urgency), aims and ambitions (vision & strategy), opportunities and risks (benefits & costs),

design and short-term and long-term objectives and achievements of envisaged reforms. Stakeholders include representatives of the higher education institutions, institutes, students, ministries involved, quality assurance agency, etc. The engagement process can include national conferences and workshops, supported with external expert inputs, national good practice examples and room for open dialogue to create trust, balanced considerations between various perspectives and consequences, and to reach agreement on the way forward.

- Additional public budget to implement the funding reforms. First to overcome implementation costs, but more importantly, to reduce or eliminate the risk of stakeholders losing compared to the status quo. Particularly additional investments from the government (MoES and MoF) are justified given the currently low public investments in higher education, the need to invest in a better quality and more relevant higher education system and fairly high tuition revenues. Additional resources prevent strong political opposition from universities, staff and students. Additional resources enable and stimulate various stakeholders to work towards strategic objections such as the quality and innovativeness of teaching, labor market relevance and research capacity culminating into the innovative capacity and knowledge economy of Georgia.
- A strong quality assurance system is a prerequisite for a well-functioning and performance-oriented funding mechanism. As such, it is recommended to implement the new authorization and accreditation framework in a consistent way to prevent quality compromises in the higher education system. This implies that proper minimum quality standards should be strongly defended without concessions. In addition, accreditation should also assess the extent to which universities and their study programs try to align with labor market needs.
- Reliable and robust data and information are another prerequisite for a well-functioning and performance-oriented funding mechanism. Therefore we recommend building a structured national and institutional management information system with key indicators on inputs, processes and outputs in higher education according to common definitions (if possible linking to international indicator sets). This can be supplemented with more in-depth evaluation studies to understand policy effects.
- To protect current interests and balance in the higher education system, changes should not be radical.

125. The public funding model of Georgia for higher education should contribute more to efficiency, (national) strategic priorities and performance orientation, including a stronger focus on outputs. This can be done in various ways, either by changing current funding instruments or adding new finding elements. The options are presented and discussed in the table below. The various options should be considered depending on the need and readiness for change in the system.

Funding options – adding and/or reforming funding instruments

FUNDING OPTIONS	Benefits	Risks	Expected timeline
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CORE OPTIONS			
Add a new performance-based funding instrument	<ul style="list-style-type: none"> • new additional budget • new rules • creates performance orientation • use new performance indicators • alignment with national strategic objectives: quality, equity, access, LLL, employability, innovation, research, etc. 	<ul style="list-style-type: none"> • disagreement stakeholders on objectives and design • no political support • no additional public resources 	<ul style="list-style-type: none"> • short term: if new budget • can start with piloting
Equalize tax exemption regulations	<ul style="list-style-type: none"> • already intended measure • stimulates level-playing field between for profit and non profit HEIs • no big amounts involved 	<ul style="list-style-type: none"> • political reasons for different treatment • not doing this keeps issue of resentment on agenda 	<ul style="list-style-type: none"> • short term: already in progress
Align Priority Fields Grants with labor market needs	<ul style="list-style-type: none"> • better strategic alignment with national objectives • cancel/re-use not filled priority field places • opportunity to stimulate program innovation • option to reconsider every 3-5 years 	<ul style="list-style-type: none"> • affects funding positions of programs and HEIs • attracting students to subsidies, not to their program of intrinsic interest 	<ul style="list-style-type: none"> • short– mid term: first reach agreement on national priorities
Keep but limit suspension options for students	<ul style="list-style-type: none"> • reduces strategic behavior of students and HEIs • less uncertainty in public funding and statistics • stronger performance incentives • link suspension to motivated reasons: maternity, activism, poor study results 	<ul style="list-style-type: none"> • reduces flexibility of students and HEIs (to maximize funding) • opposition of students & HEIs • higher dropout rates 	<ul style="list-style-type: none"> • short term: change regulations for next cohorts
Increase number of need-based grants/scholarships	<ul style="list-style-type: none"> • increase equity and access • possible to link need criteria to state grants and/or priority fields 	<ul style="list-style-type: none"> • limited data on family income 	<ul style="list-style-type: none"> • short – mid term: first extra scholarships, later change criteria for grants
Increase attractiveness and role of loans	<ul style="list-style-type: none"> • replacing grants for high income students with loans frees up resources • loans facility private investments • interest subsidies and guarantees attract student investment 	<ul style="list-style-type: none"> • loans less attractive for students • repayment problems (default) • loans require administration • need to monitor default 	<ul style="list-style-type: none"> • mid – long term: needs discussion on options, terms and conditions
ADDITIONAL OPTIONS			
Require annual reports as a funding condition	<ul style="list-style-type: none"> • sound mission and strategy statements by HEIs • demonstrate key statistics • show progress against national priorities and HEI strategic plan 	<ul style="list-style-type: none"> • resistance to deliver reports • difficulty to use common definitions on statistics 	<ul style="list-style-type: none"> • short term: start immediately requiring HEI's strategic plan and annual report

