



**Ka održivom i jednakopravnom
finansiranju *visokog obrazovanja*
u Bosni i Hercegovini, Crnoj Gori i Srbiji**

**Towards Sustainable and Equitable Financing of Higher Education in Bosnia
and Herzegovina, Montenegro and Serbia**



WP 5. INSTITUTIONAL FUNDING STRATEGY

Report from the Working Group in Serbia

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Part I INTRODUCTION

I.1. Context

Both developing and developed countries search for appropriate higher education financing models in order to achieve a high quality, efficient, effective and equitable higher education. There are two completely opposite approaches to higher education financing – institutional financing and higher education demand financing.

Higher education financing can be analyzed at the macroeconomic level (Babin, 2008) and improved by introduction of fiscal rules (Babin & Erić, 2011). At the system level, the crucial challenge is related to increase of higher education government spending efficiency (Obadić & Aristovnik, 2011), in order to contribute to a more equitable higher education system (Bevc & Uršič, 2008). Active role and direct state interventions are necessary for the achievement of these goals.

Barr (1998) identifies four types of state interventions in the economy:

1. Regulation,
2. Finance,
3. Public production,
4. Income transfers.

Regulation and financing are two methods of direct state involvement in the improvement of higher education system and these types of interventions have an impact both on the public and private provision of higher education services. Legal changes precede implementation of a new higher education financing model, with the aim to synchronize financing allocation mechanism and the planned economic and societal outputs and outcomes.

Regarding institutional financing, it enables stable financing of higher education institutions, but does not provide sufficient incentives for maximization of desired outputs and outcomes. Conversely, higher education demand financing strives to generate positive outputs and outcomes by increasing the competition among higher education institutions and consequently removing the predictability and stability of institutional financing in mid- and long term.

Changes and adjustments of higher education financing models are, in fact, deliberate interventions of the state in the higher education system. The inertia and lack of initiative are immanent to higher education institutions and, therefore, an active role of state could be warranted. Elasticity of higher education institutions to the changes of financing approaches and models reflects their willingness and ability to attain sustainable institutional development. Closing the gap between institutional development priorities and societal and economic needs is one of the incessant challenges of higher education governance.

At the same time, public higher education in Europe, as well as in Serbia, are facing challenges connected to the increased demand for higher education, which keeps driving up the costs and, at the same time, reduces public funding for the sector.

In other words, massification process of higher education in the previous decades has created entirely new types of challenges, both for the states and higher education institutions. Altbach, Reisberg and Rumbley (2009) point out that higher education systems have undergone wide and deep structural changes related to both horizontal and vertical increase of higher education systems. The massification process has amplified the complexity of higher education governance and financing. Therefore, both the role of the state and higher education financing models had to be adjusted to the new reality.

Increased enrollment of students has been generating an additional pressure for the increase of budgetary contribution and introduction of tuition fees. This issue has been addressed in different ways, based upon the fiscal stance and the political conditions in each country faced with this issue. The case for the introduction of tuition fees and cost-sharing of study-related expenditure burden (Johnstone, 2004; Johnstone & Marcucci, 2010) is based on the private benefits of higher education. The graduates have a better chance for employment and can expect higher income and life-time earnings in comparison to citizens without a higher education degree (Psacharopoulos & Patrinos, 2004). Nevertheless, the participation of students in providing the higher education funding has only a supplementary role and the key issues on higher education financing remain in the jurisdiction of the state.

On the other hand, direct government support remains the most important source of revenue for public universities in Europe (Estermann and Pruvot 2011) but, in the light of the recent developments in economy and the fact that governments face difficulties in providing adequate financial support for high quality education in the light of national austerity measures, the idea of full public funding of higher education in Europe is under question. It means that revenues from tuition fees are going to be an increasingly important income source for universities, which is likely to grow as public funding decreases. In other words, tuition fees could become a favorable alternative for stakeholders in case public authorities cannot provide sufficient revenues for higher education to function properly.

The context in which higher education institutions operate today is, also, characterised by increased engagement of higher education institutions within society and industry, because generation of revenues from financial activities and services is an alternative way to diversify the income sources of institutions. Many institutions are developing their fund raising capacities to attract donations from foundations, companies and alumni. There are several models of cooperation, while the most advantageous are long-term strategic partnerships, but such partnerships remain a challenge for most universities (Estermann and Pruvot, 2011).

All the described activities caused a situation in which managing institutional endowments requires more financial responsibility and long term planning capacity (Jongbloed, 2003, p. 26), while creation and development of science parks and spin-off companies requires adequate internal support by university management and faculty (Estermann and Pruvot, 2011). This means that universities need to be free to manage their staffing matters, including recruitment and salary levels of their staff, their own property and equipment, define student numbers and tuition fees, and be free to handle revenues obtained from private sources. Moreover, universities must be able to identify the full costs of all their activities, to assess the degree to which these costs are covered by the funding source, and whether engaging with a given partner results in a profit or a loss for the institution (Estermann and Pruvot, 2011).

