

**Nazarbayev University Graduate School of Education**

***Development of Strategic Directions for Education  
Reforms in Kazakhstan for 2015-2020***

***University Sustainability in Relation to Higher  
Education Funding Model in Kazakhstan  
in the Context of Transition Period***

**Diagnostic Report, 2016**

**Astana, Kazakhstan**

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## *Foreword*

For the past four years, the international team of Nazarbayev University Graduate School of Education's researchers and faculty members has jointly worked with local policy makers, practitioners and stakeholders on the diagnostic analysis of priority areas of the current educational reforms in Kazakhstan. With the official title of *Development of Strategic Directions for Education Reforms in Kazakhstan for 2015-2020*, the Project has been informally recognized as the Roadmap group. The study has aimed to provide analytical support for the development and implementation of national policies across different sectors of education.

In 2016, based on the discussions held with policy makers, education leaders, practitioners and other stakeholders, the project team has focused on studying issues of university sustainability in respect of the current higher education funding model in Kazakhstan as the one of the main priority directions of the country's education system. Guided by the strategic policy documents "The President's National Plan '100 Concrete Steps'", State Programme for the Development of Education 2011-2020, State Programme for the Development of Education and Science 2016-2019, the work on the project team included data collection and analysis via arranging meetings with practitioners, visits to mainstream secondary schools, colleges and universities across the country to receive evidence of the current progress of the educational reforms as well as identify their strengths and weaknesses for the further modernization of the education sector in the country. The project team also met with leading international analysts that provided their expertise in the priority themes of the Project. The study has availed itself of the comprehensive review and analysis of Kazakhstan's past and present policies and practices that have accumulated local best practices (Diagnostic Report, 2014).

### *Acknowledgements*

The project team gratefully acknowledges the support provided by the Ministry of Education and Science of the Republic of Kazakhstan. They also express thanks to all education professionals who have shared their insights and perspectives on the priority education issues under study. The project team acknowledges the interview participants' time and expertise shared with them. The aims of this project could not have been achieved without their close cooperation. The preparation of this report could not have been accomplished without the assistance of the project administration staff.

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## **List of Acronyms**

HEI	Higher Education Institution
MoES	Ministry for Education and Science (Kazakhstan)
NU	Nazarbayev University
NGO	Non-government organisation
NUGSE	Nazarbayev University Graduate School of Education
OECD	Organisation for Economic Co-operation and Development
SEAS	State Educational Accumulative System
SPED	State Programme of Education Development for 2011-2020 (Kazakhstan)
SPESD	State Programme of Education and Science Development for 2016-2019 (Kazakhstan)
THE WUR	Times Higher Education World University Rankings
UNT	Unified National Testing
WB	World Bank
QS WUR	QS World University Rankings

## *Executive Summary*

Over the last years the Ministry of Education and Science of the Republic of Kazakhstan has started to apply new approaches to higher education funding. The attempt to try and implement new funding mechanisms is based on the fact that Kazakhstan departed from the principle of “funding to all” to the principle of “funding to everybody”. The coverage of the student’s tuition fees rather than funding an academic institution has become part of the common practice.

The financial mechanism of higher educational institutions is based on the multichannel system of financing. In these conditions not only the sufficiency of financial resources but also the optimum combination of various sources of financing, their influence, both on the development of a higher educational institution and the quality of specialists training is important. To increase the level of its competitiveness a higher educational institution has to adhere to an efficient strategy of development, optimum financial policy and actual management in the implementation of own activity.

In modern market conditions of managing an objective need in increasing the productivity of budgetary funds allocated for financing of expenses on higher education has arisen. Models of financing should be notable for flexibility, responsiveness to market initiatives, using education opportunities during whole life. In this respect, resources should be aimed not for support but for efficient development of Kazakhstani educational system taking into account international experience and national features.

On the whole, the initial proposals of the report are for comment and debate. The main concerns are to reduce inequities in educational outcomes and inefficiencies in the distribution of resources and to raise the quality of educational achievement for all. The report is advocating policies and programmes which will ensure that strategic reforms and innovations are successfully implemented in a purposeful and timely manner and which build on the best of current and past practice in Kazakhstan.

## **1. University Sustainability in Relation to Higher Education Funding Model in Kazakhstan in the Context of Transition Period**

This report presents an analysis of the funding of higher education in the Republic of Kazakhstan.<sup>1</sup> The report is prepared for the Graduate School of Education of the Nazarbayev University (NU) in Astana in Kazakhstan as part of the policy study on the future directions for the Kazakhstani higher education system titled “*The Development of Strategic Directions for the Education Reforms in the Republic of Kazakhstan for 2015-2020*”. The underlying study provides food for thought for the further development of the higher education funding structures and mechanisms in Kazakhstan on the basis of extensive information made available by Nazarbayev University Graduate School of Education and on the basis of a large number of interviews conducted with a range of experts and representatives of the key stakeholders in Kazakhstan’s higher education sector, including the Ministry of Education and Science of the Republic of Kazakhstan as well as many public and private universities.

Various stakeholders provided rich information on particularly the funding instruments and mechanisms that apply to higher education in Kazakhstan, such as the way in which the government allocates its public funds to universities, the role of tuition fees as well as the contributions of the private business sector. The interviewees represented public authorities, a wide range of national, state and private institutions active in Kazakhstan’s higher education, institutions from various geographical locations in the country as well as actors at the rectorate level, faculty level and support units. As a result, the reflections presented in this study provide a comprehensive analysis of how the funding mechanisms in Kazakhstan’s higher education are perceived in terms of their logics, effectiveness and practical implications for various actors in the system.

Next to the interviews conducted, this study relies on international publications on higher education financing (e.g. Arnhold *et al.*, 2014; de Boer *et al.*, 2014) as well as a number of reports and policy papers on higher education in Kazakhstan (e.g. Canning *et al.*, forthcoming, the Ministry of Education and Science, 2016; NUGSE, 2014). The information and data collected in this project are analysed and assessed in terms of the

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<sup>1</sup> All analyses, interpretations and statements are the prime responsibility of the authors.



broader framework of the strategic objectives of higher education in Kazakhstan as well as the academic and expert discourse on funding of higher education.

### **1.1. Structure of the study**

This study starts with a brief explanation of the project. In order to structurally reflect on the funding mechanisms of higher education in Kazakhstan, this report discusses a general analytical framework for assessing financial relationships and instruments in higher education. Firstly, we present a state-of-the-art overview of higher education in Kazakhstan, including a brief description of the funding mechanisms that are applied. We then discuss the implications of the current funding structures and mechanisms from the various stakeholder perspectives encountered during the interviews and data collection exercises. Finally, we provide a number of conclusions and food for thought to further develop the funding mechanisms in Kazakhstan's higher education in the context of the strategic objectives of the system. Based on an "outsider's perspective", the Report concludes with providing some concrete policy recommendations to be considered.

### **1.2. Research design and methodology**

The present study seeks to examine how the current higher education funding model in Kazakhstan supports sustainability of higher education institutions (HEI) and strategic development goals for higher education and science as outlined in the national higher education and science development framework documents *the State Programme for Education Development 2011-2020* (MoES, 2010) and the *State programme for Education and Science Development 2016-2019* (MoES, 2016). This research applies case study research design (Yin, 1984) engaging multiple perspectives of higher education stakeholders which represent different types of higher education institutions and the Ministry of Education and Science.

One set of primary data in this study comes from the total of 18 semi-structured face-to-face interviews with high and medium-level leadership representatives at 15 institutions of higher education (Table 3). These interviews were conducted in July and September of 2016. The first round of interviews conducted in July, 2016 informed researchers

about the perspectives that representatives of higher education institutions hold about the current higher education funding model in Kazakhstan and how it supports sustainability of higher education institutions in the country. The first round of interviews also allowed verifying the interview protocol which was applied during a more extensive second round of data collection conducted for this research in September.

Table 1. Data sources

#	Institutions represented in the study	Participants interviewed
1.	Ministry of Education and Science, Republic of Kazakhstan	Department level leadership engaged with higher education and higher education funding policy
2.	Autonomous public comprehensive institution of higher education offering programmes in various areas of studies.	Representative of central HEI administration
3.	Public HEI of regional importance specializing in one area of studies while also offering programmes in other directions of studies, located in Central Kazakhstan.	Representatives of institutional leadership
4.	Public HEI of regional importance offering programmes in various directions of studies, located in Eastern Kazakhstan.	Representatives of institutional leadership
5.	Public HEI of regional importance specializing in one area of studies.	Representatives of institutional leadership
6.	Public HEI of regional importance offering programmes in various directions of studies, located in Western Kazakhstan.	Representatives of institutional leadership
7.	Public HEI specializing in one area of studies, located in Western Kazakhstan	Representatives of institutional leadership
8.	Joint stock company HEI mainly specializing in one direction of studies.	Representatives of institutional leadership
9.	Joint stock company HEI offering study programmes in social sciences.	Representatives of institutional leadership
10.	Public national university offering programmes in various areas of studies.	Representatives of institutional leadership

Table 1. Data sources (continued)

11.	Public national university specializing in one area of studies while also offering programmes in other directions of studies.	Representatives of institutional leadership
12.	Public national comprehensive university offering programmes in various areas of studies.	Representatives of institutional leadership
13.	Public national university specializing in one direction of studies.	Representatives of institutional leadership
14.	Public national university specializing in one direction of studies.	Representatives of institutional leadership

Of the total number of institutions engaged in this study, one is an autonomous higher education institution delivering higher education in multiple directions of studies as a comprehensive-type university. Another five institutions of higher education represented in this study are public HEIs of regional importance. Three of them offer study programmes in multiple directions of studies, while two of them specialize in one area of studies. Two institutions of higher education in the sample of this study have the status of Joint Stock Company which means public and private co-ownership of a HEI. The primary field of studies is social sciences for both of these institutions, although one of them appears to be more specialized in one area of studies. Further data in this study comes from five national universities, two of which specialize in one area of studies while other three are more comprehensive in their offer of study programs. Finally, perspectives of two private institutions of higher education are also represented in the data of this study.

Face to face semi-structured interviews with two officials at the Ministry of Education and Science form the second set of primary data in this study. The heads of two departments at ministry interviewed for this study possess expertise important in describing and evaluating the fit between the approach in higher education funding, sustainability of HEIs, and the national strategic development goals for the sector of higher education.

An advantage of case study research design is that it enables triangulation of various perspectives in examining a single phenomenon which in this case is the alignment of higher education funding, sustainability of HEIs, and the national vision of strategic goals in the sector (Yin, 2009: 116). Triangulation of stakeholders' perspectives on how the current higher education funding model supports sustainability of HEIs and aligns with national strategic development goals for the sector in this study is achieved by diversity of institutional profiles which study participants represent. Triangulation of the different perspectives on the issue addressed in this study forms the core of data analysis approach in this paper.

In addition to triangulation of stakeholders' perspectives, data analysis in this study utilizes a normative framework on characteristics of higher education funding which also includes result or output oriented higher education funding model. This model is derived from research which informs about internationally effective approaches in higher education funding aimed at achieving higher education goals associated with such public goods as increased quality of human capital, labor market outcomes, quality of higher education, and alike.

Based on the design of this study, interview data in the report was analyzed for the following themes: (1) the strategic priorities of Kazakhstan's higher education sector and the individual universities; (2) the operation of the State Grant System; the role of tuition fees; (3) resource diversification (including the role of regional authorities); (4) the level of financial autonomy and its relation to transparency; (5) performance incentives in the system; and (6) student financial support. Observations emerging from the interview data are described in interview data results section followed by the analysis of policy options for Kazakhstan to enhance the fit between higher education funding model, sustainability of higher educational institutions, and national strategic goals in higher education.

### **1.3. Analytical framework for higher education funding**

Funding of higher education is a complex activity with many stakeholders, potential relationships, funding arrangements and financial streams. This leads to a continuous balancing act between a multitude of interests, historically grown situations, legal and

practical limitations and political processes. Therefore, funding arrangements often contain multiple elements and incentives.

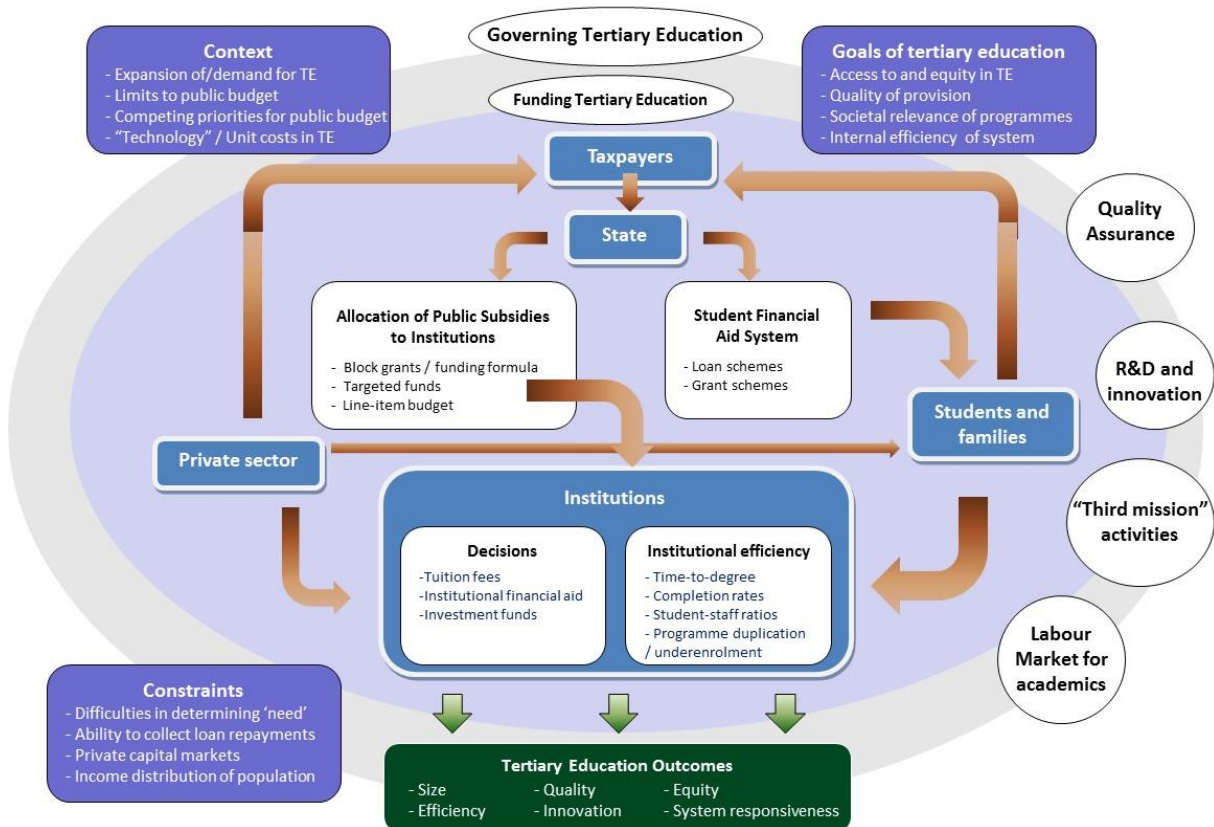


Figure 1: Framework for analysing higher education funding arrangements (Vossensteyn, J.J., 2015)

In order to analyse higher education funding arrangements, this nowadays takes place in the context of international developments and strategic priorities set by the individual states. In this context, the Modernisation Agenda for higher education in Europe forms an interesting reference framework for analysing and benchmarking national funding arrangements (European Commission, 2011). Regarding the financing of higher education, the Modernisation Agenda for the past five years stressed that:

1. States should ensure a sufficient level of funding for HE (reduce funding gap with US & Japan)
2. States should examine their mix of student fees and support schemes in the light of their actual efficiency and equity

3. Financial autonomy: Universities should be responsible and accountable for their resources
4. University funding should be focused on relevant outputs rather than on inputs
5. States should find the right balance between core, competitive and outcome-based funding

Modern higher education funding is concerned with finding the right balance between financial autonomy, resource diversification and performance orientation. This is related to the overall developments from central state steering towards more market regulation and decentralised decision-making in which competition and linking budgets to performance gains importance.

