

Higher Education Funding Policy and Research Productivity of Universities in Georgia

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This research study explores the existing funding systems of higher education in Georgia and their influence on universities' research productivity. The research used Harman's (2007) typology of research funding—institutional, project, and special program—to analyze each approach's effect on universities' research productivity. The research revealed that these funding models did not substantially affect the development of scholarly and research capacity. Major barriers to the development of higher education and research are largely related to the amount and financing models. Analysis of the higher education financing policy showed that per capita financing does not allow sufficient research activities at HEI, and targeted financing programs oriented toward developing specific scientific directions or improving scientific infrastructure do not promote research productivity. Based on research findings, the author argues that immediate changes in funding policy are required for the institutional development of university-based research in higher education of Georgia.

Keywords: higher education funding policy, university-based research, Georgia, research and development, research productivity

INTRODUCTION

The organization of the funding system for research is an important policy direction to make a country's economy competitive based on knowledge and innovation development (Jongbloed & Lepori 2015). Governmental funding and policy play important roles in advancing knowledge to better the country's future and society (Santos 2021).

Georgia began to implement an independent higher education policy in 1991. After the Soviet Union collapsed, the higher education and research and development (R&D) sectors of Georgia stagnated, as the society and the government's main priority was survival. Reforms in higher education and R&D were made from 2004-2005, and Georgia became part of the European Higher Education Area in 2005 (Tabatadze 2017; Tabatadze & Gorgadze 2017a). This became the starting point of several important reforms in higher education in Georgia. As part of this reform, Georgia introduced a common accreditation system, a three-stage degree system, internal and external quality assurance mechanisms, and promoted the process of integration of research and teaching. In addition, the reform supported the private sector in higher education, introduced a per capita funding system, and differentiated between colleges, institutions, and universities (Tabatadze & Gorgadze 2017b; Tabatadze & Gorgadze 2013; Chakhaia & Bregvadze 2018). The introduction of different models of systems to fund higher education had an important influence on the

development of university-based research. This article discusses the influence of the existing higher education funding policy on the development of university-based research in Georgia.

This study is part of a larger study that investigated to what extent universities in Georgia have internalized their research mission and developed the capacity to carry out this mission in a sustainable way. This part of the research studies Georgia's higher education funding policy and its influence on university-based research development. The specific questions of the study are as follows:

- What are funding approaches used to finance research and development in Georgia?
- How does the existing funding policy take into consideration scholars and universities' research productivity and promote university-based research development in Georgia?

CONTEXTUALIZING THE RESEARCH

Georgia is a post-Soviet country with a specific geographical location and a small population. Georgia is located on the Eastern coast of the Black Sea and borders Turkey, Armenia, Azerbaijan, and Russia (Tabatadze, 2021). According to the 2014 census, the population of Georgia equals 3 700 000 (Tabatadze, 2018). Soviet heritage still plays an important role in the process of university-based research policy and practice. When the Bolsheviks came to power, which was also the beginning of Soviet science, the Academy of Science was established. This unique and influential entity led science policy and continued to play a crucial role until the Soviet Union's collapse (Graham 1992). The Academy of Science of the Soviet Union was highly centralized, and during the Soviet period, science was funded generously but disproportionately. Despite the enormous amount of funds allocated to research, many universities and institutions were left to function with inadequate equipment (Kneen 1989). All the power and resources were concentrated at the Academy of Science and the State Committee for Science and Technology level. As a result, universities received insufficient funding and resources (Kneen 1989).

The unequal distribution of funds among the Soviet republics was also an important marker of Soviet science management. For example, 66.7% of the scientific personnel and 58% of research institutions were concentrated in Russia (Gzoyan et al. 2015). Further, 72% of the total R&D expenditure was allocated to Russian research institutions (Gokhberg 1996). According to 1991 data, the share allocated to the research institutions in Georgia, one of the republics of the Soviet Union, did not exceed 1.7%, and research personnel in Georgian scientific institutions constituted only 1.2% of the total number across the Soviet Union. Further, the expenditure for Georgian educational institutions was as low as 0.5% of the total budget allocated to research, technology, and development in the Soviet Union in 1991. Finally, Georgia's GDP Expenditure for Research and Development was 1.2% in 1990 and 1991 (Gokhberg 1996).

Even under such a centralized managed system with unequal funding, Georgian scholars had high research productivity. Data on the research and publications in Soviet Georgia can be obtained from the Web of Science (WoS) database. Data obtained from the WoS for 1972-1991 reveal specific fields in which Georgian scientists tended to be more active and, accordingly, had greater research influence in the field. Different categories of physics constituted 36,3% of publications from Georgia from 1972-1991. This high rate of physics publications indicates the development of this specific field in Soviet Georgia. The highest rate of publications was observed during the 1980s, with the highest level achieved in 1984, when the total number of publications was 406. This was the highest number of publications in the post-Soviet period through 2006.