Develop funding levels that account for cost differences	<ul style="list-style-type: none"> • link funding closer to “known” relative cost differences • fairer treatment of programs • raise cost-awareness 	<ul style="list-style-type: none"> • resistance due to potential for gaining and losing HEIs and programs • requires reliable data on key parameters (students, staff, graduates, etc.) • difficulties to assign programs into cost categories 	<ul style="list-style-type: none"> • mid-long term: first discuss and estimate consequences, then pilot and finally full implementation
Reconsider tuition cap for public universities	<ul style="list-style-type: none"> • several options possible • create a level playing field between public and private HEIs (regarding the tuition limit, e.g. per discipline or for publicly subsidized students) • increase revenues for public HEIs • require HEIs that exceed the cap to compensate low SES students 	<ul style="list-style-type: none"> • political resistance • potential equity risks due to cost increase for students • privatization of public HE 	<ul style="list-style-type: none"> • mid term: first national discuss options and (dis)advantages

126. Recommendations with relation to system characteristics:

- As it has to be reckoned that Georgian higher education has relatively many higher education institutions, there needs to be a transparent discussion and communication about the role, profile and position of various institutions, e.g. in terms of access to higher education, system efficiency, infrastructural issues, and potential collaboration and division of tasks.
- Opposite to the high participation rate in tertiary education, the number of graduate students is relatively low. To stimulate high level knowledge and innovation, Georgia should consider investing more in offering master’s and PhD education (and research). Participation in graduate education can be made more attractive by offering more generous subsidies.
- Given the strong demand for higher education in Georgia in combination with a weaker developed (secondary) professional education opportunities, higher education institutions should develop more professionally oriented study programs with a strong labor market and employability focus and connection. This can also be used to stimulate profiling between different higher education institutions.

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Appendix 1: International good practice examples

127. In addition to the benchmarking exercise discussed in Chapter 5 a few detailed case studies are presented. The cases selected concern a well-developed system (the Netherlands) as well as a Post-Soviet system that recently has stated several funding reforms (Latvia).

A.1 Case 1: Funding of higher education and research in the Netherlands

Brief history and rationale

128. In 1960, the Dutch government decided to abolish the traditional funding mechanism based on financial claims from the universities to model-based funding. Since then, the staffing costs of universities were funded based on the number of students. For every 12-20 students (depending on the discipline) universities received a funded staff position. In 1978 this model was replaced by a model in which research became less dependent on the number of students. The staffing budget was partially provided as a fixed budget with a much smaller flexible part based on active students, not all registered students.

129. In 1983, a new funding model was introduced that calculated a normative budget on the basis of the number of graduates with an average study duration of 4.5 years and dropouts calculated for 1,35 years (55.5 percent). A separate budget was allocated for education innovation (9.3 percent) and for societal service (8.5 percent). Research was funded on a preconditional basis (26.7 percent). The latter since then was funded through a separate budget.

130. By 1993, many nuanced adjustments of the normative budgets had grown into such complex model that parliament requested a more simple and transparent funding model. The HOBEEK model was introduced with 3 main compartments: 1) a part for teaching (23 percent); 2) a part for research (64 percent); and 3) a part for teaching-research interrelatedness (13 percent). The teaching part was driven by students enrolled in the normative period of studies and graduates. Both were funded at a low tariff (fl 5.000) for humanities and social sciences, or a high tariff (fl 7.500) for science, engineering and health-related studies. Research funding was allocated for about 75 percent as a historical component and 25 percent on the basis of the number of PhD's conferred. Since 1995, universities also received their infrastructure (incl. buildings) in full ownership.

131. In 2000, the funding model was changed again to the Performance Funding Model. Funds for teaching became dependent on the number of new entrants and graduates, next to a fixed part of about 37 percent. For research, the model was expanded with a component for national research schools in which academics within one discipline from different universities had to collaborate.

132. With the introduction of the Bachelor-Master structure (in 2003), the funding for teaching had to change because the number of degrees changed. It was then decided to allocate twice as much funding for a bachelor degree compared to a master's degree and to diversify the funding tariffs from 2 to 3 tariffs: low (humanities and social sciences) – high (science & engineering) – top (health related studies). The tariffs were 1: 1.5: 3. The models for the basic funding of universities remained relatively stable since then.

133. The tariff structure is currently contested as medical hospitals are regarded to have luxurious funding while engineering runs into problems as the number of students is growing significantly (requiring new expensive investments).

The current funding model (since 2011)

134. In 2011, the funding model for teaching has been made less dependent on the number of students and graduates (the fixed footing has been increased) and the funding models for universities and universities of applied sciences have been integrated. Research universities and universities of applied sciences (UASs) are funded through the following sources of funding (Jongbloed, 2017):

- Tuition fees paid by students;
- A core grant (lump sum) provided by the government for education, research and knowledge dissemination;
- Competitive project- and Programme-based research funding, provided by the research council (NWO and its departments) or the Academy of Sciences;
- Project-based funding for education and research carried out for public and private clients.