More market-based principles aim to stimulate more efficiency, greater demand orientation, responsiveness among stakeholders like institutions and students and rationality. On the other hand, higher education also remains to have some “public good” characteristics and thus government should stay involved. Therefore, introducing more self-regulation, competition and performance orientation should always be accompanied with some form of monitoring and continuous dialogue to prevent too much complexity and diversity in the way higher education is performed. This leads to a growing role for accountability and quality assurance in contemporary higher education.

#### **1.4. Funding models for higher education: issues, objectives and options**

Experiences have shown that traditional state funding mechanisms in higher education often include a number of specific problems:

- Line-item budgeting and input control: these lead to relative inflexibility and a disconnection between higher education objectives and funding
- Annual budgets: these lead to situations of “December fever” where units have to spend all their funds within a year because they otherwise have to return the left over budget and will face budget cuts the next year. Annual budgets can also lead to instability and no reliable calculation base, particularly if the funding ministry has an unstable budget or priority setting.
- Incremental budgeting: the historical basis does not provide incentives to improve or renew performances of HEIs.

- Ex-ante state allocations: often include low information about real costs and performances and provide little room for flexibility. They also often contain a bottom-up approach of financial plans from multiple deans with their own wish-lists and nobody capable to make a realistic priority setting
- Steering through regulations: leads to uniform solutions for diverse situations and problems as well as to very strategic institutional behaviour.
- Little financial sources: lead to a strong dependency of HEIs on state funding running the risk of serious problems in case of strong changes on the government side.

Based on these problems, a number of criteria can be developed that help to improve public funding models for higher education (Arnhold *et al.*, 2014):

- Stability: in order to guarantee a certain level of basic infrastructure (equipment, staff and knowledge) there should be some level of stability in the funds provided to HEIs. This can be in the form of fixed footings per institution, programme or core group. This has to happen in a transparent way and potentially based on a basic conception of costs. There should be only limited room for adjustments over time with only a long term orientation towards the likelihood of existence or non-existence of particular activities.
- Incentives: a part of the funds should be given on the basis of incentives in order to stimulate competition, demand orientation, performance orientation and the promotion of strategic goals, profiles and innovation.
- Autonomy and flexibility: on the side of the HEIs in order to internally allocate the funds in an appropriate and flexible way. To allow individual priority setting in order to achieve profiling. This also includes potential for reserves and investment behaviour.
- Legitimation: in order to ensure a proper spending of tax-payer money. This implies that 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: accountability.
- It is important is that funding mechanisms need to have a strategy that give direction towards the priorities set at system level: funding without strategy

lacks orientation and strategy without funding is useless because HEIs cannot invest in the activities wished from them or have no incentive to do so. Whether we like it or not: Money is the ultimate driver of the system.

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

1. a stable basic-funding part to stimulate stability to perform basic tasks and cost orientation
2. a performance-oriented part that stimulates objectives and performance orientation
3. an innovation-oriented part that enables investments in strategic objectives

#### **1.4.1. Options for funding models**

When national governments allocate funds to the publicly funded higher education institutions in their system, there are various options to do this. A few of them have already been indicated in the previous paragraph. The major options include the following (de Boer *et al.*, 2014):

- Discretionary incremental funding in which the government allocates the budget like the previous year with a potential compensation for inflation correction or growth in the system.
- Contracts with individual HEIs based on negotiations about their mission. These can be detailed individual agreements or more broad framework contracts.
- Project funding through a system of competing proposals: either for teaching, research or any other type of activity.
- Formula funding: This means that institutions are allocated funds for various types of cost- or performance indicators that are weighted according to their priority and context. As funding formulas apply to all institutions, they guarantee that different HEIs are treated equally and thus promote transparency and fairness. They do not prescribe how the funds should be allocated within a HEI.



- Vouchers: public funding is provided to students in terms of “learning entitlements” that they can spend at the institution and/or programme of their choice.

These options are reflected in Figure 2.

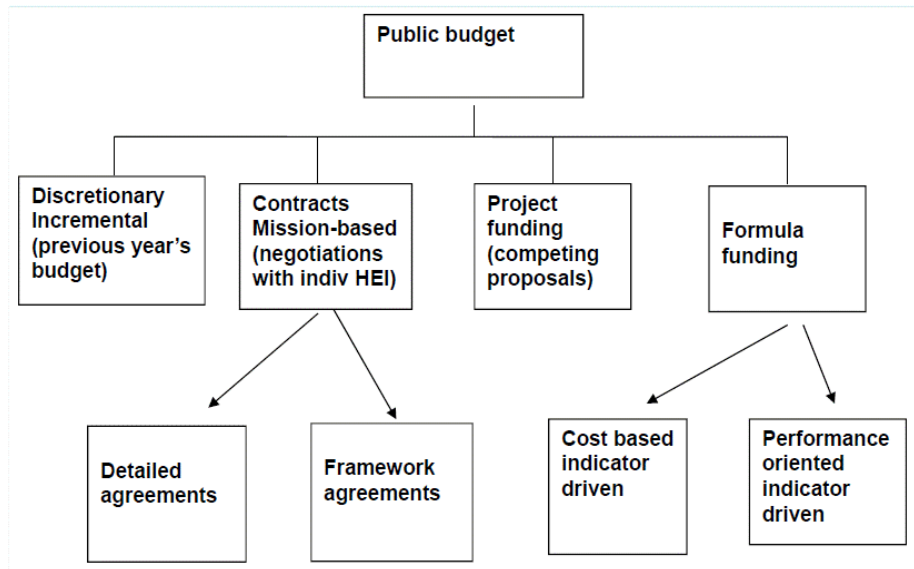


Figure 2: Funding options for allocating public funds to HEIs

Of course, depending on the national context and objectives within the system, a combination of the various funding options and indicators within them can be chosen.

#### 1.4.2. Lump sum financing and the (dis)advantages of decentralisation

In order to stimulate financial autonomy, most countries provide the public funding nowadays by means of a lump sum (block grant) which enables HEIs to internally allocate funds according to their own wishes (within certain limits). This means that this will generate a certain decentralisation within the system. This is often advocated for reasons of allocative efficiency in the system. But there should always be a proper balance between centralisation and decentralisation in terms of autonomy and responsibility, balancing between academic values versus the logic of the market, as well as between rich and poor units/departments and institutions. The advantages and disadvantages of decentralisation may also have an impact on the funding model chosen

in the higher education system or within individual HEIs (Sagintayeva & Kurakbayev, 2015).

Advantages of decentralisation are:

- Increased responsibility of units/institutions for their activities requiring more vision, profile, strategy, transparency and visibility
- Increased cost-effective use of resources, as responsible units/institutions may want to do more with their resources if they have better insight in the costs of their activities
- Increased speed of decision making as a result of a stronger feeling of the impact of their actions
- Increased accountability as the “principal” wants to know what the “agent” does with its autonomy and resources
- Empowered institutions or units that really have decision-making power can develop a greater innovative capacity

Opposed to the potential positive impact of decentralisation there also may be a number of disadvantages:

- There may be a lack of coordination between institutions and/or units. Various “shopkeepers” may achieve their own missions and objectives.
- Units and institutions may tend to shift their costs to other units and act as free riders.
- Decentralising responsibility does not mean that units or institutions have the professional capacities wisely manage their decision-making power: e.g. often units or institutions need time to learn to use their freedom and to “play the game”.
- Decentralising responsibilities also implies that institutions and/or units are more transparent and accountable about their day-to-day operation and results. This requires more administrative transparency and bureaucracy.

The extent to which these advantages and disadvantages depend on the level of trust and verification is in the system. These are partially determined by the exact financing instruments in use as well as the extent of accountability. More autonomous institutions or units have to earn the trust given to them.

How the different interests and objectives are being achieved with funding higher education depends to a large extent on the instruments chosen. The instruments make the difference and the rationale behind the instruments largely determine whether a difference can be made. Rationales behind a funding system should reflect the priorities in a system (or in an internal allocation model):

- Does one want to provide the HE system with stability or incentives?
- Is there a culture which allows market simulations or more (political) negotiations?
- Is the government prepared to underpin its strategic objectives with financial incentives that can make a difference?

## **2. Higher education funding in Kazakhstan: state of the art**

The funding of higher education in Kazakhstan – like in most countries – is embedded in the key characteristics of the higher education system and financial traditions that govern the public service system in general. In this section, we present a brief overview of the higher education system as well as the funding structure of higher education in Kazakhstan.

### **2.1. Kazakhstan's higher education system: the context**

Kazakhstan is the 9<sup>th</sup> largest country in the world with its 2,725,000 square kilometres and small to medium sized in terms of population with around 17.5 million inhabitants. Kazakhstan is located in Central Asia and populated by several ethnic groups. The main groups are Kazakhs (about 63%), Russians (24%) and Uzbeks (3%) and Ukrainians (2%) (<https://en.wikipedia.org/wiki/Kazakhstan>). In recent years the number of

inhabitants has substantially increased resulting in a larger potential student population and substantial increase of particularly privately paid-for higher education.

Higher education is regulated at the level of the Constitution of the Republic of Kazakhstan and the Law “On Education” and corresponding official decrees and bylaws. The Law “On Education” identifies the main principles determining the content, management, organization of universities, teachers and students; the status of teachers, financing and international activities.<sup>2</sup>

The state educational standards of higher education (SES) set requirements for all higher education institutions on the content of higher education curriculum, the level of teaching of students and the volume of teaching load. In February 2016, the new SES was approved according to which academic freedom of universities in defining the content of undergraduate programmes was extended up to 65% (previously it was 55%)<sup>3</sup>.

In the context of the transition towards institutional autonomy, boards of trustees have been established in 28 public universities. Since 2015, in terms of public accountability and transparency, rectors of national universities have started to deliver annual reports to the public and stakeholders.

To date, higher education in Kazakhstan is offered by 131 higher education institutions of which 57 are public institutions and 77 privately owned institutions. Over the past 10 years, a network of universities has decreased almost by 28% due to the demographic decline and government measures to optimize the institutions of higher education – basically shutting down private institutions delivering poor quality education services. The highest number of universities is concentrated in Almaty – 42 HEIs that make 33% of all the academic institutions. Other regions with the highest number of universities are Astana (14), South Kazakhstan (11) and Karaganda regions (9). 60% of the entire

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2 Law of the Republic of Kazakhstan “On education” № 319-III from July 27, 2007

3 Resolution of the Government of the Republic of Kazakhstan from May 13, 2016 № 292 On amendments and additions to the Decree of the Government of the Republic of Kazakhstan from August 23, 2012 № 1080 "On approval of the state obligatory standards of education relevant levels of education"

network of HEIs is in the mentioned four regions. The smallest number of universities are located in the Mangystau and North Kazakhstan regions.

In terms of the public-private divide, one can discern main 7 types of higher education institutions in Kazakhstan. The type of higher education institution is determined at the licensing stage and depends on the number of programmes and orientation of the research work. The different types of institutions are as follows:

- 1 autonomous education of organization (Nazarbayev University)
- 1 international university (International Kazakh-Turkish University)
- 10 national universities which are leading scientific and methodological centres in the country with a special status
- 14 non-civic academies that particularly offer higher education programmes in one or two specialisations
- 32 state universities that offer higher education programmes at bachelor, master and doctoral level and predominantly carry out pure and applied research
- 17 Joint Stock Company institutions, of which one – the Nazarbayev University – is a special autonomous status organization for education. The JSC institutions offer education programmes at all levels and conduct scientific as well as applied research.
- 56 private institutions, offering professional higher education programmes

Selected private HEIs meeting the criteria set by the Ministry of Education and Science can also receive public funding. In 2014, 69 institutions out of the 125 institutions were awarded public subsidies. Figure 3 shows the breakdown of Kazakhstan's HEIs according to the type of ownership and operation

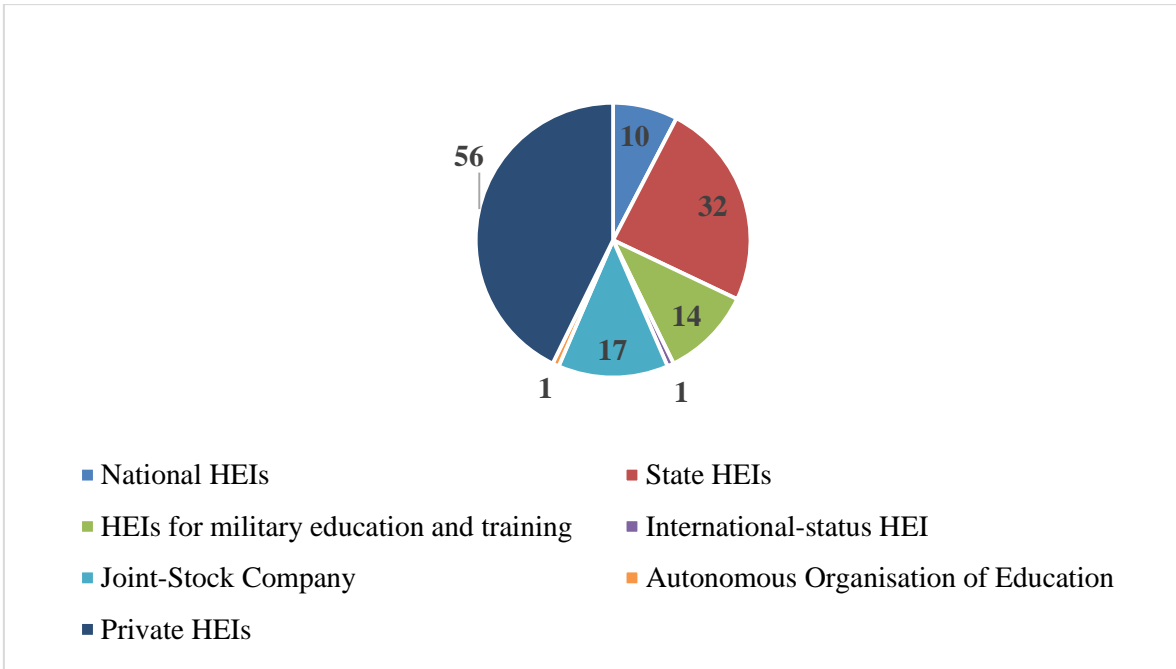


Figure 3: Kazakhstan’s HEIs according to the type of ownership and operation

The total number of undergraduate students in Kazakhstan is close to 480.000 of which about 142.000 (27%) are publicly funded through the State Grant system and about 336.000 (73%) are fully self-funded students, paying the full costs of higher education themselves (National Centre for Educational Statistics and Evaluation, 2015). The total number of 480.000 students compared to a total population of about 17.7 million inhabitants implies that around 40% of all youngsters attend higher education, which is comparable to many developed countries.