The collapse of the Soviet Union changed the characteristics of higher education of Georgia and imposed important problems and challenges. After the collapse of the Soviet Union, Georgian higher education institutions attempted to take more social responsibility toward the newly independent Georgia and to promote the Georgian language, history, culture, and ethnic identity (Gvaramadze, 2010, Lanahan, 2020). The main challenge for higher educational institutions in the post-Soviet era was "the need to overcome the highly centralized nature of the Soviet educational system and shift from a teacher-centered to a student-centered pedagogy" (p. 189, Lanahan, 2020). Research institutions also have important problems due to the absence of funding. The research infrastructure collapsed, and scientists immigrated abroad to continue their scientific activities (Tabatadze & Chachkhiani, 2022, Gibradze, 2004).

After the Rose Revolution of 2003 and political changes in Georgia, the wave of educational reforms started (Lanahan, 2020). The new higher education accreditation system was introduced (Chakhaia & Bregvadze, 2018). Several important reforms have been undertaken in the field of Science, Technology and Innovation (STI) in Georgia since 2005: (1) Scientific Institutions were separated from the structure of the National Academy of Science and became part of the Ministry of Education and Science of Georgia (State Audit Report 2014); (2) 70 Scientific Institutions were integrated into six public and one private HEI of Georgia in the 2010-2011 academic year; (3) based on the new law on Higher Education of Georgia, a system of three degrees was introduced—Bachelor, Master, and Doctoral (EPPM 2008). Currently, there are 64 HEI in Georgia, 31 of which have doctoral programs (National Educational Enhancement Centre of Georgia 2020); (4) the National Scientific Foundation as well as the Foundation of Humanities, Georgian Studies, and Social Studies, were established in 2005. Five years later, they were unified as Shota Rustaveli Scientific Foundation of Georgia (Hereinafter Rustaveli Foundation). This Foundation has played a crucial role in funding scientific research through grant competitions; (5) in 2017, research was incorporated in the authorization standards of HEIs (Grdzeldze, Darchia, Sanikidze, Glonti, & Tsotniashvili 2019). These reforms changed the institutional landscape of academic research in Georgia (Tabatadze & Chackhiani, 2022). First, there are university or faculty-level research centers or institutes. Second, research is undertaken at 64 research institutes that were integrated with seven Georgian universities in 2010-2011. Third, three research institutes are legal entities by public law and are not affiliated with a university. Finally, the two academies of science undertake very limited research. The National Academy of Science of Georgia is a consultative body of the Government of Georgia. The Agriculture Academy of Science supports the research on and engagement in agriculture through stakeholder engagement, knowledge sharing, and other expert activities.

RESEARCH METHODOLOGY

The following research methods were used in the study: (1) Sixteen semi-structured interviews were conducted with top management and faculty members of two regional and three Tbilisi-based universities. All universities are public. The following universities were sampled for the study: (a) Tbilisi State University (TSU); Ilia State University (Iliauni); Georgian Technical University (GTU); Batumi Shota Rustaveli State University (BSU), and Samtskhe-Javakheti State University (SJSU). The sampled universities had the following characteristics: (a) Universities from the capital as well as from regions of Georgia were sampled; (b) Research Universities with a focus on research and development were sampled; (c) Universities with high ranking in the research were selected; (d) Regional universities with ethnic and religious diversity participated in the study; (e) The professors of these universities were from a wide range of programs from social sciences, arts and humanities, math and science, and medicine. (2) secondary quantitative data were analyzed from the WoS and SCImago ranking databases and (3) secondary statistical data on funding of higher education were analyzed.

Theoretical Framework

Harman (2007) identified different funding mechanisms for university research: institutional or block grants, project funding, and special program funding. Institutional funding is based on student enrolment. Traditionally, this funding comes without strings attached. However, more recently, a clear trend has been to separate institutional funding for research from that for teaching and to increase allocations for mission-oriented funding on a competitive basis' (Harman 2007, p. 318). The competitive basis includes assessing university research performance and allocating funding based on specific research indicators. Project funding is a competitive allocation of research funding based on calls for proposals. The evaluation committees assess the scientific research proposals, and the research projects are funded based on peers' decisions (Harman 2007). Special program funding is the third type of funding Harman identified. Typically, special funding is allocated for priority fields selected by governments. Harman's typology of research funding was used as a theoretical framework for this research study to classify approaches to higher education funding policy in Georgia.

RESULTS

Institutional Funding of Research in Georgia

There are two types of institutional funding in place in Georgia. The first funding model is based on the number of students enrolled or per capita funding. The second type refers to the funding of higher universities' research institutes. The article will analyze both models of institutional financing.

Georgia's higher education funding system changed substantially in 2004 when HEI's input-based funding was replaced with a per capita funding system. The per capita financing means that the state grant for HE follows the student. The funding reform was intended to support anticorruption measures in distributing and spending funds allocated for Higher Education (Chakhaia and Bregvadze 2018). Per capita funding led Georgia's higher education system to be oriented more toward increasing the number of students and focused on teaching (State Audit Report 2014; Chakhaia and Bregvadze 2018; Chakhaia 2013).