Tuition fees

135. Tuition fees are to be paid by all students. If students are studying full-time and they are from the European Union, the European Economic Area, or Switzerland, they pay a fee that is equal across all institutions and programs set by the ministry; in 2017 this is close to EUR 2000. Other students, for instance non-European students, Dutch part-time students and students that already have completed a degree in the Netherlands also pay a fee, but its rate is set by the institutions themselves. In the case of students from outside Europe the fee is often close to a full-cost fee, ranging from €8,000 to €15,000. In 2014, for the publicly funded universities the total revenue from tuition fees was EUR 560 million (Koier et al., 2016) and EUR 800 million for the UASs which host about 65 percent of all students in the Netherlands.

Core grant

136. **The core grant** (the general university funds is the term often used by the OECD – see Box 2) is the largest source of revenue: it provides the funds that enable the universities to carry out their education and research tasks (including the education and research in University Medical Centers). Its size in 2014 was over EUR 4,600 million for the research universities. The Education Ministry provides the public funds as a lump sum or block grant. This amount consists of budget components for respectively education and research, but the institutions have large degrees of freedom on the distribution of these resources. For the Wageningen Agricultural University and agricultural UAS institutions the Ministry of Economic Affairs applies a similar funding methodology.

137. **For research universities the core funds for education are 93 percent formula-based and 7 percent is based on performance agreements (see below).** Currently, the formula funds for education partly (roughly for two-thirds) depend on the sum of student enrolments and Bachelor's and Master's degrees. For the formula, only enrolments within the normative time to degree are taken into account (3 years for a bachelor; 1.2 or 3 years for a master's,

depending on the program). Enrolments and degrees are weighted by three different funding rates: low, high and top. The low rate of 1 for studies in the fields of economics, law, social sciences & humanities and language & culture; the high rate of 1.5 for education, agriculture, technology and health, and the top rate of 3 for medicine-related programs. Another part of the core funds for education (one third) is provided in the shape of largely fixed sums per university. The same approach is used for **Universities of Applied Sciences (UAS)** (with the provision that bachelor's programs last 4 years and master's normally 1 year) with the three rates being 1, 1.28 and 1.5 respectively (low-high-top).¹¹

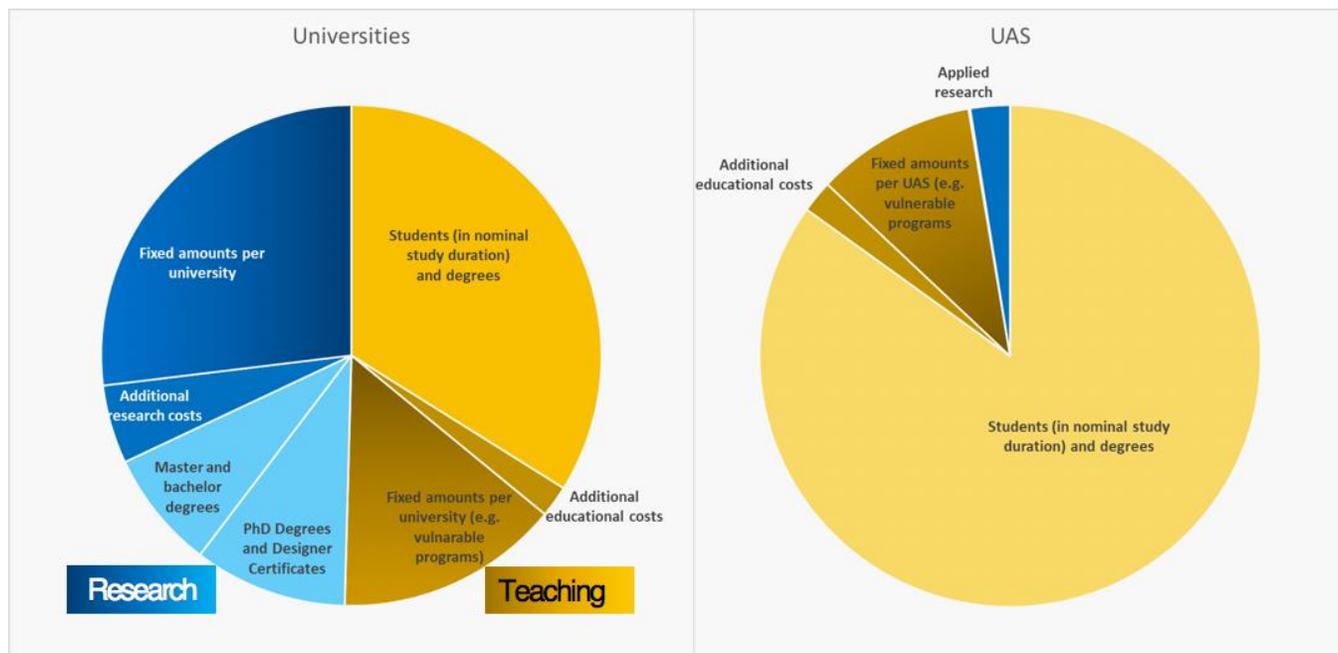
138. In 2014, some 15 percent of the **core funds for research funds** for universities was based on the number of bachelor's and master's degrees – again applying the three subject weights (low, high, top) and, on top of that, doubling the weight for master's degrees. In that same year 25 percent was based on the number of PhD degrees, applying a fixed rate per PhD. From 2017 onwards, the formula-based allocation for PhDs is reduced to 20 percent of the total research allocation, implying a lower reward per PhD. The remainder of the research allocation (60 percent in 2014; 65 percent from 2017 onwards) is distributed primarily on the basis of fixed (historically-based) allocations per university, including subsidies for a selected number of research schools (i.e. six top research schools that operate across universities in specific disciplines). What is important to note here is that there is no separate funding stream for valorisation; resources for implementing third mission activities are to be found in the institutions' lump sum. However, as we shall discuss below, there are various dedicated funds and subsidies for valorisation. Valorisation is increasingly stressed by the research council (NWO), playing a role as a criterion in its awarding of research grants. For instance, NWO's Innovation Research Incentive Scheme (i.e. its Veni, Vidi, Vici scheme), invites applicants for research grants to pay attention to valorisation.