Consequently, universities without the ability to manage their expenses can hardly engage in income diversification, which makes them more vulnerable to uncertainties in public funding. In the light of the described developments and the context, challenges and importance of higher education financing, institutional financing in Serbia is one of the main topics considered within the TEMPUS project FINHED.

I.2. Composition of the Working Group

After the consultations of the Coordinator with the project partners in Serbia in December 2014, the Working Group was established and it consists of the following representatives, who took active role in all the related activities and, later, in the writing of the Report.

The Ministry of Education, Science and Technological Development (MoESTD)	Ph.D. Zorana Luzanin , Secretary of State for Education, Science and Technological Development at the Ministry
	Ph.D. Milovan Suvakov , Counselor at the Ministry of Education, Science and Technological Development
University of Belgrade	Ph.D. Miodrag Popovic , Vice-Rector for Finances and Organization of University
	Ph.D. Nevenka Zarkic Joksimovic , Project Coordinator
	Ph.D. Milan Martic , Dean at the Faculty of Organizational Sciences
	Ph.D. Sladjana Benkovic , Deputy Project Coordinator
University of Novi Sad	Ph.D. Radovan Pejanovic , Rector of the University
	Dragana Vujovic , Secretary General of the University
	Gordana Kazic , Chief of Finance and Accounting Department
Centre for Education Policies	Ph.D. Srbijanka Turajlic , Member of Center for Educational Policies board
	Jasminka Cekic Markovic , Director of the Center for Educational Policies
	Ivana Zivadinovic , Researcher at the Center for Educational Policies
Singidunum University	Ph.D. Mihajlo Babin , Assistant professor at the Faculty of Economics, Finance and Administration
SCONUS	Petar Debelnogic , General Secretary of SCONUS

I.3. Report goal and structure

This report provides an overview of funding of educational institutions, and it represents a practical application of the system of regulations, enabling a glimpse into the existing financing strategy of higher education institutions in Serbia by 2020. The Strategy clearly states the opinion that investments into higher education are viewed as investing in future, and it predicts a new financing model that would be based on public definition of study costs for individual areas, institutions and obligations of the state to participate in paying tuition for the majority of students. That would be achieved by introducing the category of co-financing students, and the expected result of such defined system would be removal of the existing great difference between self-financed and budget students (Strategy for Education Development in Serbia 2020).

Public faculties, as institutionally independent units within a University, are financially independent, and that is the reason why, at the moment, they are exploiting different possibilities of generating revenue. The most important revenue source are funds from tuition, received from students or state budget.

These governmental restrictions hinder many of the universities to take a pro-active approach to income diversification and thus could compromise their financial sustainability. Consequently, such situation enables the existence of an abundance of financial systems in which higher education institutions operate. The vulnerability of universities is especially noticeable concerning their declining revenues, which many of them associate with the current financial crisis. While public funding stagnates, or, in some cases, decreases, revenues from private sources, such as tuition fees, research projects, contracts, and so on, have not increased substantially, which can easily lead to a general underfunding of the sector. Moreover, there have been almost no attempts by universities to systematically look for other sources of income, for example by emphasizing cooperation with industry or engaging in the founding of spin-off companies.

Keeping in mind previously stated characteristics of financing of higher education institutions, financing institutions through student tuition has not been sensitive enough so far to social dimension of studying at higher education institutions, due to the existing unjust financing system where students are basically divided into two groups: budget and self-financing students. That, basically, means that one part of students pays the full amount of tuition, while the other part of students is exempt from paying tuition. Therefore, the Working Group offered a simulation of an institution financing, which would be significantly more just for the students.

Also, some questions have been asked, which would be analyzed throughout the report, with the goal of reaching answers, such as:

- Is there really energy for organizational changes in higher education?
- What is the view on potential benefits that the new organizational solution would have for financial implications and independence of university's organizational units?
- Does higher education quality level affect the funds that the state transfers to higher education institutions, and, if it does, do higher education institutions recognize the importance of higher education quality for the amount of funds transferred by the state?

Each of these questions could be a hypothesis, which we will try to answer through the report.

The Report is divided into several sections. After the introduction, section two indicates the importance, as well as the role of institutional financing of higher education. The next section discusses institutional funding framework in Serbia, and offers some suggestions regarding the improvement of the existing one. The legal framework for budgetary financing of higher educational institutions in Serbia is the subject of the fourth section. Finally, the last section is used for concluding remarks, extracts from the opinions and suggestions of internal stakeholders.

Part II INSTITUTIONAL FINANCING OF HIGHER EDUCATION

II.1. The evolution of higher education institutional financing

The analysis of institutional financing allocation mechanisms evolution and the relationship with demand side financing is the core research subject of this chapter. Perception of institutional financing has changed since the 1970s to the present. The unconditional state support for higher education has been transformed into a qualified financing based upon the fulfillment of set indicators.

Evolution of higher education allocation mechanisms went through four stages:

1. Input based allocation mechanisms,
2. Formula financing,
3. Output or performance based allocation mechanisms,
4. Vouchers.