The amount HEI received for different fields of science varied according to the student population. 50% of the current student population pursues studies in the Social Sciences, while only 15% of them study Mathematics and Science. On the other hand, 65% of Georgia's publications in Scopus-indexed journals are in the fields of Mathematics and Science, and only 11% are in the Social Sciences (Figures 1 and 2). This situation and the existing funding models have several consequences: First, Georgian HEI's research and teaching are imbalanced. Social Science program faculty members tend to be more involved in teaching than research, while Mathematics and Science faculty concentrate largely on research. The weekly teaching workload of professors of Social Sciences, Law, and Business and Economics at Tbilisi Ivane Javakhishvili State University ranges from 16 to 24 hours, while the weekly teaching workload of the Math and Science professors ranges from 4 to 8 hours (Decree of Academic Council of TSU on Remuneration of Academic Staff 2020). Professors of Social Sciences focus to a very large extent on teaching because of the large number of students, and they are unable to concentrate on research even though, in some HEIs, they are formally required/recommended to devote an equal amount of time to research. This requirement is impossible to meet in practice, and there is no instrument to measure the professors' research workload. This is in stark contrast to the case in Math and Science, in which the professors have impressive experience in research, conduct extensive research, and publish their results. However, the number of students in Math and Science is low. Professors have fewer opportunities to apply their research to the teaching process and attract more students to be involved in their research. The shortage of teaching hours is an obstacle to researchers from research institutions engaging in the teaching process.

FIGURE 1
THE NUMBER OF STUDENTS BY FIELD OF STUDIES 2019-2020

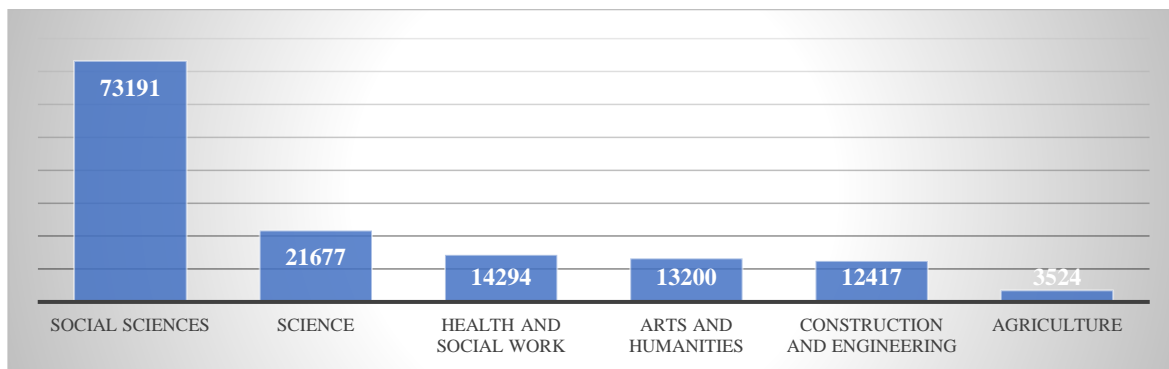
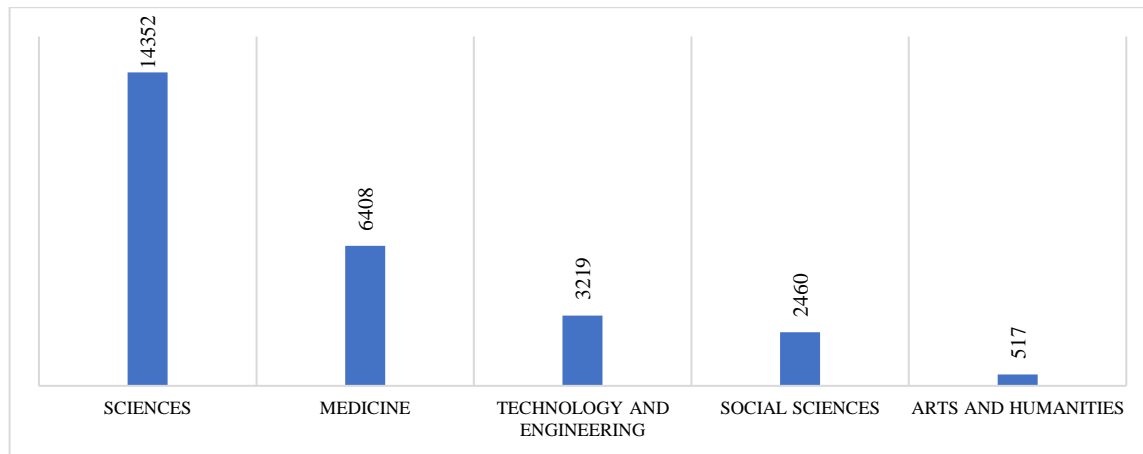