139. **In the UAS sector, the core funds for education and research** are 90 percent based on a formula (that takes into account weighted enrolments and degrees – as described above) and 10 percent based on fixed allocations per UAS. In 2014, the core budget was EUR 2.800 million. The fixed allocations for the UASs are meant to support lectorates, a sort of professorial positions that are intended to initiate practice-oriented research in collaboration with companies. This component is also known as 'design and development', to highlight that the UAS sector carries out its own type of practice-oriented research, different from the fundamental research at universities. The research allocations are limited in size and roughly proportional to the education component in the UAS' lump sum.

140. All in all, Figure 6 demonstrates how the core grants for the university and UAS sectors are composed.

¹¹ Note that bachelor programs at Dutch universities last 3 years but 4 years in UAS institutions.

Figure 6: Composition of public funding to Dutch HEIs



Source: CHEPS, own calculation based on data from Dutch Ministry of Education, Culture and Sciences, 2018

141. For the period 2012-2016, 7 percent of the core grant for education in universities and UAS institutions was tied to performance agreements (some EUR 130 million for the research universities and EUR 170 for the UAS sector). The 7 percent consisted of 5 percent for a conditional budget (conditional on the signing of the performance agreement, and continued after 2016 on the condition that the 2015 performance targets are achieved) and 2 percent for a selective budget (a competitive fund awarding more funding for the best proposals; ‘best’ in terms of – primarily – program differentiation and research concentration). They were introduced partly as a result of the recommendations of the national Committee on the Future Sustainability of the Dutch Higher Education System (Veerman et al., 2010) which found that the Dutch higher education system was not future-proof. Student drop-out was high, students’ talents were not properly addressed and there was too little flexibility in the system to serve the various needs of students and the labor market. A long-term strategy was needed to improve the quality and diversity of Dutch higher education.

142. The performance agreements were initiated and overseen by an independent Review Committee, created by the Education ministry in 2011. In 2012 a performance agreement was signed between the Education Ministry and each individual higher education institution. The performance agreements included quantitative and qualitative targets, chosen by the higher education institutions themselves. Where the conditional budget (the 5 percent) was tied to quantitative targets in terms of the quality of education and student completion rates, the selective budget (the 2 percent part) was primarily for encouraging and rewarding performance in terms of differentiation and profiling in education and research and enhancing knowledge dissemination (i.e. valorization). The quantitative performance indicators for the conditional budget were: student completion (Bachelor students only), student drop-out rates in Year 1, share of Year 1 students switching to other programs, the number of students in

honors programs, student satisfaction scores, teaching intensity (i.e. student hours per week in class), academic staff qualifications, and the share of overhead (indirect costs).

143. The ambitions relating to the selective budget were mostly expressed in qualitative terms, but institutions were encouraged to also make use of indicators, for instance to underline research and valorization ambitions. For research, some of the indicators related to the outcomes of research assessments or the success at winning competitive grants from organizations like the European Research Council. Examples of indicators used for illustrating valorization ambitions are: students doing entrepreneurship courses, third party income (from private industry or non-profits), the number of licensing agreements, the number of spin-offs created, and the number of co-publications with industry.
144. Half of the selective budget for the UAS institutions was set aside for competitively awarding grants of EUR 1 million per year for the creation of Centers of Expertise (see previous section). These centers are set up as public-private partnerships, often involving regional partners (businesses, non-profits, health organizations, etc). In total, 17 such centers were created as part of the performance agreements. Many are affiliated to one of the key sectors (Top Sectors) in the Dutch economy.
145. In 2017, the Review Committee concluded that some improvements were made, partially as a result of the performance agreements (Review Committee, 2017a). Student completions in the research universities have improved since, but less so in the UAS sector. Results concerning differentiation and concentration were rather mixed, although the Centers of Expertise that have been created are seen as a successful initiative. In terms of valorization, universities were able to show clearer than the UAS sector (Review Committee, 2017b). The year 2017 is a transition year towards a next round of agreements (quality agreements, to be implemented by a new coalition government after the March 2017 elections).