Input based allocation mechanisms provide the strongest financial support to higher education institutions and are an example of the traditional approach to higher education financing. Introduction of financing formulas or performance based allocation mechanisms provides a conditional institutional support in the short run. The mid- and long term financing position of universities depend upon their results in the preceding period.

Historically, input-based, institutional financing is the oldest type of financing of public universities. Input-based financing includes the rules and algorithms for calculation of institutional budgets. Complexity of input-based financing varies from the simple allocation mechanisms in relation to teaching and non-teaching staff figures and different types of running costs, to more complex algorithms. These algorithms create a causal relation between the prescribed inputs (e.g. number of enrolled students, structure and complexity of study programs, teaching hours) and the number of approved teaching and non-teaching staff and running costs. The internal distribution of received funds can be quite different within the same university if the recipients of funds are faculties – such is the case in Serbia (Babin & Lažetić, 2009).

Within the input-based financing, budgetary funds are grouped into different line items. These budgetary items strictly correspond to a specific type of expenditures. Reallocations among budget lines are not permitted or are restricted to a certain percentage. Therefore, the line item budgeting does not allow adjustments and effective reallocations throughout the year. Line item budgeting is connected with a strong position of the state and a subordinate position of higher education institutions. Even if reallocations are allowed, the adjustments are sanctioned only after long administrative procedures. Decision-making on acceptance of budgetary reallocations is a discretionary process and the final approval by the government administration is not predictable. Therefore, line item budgeting inhibits active management at the institutional level. Allocated funds are pre-destined, and re-directing and streaming the funds towards institutional goals and needs is exceptionally restricted. Line item budgeting is not compatible with education and research process

outputs and outcomes. This sheds some light on the rationale for abolishment of input-based financing and line item budgeting. Input-based models do not provide high quality incentives for educational institutions and fail to deliver desired outputs and outcomes (Hanushek, 2003).

Some of the inputs have been used as elements in formula financing, with the aim to protect the institutions from cyclical fluctuations related to changes of demand for education. Formula financing represents an evolved mode of input based financing and usually consists of both input and output indicators as elements for institutional budget calculation. Formula financing models are compatible with lump sum budgeting of institutional budgets. Higher education financing formulas usually consist of both input and output elements with the aim to balance the two opposite goals:

- a) Financial stability of higher education institutions
- b) Increase of higher education efficiency

Inclusion of different input and output elements of the formula contributes to maintaining the majority of existing higher education institutions and often provides incentives for institutions to increase efficiency. A portion of the institutional budgets is calculated upon the input parameters (e.g. number of enrolled students, number of active lessons per week, study program complexity), while the formula also contains the output parameters (e.g. number of students who obtained a certain number of ECTS, number of graduated students, number and quality of scientific papers). Each side of the formula has different weights for every single input and output indicator. Institutional budget represents a sum of products of the indicators and their associated weights. Higher education institutions receive a lump sum for all current costs (teaching and non-teaching staff and running costs) and institutions have a high level of freedom to attribute funds to various individual types of current costs. Lump sum budgeting enables flexibility of revenue management, with the aim to maximize output and outcome indicators.

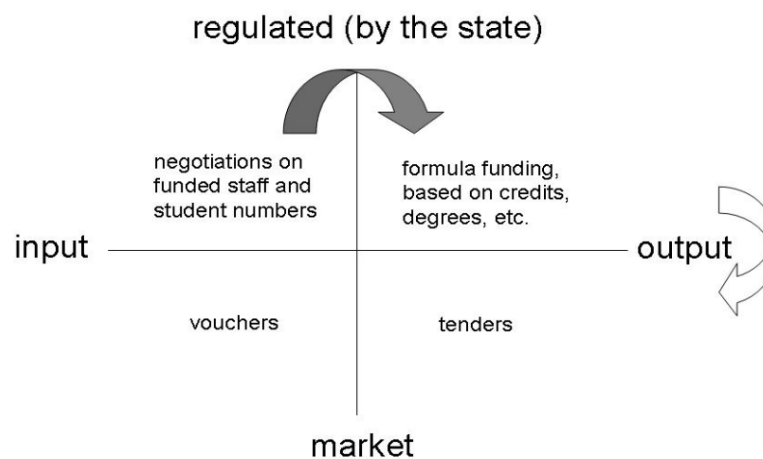
Evolution of institutional higher education financing is shown in Figure 1. Allocation models have been transformed from the static dimension (input based models) to the output based models based upon specific formulas. Institutional financing determined upon the input based mechanisms is often adjusted on annual basis through negotiations between funding authorities and higher education institutions. However, potential adjustments can only be incremental and do not represent a substantial change of the financing model. The competing mechanisms (e.g. tenders) have not been used as main allocation mechanisms of the education process and are mostly present in the research funding models. The final type of institutional financing is well known as output based or performance based budgeting. Institutional budgets are determined upon the fulfillment of prescribed output indicators. This financing model is accompanied with a contract between the state and a higher education institution. Institutions need to fulfill quality standards and to achieve the stipulated set of indicators. A typical example of a performance based budgeting is the famous “taximeter” model in Denmark that awards higher education institutions for their productivity.