FIGURE 2
NUMBER OF PUBLICATIONS BY FIELD BETWEEN 1996 -2018

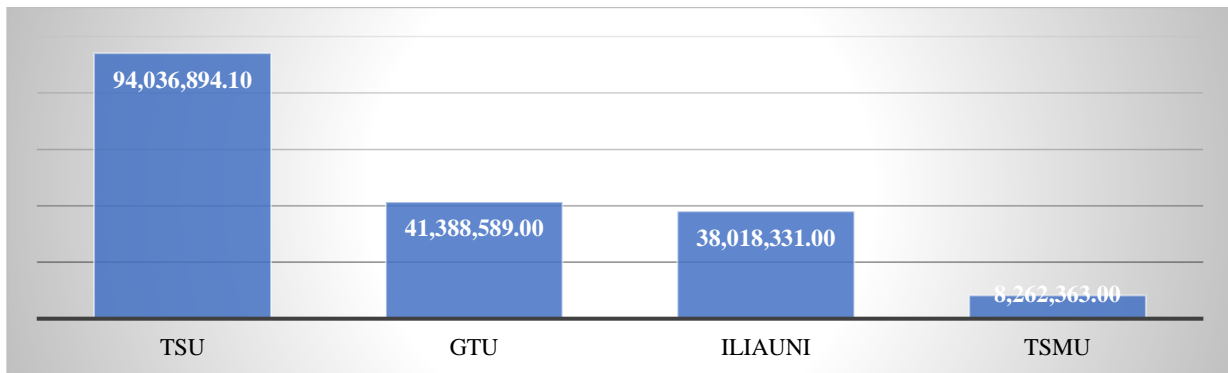


Second, professors' salaries are determined largely by the number of students and, accordingly, by the number of teaching hours rather than their research's quality. One of the professors from a Tbilisi-based university mentioned: 'You are teaching, you have the obligations, you have your functions, the scientific work is not specifically listed in these functions.' Accordingly, the program's funding and, subsequently, salaries differ from program to program. Social Sciences are funded better, and their professors earn higher salaries compared to their counterparts in the Mathematics and Science departments (Decree of Academic Council of TSU on Salaries of Academic Staff 2013), even though professors of Mathematics and Sciences have higher research output compared to the researchers in Social Sciences (See Figure 1 for details). This pattern was shown clearly in the interviews. As one of the professors from Math and Science department underlined: 'Our colleagues from economic and law departments managed to lobby and adopt an idea of getting salaries based on income generated from students. We were against this idea but in vain. Now, I have 2000 GEL, and professors at the law department have 5000.' Another commented the 'Funding policy is not fair. Professors from the economic and law department have three times more salaries compared to us.'

Another type of institutional funding related directly to research funding in higher education is also in place in Georgia. The state funds research institutions, which were separated from the Academy of Science in 2005 and integrated with higher education institutions in 2010-2011. They receive their base annual funding for research purposes. From 2006 until 2019, approximately 200 000 000 Georgian Lari (GEL) was allocated to these institutions. The four largest recipients of state funds for research institutions are Tbilisi State University (TSU), Georgian Technical University (GTU), Ilia State University (ILIAUNI), and Tbilisi State Medical University (TSMU) (See Figure 3 for details).

The integration of scientific institutions with universities was an important strategic decision to integrate research and teaching in higher education. Officially, universities have become responsible for financing research institutes. To do so, they receive additional special funds from the Ministry of Education and Science of Georgia that they forward automatically to research institutes. The greatest part of this funding (90%) is spent on the research staff members' monthly salaries, while a very small amount is allocated to business trips, research, or infrastructure development. The portion of such costs has increased slightly during the past several years. Such a structure of the budget and expenses shows that the amount received is used only for the salaries of research institutes' research staff and not for research studies or infrastructure costs.

FIGURE 3
FUNDING OF HEI RESEARCH INSTITUTES IN 2006-2019 (IN GEL)



The institutional base funding for research institutes is allocated to HEI without any accountability mechanisms and requirements for research productivity. The participants in the study also emphasized the problems associated with these institutes' functioning without any accountability or performance measurement mechanisms: The scientific productivity of research institutes is not measured. We have some research studies in these institutes, but it is mostly undertaken by the initiative of a few individual researchers. The state audit highlighted the ineffectiveness and formality of the integration process in the audit report conducted in 2014: 'Integration was undertaken only physically; there were no complex measures taken for effective synergy' (p. 37).

The research revealed that institutions' funding in Georgia, realized through per capita financing and base funding for research, does not take into consideration scholars and universities' research productivity and does not promote sufficient research activities at HEI. In addition to the institutional funding model, there are project funding and targeted funding models oriented toward developing specific scientific directions or improving scientific institutions or HEI's infrastructure. The next sections of the article discuss these funding models for HEI to analyze the way they support university-based research development.

Project Funding/Competitive Allocation of Public Funding for Research

Competitive allocation of public funding for research was an important intervention on the Government of Georgia's part in improving research management and the quality of research in Georgia. The funding is granted based on the competition conducted by the Shota Rustaveli Science Foundation of Georgia and was the first attempt at a competitive allocation of public funding for research. The participants in this study spoke very highly of the Foundation and compared it to 'a candle in a dark room.' According to some, the Foundation supports the development of research in Georgia. Public funding of research increases year to year, but despite this, the participants still consider that the allocation of funding to the Rustaveli Foundation for competitive grants is insufficient: 'More funds should be allocated to science. Its budget should be 4-5 times higher.'