## 2.2. Strategic objectives of higher education in Kazakhstan

The State Programme for Education and Science Development 2016-2019 (SPESD), recently ratified by the decree of the President of the Republic of Kazakhstan, has formulated a number of strategic objectives for higher education and science (Ministry of Education and Science, 2016). The overall strategic objective for higher education for the 2016-2019 is:

*”to improve the competitiveness of higher education and science as well as the development of human capital for sustainable economic growth”.*

This strategic priority has to be achieved by pursuing two (2) main objectives and a number of more detailed ambitions as formulated in the SPESD (MoES, 2016):

- Providing industry with professional highly trained and quality personnel
  - Increasing the proportion of higher education graduates – who studied with State Grants – that are being employed in the first year after graduation
  - Increasing the number of universities in the higher ranges of the QS-WUR global university rankings
  - Providing high quality and competitive specialists
  - Modernisation of the content of higher and postgraduate education
  - Creating conditions for the commercialisation of research and technology
  - Strengthen spiritual and moral values
  - Enhancing management and monitoring of the developments in higher and postgraduate education
- Making real scientific contributions to the diversification and sustainable development of the economy and the integration of higher education, science and innovation
  - Increasing the share of experimental research
  - Increasing the share of commercialising research projects
  - Increasing the contribution of science to the development of the national economy, e.g. through more industry expenditures and higher numbers of patents
  - Strengthening the research capacity and status of researchers
  - Modernisation of science infrastructure
  - Strengthening the management and monitoring of science

Though access to high quality primary, secondary and vocational education is mentioned as an explicit strategic objective for education and the State Program for Education and Science Development stresses the issue of inclusive learning environments for special needs students, access to higher education is not included in the strategic agenda (SPESD, 2011, p. 19).

### 2.3. Funding of higher education in Kazakhstan

Over the years, the share of Kazakhstan's national wealth spent on higher education remained relatively stable between 2001 and 2014 at around 0,4% of GDP. In 2013 and 2014, public spending on tertiary education remained unchanged and amounted to 0.4% of GDP<sup>4</sup>. According to available data on post-Soviet countries, Kazakhstan government spending on tertiary education was 4.8 times lower than in Ukraine, 2 times lower than in Belarus and Kyrgyzstan<sup>5</sup>. It is worth-noting that average spending on tertiary education is 1.3% of GDP (2013) among OECD countries<sup>6</sup>. Thus, in Kazakhstan, state spending on higher education is 3.3 times below of OECD. Hence, both as a percentage of GDP as well as in terms of expenditure per student, state funding for higher education is low in Kazakhstan in comparison to the EU and OECD averages (NUGSE 2014; OECD, 2014). Nevertheless. In absolute terms, the budget for higher education in Kazakhstan has increased significantly since 2001 (Canning et al. 2017, forthcoming). As public expenditure for higher education is relatively low, Kazakhstan's higher education relies heavily on private sources of funding. About 73% of students have to rely predominantly on their own family resources to pay the full cost covering tuition fees charged by private as well as public universities. Public funding is only available for about 27% of all students.

The current constellation of financing higher education in Kazakhstan was created in 1999. It has remained largely unchanged since then and consists of five main elements: (1) the State Grants system covering the tuition fees of high achieving and quotas for disadvantaged students; (2) Tuition fees paid by students and their families; (3) Public subsidies for graduate programmes (at masters and PhD level); (4) Student loans and Family savings plans; and (5) Employers' contributions. Each of these will be briefly discussed below.

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4 The World Bank. World Data Bank. Education Statistics - All Indicators.  
<http://databank.worldbank.org/data/reports.aspx?source=education-statistics---all-indicators#>

5 The World Bank Data, 2013

6 Education at a Glance 2016. OECD INDICATORS. 230 p. [http://www.oecd-ilibrary.org/education/education-at-a-glance-2016\\_eag-2016-en](http://www.oecd-ilibrary.org/education/education-at-a-glance-2016_eag-2016-en)



## State Grants System

Students enrolling in higher education either receive funding through the State Grants System – which makes part of the State Educational Order System, i.e. the public budget for education – or pay for it from their own or their family’s personal funds. The State Grants system is the main mechanism for both allocating public funds to universities and ensuring access to higher education for the brightest students and for some special-needs categories. The State Grants are mostly awarded on the basis of merit to students who score best in the Unified National Test which is taken at the end of secondary education. As such, about 27% of all students in higher education receive the State Grants which cover their tuition fee costs (Canning *et al.*, forthcoming). Because students in principle can use the grants to study a particular study programme at the university of their choice, these State Grants can be considered as a form of higher education *vouchers*. However, even though the money follows the student, the money is given to the university where a “State Grant student” enrolls. The spending freedom of students is further limited by the fact that the number of State Grants per university as well as per academic programme is regulated by the state. In practice, publicly subsidised universities have limited numbers of “State Grant students”. In total, about 91% of total public funding for higher education is allocated to universities through the State Grants System.

A further 1% of total public funds available for higher education is allocated through students from disadvantaged groups such as students from rural areas, orphans and disabled students (Ministry of Education and Science of the Republic of Kazakhstan, 2014; NUGSE, 2014). For each of these designated groups some quotas are applied. The majority of such quota are for students from rural areas (over 90%). Because of lower quality primary and secondary education in rural areas, they otherwise would not be able to compete with urban students for State Grants.

Almost all state grants are allocated for full-time students. Public universities enrol more than 75% of all grant recipients, including state funded graduate students and quota students.

Another interesting feature of the State Grants is that the tariff differs by type of institution (university) where students enroll. The State Grants for students at National Universities are twice as high as for students at State Universities or Joint Stock Company Universities, 643,000 and 348,000 Tenge respectively (\$3,600 versus \$1,900 USD: July 2015 values; Canning *et al.*, forthcoming). The main reasons for this difference is the difference in salary levels between staff – academics and teachers at National Universities are higher qualified – and the stronger research function of National Universities.<sup>7</sup>

### **Tuition fees paid by students**

Apart from the State Grants System, Kazakhstan's higher education relies heavily on the tuition fee contributions from students and their families. About 73% of students use their own or family resources to pay tuition fees. More than half (63%) of these fee-paying students go to private institutions. At universities that enrol students who receive State Grants, the tuition fees for fully self-funded students are not allowed to be lower than the State Grants (Development of Strategic Directions for Education Reforms in Kazakhstan for 2015-2020 Diagnostic Report, 2014). As such, private tuition fees are at least at the same level as state grants. Thus, if the Government were to increase the amount of the state grant, then private institutions may have to also increase their fees which will make it more difficult for poorer students to attend higher education.

### **Public subsidies for graduate programmes**

The remaining 8% of the public budget for higher education is distributed among publicly subsidised universities for graduate programs, such as masters and PhD programmes.

### **Student loans and Family savings plans**

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<sup>7</sup> Source: <http://www.government.kz/ru/postanovleniya/postanovleniya-pravitelstva-rk-za-maj-2014-goda/16968-ob-utverzhdenii-gosudarstvennogo-obrazovatel'nogo-zakaza-na-podgotovku-spetsialistov-s-vysshim-i-poslevuzovskim-obrazovaniem-a-takzhe-s-tehnicheskimi-i-professionalnym-poslesrednim-obrazovaniem-v-organizatsiyakh-obrazovaniya-finansiruemykh-iz-respublikansk.html>

In order to help students who have to pay the full costs of higher education themselves, Kazakhstan has introduced guaranteed student loans through the private banking system since 2005. The student loan scheme covers all types of tertiary education and is available for all students, including fulltime, part-time or distance education students. Loans can be obtained in most private banks throughout Kazakhstan. The loan amount more or less equals the tuition costs of the programme attended by the student. By 2015, only 6000 students had taken up student loans since they were introduced. This relatively low loan take-up ratio is due to the high interest rate to be paid (approximately 13% in 2014), the rather strict repayment conditions and the complex administrative processes for taking up loans.

In addition, through the State Educational Accumulative System (SEAS) the government tries to stimulate families to regularly save money for their children's future education and training. These learning accounts are State subsidised (Finance Center of the Ministry of Education and Science 2016). Through this SEAS program, all Kazakhstani citizens are allowed to make savings for higher education investments with some tax benefits, which provides stronger benefits to those paying more taxes. While this is a promising initiative, it has started only in 2014-2015 and thus cannot be assessed for its effectiveness.

### **Employers' contributions**

A final form of higher education financing in Kazakhstan is the 1% tax levy over business profits that local industry has to pay to the region and which is supposed to be spent on higher education (via scholarships for students) and research. This type of tax levy is mostly generated from the international gas industry. The total number of scholarships varies significantly between 200 to as many as 13 000 per year, depending on the year of distribution. More of these industry scholarships are allocated to institutions that educate the employees of the company and they appear to benefit mostly public institutions (NUGSE, 2014).

Because this type of revenue has a predominant regional focus and company profits vary strongly between years, the 1% tax levy is not a stable funding source and leads to

a strong fluctuation in the resources and number of scholarships available. In addition, because it concerns a regional taxation mechanism, these extra revenues do not benefit universities in regions that lack strong industries and companies.

#### **2.4. Sustainability of the current funding model**

As stated above, within the Roadmap Project, many stakeholders from various universities have been interviewed about their perceptions on the funding arrangements and their practical implications for the day-to-day operation of the institutions. Including all types of institutions – public, private, national, state and joint stock companies – representatives at various levels in the institutions as well as representatives of public authorities, provided a comprehensive and diversified image of the higher education sector in Kazakhstan and the role of funding in that.

The main observations and findings can be clustered in various ways. We here will particularly follow the structure of the interview protocol that guided the interviews. As such, the following overarching themes will be discussed below: 1) the strategic priorities of Kazakhstani higher education and the individual universities; 2) the operation of the State Grant System; 3) the role of tuition fees; 4) resource diversification (including the role of regional authorities); 5) the level of financial autonomy and its relation to transparency; 6) performance incentives in the system; and 7) student financial support.

##### **2.4.1. Strategic priorities of Kazakhstan's higher education and universities**

Based on the various interviews, we formulate the following observations:

- In general, most stakeholders are not very focused on the national strategic objectives.
- Only the most competitive universities aim at a high position in the global university rankings.
- There is a general understanding that Key Performance Indicators will get a stronger focus in the future.

- The quality of education is perceived to be basically guaranteed by State Grants and accreditation. However, some interviewees stress that the quality of teaching is low and should be seriously improved through new didactical approaches, preventing fraud and teacher competences.
- Some argue that the Unified National Test is not a valid indication of academic quality. The UNT is a snapshot taken at one moment (therefore – since 2016 – it is allowed to take the UNT twice); high achievers are said to not always be hard workers and the UNT is testing ability to memorise rather than understanding and other academic competences (Winter *et al.*, 2014).
- Higher education institutions appear to develop a stronger focus on internal quality assurance systems. Though many stimulate or are stimulated to apply for international accreditation, the type of international accreditations applied for is not of top level. Some respondents (from better private universities) argue that dubious accreditation organisations should be cancelled from the recognised list in Kazakhstan.
- If the quality of education is really aimed to be improved, many measures are necessary to empower institutions to do so, including a better engagement of students in university management, integrating modern educational approaches and technologies, staff assessments, professionalization teachers, have class consultations, etc. Public funding should be used to improve such processes and teacher quality.
- Another suggestion to improve quality is to replace the current state diploma all graduates receive with a university diploma.
- Reducing dropout is regarded important, though the rates are not high in the more prestigious institutions. Most students appear to drop out because of academic underperformance, some move to other regions in the country and some drop out due to financial reasons (OECD, 2014).
- More problematic is the fact that quite some high potential Kazakhstani students go study abroad if they can afford to do so. It is argued by several respondents of Kazakhstani universities that higher education abroad often is regarded of higher quality, such as in Russia and China. Also the representatives of the Ministry of Education expressed their disappointment about substantial outbound academic migration of Kazakhstani students.

- The employability of graduates is regarded to be an interesting and good indicator to achieve a competitive higher education system, however, the way it is measured currently is not regarded valid by many stakeholders.
- Only very few universities explicitly stress their efforts to enhance personal values and spirituality as primary tasks of higher education.
- Linking higher education, science and innovation is aimed at, but appears to be only possible for the strong research universities.
- The high prestigious Joint-Stock Companies (JSC) and private universities are able to closely link to industry and employers. They organise feedback from businesses on the type of graduates needed and organise various interactions through internships, business incubators, spin-offs, career centres, joint programmes, dual education, employer satisfaction surveys, co-working centres, etc.
- Higher education does educate good quality graduates enhancing the competitiveness of the economy. However, many graduates go work in other sectors as they were trained for (e.g. teachers) and most graduates want to work outside the higher education sector as this provides them better salaries.

#### **2.4.2. The operation of the State Grant System**

Regarding the main public funding mechanism, the State Grants System, the interviews demonstrated many interesting observations:

- In general, most stakeholders are to a large extent satisfied with the current funding model through the State Grants, though many interviewees stress that the amount of money allocated per student is regarded too low for providing good quality education.
- There is a general impression that the number of State Grants is too low to guarantee access to higher education.
- Quite a number of institutions that have only a limited proportion of State Grant students are fine with that situation. They want to have the prestige of enrolling State Grant students. Based on that, they can attract many students who are prepared to pay even higher fees for high quality education.

- The distribution of State Grants over the institutions and programmes is related to the number of students and graduates, the proportion of graduates employed after graduation, qualifications of staff, the number of students winning awards and the grades of students. Various stakeholders doubt about the reliability of such statistics (there is a need for better and more transparent data and data bases with key statistics on Kazakhstan's HE sector).
- The distribution of State Grants varies considerably between institutions and programmes. There are no serious complaints about (un)fairness in numbers of State Grants awarded. Only few argue that a fully open voucher system could create stronger competition and a more fair distribution of State Grants.
- The differentiation in State Grant tariffs between the national universities (high tariff of 640,000 tenge against 348,000 tenge is somehow accepted in the system, though many argue that the high tariff, and related higher remuneration of staff in national universities does not reflect the difference in the quality of teaching. Only few (low tariff) universities complain about the high difference between the two tariffs. Particularly State Universities argue that the lower tariff of State Grants do hardly cover the costs of education, particularly if the quality of education is supposed to increase.
- Related to the previous issue, there appears to be a need to calculate the (real) costs of education (per programme and/or institution). This will definitely require intensive consultations between ministries, statistical offices and representatives of universities on how the costs of education can be calculated.
- Because the State Grants are awarded to students on the basis of their UNT scores, this implies that the universities hosting State Grant students attract (very) good students who are less likely to drop out. However, UNT scores are not a guarantee to success, some students failed the test due to an off-day and the most talented students are not always the most hard working students and can also drop out.
- High scoring UNT students, receiving the State Grants are most likely to attend national universities in Astana or Almaty, which leaves universities in other regions with lower quality students.