The final stage of institutional support for higher education is actually a completely opposite approach. The introduction of vouchers reflects a strong decision of the state to deregulate

education system and enforce market mechanisms. Vouchers represent a totally opposite approach to higher education financing in comparison to institutional financing (Jongbloed, 2004). Higher education institutions, both public and private, are at the market and the students' choice for the most part affects long-term sustainability of higher education institutions. Vouchers can be developed in various forms, both in pre-university and higher education, but the basic logic of financing the demand for education remains the same. Vouchers are often followed by increased inequities and reproduction of social inequalities. Therefore, some of the authors propose a limited introduction of vouchers and their targeted disbursement to poor families. This type of specific vouchers might boost the enrolment of vulnerable groups into higher education by enabling a smoother access to it.

Other types of state support to students, such as student loans (or state subsidies for commercial student loans), are additional allocation mechanisms. Student loans play a vital role only in the United States, as opposed to the European countries. Jongbloed (2008, p. 20) explained performance-based budgeting tendencies in several Western European countries: Denmark, the Netherlands, Czech Republic, Germany, Italy, Norway and the UK (research budget is based on quality evaluations). Countries such as Czech Republic, Germany and Italy added output criteria to the input oriented allocation mechanisms and consequently created a financing formula. The evolution of allocation mechanisms in Southeast Europe (Vukasović, Babin, Ivošević, Lažetić, & Miklavič, 2009) lags behind the Western European countries.

Figure 1: Classification of funding mechanisms (adapted from Jongbloed, 2003)



The dilemma over the positive and negative sides of different types of institutional financing in comparison to education demand financing is reported in Tables 1 and 2. The selected indicators are:

- a) Accountability
- b) Effective management of funds
- c) Incentives for higher education institutions
- d) Responsiveness to economic and societal developmental needs;

These indicators provide a clear framework on the inherent, structural elements of four higher education financing models. Input based financing and vouchers have worse inherent characteristics in comparison to formula financing and performance based financing. Formula financing provides a stable outline for institutional development and can be similar to performance based budgeting if the output variables have equal or higher weights than the input variables. Performance based budgeting puts emphasis on efficiency and this systemic shortcoming might have a negative influence on effectiveness and equity in the long run. Therefore, performance based budgeting might jeopardize economic and societal development.

Table 1: Higher education financing allocation mechanisms and selected indicators (Babin & Eric, 2015)

Allocation mechanism	Accountability	Effective management of funds	Incentives for higher education institutions	Responsiveness to economic and societal developmental needs
Input based financing	Low	Low	Low	Low
Formula financing	Medium	High	Medium	Medium
Performance based financing	Medium	High	High	Medium ¹
Vouchers	Low	Deregulated	High	<i>See note²</i>

The analyzed allocation mechanisms have been tested upon their impact on the efficiency, effectiveness and equity. Input based mechanisms have the worst performance considering these indicators. Implementation of formula funding and performance-based budgeting might improve the results of higher education system, but the breaking point refers to the structural elements of the system and the adequacy of incentives. The existence of the so-called perverse incentives (Hansen, Otley, & Van der Stede, 2003) and unintended consequences of competition based education reforms (Lubienski, 2005) might increase the quantity of outputs, but can simultaneously lead to deterioration of effectiveness and equity indicator value. Therefore, the design of an optimal allocation mechanism for a certain country needs to be aligned with the appropriate incentives and control mechanisms in order to prevent negative effects.

Finally, introduction of vouchers definitely brings about higher efficiency and greater competition among higher education institutions. Shortcomings of the vouchers emerge if solid quality assurance mechanisms are not in place and the competition threatens the

¹ Responsiveness is negative in the case of inadequate quality control. Also, if no restrictions are applied, the institutions might close study fields with long study time and high costs.

² Potential negative effects on equity and reproduction of social inequalities.

quality and decreases access to higher education. A more authentic modernization agenda is needed due to the fact that capitalist markets are clearly unachievable in higher education (Marginson, 2013).

Table 2: Impact of higher education financing allocation mechanisms on efficiency, effectiveness and equity (Babin & Eric, 2015)

Allocation mechanism	Efficiency	Effectiveness	Equity
Input based financing	Low	Low	Potentially high ³
Formula financing	Medium	Medium	Medium
Performance based financing	High	Medium	Potentially negative ⁴
Vouchers	High	Disputable ⁵	Low

Positive effects of all analyzed allocation mechanisms could be enforced if the contracts are signed between the state and higher education institutions. Legal enforcement of education policy goals and their specific targets provides both obligations and incentives for higher education institutions to improve their performance.

³ Equity varies according to enrollment selection criteria.

⁴ A higher education institution might adjust admission policy and decrease the number of students from lower socioeconomic background in order to obtain more funds.

⁵ Effectiveness depends upon the quality assurance system.