The Science Foundation funds the projects through a competition system. Compared to other funding systems, such as the Academy of Science of Georgia's funding, fixed funding allocation to research institutes integrated at universities, or program-based funding of Georgia HEI, this is the only approach that takes the quality of the research and the researchers' qualifications into consideration. Analysis of the distribution of grants shows that most of the grants are allocated to the field of science, which has the highest research outcomes according to the WoS. Approximately 41% of the fundamental research grants were awarded to Math and Science disciplines in 2011-2018 (Rustaveli Foundation 2019). The funding distribution among the fields corresponds to Math and Science professors' share of publications in the WoS. The same pattern is observed concerning HEI' funding. 52% of grants are allocated to Tbilisi State University, which has the largest share of publications from Georgia in the WoS (more than 40%).

University professors assessed the introduction of the competitive funding mechanism positively; however, an important issue the study participants identified was the absence of funds for the different fields in the Rustaveli Foundation. For example, the social sciences discipline is broad and cannot cover all minor fields with limited financial resources. As one of the study participants indicated, ‘It is madness when Rustaveli Foundation is a “God,” where the whole academic staff goes to pray... Different foundations should be established for different fields of science... It would be much more effective... It would have more value.’

Moreover, the study revealed problems related to the project evaluation procedures. The participants underscored the absence of objectivity in the evaluation process and the lack of objective criteria for the assessment. One of the participants recalled, ‘We submitted a research project to develop an encyclopedia of terms. Our multidisciplinary field does not have this type of encyclopedia. The international expert graded 98 points out of 100 our research proposal... [The] local expert gave only 55. This project failed because a local evaluator dropped the project without scientific justification and criteria. After that, we have never submitted projects anymore.’

These problems were also evident in other respondents’ interviews. One participant said, ‘I cannot assess the evaluation process positively. Research grants are given to projects which are very much similar. I have experience working with international research foundations, and their evaluation system is much better.’ Some participants who were happy with the Rustaveli Foundation’s decisions mentioned the challenges of evaluating the research project applications: ‘Actually, I cannot complain. I got eight research grants out of 10 of my applications. It is difficult to claim that research projects are not evaluated objectively; however, there are some complaints in this respect.’

Special Program Funding

Together with students’ tuition fees, there are two primary sources of this additional funding: (1) Funding for infrastructure projects undertaken through the Educational and Research Infrastructure Development Agency, ESIDA, and (2) funding received from the state, which covers the tuition for all undergraduates in the state-prioritized disciplines. I will analyze the spending of these state funds and their relation to HEI’s research productivity or science fields.

As mentioned above, infrastructure projects are undertaken through funding from ESIDA, which has spent approximately 87 million GEL between 2012 -2020 to develop Georgian public HEI infrastructure, including the renovation of research institute infrastructure integrated with HEI from 2010-2011. The majority of funding (over 90%) was distributed among four major public universities. Tbilisi Ivane Javakishvili State University (TSU) received 43.0% of the total funding, while Georgian Technical University (GTU) received 35%, Ilia State University (ISU) 6.20%, and Tbilisi State Medical University (TSMU), 5.90%. However, HEI’s infrastructural funding is not always associated with their research productivity. For example, ISU produced 20% of Georgia’s publications from 2006-2019, according to the WoS database, and received only 6.20% of the total state funding for HEI, while GTU accounted for only 12% of Georgia’s publications in the database during the same period and received 35% of the funding for state infrastructure projects. This example demonstrates that HEI’s infrastructure funding, including that of integrated research institutes, is not based on these universities’ and institutions’ productivity.

The same problem was observed while analyzing the targeted funding program for science fields that the state has prioritized since 2013. The program’s goal was to attract students in these prioritized fields to promote their development (State Audit Report 2019). The study analyzed the distribution of funding for the targeted programs among universities and scientific disciplines and compared the results to the same universities and scientific fields’ scientific productivity. The analysis revealed that the funding was uncorrelated with either the HEI or the scientific fields’ research productivity. The Construction and Engineering fields, as well as Arts and Humanities and Social Sciences, received the greatest portion of the program’s funding. In contrast, Mathematics and Science and Agrarian Sciences received the least, although research productivity is greatest in Mathematics and Science and lowest in the Arts and Humanities and Social Sciences. Thus, it is clear that the correlations between research productivity and funding are strongly negative (See Figures 4 and 5 for details).