### **2.4.3. The role of tuition fees**

Regarding the dominant role of tuition fees in Kazakhstan's higher education, the following observations can be made:

- The national and state universities feel a strong push towards tuition-based education. There is felt a very high emphasis on full-tuition paying students. This may decrease the quality of education.
- The fact that tuition fees at universities receiving State Grants cannot be lower than the amount of the State Grant, feel that they miss out on a number of potential students who cannot afford to pay the current tuition levels.
- Some fully private universities charge relatively low tuition fees (170,000 – 190,000 tenge). Others fear this harms the general impression about the quality of higher education and that it is “unfair” competition.
- The good and mostly private universities attracting only a limited number of State Grant students are happy to demonstrate their quality in this way but charge higher tuition fees from self-paying students. They have a high tuition – high expectations strategy, demanding additional selection criteria such as English proficiency, motivation letters, entrepreneurial attitude.

### **2.4.4. Resource diversification**

Regarding the general expectation that the resource diversification at universities should be improved, the following observations were made:

- The main source of resource diversification is for tuition revenues. Very good universities raise tuition levels to cross subsidise other activities, such as internships, scholarships for poor but high achieving students, external accreditations, more PhD research, etc. This is not possible for most universities.
- Only a few institutions are successful in attracting some “grants and scholarships” from other entities like local authorities or companies. Only a few local authorities take up this issue as a public task, but it is generally dependent on the city major or other high official.



- The number of IPR's at most institutions is regarded very low or absent leading to hardly any patenting revenues.
- Currently hardly any university has been able to establish endowment funds. Only the more prestigious universities have just started to set up their own endowment fund to which alumni and sponsors contribute.
- More technology, medically and law oriented institutions or programmes are better capable of attracting contract income through commissioned research and services.
- However, in general developing more entrepreneurial activities are regarded as very difficult, as one cannot rent out "public facilities" unless all revenues go to the government, one cannot develop contract teaching services; ,
- Research funds through the national competitive research funds are welcomed, but in many cases also regarded as limited in terms of numbers and amounts, just covering the additional staffing costs. Only strong universities that collaborate with the Research Institutes appear to be more successful in attracting public research funding.
- The strong ministerial push to fund all infrastructure by increasing tuition revenues or donations from donors is received with skepticism as these in most cases are hard to accomplish. Maybe the successful cases to diversify resources have to be better used as "good practice examples".
- The Ministry appears to be more optimistic about the capacity to generate revenues from companies than universities.
- Not many universities have positive experiences with the 1% tax levied to companies to provide additional "grants" to students. It is nice when it happens, but is unstable funding which cannot be used for reliable budgeting.

#### **2.4.5. The level of financial autonomy**

Regarding the autonomy of universities, the study shows a few clear messages:

- Fully private institutions have full autonomy about their spending behaviour, but those receiving State Grants are overly regulated and often feel having little autonomy. This is in line with national experts' studies which claims that Kazakhstani universities may have substantial autonomy related to staff

management, but less so concerning academic issues and finances (Sagintayeva & Kurakbayev, 2015; Information Analytical Centre, 2014).

- There is a general feeling among many of the respondents that the already tight public budgets allocated to universities are governed by various bureaucratic rules and procedures that seriously limit financial autonomy and institutional efficiency and effectiveness. There are too many regulations about how to spend public funds:
  - such as the requirement to have one teacher for every 8 students
  - the rule that universities always have to take the cheapest offer in public procurements (even if delivery of goods/services takes place way later)
  - not being able to develop contract teaching,
  - not being allowed to rent out facilities or if that happens to transfer all benefits to the state, etc.
- Regulations are perceived to be stimulating compliance rather than a focus on performance and outcomes. They also do not stimulate efficiency
- To stimulate high quality teaching and research, universities should be given more financial and governance autonomy to set higher standards for quality, to appoint good professional teams, use international experts, to establish new study programmes, etc.
- The national procurement regulations are found to be very limiting as they only focus on the lowest-price offer rather than on quality. The administrative procedures for investments also are regarded lengthy and limiting.
- Though many institutions appear to be satisfied with the public subsidies for infrastructures, they would prefer an annual budget to better plan maintenance and renovations according to what is needed.
- In order to strongly focus on high quality education, there appears to be a need for more persons with good managerial competencies, both at central leadership level as well at faculty level.

#### **2.4.6. Performance incentives in the system**

Regarding incentives in the current funding system the following observations can be made:

- In general the level of performance orientation is regarded low. The focus of government policies is perceived to be much more on inputs than on outputs, outcomes and quality.
- Most representatives feel that the State Grant system leads to good quality students, however, the full-fee paying parts feel challenges by the need for revenues and the level of students they get in.
- Only the high-tuition private institutions can afford to really focus on high quality services through offering good facilities and inspiring and challenging learning environments. They can afford to take relatively rigorous measures to combat cheating and academic fraud like plagiarism.

#### **2.4.7. Student financial support**

Regarding student financial support the following main observations can be made:

- The student loans system is not yet regarded a good instrument. Students do not like to take up the loans. They also somehow manage to pay for the tuition costs.
- Private universities attracting students that perform in the lower range fear that higher tuition fees will go at the expense of the number of students that can afford to enroll, unless the student loans will get more favourable repayment conditions.
- Few good (private) universities have made an individual arrangement with private banks to provide student loans with more favourable conditions (e.g. 5% interest instead of 13%).
- Representatives do not mention the family savings plans (need for wider communication).
- A few high tuition institutions can afford to apply their own scholarship programme that waives (part of the) tuition fees of 5% to 10% of their students.

#### **2.5. The way forward for higher education in Kazakhstan**

Based on the analyses presented above, the study aims to propose a number of options that provide some food for thought for Kazakhstan's higher education policy makers to further enhance the future sustainability of the higher education system. It is not the ambition to provide a full-fledged funding model that provides the solution to all challenges that Kazakhstan's higher education currently faces. Here we rather provide

an overview of funding options that may help promote the key strategic objectives of Kazakhstan's higher education and that may address some of the key challenges regarding the current funding model.

Based on the key strategic objectives of Kazakhstan's higher education as formulated in the State Program for Education and Science Development (SPESD) 2016-2019 (see section 3.2) as well as the various stakeholder perspectives and perceptions on the strategic objectives expressed in the interviews, we summarize the strategic objectives of Kazakhstan's higher education into the following five key priority areas:

1. Strengthening the quality and performance of teaching
2. Providing highly trained graduates relevant for the labour market
3. Strengthening scientific research and its societal impact
4. Strengthening the management and monitoring of higher education and science

In the next sections we formulate a number of potential directions for the further development of Kazakhstan's higher education and how this can be supported by funding arrangements. For each of the key priority areas we will address to what extent the current funding model is achieving the objectives or not. In addition to that, we will discuss to what extent the criteria for "good funding models" apply, such as stability, performance orientation and innovation orientation. Based on that we will identify some potential ways of improvement. Finally, these ideas will be illustrated with a few international good practice examples that will serve as food for thought. Many of these good practice examples have been published in a World Bank report by Arnhold *et alia* (2014). Any changes in the current funding model or introduction of new funding instruments remain an issue of political decision making in Kazakhstan's higher education system, which has to take into account the national and local context, traditions and possibilities.

### **2.5.1. Strengthening the quality and performance of teaching**

The quality of teaching and learning is key to the further development of higher education in Kazakhstan. Though it is not mentioned specifically as a strategic objective

in the SPESD, it resonates in many of the sub-goals as well as in the interviews with many stakeholders.

### **Role of the current funding model in stimulating quality and performance**

As various stakeholders stated, the current State Grants system – which is the main allocation model for teaching funds – is primarily awarded to students with relatively high scores in the Unified National Test. This implies that the most promising students are being funded and thus guaranteeing that the most promising students are enrolling in higher education. As higher education is an experience good – which combines the efforts, capacities and experiences of teachers and the students (Vossensteyn and Jongbloed, 2007) – the State Grant funding model ensures that the better prepared students will attend higher education and come to good quality teaching.

However, the State Grants are not only awarded to the best students, but also distributed according to certain allocation mechanisms to disciplines and institutions. This actually implies that there are certain quota for the various disciplines, and students who are very good, but would like to enroll into a programme that is favoured by many even better students, may have to enroll in a less favoured study programme and thus be less motivated and having a higher likelihood to drop out. In addition, only 27% of all students are supported by the State Grants. This implies that study programmes also enrol full-fee paying students that have (substantially) lower UNT scores and thus may reduce the quality of the educational experience. Of course, the proportion of state-granted students varies strongly by institution and by programme.

Another major issue concerns the fact that the State Grants System does not really relate to the quality of teaching, it is about the quality of the student at the moment she or he takes the UNT. This test is also challenged, because it is said to be only a one-moment snapshot and particularly tests memorising, rather than academic competences such as understanding, applying and generating knowledge (Winter et al., 2014).

A further issue relates to the different tariffs applied for national universities versus stage and JSC universities. Though the tariff for the national universities is almost

double the one for the other state subsidised institutions, it is questioned whether this also implies that the quality is twice as high, because teacher qualifications and salaries are higher. At the moment the rationale is not very transparent and could be improved. It is also unclear how the tariffs relate to the real costs of education. Most institutions say the tariffs cover only a bare minimum of expenses, while some real private universities can do with substantially lower tuition fees.

Furthermore, the system relies heavily on tuition fees, 73% of the students are full-fee paying students. As the student population is a substantial proportion of the youth – demonstrating a good higher education participation ratio for Kazakhstan – the tuition driven system does not lead to an elite system. Regardless of equity of access issues, still many students can find their way into the system in one way or another.

In terms of teaching quality, this heavy reliance on tuition fees has a few implications. First of all, as many students have to pay the full costs, one can imagine that they find it worth to invest and they will collectively demand value for money, pressing universities to good quality education. In addition, because students pay the “full price”, they may try to graduate as fast as possible and thus put in a lot of effort. Another vision can be that the need for so many full-fee paying students pushes institutions to offer education at the lowest costs possible and thus compromising on quality in order to keep it affordable and attractive for many potential students. Day-to-day practice shows both sides of the coin: some private institutions running universities against the bare minimum costs and lowest tuition fees possible and those more prestigious institutions charging higher fees for better quality services. And some universities taking a middle position.

Student loans and family savings plans are available to all students and their families. But due to the unfavourable conditions, only very few students take up the loans and few families invest in the savings plans. If Kazakhstan really wants to support its students, somehow the tight conditions should be relaxed.

In general terms, the heavy reliance on tuition fees made Kazakhstan’s higher education system a strongly market-driven system. If the government wants to steer towards

quality, it may have to come from setting minimum levels for tuition fees and particularly strict quality assurance regulations.

### **Stability, performance and innovation orientation**

**Stability:** The State Grant system is already in place quite for some time and as such appears to be a stable factor in the higher education system and – regardless of the felt unfairness of the two-tariff structure and allocation over universities – appears to be well accepted. The universities more or less know what they get and are used to further develop their universities by enrolling full-fee paying students.

The number of State Grants per institution and programme can vary between years if the number of students changes and the employability of graduates changes. Because this is not a fully transparent system and we did not notice major fluctuations being reported, it appears that the distribution of State Grants among the disciplines and institutions is a bit of a stabilising factor. In this respect the self-reporting system on the employability of graduates appears to be a bit odd as they are having a big interest in demonstrating good performance.

The heavy reliance on tuition fees has demonstrated that all universities are relatively good at recruiting full-fee paying students and as such created themselves a semi- stable source of revenues. But this remains hard working and there will definitely be substantial fluctuations between institutions and programmes. Particularly if the demographic situation becomes more tight.

**Performance:** The State Grants system only rewards the good performing students and programmes that have relatively good employability scores among its graduates. It does not strongly encourage institutions to reduce dropout, to offer modern teaching methods, to employ good teachers (though it is required for receiving State Grants that the institution has well qualified academics with Master's or PhD degrees, this does not mean they are good teachers) or to have curricula that meet international accreditation standards. The State Grants system also does not encourage the institutions to help students graduate. The heavy reliance on tuition fees does stimulate institutions to offer

programmes that students are willing to invest in. But only the best funded national universities and the high cost prestigious private or JSC universities appear to really focus on high quality relevant teaching in order to become even better and charge higher tuition fees.

Though the Student Grants system is sometimes compared to a voucher system in which the money follows the student and where students determine where they spend their vouchers, in the State Grants system the freedom of choice of the students is very much limited by the allocation of State Grants over disciplines and institutions. In that respect, the transition towards a real system of vouchers or learning entitlements could increase competition between students and institutions (Vossensteyn and Jongbloed, 2007; Hillman *et al.*, 2014).

**Innovation:** None of the funding instruments appears to include any incentives to offer modern innovative teaching methods and infrastructure. It is predominantly the intrinsic motivation of some universities to seriously work towards becoming an innovative teaching institution. The public budget does not reserve any of its funding for supporting innovations or for the professionalization of staff.

#### Potential areas of improvement

Based on the observations formulated above there are various areas of improvement if the Kazakhstani government would like to stronger focus its public funding toward the improvement of the quality of teaching and learning.

If it is the aim to allocate funds through the students, e.g. by means of vouchers, one could increase the competition among students and institutions by reducing the role of the quotas of State Grants per institution and discipline or programme and leave it more to the decisions of the best UNT scoring students. One way would be to further develop the current State Grants system into a fully competitive voucher system. This would tackle the current perceived problem of intransparency of the institution and programme –based quotas for the allocating of the State Grants to students, which for example is indicated by the national experts consulted in the Roadmap project, as well as representatives of various higher education institutions. Below, in the international good practices section, we will elaborate further on voucher models and the example of



Colorado (Hillman et al., 2014). However, the competition among higher education institutions for students is already guaranteed to a large extent by the high proportion of full-fee paying students.

A second way to introduce a quality impulse to the system would be to integrate quality-oriented criteria into the funding provided to higher education and particularly incentivise universities to work towards quality (de Boer *et al.*, 2015). There are various ways in which this is pursued in various countries, e.g. through performance-based funding formulas, performance contracts or capacity-based funding. This would imply for Kazakhstan's higher education system to move away from the State Grants systems that to some extent makes funding follow the student, towards a mechanism that allocates the public funds more directly to the institutions on the basis of their performances, such as the number of graduates, the credits passed, the number of students, reducing dropout, implementing innovative teaching methods, the proportion of certified teaching staff, achieving high ranked international accreditations, etc. Performance-based funding formula and performance contracts have the advantage that it is transparent in the whole system what behaviour and performances are awarded. In addition, one can differentiate in the level of funding given to different disciplines (Deen *et al.*, 2005), or – what currently happens in Kazakhstan's higher education – between different types of institutions. Such differences in funding tariffs often resemble different cost structures, e.g. between medicine, engineering, science, social sciences and humanities. For example, it is more expensive to teach small groups in laboratories than lecturing for larger audiences in “mass lectures”. Below, in the international good practices section, we will further explore a few examples of such models.