Competitive funding

146. A third revenue source for universities and UASs consists of competitive research funds, distributed by intermediary public organizations, especially the research council – The Netherlands Organization for Scientific Research (NWO). In 2014, competitive research grants for research universities amounted to EUR 533 million. Part of the NWO budget is dedicated to support public-private partnerships in research – a policy known as the Top Sector Strategy. NWO consists of four different research domains (social sciences/humanities; natural sciences; applied/engineering sciences; and health-related disciplines). It is an explicit objective to strengthen knowledge exchange. NWO is an important source of funding for scientists exploring new ideas in all scientific disciplines. The primary instrument for this is the Open Competition. As part of this, the NWO Innovation Research Incentive Scheme awards competitive grants to scientific talent in different stages of their research career – the Veni, Vidi and Vici grants.
147. Similar to the research universities, there is also a competitive funding stream for supporting the practice-oriented research in the UAS sector. This funding source still is relatively small (about EUR 17 million per year). The most important one is the RAAK program (Regional Attention and Action for Knowledge circulation). The budget for this program is allocated

through NWO's Taskforce Applied Research (SIA). The RAAK subsidies aim at improving knowledge exchange between Small and Medium Size Enterprises (SME)s and Universities of Applied Sciences (UAS) and are awarded to projects that are executed by a consortium of one or more (higher) education institutes and one or more businesses.

Project-based funding

148. As far as revenues from sources beyond the general university funds are concerned, universities and UASs receive a substantial part of their income from third party funds. These funds derive from projects carried out for various clients, that is: public organizations (e.g. ministries, local authorities), non-profits (e.g. medical charities) and private businesses (e.g. industry, SMEs). In 2014, the amount of third party funds received by universities was EUR 1.780 million for research universities and EUR 170 million for the UAS sector.
149. Grants from European research programs, e.g. the European Research Council, are part of third party funds. Third party funds also include fees from contract teaching and from students doing non-degree programs. In terms of contract research income, the universities are very active in generating research subsidies linked to encouraging public-private partnerships in research consortia. An important revenue source related to the latter was the Economic Reinforcement Fund (Fonds Economische Structuurversterking; FES). The income from this fund came from the exploitation of the large natural gas reserves owned by the Netherlands. This FES fund was abolished a few years ago.
150. For the UAS sector, third party funds consist of income from contract education and contract research. The resulting income from this is much lower than for the university sector, owing to the still modest research capacity in the UASs. One element in the UASs' third party funds is revenues from innovation vouchers (kennisvouchers) that SMEs have received from the government. The vouchers have a value of EUR 3,750 and are to be used by SMEs for co-financing small scale research and consultancy projects in a UAS or a university. In 2015, more than 400 such vouchers were used by SMEs as part of a wider program that awards subsidies for R&D collaboration.

A.2 Case 2: Funding of higher education and research in Latvia

151. Latvian higher education consists of 17 public universities, 17 public colleges, 14 private universities, 9 private colleges and 2 foreign branch campuses, together hosting 84,000 students (8 percent foreign). Public expenditure for higher education was €121,5 million (0.5 percent of GDP) added with about €70 million (0.3 percent of GDP) from private sources, predominantly tuition fees from students (Treimane, 2016).
152. Since 2000, public funding for higher education in Latvia has been in motion. In the 2002-2006 period, Latvia changed its funding model from historically-based funding to an input-based normative funding model based on numbers of study places allocated to universities and colleges multiplied by a tariff that reflects the costs of a study place by subject area and social security and welfare costs.
153. In 2009, due to the economic crisis in the world, which also strongly affected the Latvian economy and public budget, the public funding for higher education was reduced from €119

million in 2008 to €63 million in 2009. The basis subsidy per study place was reduced from €1800 to €1333.

154. In 2012, The European Council recommended Latvia to reform its higher education system and funding model, particularly to stimulate the quality of education and research and to improve the links with the labor market. As a result, the World Bank was asked to provide an independent unbiased analysis resulting in policy recommendations. An intensive sector wide process led to the proposal and implementation of an extended funding model combining the existing study-place oriented funding with additional funding (€6,5 million) related to institutional performance. The models will be explained in more detail below.

Public Funding for Higher Education

155. The government determines how public funds are distributed to institutions of higher education. There are two ways that determine this. The first is via direct allocations from the state budget to the institutions (Cabinet of Ministers Regulations No. 994, 2006). The second is via indirect subsidies through the government-guaranteed student loan system, whereby the state subsidizes the interest on student loans issued by commercial banks, covers the grace period, finances loan forgiveness, and acts as a secondary guarantor for the loans issued by commercial banks within the scope of its student loans scheme (Cabinet of Ministers Regulations No. 220, 2001).

Direct education-related subsidies to HEIs

156. Direct public allocations to higher education institutions takes place in the form of subsidies that cover the “costs of the study process” for a certain number of students in free budget places (31 percent of the public budget) and that cover science funding (5 percent of the public budget for HE) (MoES, 2014).