FIGURE 4
NUMBER OF STUDENTS FUNDED BY THE STATE WITHIN SPECIAL PROGRAM BY
FIELD OF STUDY 2013-2016

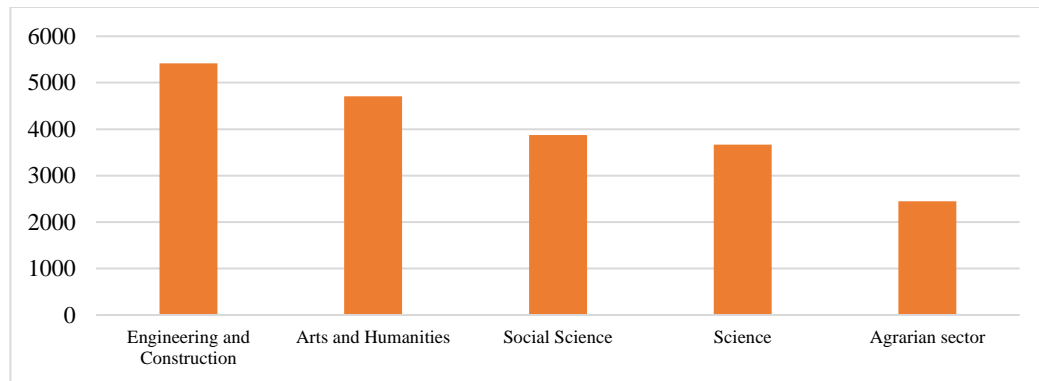
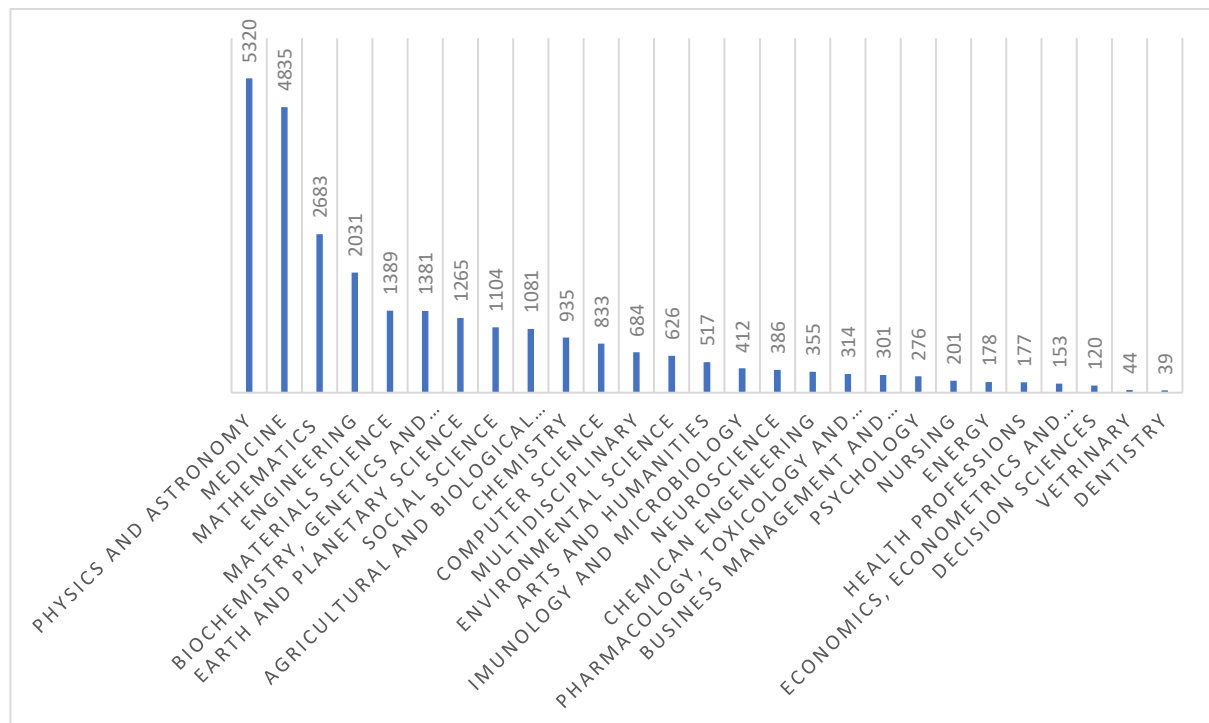


FIGURE 5
NUMBER OF GEORGIAN PUBLICATIONS BY DISCIPLINES 1996-2018 (SCIMAGO)



The analysis of the same program according to the funding distribution among HEI revealed interesting patterns. The results showed that funding distribution does not consider HEI's research productivity and provides more funding to those with lower research productivity as measured by publications in the WoS. As indicated earlier, four major HEI have high research productivity: TSU leads, followed by ISU; however, the GTU received the greatest share of the funding in the program framework, ISU received little funding, and TSMU has received nothing from the program. Other HEI that have very low research productivity received more than did ISU (See Figures 6 and 7 for details). This indicates that more funding is allocated to the universities with lower research productivity, which underscores the program's inefficiency in developing the research capacity in particular fields of science.