Finally, because in Kazakhstan only 27% of students are fully subsidised by the government and all others are used to pay the full cost, one can conclude that – regardless of public statements on “free higher education” – paying for higher education appears to be well accepted in Kazakhstan. The 27% that receive full subsidies are the highest achieving students. International literature shows that these often are students from relatively well-educated and well-off families that can afford to pay for higher education (Canning *et al.*, forthcoming; Vossensteyn *et al.*, 2013). Then the question is

why not consider a funding mechanism that requires all students to pay for higher education and spend all public subsidies for issues that are deemed important. This frees up budget for:

- Subsidising talented but needy students
- Providing well performing universities some level of basic funding
- Provide some scholarships to high achieving students
- Provide budgets for teaching innovations
- Provide budget for highly accredited study programmes
- Provide funding for internationalisation
- Provide funding for improves employability scores

### **International good practice examples**

Here we will briefly discuss a number of international examples of funding models and instruments that try to address teaching performance and quality. Next to the discussion on the principles of the instruments, some practical country specific examples will be presented (based on the existing literature) and translated in terms of potential implications and applicability with regard to Kazakhstan's higher education. All of these offer interesting perspectives to particularly on the State Grants system in Kazakhstan.

#### **Example 1 - Vouchers for higher education**

A first model to be discussed would be taking the current Kazakhstan's State Grants system one level further towards a "real money-follows-student model". This is often called a voucher model or a model based on learning entitlements (Vossensteyn and Jongbloed, 2007). In a pure voucher scheme, the student (consumer) receives a coupon (voucher) which represents a certain amount of money to be spent on education. The value of the voucher is related to some notion of the average per capita costs of (a specified amount of) education. When a student chooses for a specific university, the university redeems the value of the voucher(s) from the government (ministry). In this model universities can only acquire public means by attracting students and their vouchers. This implies universities have to compete for public funds and students are

encouraged to seek the provider that best satisfies their demands. In doing so they can choose from a range of providers, including public and private ones. To some extent this happens in Kazakhstan. The vouchers are the State Grants awarded to the best students in the UNT. In their search for the best match between the students' interests and what is offered by the institutions, the students are limited by the different tariffs and quotas used for different types of universities (national, state, JSC and fully private institutions) and types of study programmes, e.g. by discipline. The crucial issue about vouchers is the *freedom of choice* for the students, cost awareness and the fact that the students "experience" that they have an influence on where the money goes (Vossensteyn and Jongbloed, 2007; Hillman *et al.*, 2014). Those who support vouchers argue that this will make universities more student oriented and more efficient if offering education that students want and is rewarded in the labour market. Successful institutions will get more public subsidies and be able to further increase quality. In various cases, vouchers are also claimed to promote equal access as all students who qualify to enter higher education would receive a certain number of vouchers. Opponents of vouchers claim that they lead to popular fancy programmes that easily satisfy students' desires rather than the high quality students and future employers need. In addition, students cannot be fully informed and institutions cannot be fully flexible.

### **Example: Vouchers through the College Opportunity Fund in Colorado**

One example comes from Colorado (USA) where in 2004 the "College Opportunity Fund" was introduced (Hillman *et al.*, 2014). This is a voucher-based model allocating state appropriations to students instead of to the institutions. This was supposed to increase efficiency and equal access. The share of average tuition being covered by the voucher (for all students) reduced from about 35% in 2005-2007 to about 20% in 2010. Hillman *et al.* (2014) show that the College Opportunity Fund led to some cost efficiencies, like a reduction of the cost per FTE student, a reduction of the costs per graduate and an increase in the number of graduates per 100 FTE students. However, access for disadvantaged students, like students from low-income families, African Americans and Hispanics decreased. Other examples can be found in Ohio (Hillman *et al.*, 2014) or learning entitlements in Australia (see Vossensteyn and Jongbloed, 2007).

Translating this example to the situation in Kazakhstan, a stronger voucher-based funding system would lead to the following dilemmas. While only 27% of Kazakhstan's students receive State Grants, awarding vouchers to all potential students would seriously increase the public budget for higher education if the value of the vouchers would equal the level of the current State Grants. One could also consider providing (many) more students with vouchers, but then – under current budget constraints – one would have to reduce the average value per voucher compared to the current State Grants. In the latter case, all students would have to “top-up” the vouchers and in fact pay tuition fees, even those whose tuition now is fully covered by the State Grants. Another dilemma would be the extent to which students would have the freedom to spend their vouchers wherever they like and could study any study programme at any higher education of their choice.

Though increased freedom increases the level of competition in the system, it may also lead to larger numbers of students willing to spend their vouchers in the top-universities or on “relatively easy to complete” study programmes that do not immediately lead to employability. As such, a voucher system with strong freedom of choice for students would have to be accompanied with a strict quality assurance mechanism as well as clear and reliable information on employability. Furthermore, a voucher system also requires a reliable registration system in which universities as well as the government can easily track the number of vouchers used per student, at what tariff (e.g. if different tariffs are used for different disciplines) and how many have been spent at a particular university. As such, transferring to a full voucher system in higher education in Kazakhstan still requires a number of difficult decisions to take. If vouchers are used to stimulate equal access, this may require substantial additional investments in the Kazakhstan higher education system. However, opening up the opportunities of where and what to study with State Grants could bring a new dynamic to Kazakhstan's higher education with potentially changing positions between current universities and leading to some efficiencies and higher completion rates.

## **Example 2 - Funding formulas with competitive and performance oriented elements**

Many respondents interviewed in this study, including a number of institutions leaders, indicated to be basically satisfied with the current State Grants funding system as it brings them relative stability regarding their position in the system and regarding the level of public funding they receive. However, many respondents – including representatives from private, JSC and national universities – also commented that the current funding mechanism does not stimulate universities to improve the quality of teaching. Most of them also indicated that the quality of education really needs to be improved to match students’ and employers’ expectations and to stimulate international mobility.

Many countries stimulate quality and educational performance by the application of funding formulas or performance contracts for teaching that include one or multiple competitive elements as drivers. For example, it is assumed that if universities receive public funds on the basis of the number of credits or degrees successfully obtained by students, that this stimulates universities to offer their education in such a way that students can successfully pass courses and programmes, or do so in a more efficient way. Institutions would reduce administrative obstacles, logistical problems and offer more attractive teaching methods to reduce dropout and increase study progress (De Boer *et al.*, 2014). Regarding the current Kazakhstani system, this could bring new dynamics to the way universities are currently funded. Instead of a focus on negotiating with the Ministry about the State Grant quotas and attracting State Granted students, there would be a transparent allocation mechanism that directly funds universities based on performances that are deemed important in Kazakhstan’s higher education sector.

In principle, a funding formula allocates public funding among universities on the basis of the efforts or performances they demonstrate. Thus, the amount of funding per institution depends on the relative share of the total number of “funded units” they deliver. The units can consist of the number of new entrants attracted, the number of students, the number of study credits obtained, the number of degrees conferred, the

number of international students, etc. Different countries use different indicators as achievements (Arnhold *et al.*, 2014; de Boer *et al.*, 2014).

### **Example: Taximeter system in Denmark**

The first, more specific **example** on the use of a funding formula concerns Denmark where universities are funded to a large extent on the basis of the number of credits obtained by students. This is called the “*taximeter system*”. Because the Danish government wants to reward institutions for successful education activities and wants to stimulate public money following the user, all schools as well as universities and colleges are funded on the basis of “successfully completed study-units”(Undervisningsministeriet, 2016). The taximeter system was introduced in 1994 and has been revised several times since then. An important feature is that HE institutions do not receive compensation for students who fail or do not take exams. The taximeter scheme aims to promote completion rates. In 2004, the formula based on passed credits was complemented with a completion bonus for each student that completed a Bachelor programme. In 2009, a new completion bonus was introduced which is conditional upon the duration of studies: universities are paid the completion bonus only for students who obtain a degree within a limited time period (for bachelors this is the nominal duration + 1 year and for masters the nominal duration of studies). A further development will be a “completion-agreement”. By 2020, it is expected that if students do not complete their studies on time, the universities will lose a substantial amount of money (de Boer *et al.*, 2014). In 2014, 91% of the taximeter funding depended on the relative number of passed exams and 9% on the completion bonus. The taximeter tariffs vary by groups of disciplines: per package of 60 Credits (one FTE year of study) a university receives €13.000 for natural, health and technical sciences, €6.000 for social sciences and humanities, and € 9.000 for “combinations”.

The Danish taximeter system is particularly an interesting example in view of the ideas expressed by the Kazakhstani Ministry of Education and Science to seriously consider a credit-based funding system as a replacement of the State Grants system. Particularly interesting in a credit-based system is the fact that it is more flexible in rewarding smaller teaching efforts and achievements. It may also be easier to transfer credit

funding from one student to another, or from one university to another. Like in the State Grants system, credit-based funding generally is a financial transfer from the government to the university, not to the student. In an “open-end system” – where universities would get funding for each completed study credit – universities would receive the incentive to produce as many credits as possible. As such – like a voucher system – also a credit-based system needs a careful design in which students and universities get the right incentives towards high quality education and efficiency. Again, clear “rules of the game” for students and universities are required as well as strict quality assurance regulations.

### **Example: Simple performance formula in the Netherlands**

Since 1998, Dutch universities and universities of applied sciences are funded for their teaching services on the basis of the number of new entrants, students and graduates. Though graduate numbers determined 50% of the funding, due to complaints about an overemphasis on completions, the formula was changed in 2011. Since then, Dutch higher education institutions are funded on the basis of two parts: one part related to the number of students and degrees conferred and one called “education provision”. The first one is a formula, the second one is a strategic allocation including performance contracts.

The funding formula in Dutch higher education addresses about 65% of the teaching budget and is relatively simple. It includes the number of students and degrees conferred: This part of the funding, which defines 65% of the teaching budget, is the product of a weighted student price and weighted number of enrolments (within the nominal duration of a program) and diplomas. The weighted student price is determined as the total budget divided by the total number of weighted enrolments and diplomas. The weights are 1, 1.5, and 3 for low, high, and top studies—humanities & social sciences, science & engineering, and medicine respectively. These weights are the same for bachelor and master students.

## Example: Complex integrated performance formula in Finland

In Finland, the funding model consists of a funding formula that integrates teaching and research and includes various elements that capture quality and performance issues.

Such a system creates a lot of dynamics due to the wide range of indicators and criteria used. It demonstrates different weights given to various priorities, such as teaching, research and valorisation, and within those areas to completed degrees, credits, internationalisation and strategic development. The figure below presents the Finnish university funding model. Within the different indicator areas, various weights can be given to different disciplines.

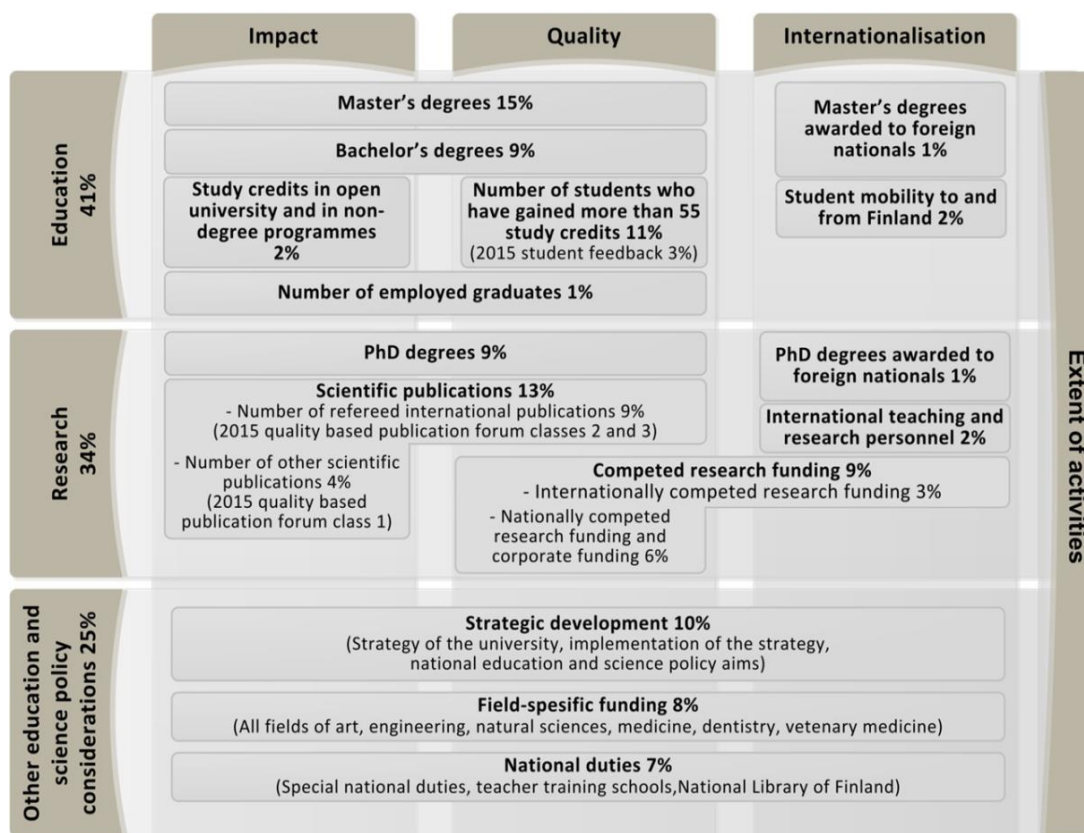


Figure 5: Finnish university funding model (Halonen, 2014)

An interesting phenomenon from the performance-oriented funding formulas is that they generally include different tariffs for performances in different disciplinary sectors, like medicine, engineering, science, social science, humanities and arts. In general, such tariff differences relate to the assumed differences in costs between disciplines due to differences in instruction models, group-size, required support staff, equipment, infrastructure, etc. (Deen *et al.*, 2005; JM Consulting and PA Consulting, 2005).



Related to the situation in Kazakhstan this is an interesting result. During the stakeholder interviews in Kazakhstan's higher education sector, the cost differences were argued to be assigned to differences in types of universities that employ staff with different qualification levels and therefore require different salary levels, and to a stronger research focus in the more prestigious institutions. In the Kazakhstani debate, cost differences between disciplines appear to be less prominent. As the funding tariffs of State Grants in the more prestigious national universities are almost twice as high as in the other types of universities, one would assume the quality to be substantially higher. The latter was less supported during the interviews: "Even if the State Grants are almost double the amount, one cannot expect the quality of the graduates to be twice as high. In the end, both institutions award similar state diplomas and degrees". "If teachers at national universities earn better salaries due to higher qualifications than teachers in other universities, that does not mean that students learn equally more in national universities". Such issues call for a closer analysis of the cost differences in Kazakhstan's higher education system, not only looking for differences between types of academic institutions, but also between various disciplines.