157. The amount of government funding in the “study places model” is calculated in accordance to a nationally predetermined formula (Cabinet of Ministers Regulations No. 994, 2006). The funding is only allocated to full-time study programs that are—almost exclusively—offered at public HEIs. The amount of funding is calculated annually by applying a per capita formula that takes into account the costs of the study program by the field and level of studies. Specifically, the key components in the overarching formula are: (1) the number of state-funded study places determined annually by the Minister of Education and Science by March 1; (2) basic costs of a study place; (3) student social security and welfare costs; and (4) the coefficients by subject area (Arnhold et al., 2014).

158. The basic costs of a study place reflect the lowest costs of a Bachelor and professional study program in the least expensive subject area in the respective year. This basic cost is multiplied by two coefficients:

- a coefficient corresponding to the level of studies: 1.0 for Bachelor’s and professional programs; 1.5 for Masters; and 3.0 for Doctoral studies.
- a coefficient corresponding to the area of studies: in total 30 coefficients ranging from 1.0 to 6.0 (e.g. 1.0 for law and social sciences; 1.1 for teacher training; 1.5 for mathematics and

computer sciences; 1.7 for engineering; 1.9 for natural sciences; 3.1 for architecture; 3.5 for medicine; 4.0 for veterinary studies; 4.4 for dental care and 6.0 for military defense).

159. In addition, higher coefficients were defined per study program to reflect an optimal (more generous) funding level motivated by the need to accommodate state budget constraints while projecting a future annual increase in state allocation to higher education. Thus, the plan was to reach the maximum coefficient value in state budget allocation by subject area in 2012. In reality, however, the higher education sector experienced drastic cuts in public financing in 2009, during the economic recession. As a result, the allocation of public funds dropped below even the minimum coefficient value stipulated by the government to on average about 80 percent of the minimum coefficient value in 2013.
160. While the number of publicly funded study places per program is revised every year, the methodology of calculating the basic costs of a study place and the values of coefficients of subject areas has remained largely fixed since 2002. However, the modes of teaching and learning have changed, along with the actual costs of studies in various disciplines.
161. As already mentioned, nearly all public funds for higher education studies are distributed to public HEIs. However, the regulations allow public funds to be allocated to private higher education institutions (Cabinet of Ministers Regulations No. 994, 2006). Ministries and other national public administration bodies are able to sign agreements concerning a certain number of students to be educated at private HEIs, in the following cases: (i) where private HEIs have study programs of higher quality than public HEIs (though it is not completely clear how this higher quality is demonstrated) (ii) when they offer a unique study program that is not offered by public HEIs, or (iii) when public HEIs are unable to educate the number of specialists required by the state in a given area. In 2014/15, under this agreement, the Ministry of Education and Science allocated 25 state-funded study places in hospitality services to the professional Bachelor degree program at the “Turība” School of Business Administration. Public funding was also awarded for five Doctoral study places at the Riga International School of Economics and Business Administration, with a view to supporting collaboration between HEIs in carrying out joint study programs. In years preceding the economic crises of 2009, there was an intention to extend public funding to private HEIs more frequently. However, the public budget decreased due to the recession, and this subsequently did not happen.

The Process of Deciding on the Number of State Funded Students

162. The number of study places at various HEIs and fields of studies is set on an annual basis by the Minister of Education and Science. While the final decision rests with the Minister, the prior process involves multiple stakeholders, including the twelve Sector Committees of the Latvian Employers’ Confederation, other professional organizations, ministries and the Higher Education Council.
163. The distribution of budget places across study programs implemented by HEIs is planned on the basis of HEIs performance indicators - the actual number of state-financed students, graduates, and drop-outs. The planning takes into account labor market forecasts by the Ministry of Economics as well as the amount of the public budget funds available for the respective calendar year.

164. While the MoES is able to determine how many specialists should be financed by the state for HEIs that operate under its own supervision, other ministries in principle determine the number of study places that fall under their respective supervision (e.g. defense and agriculture). In 2014, the guiding principles for allocating study places were:
165. to better take the needs of the labor market into account (MoES Protocol No. 1-27/289, Annex 1, 2013, December 20).
166. the budget subsidy for the institution in 2014 must remain the same as in 2013. However, the number of study places in social sciences and education must be reduced by 20 percent (decrease of enrolment in 2014/15 academic year) allowing a respective increase in STEM fields, especially at the Master and Doctoral level.
167. to stimulate strategic specialization, including curriculum reforms that: correspond better to labor market needs; promote specialization and strategic focus (e.g. in the region); reduce fragmentation by joining similar programs; and support the vertical development of programs (one program at various study levels).
168. to support program sustainability, i.e. to close or merge (consolidate) programs with a very low number of students or with high dropout and low graduation rates. Joint study programs, especially at the Doctoral level, were encouraged.
169. The changes applied in the scope of the afore-mentioned four principles require that HEIs consolidate their programs and make strategic development decisions to maintain current levels of state budget funding for study places.