Part III DISTRIBUTION OF FINANCIAL RESOURCES FOR HIGHER EDUCATION INSTITUTIONS IN SERBIA

III.1. Institutional funding and distribution of financial resources in Serbia

The analysis of institutional aspect of higher education financing in Serbia needs to be put in a wider context of budget planning. Higher education financing system is defined by a special subordinate regulation - *'The Statutory instrument on the norms and standards for working conditions at universities and faculties'*⁶ (Uredba o normativima i standardima uslova rada univerziteta i fakulteta). Passing the Law on Higher Education⁷ created a system framework for the existing higher education institution financing system from the budget. Such law on higher education states that each year, a contract between the university and the state needs to be signed; the contract defines real necessary annual funds. The contract should systematize higher education financing and define the relationship between the university and the state.

However, even though the Law on Higher Education, which defines a new model for university financing and is based on the signed contract, was adopted in September of 2005, universities and faculties in Serbia are still financed according to *'The Statutory Instrument'*, which does not consider the adopted changes in the organization of studies, point system, teaching staff titles and different accredited study programs, so it is necessary to harmonize that statutory instrument with the new system of studies or replace it with a different financing model, because inadequate regulations in the field of higher education financing, which are not compatible with the Law on Higher Education, appear as serious hindering factor in higher education development.

The funds for activities provided from the budget are allocated for: permanent costs; current and investment maintenance; employee salaries, purchase of equipment and investments into building reconstruction and construction of new ones; scientific and research activities, as well as artistic activities, which has a purpose to increase the quality of teaching; scientific and professional development of the employees and activities in international cooperation and co-financing of international projects.

Budget funds are allocated directly to faculties. The allocation base and mechanisms refer to criteria used to determine the amount of public funds allocated to a higher education institution, which are, in Serbia, based on input data, such as the number of enrolled students, number of different study programs, teaching level (undergraduate studies, master studies, specialist-academic studies, PhD studies), available infrastructure, equipment.

⁶ The Statutory instrument on the norms and standards for working conditions at universities and faculties (Uredba o normativima i standardima uslova rada univerziteta i fakulteta), No. 15/02, 100/04, 26/05, 38/07 and 110/07, Official Gazette of the Republic of Serbia

⁷ Law on Higher Education. (Zakon o visokom obrazovanju). Official Gazette of the Republic of Serbia (Službeni glasnik Republike Srbije). No. 76/2005, 97/2008, 44/2010, 93/2012, Retrieved from: <http://www.svos.org.rs/pdfs/zakon-vo-preciscen-2013.pdf>

Total annual budget funds are allocated to higher education institutions according to a very complex formula which can be divided into two sections. The first section of the formula refers to salaries of teaching and non-teaching staff, and the second section to current expenses and teaching expenses:

$$UGS = (FBNS * PKSns * CR * D) + (FBNNO * PKSno * CR * D) + ST/PUB + OS + OT/PUB,$$

Where the acronyms mean the following:

UGS - total annual funds (ukupna godišnja sredstva);

FBNS – number of financed teaching staff and associates (finansirani broj nastavnika i saradnika);

PKSns – average complexity coefficient of teaching staff (prosečan koeficijent složenosti nastavnog osoblja);

CR – wage rate, according to the Conclusion by the Government of the Republic of Serbia (cena rada po Zaključku Vlade R. Srbije);

D – salary supplements (dodaci na platu);

FBNNO – number of financed non-teaching staff (finansirani broj nenastavnog osoblja);

PKSno – average complexity coefficient of non-teaching staff (prosečan koeficijent složenosti nenastavnog osoblja);

ST – permanent expenses (stalni troškovi);

PUB – percentage of participation of budget funds in total revenue of the institution (procenat učešća budžetskih prihoda u ukupnom prihodu ustanove);

OS – insurance costs (troškovi osiguranja);

OT – other costs (teaching costs) (ostali troškovi (troškovi nastave)).

The number of financed teaching staff and associates and non-teaching staff is determined based on the criteria from the *'The Statutory Instrument'* for activities financed from the budget.

Permanent (material or fixed) costs of institutions (electric energy, heating, utilities, communication, etc.) are calculated based on real costs according to suppliers' bills, adjusted to the level of percentage of participation of budget income in the total income of institutions in the previous fiscal year.

Other costs (teaching material, publishing activities, international cooperation, current maintenance of buildings and equipment, etc.) are calculated according to criteria linked to input elements: number of students, number of teaching staff, area of buildings used by the institutions. The scope of budget financing of higher education is insufficient and higher education institutions do not receive material costs at the level defined according to the formula from the Statutory Instrument, which causes significant problems for the public institutions with provision of heating funds and funds for other operational costs of their activities, which, as a consequence, jeopardizes teaching and its quality.

The greatest shortcoming of the current system of state funding is the lack of analysis of macro-efficiency or predominantly input-oriented *'Statutory Instrument'*. The current system that is prescribed by *'the Statutory Instrument'*, which, in many sections, is quite arbitrary, not precise enough and not coordinated with the Law on Higher Education, disables estimates of effects, so it is impossible to evaluate the level to which current regulations support the proclaimed goals of higher education.

It should be noted that such system of budget financing, where the Government primarily decides on the costs/budget items of the public budget allocated for higher education institutions, as a consequence has very modest financial autonomy of those institutions.