The international comparative study by Deen *et al.* (2005), as well as examples in the UK (JM Consulting and PA Consulting, 2005) and in New Zealand demonstrate that some countries opt for a very differentiated tariff structure across many disciplines, while some other countries try to reduce complexity by discerning only a very few funding tariffs. However, for reasons of transparency and efficient use of public funding, stronger knowledge about the costs of teaching students in different types of institutions and disciplines would be recommendable. During the interviews of the Roadmap project, respondents of both the Ministry of Education and Science and some universities have called for such an analysis. As it proves to be very difficult to identify the relationship between teaching and research – particularly expressed in monetary terms – most countries explicitly differentiate between the funding for teaching and research. Even in the integrated funding formula in Finland, teaching and research funding are explicitly separated.

### **Example 3 - Performance agreements**

Performance agreements are contracts between the government and individual higher education institutions, which set out specific goals that institutions will seek to achieve in a given time period (de Boer *et al.*, 2014). They specify the intentions to accomplish particular targets to be measured against previously defined standards. The performances deemed to be fulfilled are laid down in a contract which also specifies the rewards upon achievement of the agreed performances or the penalty in case of non-achievement. Such performance agreements can be titled differently in various countries, such as compacts (Australia, Ireland), target agreements (some German states), outcome agreements (Scotland) or development plans (Hong Kong, Denmark). Some performance agreements particularly prescribe a certain outcome (a result that is to be achieved), others the effort an actor reasonably has to make (a level of effort an actor is capable of making). This is also called the distinction between ‘hard’ and ‘soft’ agreements.

The next issue in performance agreements concerns the question what counts as a performance. Can the attraction of international students or employability of graduates be attributed to an institution? Is maintaining minimal quality standards a performance or core activity? De Boer *et al.* (2014) argue that performances are goal- or problem-oriented, results-based and measured against pre-set standards. These standards can be the result of a political decision, a negotiation process among stakeholders, or a benchmark against the performance of other institutions on the same indicators. Contract partners can also agree to focus on certain activities (i.e. make a serious effort) with the aim to accomplish particular goals, like the establishment of new study programmes, the implementation of professionalization courses for teachers, or setting up of new teaching methodologies, e.g. with a focus on entrepreneurship. A final aspect of performance agreements is whether or not they are tied to (public) funding. If there is no funding linked to the agreements made between the government and the institutions, one could speak of ‘letters of intent’ such as in Denmark, Germany and Australia). In countries where performance agreements have direct financial consequences, one can speak of performance contracts, such as in Austria, Ireland, Finland and the Netherlands).

Though performance agreements may seem to be a complete different way of funding higher education than the current State Grants system, they may form an interesting option to at least analyse and consider in Kazakhstan as performance agreements can help steer the system in the directions expressed in the State Program for Education and Science Development (SPESD) 2016-2019. More individualised performance agreements are often meant to help institutions focus on their strengths in relation to national strategic priorities. As such, the government can legitimately differentiate between (types of) institutions, in terms of tasks, responsibilities, areas of expertise and expected performance. Performance agreements can be used relatively flexible in terms of objectives, envisaged targets and time span. They can address teaching, research, quality, internationalization, innovations, study success, dropout, etc. and be determined annually or for 3-5 years. Performance agreements often determine only part of the public funding (de Boer *et al.*, 2014). For example, in Hong Kong 10% of funding allocated through the Performance and Role-related Funding Scheme and in the Netherlands 7% of teaching funds is based on quality-oriented performance agreements about progression in completion rates, didactical qualifications of teachers, student satisfaction, etc. In countries such as Australia, Denmark, Germany, New Zealand and Scotland, the performance agreements are particularly used as an instrument in addition to performance based funding formulas (de Boer *et al.*, 2014).

#### **Example 4 - General tuition fees**

Another alternative to boost quality in Kazakhstan's higher education is to consider the option of charging tuition fees to all students. Next to stimulating equity of access (Canning *et al.*, forthcoming) this could increase the current funding level in Kazakhstan's higher education. Of course it can be questioned whether Kazakhstan's policy makers and politicians would be willing to give up the idea of "free higher education" to those students who pass the UNT with the highest scores. However, due to the fact that 73% of all Kazakhstani higher education students have to pay full tuition costs – either at private or public universities – one can no longer speak of "free higher education". Not only does the European Commission (2011) stimulate countries to implement some level of tuition fees to increase the revenue base for universities and to stimulate equal access, also many countries in practice have implemented or increased

tuition fees for regular students, such as in Austria, Ireland, England, the Netherlands and Germany (Vossensteyn *et al.*, 2013). As long as governments do not reduce public spending when tuition fees are generally implemented or increased, this provides universities with additional revenues that can be invested amongst other things in the quality of teaching, infrastructure, staff development, innovations and research. The introduction of tuition fees in various German Länder in the 2007-2010 period helped to improve teaching infrastructures considerably. However, cancelling tuition fees a few years later without a full compensation of public resources, demonstrated that such revenues boosted education quality. Losing these revenues implies universities have to substantially cut costs again. Though in the Kazakhstani context general tuition fees may be a sensitive political issue, not analysing its merits and disadvantages may not be doing justice to all students who have to pay the full price of studying. Thus, being more open about the political and practical reasons behind the tuition policies creates an atmosphere of transparency on the system.

### **Example 5 - Link student loans to performance**

Another model to stimulate student performance can be to differentiate repayment condition between students. Currently, many stakeholders during the interviews for the Roadmap project indicated that the borrowing conditions of current student loans are unfavourable in Kazakhstan and prevent students who may need the loans from taking them. In order to make the official student loans offered in Kazakhstan more attractive, one could for example waive part of the student loan debt accumulated by students if they belong to the (20%) best performing graduates or if they graduate within the nominal duration of studies. This practice is, for example, being applied in the German BAFöG loans and the Estonian student loans (Vossensteyn *et al.*, 2013; Arnhold *et al.*, 2014). This of course implies an extra financial risk for the government of Kazakhstan who guarantees the loans. But currently, the loans system anyhow appears to suffer from a high default rate leading to indirect subsidies to students (Canning *et al.*, forthcoming). One can better use such subsidies to positively attract students to the loan facility.

### **2.5.2. Providing highly trained graduates relevant for the labour market**

Providing highly trained graduates and specialists that can work in and further develop the Kazakhstani labour market and help making the economy more competitive is a key strategic objective of Kazakhstan's higher education. This not only implies that students should be educated at a high level, but also that graduates have the relevant knowledge and skills to effectively operate in the Kazakhstani economy. This can become visible if many graduates find a job – or start their own businesses – that matches their level and domain of expertise. As such, the employability should be high and the number of graduates should satisfy the needs of the labour market.

#### **Role of the current funding model in stimulating employability**

The current funding model for teaching – the State Grants System – is to a substantial extent tuned to the needs of the labour market. One of the key factors that determines the allocation of State Grant quotas over the universities and disciplinary study programmes is by the rate of employability of the graduates. Thus, if the graduates of a certain study programme more often find a job after graduation, then it is very likely that the programme may get allocated more State Grant study places in the years to follow. The employment rate is assumed to be a predictor of relevance and employability. This appears to be a sound way of reasoning.

During the stakeholder interviews, it became clear that the proportion of graduates is not yet a good indicator for the question whether graduates find a job that matches their level and expertise and whether the competences of the graduates match with the needs within their employment domains. Various stakeholders indicated that “substantial numbers of graduates find employment in very different sectors as to what they were trained for, like graduates becoming taxi drivers, engineers not going into an engineering job”. “Many teachers do not want to become low paid teachers but after graduation often find much better paid jobs in the oil- and gas industry or service sector. This leads to a situation where it is difficult to find good teachers at schools.” Though international practice shows that in any system, a substantial number of graduates find employment outside their area of expertise and/or at a lower level as what they would

be capable of, the situation in Kazakhstan is perceived to be problematic as reported by the interviewees.

A related issue concerns the type of information that is used for measuring employability. At the moment the universities themselves have to report on the proportion of their graduates being employed. This self-reporting mechanism may be tempting institutions to be a bit subjective and positive in their calculations as they have a strong interest to demonstrate good figures. This may result in more State Granted students in the years to come.

Another issue concerns the tax levy of 1% on company profits. These are predominantly used to offer additional grants (subsidised study places). The study places subsidised in this way are negotiated between local/regional authorities, universities and the “sponsoring” companies. As such, this stimulates that universities produce graduates that are relevant to the companies involved. During the interviews it was also expressed that in some cases the students subsidised in this way are expected to work for the respective companies for some years after graduation.

Finally, student financial support in the form of student loans and family savings plans is not directly stimulating students to graduate or rewarding employability. Indirectly, borrowing for higher education puts a financial pressure on students and graduates with a study debt to perform well and find a suitable job with good salary condition to be able to repay the debt. On the other hand, students who need the loans because of financial austerity may be more likely to drop out for financial reasons. In addition, finding well-paying jobs appears to be more important than jobs that match the expertise of graduates, as such many trained teachers are said to seek employment in the private sector where the earnings are higher than if they would become a school teacher or go into academia.

### **Stability, performance and innovation orientation**

**Stability:** From a stability perspective, allocating the State Grants partially on the basis of the employability of graduates looks relatively fine as one can imagine that the labour

market developments do not happen overnight. Labour dynamics happen on a permanent basis and mostly show a gradual development, unless technological innovations stimulate a rapid expansion of certain sector, like the ICT sector in the 1990s. As such, using the employment rate of graduates for allocating the State Grants will make the higher education system dynamic in a gradual way. However, as only 27% of the students study on a State Grant study place, the State Grants can only stabilise and dynamise a quarter of the higher education system. Other dynamics may rule the behaviour of all other students who pay full tuition fees, like the popularity or level of difficulty of a study programme and/or an institution.

**Performance:** The fact that the allocation of State Grants partially happens on the basis of employment rates is rather unique, progressive and performance oriented. It links university funding the outcomes of higher education: success at the labour market. Not many countries dared to take that step yet. Nevertheless, as indicated above, this is a first step as it would be more directive if the performance incentive towards employability would reckon with type of jobs graduates find, like also indicating the level of employment and the sector of employment. Additionally one could think about graduate satisfaction and employer satisfaction scores. Another issue regarding performance in terms of producing relevant graduates is that the State Grants do not incentivise that students really graduate. The State Grants of students that drop out can be taken over by other students who before were not subsidised by the state. As explained above, the subsidised study places offered through the tax levy of 1% on company profits stimulates a close relationship between universities and the respective companies regarding the relevance of graduates.

**Innovation:** Allocating the State Grants on the basis of employment data is particularly looking at past performance. However, as stated above, the labour market is in continuous change and there always appear new types of jobs. Think of IT specialists, quality assurance managers, internationalisation experts, etc. The current funding model does not challenge universities to develop new study programmes to educate the graduates for future new jobs. This may be addressed by the budgets available for graduate programmes, but the stakeholder interviews did not demonstrate that universities are invited, challenged or funded to think in that way.

### Potential areas of improvement

Regarding the stimulation of highly skilled graduates that meet the demands of Kazakhstan's economy, the current system has taken steps to tune the funding mechanisms to employability. However, the way employability is measured can be improved, e.g. by refining the definitions towards employment at the right level and in a related field of expertise. Further steps could be taken by looking at the satisfaction of employers about the graduates they hire or the graduates about the competences they acquired.

The use of the subsidised study places related to the 1% tax levy on company profits is a relatively new and still unclear area. These revenues are rather unstable and the rules on allocating such funds appear to be diverse and not well-known by most of the respondents.

Regarding student financial support, if the government thinks on improving the repayment conditions of student loans, one alternative would be to provide interest subsidies or debt waivers in case graduates go work in publicly desired jobs or if they find employment in jobs that match their profile.

### **International Good Practice Examples**

Regarding the stimulation of graduates, the main international practice is to organise public funding through funding formulas that encourage institutions to generate graduates and reduce dropout and graduates in the right domains. The first issue has been demonstrated in the example above on the performance oriented formula applied in the Netherlands (example 1). Steering towards sufficient numbers of graduates in particular types of disciplines and programmes can also be addressed by capacity funding as will be demonstrated in example 4 on capacity funding in Sweden.

### **Capacity funding**

Next to the official statements about creating high quality professionals for the labour market as expressed in the State Programme for Education and Science Development



(SPESD) 2016-2019, also various stakeholders interviewed for the Roadmap project – including representatives of the MoES, national, state, JSC and private universities – indicated that employability should be an important element of higher education policy. The MoES and national universities stressed the need for a proper data collection of employability statistics on graduates that can better underpin the allocation of State Grants between disciplines, universities and study programmes. Prestigious private universities particularly stressed that universities should be in close contact to employers and intrinsically push for a continuous advancement in the competences they teach their students in order to make them better employable. This would also help to connect to business for other purposes, like sponsoring, doing collaborative research, providing scholarships for students, etc.

One way of matching the allocation of public funds with the needs of the labour market is a model of capacity funding. In this option, the funding of teaching is (also) based on an agreed number of students, graduates, or successfully completed study credits in explicitly defined domains or study programmes. Capacity funding could also include funding for new innovative study programmes that for example address newly emerging professions at the labour market, e.g. specialists in robotics. A key feature of capacity funding is that it funds a pre-defined capacity to produce a targeted number of graduates, students or credits in specified domains against proper quality. Under- or overproduction could be penalised. The current Kazakhstani State Grants system includes some elements of capacity funding as it partially agrees on the number of State Grants per institution and programme. However, it does not really reward successful studies but students who successfully passed the UNT, regardless of they successfully complete their bachelor or masters degrees or not. Below we will discuss the example of the capacity funding model that is applied in Sweden. This example has also been described in Arnhold *et al.*, 2014 and is particularly based on a more elaborate description and analysis in De Boer *et al.* (2011).

### **Example: Capacity funding in Sweden**

In Sweden, direct government funding, in terms of operational grants for education, takes the form of state block grants. The allocations are based on per capita amounts per

student (full-time equivalents or FTE) and the performances achieved by students. These amounts per student and per study result in different tariffs for different disciplines/study fields, as also discussed in the sections on performance formulas. The study performances are calculated in terms of annual performance equivalents for the students in terms of the numbers of credits obtained (1 FTE student = 60 EC).

Every year the Parliament decides on the budget ceiling of each HEI, of which 30% is allocated based on performance. The HEI reports at the beginning of the fiscal year (January or February) how many FTE students and FTE study achievements they realized by December 31 of the previous fiscal year. In addition, the HEI's monitor their student numbers and study achievements throughout the year, and based on the monitoring results, they report an intermediary estimate of their total budget required (shortages versus surpluses) three times per year. They also forecast this for the coming few years to enable longer term planning of the budgetary requirements for the coming 3 years.

The centrally determined funding cap per higher education institution is an absolute limit and therefore the Swedish funding mechanism can be regarded as capacity funding. Within the framework of the funding process, each HE institution engages annually in a dialogue with the Ministry of Education and Research. In this dialogue, each HEI agrees with the Ministry on its targets or aims in terms of realized student numbers and study achievements that will be rewarded. There is a maximum budget which constitutes the highest aggregate compensation of FTE students and annual performance equivalents permitted for the fiscal year.