Direct research subsidies to HEIs

170. From a national policy financial and governance perspective, higher education and research in Latvia are viewed as two different activity streams. There are two separate laws regulating the sector of higher education: the Law on Higher Education Establishments (Saeima, 2005) and the Law on Scientific Activity (Saeima, 2005a), pertaining to research and scientific activity. The latter mostly takes place in 129 research institutions distinct from HEIs. The Law on Scientific Activity stipulates that it is the duty of HEIs to perform research activities.
171. There are two main sources of science funding in Latvia: the state budget and European Structural Funds. In 2012, state science funding constituted almost €14.7 million, while EU contributions accumulated €64.5 million euros (MoES, 2014). Additional funding for research can be generated through competitively-selected research and collaboration with enterprises. Funding from the state budget is available only to institutions registered in the Registry of Scientific Institutions. In 2013, all public HEIs (with the exception of the National Defense Academy) were represented in the Registry of Scientific Institutions either themselves or by some institution affiliated to some degree with the HEI (State Service of Education Quality, 2013).
172. State budget financing is intended to provide base funding for research activities at public HEIs and research institutions, as well as to support basic and applied research. Base funding for public scientific institutions is calculated on the bases of formula, which includes infrastructure maintenance costs, wages for scientific personnel, and a coefficient for the

development of the scientific institutions (Cabinet of Ministers Regulations No. 1316, 2013). The coefficient for the development of the scientific institution incorporates performance-based criteria, which is the amount of research and development projects, the number of scientific publications and patents, and the number of Masters and Doctoral thesis defended with the guidance from the respective scientific institution. The infrastructure maintenance costs and the coefficient for scientific development are both adjusted for the area of studies with a coefficient 2 for natural sciences and 1.3 for social sciences and humanities. Similarly like in the case of decreased funding for studies, research institutions receive only 25 percent of the optimal annual base funding for science.

173. Public funding for research is also available on competitive bases from the State Research Program, Commercially Oriented Research Program, and Fundamental and Applied Research Program. Funding from these sources is available on competitive bases to all institutions registered in the Registry of Scientific Institutions, which also includes privately founded scientific institutions (Cabinet of Ministers Regulations No. 1316, 2013; No. 227, 2011). Yet, like in all other instances, the amount of public funding available is limited and determined by the general availability of resources in public budget.
174. In addition to three aforementioned competitive public grants, scientific institutions can apply for base funding for research institutions and scientific activities and equipment (Cabinet of Ministers Regulations No. 994, 2006). However, this special fund has not been active since 2009 due to the severe public budget cuts.
175. From 2009 to 2013, EU structural funds became the main source of funding for HEI scientific activities. Research funding from structural funds is available for both developing scientific infrastructure as well as increasing human resource capacity in research. One tool for increasing human resource capacity in research has been allocating European Structural Funds (ESF) scholarships to Masters and Doctoral students. In 2014, Latvia supported 23 Master's degree scholarship projects with €11.7 million in total and 28 Doctoral degree scholarship projects €53 million (SEDA, 2014). ESF funding is also used to support young researchers by paying their wages in competitive projects (€75 million, *ibid.*).
176. The infrastructure for ESF-research funding totals €80 million (SEDA, 2014). This is also distributed to institutions registered in the scientific registry, on a competitive basis. According to information provided by SEDA (2014), about 90 percent of science funding from EU structural funds is received by the University of Latvia and its affiliated scientific institutions.

Indirect public subsidies to HEIs

177. Indirect subsidies to higher education take place via the publicly subsidized student loans scheme constituted €3.8 million in 2012 (Studiju un zinātnes administrācija, 2012). Since 2001, government-subsidized student loans have been available to all residents of Latvia pursuing higher education who can meet loan co-signatory requirements (Cabinet of Ministers Regulations No. 220, 2001). To obtain a state-subsidized loan, the borrower needs to provide a primary guarantor in the form of one loan co-signatory with income deemed sufficient by the issuing bank. As a guarantee for the loan, the student can also offer real estate or securities, provided that the bank acknowledges and accepts these. These loans are

intended to ensure access to higher education for students. The government guarantees 90 percent of the student loan amount to all student borrowers. For orphans and children with no parent guardians, however, the government guarantees their loans 100 percent. Student loans are intended to cover tuition fees and support the costs of student living.

178. The loan is principally provided by commercial banks that are selected through an annual tender procedure based on the most attractive interest rate offered. The governmental subsidy to the student loan is reflected in the subsidized interest rate, the grace period after completion of studies, debt forgiveness under certain conditions stipulated by the government, and the secondary loan guarantor provision offered by the government.
179. The loans enable a larger group of students to cover their tuition fees and/or student living costs. Since 2009, about 4 percent of students made use of the loan facility. The average proportion of students borrowing for living costs has been about 1.4 percent among students who pay tuition and about 3 percent among students who study free of charge (SZA, 2012; MoES, 2009, 2010, 2011, 2012).
180. Students have to pay interest on the loans up to 5 percent, even if the actual interest rate charged by the commercial bank is higher. The government covers the difference between the interest rate paid by the student and the one charged by the bank. The governmental subsidy accommodated in the interest rate is even higher on those loans covering tuition. Students do not accrue an interest rate on these types of loans while they are enrolled in their study program. The government covers these expenses entirely until the student graduates and must start repaying the loan. The government then continues to subsidize the difference in the interest rate between the annual 5 percent paid by the student and the total annual rate charged by the bank.
181. Once students graduate, there is a grace period of one year during which students need not repay their loan. The costs related to the grace period are also covered by the government vis-à-vis the commercial banks. The government-subsidized student loan is a mortgage type of loan under which students need to repay 1/10 of the amount per year so that the total repayment is completed within 10 years. If a student borrower drops out of the study program for which the loan was issued, the loan repayment begins three months after ex-matriculation.
182. Moreover, there are certain conditions under which the amount owed by the student/graduate can be reduced, such as birth of a child, work in a profession or field as specified by the government, disability, or death. In these cases, the government steps in and repays the loan to the commercial bank for the respective forgiven loan proportion.