The funds that higher education institutions do not receive from the founder's budget, but acquire at the market, performing activities and providing services (tuition, providing services to third parties, gift, donations, sponsorship, publishing and other revenue) represent own funds of those higher education institutions and are included in their income.

Introduction of tuition is followed by development of regulations and mechanisms for their adoption, use and distribution. Tuition amount is first suggested by a faculty, then it is approved at the university level, and, later, by the government. The Law on Higher Education prescribes that a higher education institution is obliged to determine the type and scope of regular services that are included in tuition by its general regulation. The level to which tuition can be increased is the issue that indirectly determines the level to which the government can influence higher education, and that, consequentially points to the level of 'marketization' of higher education. Equal tuition for different study programs means that the amount does not correspond to real cost of some study programs nor to expected benefits after graduation, which essentially decreases the market nature of such solution.

Higher education institutions accreditation process introduced new mechanisms of determining the number of students that can be enrolled, and will, basically, decrease the government control over enrollment policy. The total number of students is prescribed by accreditation standards and is based on the number of teaching staff and faculty space and equipment.

Own revenue is generated at the faculty level, and they independently decide for which purpose and in what way this revenue will be spent. Legal independence of some faculties within a university also determines their financial position that is manifested in the lack of any integrated financial policy at the institutional level. Organizational units of a university (faculties, institutes, innovation centers and the like) are financially independent and therefore have wide authority in the area of revenue. Such situation is in favor of the versatility of the system and policies on revenue distribution, even within one single institution.

Part IV FRAMEWORK OF HIGHER EDUCATION FUNDING IN SERBIA

IV.1. Higher education system and institutional funding framework in Serbia

According to Serbian legislation, higher education institution refers to ‘university, faculty or academy of arts within a university, academy of professional career studies, four-year college, four-year college of professional career studies’ (Law on Higher Education, Article 32, 2005). The first two belong to the university sector, while the latter three are considered non-university HE (or, here also referred to as non-university HE). All five are independent legal entities and are guaranteed autonomy by the Constitution. It is important to emphasize that universities are organised as loose organisations of legally independent faculties, whose institutional autonomy is, by the law, at the same level as the one enjoyed by universities.

In Serbia, the universities are “self-managing communities” in which the key decisions are taken by large bodies consisting of all employed staff, but self-management does not necessarily mean more autonomy in academic matters in higher education, especially given the fact that funding instruments and detailed legislation did not leave too much space for manoeuvring to individual institutions in academic matters, as was evident with respect to the reforms in the early 1980s, which very much linked universities to career-oriented education (Zgaga, 1996).

Also, The Law on Higher Education (2005) opened the space for development of a less university-dominated higher education system, since, for the first time, non-university (sometimes referred to as vocational or professional) higher education institutions were recognised as a part of higher education, and were given the right to award bachelor and specialist degrees in applied sciences. This also means that standards and procedures concerning quality assurance and accreditation apply to these institutions as well.

The two main revenue channels for higher education institutions in Serbia are the state funding (in case of public HEIs and in the case of the University of Novi Sad, the budget of the Vojvodina Province) and tuition fees (in case of both public and private HEIs). Moreover, HEIs often have other type of own revenue apart from tuition or administrative fees charged to students. However, this, in most cases, does not represent a comparatively significant part of an HEI’s total budget. Faculties and departments engage in research projects, consultancy services, donations, lease of premises and equipment, etc. Importantly, according to the legislation, higher education institutions in Serbia are free to generate financial resources from various sources and there are no constraints in terms of the maximum amount public higher education institutions can accumulate relative to the amount they receive from the government. In the case of private higher education institutions, tuition fees represent the main source of revenue.

Budget funds in Serbia are directly distributed to faculties as legal persons from the Ministry of Education, Science and Technological Development of Serbia. In order to enable common services provided by the university, faculties agree to transfer some funds from their budget to the university they are part of.

Limited state budget and increasing number of students that are enrolled into higher education institutions are the main reasons for transferring a part of expenses to students. According to the data from 2009, total number of students that pay for their education at public institutions in Serbia varies between 20% and 80% of the total number of students. Based on their achievements during the studies, students can acquire or lose the status of a 'budget' student.

At public institutions, tuition does not cover all expenses of the studies and it includes only the basic activities (classes and exams). It is calculated in various ways. Most often the amount is based on how attractive the study program is and, to an extent, on relative expenses. Faculties individually suggest the tuition amount to the university, and the university then approves that amount. The Ministry is authorized to influence tuitions suggested by the university, but that rarely happens in practice. Tuitions go straight to faculty budgets.

Besides tuition, higher education institutions in Serbia most often charge an enrolment fee, issuing of diplomas, different documents and eligibility to retake exams. That money directly becomes a part of the faculty budget. By the Law on Higher Education, Article 60, 76/2005, *Funds that a higher education institution acquires are the own income of that higher education institution or unit*".