If an institution does not reach its funding ceiling because of fewer enrolled students and/or their performance outcomes not achieving agreed targets, it does not receive the full funding. If an institution enrolls a greater number of students than indicated as the agreed ceiling amount, no additional compensation is paid. Thus, fluctuations in the number of students directly affect the funding of the institution, even in the same year. The government can allocate additional funding in case of a general increase in student enrolments or for setting up new study programmes that meet particular labour market needs.

Though capacity funding may include elements of funding models described earlier in this study, it can be particularly interesting to reflect on the mechanism in the Kazakhstani context as higher education aims to produce highly qualified graduates that are needed in the Kazakhstani labour market. Though the current State Grants system by its quotas is somehow linked to the employability of graduates, a stronger focus on labour market needs and planning to only spend public funding on activities that lead to “well employable graduates” may be a step ahead. In this sense, a more direct link to the number of graduates produced in certain universities and/or study programmes could be interesting to look at.

### **2.5.3. Strengthening scientific research and its societal impact**

The third strategic priority area for Kazakhstan’s higher education is the development of its scientific research base and the societal impact of research. This is for example demonstrated in the ambition to position a few Kazakhstani universities higher up in the global rankings and to better integrate higher education, research and innovation as well as strengthening university-industry relationships.

#### **Role of the current funding model**

This project has had a limited focus on research funding. Most public funds for research are awarded on the basis of competitive funding to which individual researchers, groups and institutes can apply with particular research proposals. The project so far did not assess the criteria used for allocating the competitive grants, whether the central budget is divided in separate budgets for different disciplinary fields such as STEM, medicine, and social sciences.

There also appears to be a stable stream of basic research funding for national universities, but what this exactly entails in terms of volume and allocation mechanism between institutes and universities has remained unclear in the project.

Indirectly, the high tariff of State Grants for national universities compared to the tariff for state universities and JSC universities is not only covering the higher salaries of

academics working in the national universities but also provides a basis for research activities.

The 1% tax levy on company revenues is said to also feed into a central fund governed by the MoES (about 300 million tenge) that is distributed for research projects in universities together with industry.

There are about 500 PhD grants allocated on an annual basis. This is regarded as a number that is too limited related to the research ambitions of the country, but anyhow provides a vast research capacity in at least a selected number of universities, mostly the national universities.

Altogether, there is no full transparent overview of the research funding in the system. However, the fact that a few Kazakhstani universities take relatively good positions in the world university rankings (QS WUR and Times Higher Education WUR) assumes that they have a substantive research base to produce high quality research leading to substantial research outputs such as highly ranked publications, patents, etc. If the number of universities that become visible in the global rankings should increase, this requires a substantial further research investment.

The development towards a stronger research system and societal impact will be analysed on the basis of how well the current Kazakhstani funding mechanisms relate to the criteria of stability, performance orientation and innovation orientation.

### **Stability, performance and innovation orientation**

**Stability:** Because the main research funds are provided on a competitive basis this does not provide guaranteed stable research revenues for universities. As a result, not all academics have a guaranteed proportion of time to be dedicated to (fundamental) research. Only those successful in the national research competition can ensure such a claim. As in many competitive systems for allocating research funding – e.g. through research councils like DFG in Germany or NWO in the Netherlands – once successful researchers or units tend to remain successful over the years. This is partially a result of

the evaluation criterion of past performance and thus confidence that the researcher/group can perform good research. As such, also such a competitive system generates its own forms of stability.

**Performance:** The competitive research funding allocation implies a high level of performance orientation. However, as it appeared from the stakeholder interviews that only a few institutions are relatively successful in this area, the performance incentives for institution with only little or no competitive research funding is low. In many cases, institutions are somehow out of this “ball game”.

**Innovation:** There has been no evidence on the issue whether the competitive research funding stimulates innovation. Nevertheless, the Ministry indicated that there are initiatives of setting up autonomous cluster funds in which industry has to participate in the research and funding of projects. This should guarantee more applied and innovative research. In addition, there is an initiative to establish a “business campus” with strong public-private partnerships. At this moment, universities are expected to work towards generating endowment funds, but this is not stimulated by public financial incentives.

### **Potential areas of improvement**

A first area of improving the research funding area would be a more transparent description of the research system and funding mechanisms, including the award criteria, procedures, processes and actual allocations. This should also include the new initiatives, such as using the 1% tax levy funds, the business campus and expected university-industry co-funded research projects.

Increased transparency can improve the level playing field between the various actors in the system.

It appears that the relatively entrepreneurial privately oriented universities are quite active in engaging with business and industry. They use many small scale initiatives for this, such as internships, professional training and leadership programmes, various

smaller scale joint research projects (also conducted by students), involving business to invest in modern teaching and research facilities, guest lecturers, etc.

International good practice examples.

To provide Kazakhstan's higher education system with some food for thought for the ambitions to further develop the research base and strengthen the links between research, the economy and society at large, the following international examples may provide some inspiring ideas.

### **Funding formula for research**

As discussed in Section 5.1, funding formulas can stimulate transparency, quality and performance in higher education and research. One outspoken example in this area is Finland. As demonstrated in the figure presented on page 30 of this Report, the Finnish funding model (Halonen, 2014) includes a substantial part for research that is mainly oriented towards performances and outputs, such as PhD degrees, scientific publications, success in competitive research funding, such as from Research Councils and EU funding opportunities.

The current model in which research funding is predominantly awarded through the competitive grants scheme, competition, transparency and quality are guaranteed. However, the current basic allocations of research funds to national universities appears to be intransparent according to the interviewees of the Roadmap project. In such a situation, using a funding formula could help stimulating quality, performance orientation as well as stimulating transparency and legitimacy. Such a formula could also include a substantial historical component to prevent enormous budget changes between years and institutions.

### **Boosting universities in the global university rankings**

Because many countries increasingly focus on research excellence and the position of their universities in the global university rankings, they develop organisational structures and financial instruments that promote a development towards research focus,

mass and excellence. As such, many countries would like to increase their number of universities that show high (or higher) up in these university rankings. Kazakhstan also has the ambition to have at least 2 universities reaching to the top-200 of the QS-WUR ranking system. One already achieved this objective in 2016.

Because it is difficult to reach this type of excellence, some countries merge universities and research institutes to generate focus and mass in research priorities, such as in Denmark and France (Benneworth *et al.*, 2010). Other countries invest large sums of additional money, such as Germany through the “Excellence Initiative” to support a limited number of promising universities. In other countries, a redistribution of funds towards a few universities is aimed at achieving a few world class universities, such as in South Korea and China. Most countries that do such operations heavily invest in such processes. This often implies a strong imbalance in terms of funding between the prestigious “excellence” universities and the others. In many countries, the excellence of the one goes at the expense of the quality of the others. As such, given the limits of public expenditure on higher education and science, the Kazakhstani government probably has to make a firm choice between boosting one or a few universities in the global university rankings or strengthening the quality of science in Kazakhstan’s higher education across the board. International practice shows different answers to such a question.

### **Examples: stimulating excellence and performance in rankings**

In 2010, a Dutch committee on the future sustainability of higher education decided that given the already good ranking position of most Dutch research universities (11 of the 13 being among the top 200 in the Times Higher Education World University Rankings) there was no further need to invest in a few universities at the expense of the others (Veerman *et al.*, 2010).

Germany, established the “excellence initiative” in 2007 (Klump *et al.*, 2013). This in fact was a major national investment in research performance, focused on graduate schools, research clusters and institutional strategies to promote excellence. The invitation to set up research clusters strongly stimulated collaboration between

universities and non-university research organisations because it entailed a highly selective peer review process. While vast amounts of funding have been invested, the unclarity of future sustainable funding makes the “excellence initiative” a contested one.

Similar programs have been developed in Denmark and France, though in these cases funding was limited in terms of money and the period in which it was allocated. In Denmark, the national research institutes were integrated into the universities. The newly merged universities had to demonstrate in a business plan how they would secure financial sustainability after the state funding period. In France “campus France” the program created research excellence in larger city areas, connecting various higher education institutions and research institutes into regional “poles” or “research cluster” that would be large enough to jointly appear in the university rankings.

### **Other options to strengthen scientific research and impact**

The ambition to strengthen research and societal impact receives substantial impact in various countries. This ambition not only has been officially formulated in the national higher education strategy (SPESD) but has also been addressed by several of the interviewees in the Roadmap project, particularly by representatives of the national universities and the prestigious private (JSC) universities. In order to reach these objectives, several countries apply different funding instruments to achieve (part of) such ambitions. We will briefly discuss two main types of such instruments that may be interesting in the context of Kazakhstan’s higher education.

- Various countries apply forms of research evaluations of faculties, disciplinary groups or whole universities. This is for example common practice in Australia, Germany, Norway, New Zealand, the Netherlands and the UK (Deen and Vossensteyn, 2006). In the Netherlands, all research groups or units within universities have to participate in an externally organised research review, which assesses their functioning against three: 1) research quality; 2) relevance to society; and 3) viability (KNAW, VSNU and NWO, 2016). In the UK, research funding to a substantial extent is linked to the outcomes of a national research evaluation exercise. In 2012, Research Assessment Exercise was replaced with the Research Excellence



Framework. In this exercise, every five years research groups are rated against each other in terms of quality (<http://www.ref.ac.uk/>). The highest scoring groups will receive substantially more research funds than the lower ranked groups. One can imagine that – in Kazakhstan – a research evaluation process assessing the quality of research groups funded with public money can contribute to the transparency of the system, to the awareness of quality, to identify strengths and weaknesses and to inform strategic investments of limited research funds. Against the backdrop of Kazakhstan’s high ambitions – e.g. as expressed in the State Program for education development 2011-2020 (MoES, 2010) – one could consider a mechanism that combines academic research performance, in terms of research output, with societal relevance and impact, e.g. in terms of attracting funding from industry, from international sources, patents, spin-off companies, etc.

- In a balanced funding model, next to stable basic funding and performance oriented funding, systems also require space for innovation and creativity. New initiatives to promote teaching or research innovation often require seed money. An innovation fund can provide the financial space for such initiatives, of course on the basis of sound project and business plans and in competition with other creative and innovative ideas. As such, some countries implement a specific central research and innovation fund that provides research organizations with a premium if they successfully attract funds from industry, collaborate with companies in research and innovation projects (Arnhold *et al.*, 2014). In some countries such a fund matches research projects that are capable of attracting 50% of the resources from private partners. Or some universities themselves provide relatively small premiums if research groups attract specific types of externally funded research projects, like those from research councils or EU research programmes like ERC or Horizon 2020. For example, many Dutch universities offer such a top-up of €2,500 to €15,000 per annum per FTE-research time funded through the project or as a proportion of the total budget provided for the project (Arnhold *et al.*, 2014). Another example in this area is the “knowledge vouchers” used in the Netherlands that stimulate industry or SME’s to “buy” a limited amount of knowledge or advice from universities under the condition that the company also invests itself in such knowledge collaboration. The “knowledge vouchers” are paid by public authorities (ministries, provinces or

regions) supported by the EU Interreg program (<https://www.liof.com/en>; <http://www.interregeurope.eu/>). Some other countries use the idea of an innovation fund to support new promising innovative initiatives in the area of teaching or research system but that require short-term seed money. In Germany, such funding particularly is available in the STEM sector where a technology and innovation fund supports a selective number of innovative projects in science and engineering (Arnhold *et al.*, 2014). All such initiatives could in Kazakhstan be promoted with the funding generated by the 1% tax levy on (regional) industry profits. This can be organised at state level or maybe at the level of the regions (*akims*).

#### **2.5.4. Strengthening the management and monitoring of higher education and science**

The fourth strategic priority area defined for Kazakhstan's higher education is about a better transparency and monitoring system that allows for stronger managerial and steering capacity at various levels. This is not directly related to funding models that steer the higher education system. Nevertheless, if management capacity, monitoring, accountability and good objective information systems have to be (further) developed, this generally requires substantial investments.

In the interviews with various stakeholders, a need for more objective and valid data was often mentioned. This concerns the real "costs of education", reliable employability statistics, outcomes of research competitions, numbers of students, dropouts and graduates at various levels and institutions and by various background characteristics, staff, remuneration, etc.

#### **Role of the current funding model**

Though some data are collected, often centrally, the MoES often also has to rely on data delivered by the individual universities. This for example is the case with employability statistics. If this is a crucial factor for allocating State Grants, transparency and accountability requirements would request valid objective data. This being questions by several stakeholders indicates that this is not a sustainable situation.

During the interviews, there was no mentioning of large data collection projects in order to improve management information in Kazakhstan's higher education system. This suggests that no real innovation will take place in this area yet. The same goes for the felt need for professionalization of management staff.

### **Potential areas of improvement**

What could be done in Kazakhstan's higher education is to allocate limited, but targeted resources to develop some most urgent monitoring systems, e.g. in the area of employability of graduates (including employment rates after 6 and/or 18 months), international accreditations acquired by study programmes); external revenues generated by universities (e.g. from competitive research grants; from industry; from EU research & collaboration programmes; etc.); alumni surveys; employer satisfaction surveys, or other information deemed of high importance.

Another type of initiative could be to organise and fund some crucial management training for strategic higher education managers, like university rectors, deans, finance directors, HR directors, etc.

### **International good practice examples**

Internationally, there is a range of monitoring instruments that, often at national level, provide key-information on developments in the system. Relevant for the Kazakhstani situation are for instance labour market survey and research instruments. Examples are:

#### **Graduate destination surveys**

Several countries conduct so-called graduate destination surveys which explore the transition from school to work, including their employment situation, the types of jobs they hold, the extent to which their education is well-related to the demands of the professional practice, the satisfaction about their education and competences, salary levels, types of functions, etc.

- This for example happens in the Netherlands through the HBO- and WO-Monitors (<http://roa.sbe.maastrichtuniversity.nl/?portfolio=school-leaver-surveys>). This delivers detailed reports on the state of affairs over the years ([http://www.vereniginghogescholen.nl/system/knowledge\\_base/attachments/files/000/000/579/original/Factsheet\\_HBO-Monitor\\_2015\\_v1.pdf?1465802597](http://www.vereniginghogescholen.nl/system/knowledge_base/attachments/files/000/000/579/original/Factsheet_HBO-Monitor_2015_v1.pdf?1465802597)).
- Another example is the Australian Graduate Destination Survey which collects information about graduate employment outcomes, previous employment, continuing study, work-seeking status, past education and key characteristics, such as residency status, recent qualifications, etc. (<http://www.graduatecareers.com.au/research/start/agsoverview/ctags/gdso/>).
- At European level. Many of such data are envisaged to be brought together, in order to reach a more homogeneous data collection across countries as well as international comparative data. This is done by the EUROGRADUATE study (<http://www.eurograduate.eu/>).

### **Student monitoring systems**

Another example can be found in many national “student monitoring” instruments that look at various aspects of student life, their personal residence situation, personal characteristics, income and expenditure, and student satisfaction. These are brought together in the European project EUROSTUDENT (<http://www.eurostudent.eu/>).