FIGURE 6
PUBLICATIONS BY UNIVERSITIES 2006-2019 (WEB OF SCIENCE)

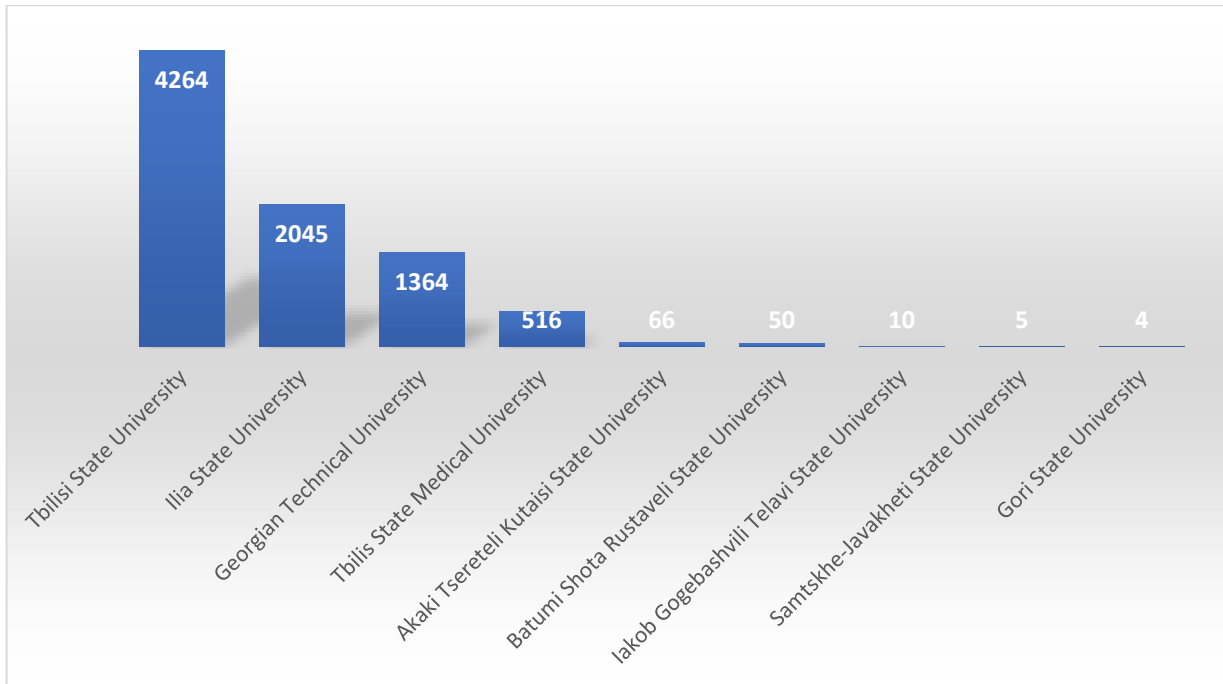
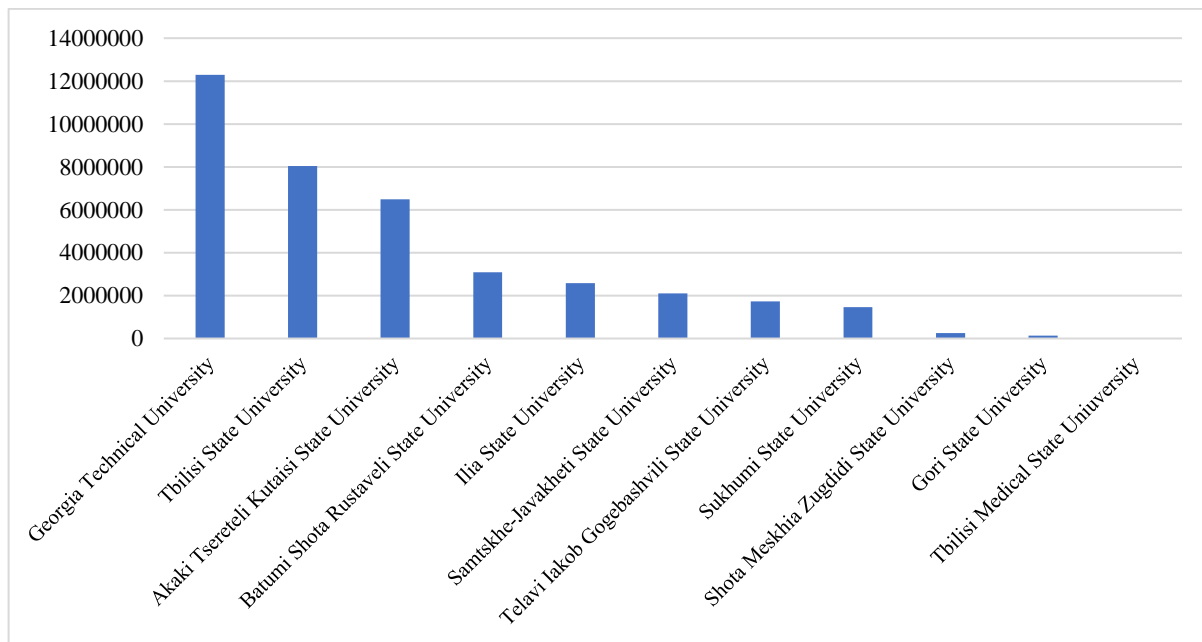


FIGURE 7
ALLOCATION OF FUNDING FROM SPECIAL FUNDING PROGRAM BY
UNIVERSITIES 2017-2019



Business Funding/ HEI and the Business Sector's Lack of Cooperation

An important source of research funding is universities and industry cooperation through commercializing research (Rasmussen, 2008). This important direction is not used well in Georgia, and HEI and industry cooperation rarely. One of the participants indicated, 'We do not cooperate with business; industry and research do not stand hand in hand.' This lack of cooperation is a concern for the Director of the Shota Rustaveli Science Foundation. As he indicated, the Foundation funds are not linked with industry even for applied research projects. 'In reality, these applied research projects are fundamental. They are not used by [the] business sector' (1 TV Channel, Interview with Zviad Gabisonia, November 28, 2019).