Students in Serbia can only be full time students. Still, they are divided into two categories – those whose studies are paid for by the Government, so-called 'budget students' and the ones that pay tuition. At public higher education institutions, the Government approves the number of students financed by the state. All students have equal rights to subsidies, health insurance and academic rights and obligations. The ratio between fee-paying and "budget students" in the period 2007-2012 was about 55:45, respectively (covering both public and private sectors, but not covering PhD students, whose number in the given period grew from 0.45% to 2.63% and, at an increasing growth rate over the years, according to the Serbian Statistics Office).

When it comes to enrolment conditions, the Ministry decides on the number of available spots, based on the suggestion of a higher education institution. The available spots are awarded to students based on ranking that considers a combination of high school grades and entrance exams prepared by the faculties themselves. Additionally, the Ministry decides on the number of 'budget spots' that are awarded to the best ranked students. However, there is the question of how just such selection is.

Only the students who are financed from the state budget can apply for a spot in student dormitory and have the right to use student restaurants at subsidized prices.

The most common source of financing for students in Serbia is their family, even when they are studying at the expense of the Government. Serbia encourages student employment, giving subsidies to employers through tax and contributions deductions. That is the second source of financing for students. However, the right to work, according to a student contract, is guaranteed only for students up to 26 years of age, regardless of when they were enrolled.

Student scholarships and loans are the third item on the list of student financing sources during their studies, but it is worth to mention that the scholarship system is purely merit-based and they are given on competitive basis to students with highest grades, as well as to those with special affinity towards scientific/artistic work, and those who were awarded prizes at national and international competitions. It means that data on socio-economic position of a student are not a condition for awarding scholarships, but their grades in the previous year of study are. Allocation of loans, on the other hand, does take into consideration socio-economic status, although to a very limited extent. In principle, students who use student loans are obliged to repay them, unless they achieve excellent academic results, in which case they can be granted partial or full loan remission.

Both scholarships and loans can be awarded only to 'budget students' and students at public faculties.

As the results from Tempus EQUI-ED project Baseline Study (2012) show, in student loan competition, socio-economic aspect only participates in the formula with a maximum of 25%. Besides the abovementioned loans provided by the government, students in Serbia also have commercial loans available, offered by banks. Conditions under which those loans are awarded and paid off are a discretionary power of the banks.

According to the presented data, it could be concluded that prescribed and provided measures for student support are insufficient and inadequate for a mass or universal higher education system, with a large and diverse student body.

IV.2. Implications and suggestions for improvement

The Ministry of Education, Science and Technological Development of Serbia is interested in both short-term reforms and improvements of higher education institution financing, as well as long-term reforms. Therefore, for the needs of development of long-term models, the Ministry of Education, Science and Technological Development is currently collecting data on how higher education institutions are financed, respecting their differences due to their education field, number of students at those institutions, student standard, which is in correlation with economic and social dimension of life in Serbia.

The Working Group offered, as a result of this working package, a simulation of a higher education financing model, which represents a simulation of a higher education institution financing, respecting the defined function of the goal, which refers to a more uniform and socially balanced higher education institution financing system, as well as limitations that accompany higher education institution financing in Serbia.

The basic assumption of the model, which does not necessarily have to be fulfilled, is that the faculties have the same tuition revenue compared to the current model. Also, it is envisaged that each faculty determines their own model of defining tuition which they will implement in the following academic year. The number of students that do not pay tuition can vary among faculties, while the increase in the amount paid by students can, but does not have to be linear. Faculties themselves can create models according to which students

will pay tuition, with the obligation of the faculty to publish, when announcing the enrollment competition, transparently the exact amount that each student at a specific ranking position on the list will pay.

That would provide both transparency and uniformity of tuition. The truth is that introduction of this financing model includes an increase in the number of students that pay some tuition, so that, as a consequence, only the students that would, according to the current model, pay the full amount of tuition, would approve the suggested changes in the financing model, but that would achieve higher uniformity.

Since the Working Group within FINHED Tempus project deals, above all, with the social dimension of higher education, which is a part of the project itself, and, at the same time, it is in accordance with the Strategy for Education Development in Serbia 2020 and adopted action plans, and based on the data obtained through EUROSTUDENT research, implementation of a higher education financing model has to follow student standard. That, in the context of student ranking, means that co-financing students would have to have the opportunity to compete for subsidized accommodation, food, as well as student loans, but, at the same time, it has to be taken into account in what way will students be ranked in general and how misuse will be prevented.

The Ministry of Education, Science and Technological Development of Serbia recognizes four types of faculties in relation to the number of 'budget' and 'self-financing' students: (1) type which includes almost all students ($\approx 90\%$ of students) with the status of self-financing students. At faculties of this type, application of the linear model would not make sense, nor would it be efficient (example: Medical faculty of the University of Kragujevac) (2) faculties with a low number of budget students and strong competition for budget spots, and those are mostly faculties (such as the Faculty of Organizational Sciences at the University of Belgrade, that have implemented some of the student assistance measures) where the need for additional student support is so strong that they did not wait for legal regulations of this type (3) faculties for which self-financing students are not profitable and (4) the last type includes mostly smaller faculties from sciences and mathematics, which enroll high numbers of budget students at the first year of studies, but have a high number of students that move into self-financing status and abandon studies later on. That is why we simulated the financing of four situations which the institutions can face, i.e. they can have:

- 30% of budget students
- 50% of budget students
- 70% of budget students and
- 90% of budget students .