### **Professional management capacity development**

In a number of countries there are various training opportunities for higher education managers to further develop their knowledge and skills in the area of higher education management (Kovac and Vossensteyn, 2009). This ranges from a centrally established “higher education management academy” like the Leadership Foundation in the UK (<https://www.lfhe.ac.uk/>), to specialised MBA programmes (e.g. the German MBA Higher Education and Science Management programme of the Osnabrück University of Applied Sciences, <https://www.hs-osnabrueck.de/en/study/study-offerings/master/higher-education-and-research-management-mba/>) or short term individually organised professionalization courses. It appears that Kazakhstan a few

years ago has initiated a central management training programme to promote higher education leadership.

## **Conclusion**

This report has provided an overview and analysis of the various funding instruments that are applied in Kazakhstan's higher education, such as the State Grants, student loans, savings schemes for parents, the competitive research funding through the research council and the 1% tax levy over company profits. To get an understanding of the funding mechanisms, their strengths and weaknesses as well as their working in practice, a number of 15 interviews were conducted with key stakeholders in Kazakhstan's higher education system. All interviews and documentation on the financing of higher education in Kazakhstan in the next step has been analysed on the basis of a number of criteria for good funding mechanisms in higher education which are applied in various settings: stability, performance orientation and innovation orientation (Arnhold *et al.*, 2014; de Boer *et al.*, 2014; Vossensteyn *et al.*, 2013). In addition, Kazakhstan's funding mechanisms have been analysed regarding the extent to which they align with the strategic priorities as formulated in the *State program for education and science development 2016-2019* (SPESD). To spur the debate in Kazakhstan's higher education, the report finally discussed a number of funding options that can be considered if one wants to stimulate the quality of teaching, enhance the employability of graduates; strengthen the research base and its impact on society and to stimulate innovation. These reflections are illustrated with a number of practical international examples of how particular funding options are implemented in other countries, predominantly based on the international research literature. Finally, a few policy initiatives have been identified that often are regarded important to accompany funding instruments, like proper monitoring and data collection, quality assurance of teaching (and research) and professionalization of staff.

The report does not aim at providing a blue-print for a funding model that can be implemented in Kazakhstan. It provides food for thought, in which to align the funding instruments with the national strategic objectives for higher education. Instead, the paper has identified the main characteristics of the current funding model for higher education in Kazakhstan and assessed how these are aligned with the strategic

objectives of the system as well as how they relate to some key principles of “good funding mechanisms”.

Altogether, we can conclude that Kazakhstan’s higher education system has a rather unique funding arrangement with its strong orientation towards full-tuition fee-paying students and all public subsidies being purely allocated on the basis of academic merit of students through the State Grants system. In general, the level of public investments in higher education is rather low, but it is extraordinary to notice so many students being able and willing to pay the full-fees.

Though at first sight, the State Grants system appears as a “voucher-like” funding model in which students “vote with their feet”, the limitation by State Grant quotas over disciplines and institutions makes that students have less freedom to choose what they want to study and where. However, an interesting phenomenon is that the quotas per institution and study programme depend on the employability of graduates. Those institutions that can enroll state granted students, have to comply with a lot of centralised administrative procedures and bureaucracy.

The analysis further indicated that the performance orientation in the current Kazakhstani funding arrangements is relatively weak, particularly in the area of strengthening the quality of teaching and learning, using modern educational technologies and preparing graduates with competences that are required in the labour market. With respect to research, the strong focus on competitive research grants does not yet appear to stimulate the envisaged growing integration of science, higher education and applications in society and the economy. Also here, incentives to stimulate innovation and collaboration with other societal partners is underdeveloped. In this sense, current funding arrangements can be improved.

However, though funding arrangements are important for system steering, they cannot function properly without accompanying instruments, such as a fair but tough quality assurance system, proper data and monitoring instruments and professional management and leadership capacity.

In the final section of this report, alternative funding instrument were described and references to other countries with respected approaches were provided as food for

thought to inspire the process of the further strategic development of the higher education sector in Kazakhstan.

### **Recommendations for policy makers and higher education leaders**

This study has provided a detailed analysis of financing mechanisms in Kazakhstan's higher education system – including the State Grants system, private tuition fees, student loans, family savings plans, research funds for universities as well as the 1% tax levy on business profits for higher education purposes. The first type of analyses included a description of the financing system and the dynamics it generates for the day-to-day operation of universities. That was on the basis of a literature, including academic and policy papers, and by a number of interviews with about 30 representatives from the whole higher education system. The data stemming from these sources were analysed by using the key strategic objectives of higher education in Kazakhstan and principles of “good funding models”, such as stability, performance orientation and stimulation of innovation. The analyses were further added with international examples of various alternative models to fund teaching and research in higher education. All in all, the analyses result in the following recommendations. These are structured by recommendations regarding the financing of higher education in Kazakhstan and recommendations concerning other system conditions.

### **Recommendations regarding funding arrangements**

- To provide a basis for high quality teaching and research in Kazakhstan's higher education, there is a need for increased financial resources. At the moment, there appears to be a situation of underfunding.
- To align Kazakhstan's higher education system with the national strategic objectives, public funds could be best targeted directly at higher education institutions. The current State Grants may increase competition (for the best students), but the system is already to a large extent driven by competition due to the heavy reliance on tuition fees.
- To promote stability, quality and performance, the Kazakhstan higher education system could benefit from a funding approach that includes a mix of stability and

performance incentives. Stability funding could go to institutions and programmes that are regarded of national importance and that cannot survive in the full-tuition model. Performance orientation, such as a funding formula including performances in terms of passed credits, degrees awarded and employability of graduates, can be used to distribute funding among programmes offering recognised “high quality”, e.g. on the basis of strict accreditation requirements.

- One could consider whether it is possible to expand the number of students publicly subsidised. This could create a more equal “level playing field” for different higher education institutions by equalising to some extent the funding situation and competitive positions between the national universities, state universities and JSC institutions. This can be achieved by increasing public spending, which under the current conditions could lead to more students with State Grants.
- The above mentioned situation can also be achieved by introducing tuition fees for all students. Under the current conditions, the best scoring UNT students consume all public subsidies, while it is known that many of them come from family backgrounds that socially and financially enable them to pay (part of) the costs of higher education. Both from an equity of access perspective as well as efficiency considerations, this appears to be a missed opportunity to generate more revenues for higher education while also stimulating equity of access as this would allow to spend part of the public resources on promising students that need financial help. For example, making current State Granted students paying half of the tuition costs, would enable to have 50% of all students being state subsidised students.
- Another way to promote high quality education (and research) is to create opportunities to develop and experiment with teaching innovations funded by a (small) innovation fund. One can think of subsidising some initiatives to implement new didactical approaches to include ICT innovations (e.g. flipped-classroom), or learning methods that stimulate new types of skills for graduates, such as entrepreneurship, creativeness, collaboration etc.
- As students and their families hardly use the instruments that are provided to stimulate equity of access, such as student loans and the family savings plans (SEAS), one may consider to make student loans more attractive by relaxing the borrowing and repayment conditions. Such a mechanism may not only attract more students into higher education would be willing to invest in higher education, it could



also accompany a mechanism of more general tuition fees if that would be socially and politically acceptable.

### **Recommendations regarding other conditions in the higher education system**

- From a financial sustainability perspective, one might consider whether the number of higher education institutions is not too large in a system that is so strongly dominated by tuition fee paying students. Many institutions, also many state-universities struggle to survive because in several cases, they may be too small to bear the risks of such strong market dependency. This calls for a deeper analysis of whether the system structure and the role of the different universities fit with the strategic priorities of the country.
- Partially related to the previous recommendation, the level of financial autonomy of higher education institutions should be increased to enable a more efficient use of (public) financial resources. For example, relaxing regulations on student-teacher ratios, public procurement regulations and contract activities may increase efficiency and resource diversification in higher education institutions.
- It appears that there is a need for a transparent mechanism to identify and recognise the quality of education and research. The current list of external (international) accreditations that are recognized as good quality may have to be revisited.
- To inform a potential new funding mechanism and their allocative implications, a proper estimate of the costs related to higher education teaching is required. At the moment, due to the many differences in the costs at which various higher education institutions produce students and graduates, a proper price-quality relationship is not known.
- A central system that would provide more transparent information and data on higher education in Kazakhstan would be a great benefit to the system. A “management information system that applies uniform system-wide definitions regarding student numbers, dropouts, successful completions, employability but also regarding research performance, resource diversification and knowledge transfer informs institutional and public policy making. Linking to the definitions used in global university rankings, such as QS WUR (familiar to local higher education leaders in

Kazakhstan), THE WUR and U-Multirank also allows stronger international attraction and benchmarking.

## References

- Arnhold, N., Ziegele, F., Vossensteyn, J.J., Kivisto, J. and Weaver, J. (2014) *Assessment of current funding model's 'Strategic Fit' with higher education policy objectives*. Washington: World Bank.
- Benneworth, P., Dassen, A., Faber, M., Leisyte, L. and Vossensteyn, H. (2010) *Models for university co-operation strengthening national knowledge economies, A policy analysis*, Final report for the 3TU Governance Board, Enschede: CHEPS.
- Benneworth, P., de Boer, H., Cremonini, L., Jongbloed, B., Leisyte, L. and Vossensteyn, H. (2011) *Quality-related funding, performance agreements and profiling in higher education*, An international comparative study for the Dutch Ministry of Education, Science and Culture, Enschede: CHEPS.
- Boer, H.F. de, Jongbloed, B.W.A., Benneworth, P., Cremonini, L., Kolster, R., Kottmann, A., Lemmens-Krug, K. and Vossensteyn, J.J. (2014) *Performance-based funding and performance agreements in fourteen higher education systems*. Enschede: CHEPS.
- Boer, H.F. de, Jongbloed, B.W.A en Vossensteyn, J.J. (2011) *Capaciteitsbekostiging in Engeland en Zweden*, Achtergrond rapport bij: *Enkele gedachten over capaciteitsbekostiging*, een rapport voor de VSNU, Enschede: CHEPS, Universiteit Twente.
- Canning, M.Th. (2015) “*Development of strategic directions for the Education Reform in Kazakhstan for 2015-2020*” research project, Final report on Higher Education sector of the Roadmap project for 2015, Astana: NUGSE.
- Canning, M.Th., Mhamed, A.A..S., Bilyalov, D. and Kurakbayev, K. (2017) Equity of access to higher education in Kazakhstan. Higher Education Journal (forthcoming).
- Deen, J, Jongbloed, B. en Vossensteyn, H. (2005), *Bekostigingstarieven in het hoger onderwijs. Een vergelijking tussen zeven landen*. Studie i.o.v. Ministerie van de Vlaamse Gemeenschap. Enschede: CHEPS.
- European Commission (2011), *Supporting growth and jobs – an agenda for the modernisation of Europe's higher education systems*, Brussels: European Commission COM (2011) 567/2.
- Finance Centre of the Ministry of Education and Science (2016). *Detailed Information About the State Educational Accumulative System*. Retrieved on February 22, 2016 from: <http://www.fincenter.kz/gosudarstvennaya-sistema/podrobnee.php>.

- Halonen, T. (2014), *HE and HE funding models in Finland*, Department for Higher Education and Science, Strategy and Steering Group, Helsinki: Ministry of Education, Science and Culture.
- Hillman, N.W., Tandberg, D.A. and Gross, J.P.K. (2014) Market-based higher education: Does Colorado's voucher model improve higher education access and efficiency? In: *Research in Higher Education*, Vol. 55, Iss. 6, pp. 601-625.
- Information Analytical Centre (2014) *Analysis and Monitoring of the Implementation of Institutional Autonomy*. Astana: Information Analytical Centre, unpub.
- JM Consulting and PA Consulting (2005) *Use of costs to inform the funding of teaching*, A report to HEFCE: [http://dera.ioe.ac.uk/5861/3/rd22\\_05.pdf](http://dera.ioe.ac.uk/5861/3/rd22_05.pdf).
- Klumpp, M., de Boer, H.F. and Vossensteyn, J.J. (2013) Comparing national policies on institutional profiling in Germany and the Netherlands, in: *Comparative Education*, Vol. 50, Nr. 2, pp. 156-176.
- Ministry of Education and Science (2016) *The State Programme for Education and Science Development for 2016-2019 (SPESD)*, Approved by the decree of the President of the Republic of Kazakhstan, Astana: Ministry of Education and Science.
- Nazarbayev University Graduate School of Education (NUGSE) (2014) *Development of Strategic Directions for Education Reforms in Kazakhstan for 2015-2020*, Diagnostic Report by the Nazarbayev University Graduate School of Education. Astana: Indigo Print.
- OECD (2014), *Reviews of National Policies for Education: Secondary Education in Kazakhstan*, OECD Publishing.
- Sagintayeva, A., & Kurakbayev, K. (2015). Understanding the transition of public universities to institutional autonomy in Kazakhstan. *European Journal of Higher Education*, 5(2), 197-210.
- Undervisnings Ministeriet (2016), *The taximeter system*, Taximeter management deals with the state's total financial framework for educational purposes, Copenhagen: Ministry of Education: <http://eng.uvm.dk/Education/General/The-taximeter-system>.
- Veerman, C.P., Berdahl, R.M., Bormans, M.J.G., Geven, K.M., Hazelkorn, E., Rinnooy Kan, A.H.G., van Niekerk, W.A. en Vossensteyn, J.J. (2010) *Threefold differentiation for the sake of quality and diversity in higher education, Recommendations of the Committee on the Future Sustainability of the Dutch Higher Education System*, The Hague: Koninklijke Broese and Peereboom.
- Vossensteyn J.J. (2015) *International Developments in Higher Education Financing*, Roundtable Discussion on Developments in Higher Education Financing, Ankara, Turkey, 4 February 2015.
- Vossensteyn, J.J. and Jongbloed, B.W.A. (2007) *Learning entitlements in higher education International practice and experience with learning entitlements in higher education: Australia*,

*Colorado, Germany and the Netherlands*, A study for the University Grants Committee Hong Kong, Enschede: CHEPS.

Vossensteyn, J.J., Cremonini, L., Epping, E., Laudel, G. and Leisyte, L. (2013) *International Experiences with Student Financing: Tuition fees and student financial support in perspective*, Final Report for the Dutch Ministry of Education, Science and Culture, Enschede: CHEPS.

Vossensteyn, J.J. and Westerheijden, D.F. (2016) Performance Orientation for Public Value: Dutch Myths and Realities in an International Perspective, in: R.M.O. Pritchard, A. Pausits and J. Williams (Eds.), *Positioning Higher Education Institutions, From Here to There*, Rotterdam: Sense Publishers, pp. 227-246.

Winter, L., Rimini, C., Soltanbekova, R., Tynybayeva, M. (2014) The culture and practice of assessment in Kazakhstan: the Unified National Test, Past and Present. In Bridges, D. (ed) (2014) *Educational Reform and Internationalisation: the Case of School Reform in Kazakhstan* (pp. 106-132). Cambridge: Cambridge University Press.

World Bank. World Data Bank. Education Statistics - All Indicators.  
<http://databank.worldbank.org/data/reports.aspx?source=education-statistics--all-indicators#>

Yin, R. (2009) *Case Study Research*. Thousand Oaks, CA: Sage.