2015/2016 funding reforms

183. In 2013-2014, the World Bank assessed the Latvian higher education funding mechanisms in the process towards higher education reforms. The assessment included an in-depth study of policy documents, data and wide stakeholder analysis to identify the major limitations, problems and ambitions with relation to higher education and its funding arrangements. The key-findings included:

- The structural underfunding of Latvian HE system leads to performance constraints and quality problems.

- The state funding model is rather “one-dimensional” and static, lacking performance-oriented funding and innovation-/profile-oriented funding.
- The high reliance on tuition revenues (education) and EU Structural Funds (research) is likely to harm long-term financial viability of HEIs.
- The funding model lacks alignment of basic funding of teaching and research.
- Income from private sources such as industry or community services is underdeveloped.

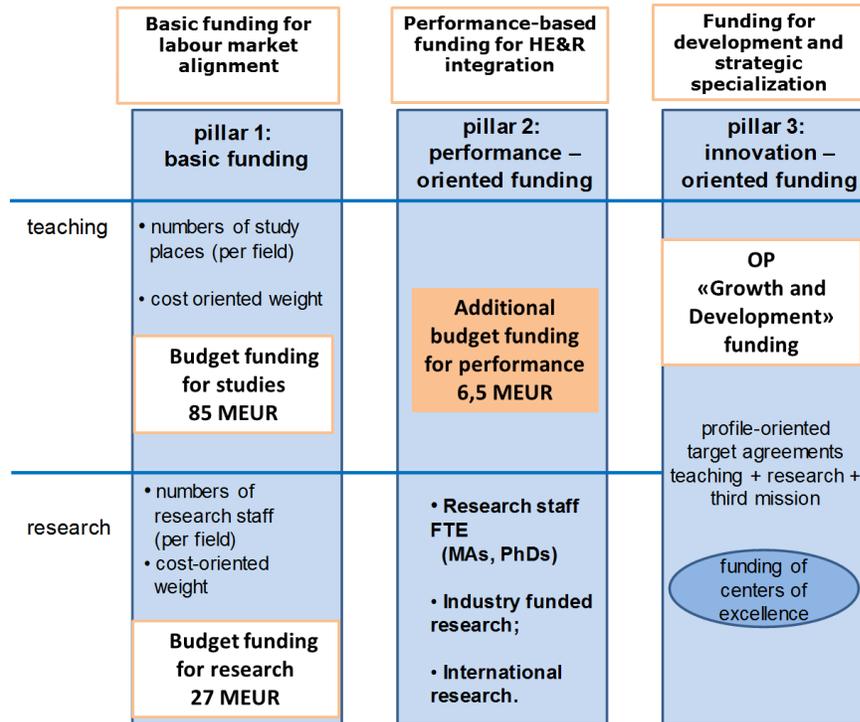
184. In response to the independent system evaluation and connected to the Latvian ambitions to improve the quality of teaching and research as well as to strengthen the innovative capacity in collaboration with industry, a funding reform has been implemented since 2016. The new funding model included a continuation of the existing “study places model” and research funding with a performance-based 2nd pillar funding added.

185. The new performance-based 2nd pillar funding allocates an additional budget of €6,5 million related to institutional performance, using the following performance indicators (Treimane, 2016):

- The number of MA and PhD students and “young scientists” engaged in research (30 percent)
- International funding for research and development projects (e.g. Horizon2020, Erasmus+, etc.) (25 percent)
- R&D contract funding for commercial and public entities (25 percent)
- Funding by local governments for regional research (10 percent)
- Funding for creative and artistic projects (10 percent)

186. The new funding model that combines the existing study-place oriented funding (pillar 1) with additional performance-based funding (pillar 2) is visualized in Figure 7 below. This also includes an envisaged 3rd pillar funding for strategic orientation and innovation in teaching and research. The third pillar funding waits additional resources to be invested in the future development of the higher education system towards a knowledge intensive model.

Figure 7: The new funding model in Latvia



187. Conclusions from the international comparison

- Most countries changed towards lumpsum (block grant) funding
- Many countries integrate some form of performance-based funding
- Many countries integrate output-oriented parameters in their funding models
- Many systems regularly change their funding mechanisms to keep stimulating their HEIs to develop in desired directions
- The strong reliance on tuition fees like in Georgia is rare.