Although cooperation between industry and research is very poor overall, the study participants listed several important examples of such cooperation: 'Professors from [the] Chemistry Department cooperate very actively with pharmacological companies'... 'We have demands from [the] business institute of Mineralogy, [and the] Institute of Morphology conduct[s] research on cancer and medical companies utilize it widely'... 'I can recall one applied research. One commercial company funded it. It was about the genetics of trout.'

An interesting problem emerged in this study related to the financial management issues of cooperation between industry and research. In the case of such collaboration, the money received from the business goes to the university budget, which is important from an organizational point of view. However, the way it serves the individual researcher's interest is not obvious because even with additional funding, their salary does not change. As one of the participants in the study noted: 'Here is another question ... why would [a] professor with [a] salary of 500 GEL work additionally on [a] commercial project; why would he work for free? ... The amount of the research goes to the university budget and [the] researcher has no benefit.' Perhaps universities need to have clearer procedures for additional remuneration of the research or academic staff involved in commercialized research projects.

DISCUSSIONS AND CONCLUSION

The study results revealed that Georgia introduced different funding systems, including institutional funding represented by per capita funding of higher education, funding of research institutes integrated into HEI, and project funding through the Scientific Foundation. In 2013, the state also introduced special program funding that covers the tuition for all undergraduate students in state-prioritized fields. Another form of special program funding is financing for infrastructure projects within higher education undertaken through the Educational and Research Infrastructure Development Agency.

These funding models did not have a substantial effect on the development of scholarly and research capacity. Major barriers to the development of higher education and research are related largely to the amount and models of financing. Research funding has not exceeded 0.3% of the GDP per capita since the collapse of the Soviet Union in Georgia, while a different situation is observed in developed countries. In European Union member states (Georgia aspires to become a member of the EU and is part of the European Higher Education Area), total higher education spending on R&D was 0.47% of the Gross Domestic Product (GDP) in 2012 (OECD 2014). Increased spending on research is also obvious in the past decade in these countries (Jongbloed & Lepori 2015). Hence, increasing budgets for research is an important objective for university-based research development in Georgia.

Analysis of the higher education financing policy showed that per capita (student) financing does not allow for sufficient research activities at HEI and targeted financing programs oriented toward developing specific scientific directions or improving scientific institutions or HEI' infrastructure do not promote research productivity and university-based research development. The study revealed that the institutional program funding in higher education is reflected in per capita financing based on student enrollment and funding for research institutes. Although HEIs receive both institutional and base funding, the competitive criteria of research performance and productivity are not included in obtaining state subsidies. The existing institutional funding system leads universities to focus on the number of students rather than on developing instruments to improve research performance. There is a clear trend in financing higher education worldwide in which core funds are based on institutional performance measures or on expected outcomes

as defined by the agreement between the funding agencies and universities (Jongbloed 2011; Jongbloed & Lepori 2015). This performance and its results are assessed regularly by quality assurance agencies (Harman 2007).

The study participants assessed the introduction of a competitive funding system through the Rustaveli Foundation positively. The important issues, such as the lack of funding, the application's bureaucratic mechanisms, which lead professors to refrain from applying, complex accountability procedures, the absence of objectively measured criteria, and the centralization of the scientific project evaluation process, are challenging areas that need to be improved. The improvement of competitive project-based funding would facilitate university professors' research work further. The countries could then try to increase the share of project funding that funds research (van Steen 2012). As van Steen's study showed, project funding begins at 23% and exceeds 50% of public research funding in different OECD countries. The tendency to increase project funding will be important for the Georgian funding model.

The study showed that targeted special program financing, which is oriented toward developing certain fields of science, was introduced; however, research productivity and performance quality assurance instruments are not in place now as one of the important financing criteria. Infrastructural special programs are also used to fund higher education but do not provide financing based on high scientific achievements. Institutional and targeted program funding is becoming performance-based (Jongbloed & Lepori 2015), and this policy trend can be considered in planning targeted program financing in Georgia.

The study revealed that even though business and higher education cooperation is promoted, with the commercialization of research being an integral part of the reforms, flexible institutional mechanisms are not created for advancing applied research. Another area for expansion can be partnering with business organizations and promoting research addressing the various needs of these business organizations. It can be 'accomplished by providing resources for direct use in commercialization projects or to develop professional expertise in technology transfer in the university sector, by experimenting with new initiatives, and finally by facilitating cooperation between commercializing organizations' (Rasmussen, 2008, p. 506).

The major task of today's policy is to address these challenges and problems and ensure the successful completion of higher education financing policy reform.

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