Model simulation started with the following assumptions:

- Government of the Republic of Serbia, as the founder, makes a decision on the number of students that will, at a specific faculty and a specific study program, study 'at the budget expense'. Based on this decision, it is possible to calculate the expected number of students for a study program that offers 240 ECTS, for that generation, as well as for the following 3 school years, that will study at this study

program 'at the budget expense', as well as the number of students that will pay tuition themselves. From the previously stated, it is possible to calculate the revenue of a faculty at a specific study program from one generation of students.

- Students of one generation are enrolled into a specific study program every school year based on a Ranking list. The enrollment Ranking list of a study program is created based on GPA in high school (max 40 points) and the results of the entrance exam (max 60 points), and for the following 3 years the Ranking list is created based on achieved results at the studies in the current school year.
- Each faculty should determine the following for a specific generation of students:
 1. The number of students that would not pay tuition (5-30% of the total number) and
 2. The number of students that would pay full tuition (0-15% of the total number).

The remaining students (around 80%) pay a portion of tuition that (linearly) increases based on their ranking on the List. The amount that they pay is determined so that the faculty earns the same revenue as if there were 2 categories of students. The faculty would be obliged to publish a table at enrollment, which defines the amount of tuition paid by each ranking.

Finally, there would be 4 categories of students:

1. Students 'at the budget expense', who would not pay tuition,
2. Students 'at the budget expense', who would pay a portion of tuition that is determined based on their ranking on the List,
3. Students with 'pays tuition' status, who would pay a portion of tuition that is determined based on their ranking on the List and
4. Students who would pay the full amount of tuition.

The following table shows possible tuition for the 4 types of faculties, where it is assumed that each of them enrolls 100 students and that the tuition is 90000.00:

1. Faculty where 30% is 'at the budget expense' and where, if 70 students pay full tuition, the faculty has an income of 6 300 000.00 from that. Columns 2 and 3 show 2 versions of the new financing model, where 10% in each one do not pay tuition. In the first version, the student with ranking 11 pays 3 100, and then, for each following student to ranking 30, tuition increases by 1 800, so that ranking 30 pays 37 300, and then the amount for ranking 31 would be 48 500, and would further increase by 2 250, and 50% of students would pay full tuition. In the second version, the student with ranking 11 pays 8 000, and then for each following student to ranking 30, tuition increases by 1 800, so that ranking 30 pays 42 200, and then the amount for ranking 31 would be 52 000 and would further increase by 1 500, and 42% of students would pay full tuition.
2. Faculty where 50% is 'at the budget expense' and where, if 50 students pay full tuition, the faculty has an income of 4 500 000.00 from that. Columns 5 and 6 show 2 versions of the new financing model, where 10% in each one do not pay tuition. In the first version, the student with ranking 11 pays 1 400, and then, for each following

student to ranking 50, tuition increases by 900, so that ranking 50 pays 36 500, and then the amount for ranking 51 would be 48 200, and would further increase by 1 180, and 15% of students would pay full tuition. In the second version, the student with ranking 11 pays 1 550, and then for each following student to ranking 50, tuition increases by 1 100, so that ranking 50 pays 44 500, and then it further increases by 1 100, and 10% of students would pay full tuition.

3. Faculty where 70% is 'at the budget expense' and where, if 30 students pay full tuition, the faculty has an income of 2 700 000.00 from that. Columns 8 and 9 show 2 versions of the new financing model, where 20% in each one do not pay tuition. In the first version, the student with ranking 21 pays 900, and then, for each following student to ranking 70, tuition increases by 600, so that ranking 70 pays 30 300, and then the amount for ranking 71 would be 47 640, and would further increase by 930, and 5% of students would pay full tuition. In the second version, the student with ranking 21 pays 1 570, and then for each following student to ranking 70, tuition increases by 700, so that ranking 70 pays 35 870, and then it further increases by 700, and 10% of students would pay full tuition.
4. Faculty where 90% is 'at the budget expense' and where, if 10 students pay full tuition, the faculty has an income of 900 000.00 from that. Column 11 shows a version of the new financing model, where 30% of students do not pay tuition. The student with ranking 31 pays 250, and then, for each following student to ranking 90, tuition increases by 250, so that ranking 90 pays 15 000, and then the amount for ranking 91 would be 41 235, and would further increase by 670, and none of the students would pay full tuition.

1	2	3	4	5	6	7	8	9	10	11
Ranking	30% budget funded	6 300 000	Ranking	50% budget funded	4 500 000	Ranking	70% budget funded	2 700 000	Ranking	90% budget funded
1	0	0	1	0	0	1	0	0	1	0
2	0	0	2	0	0	2	0	0	2	0
3	0	0	3	0	0	3	0	0	3	0
4	0	0	4	0	0	4	0	0	4	0
5	0	0	5	0	0	5	0	0	5	0
6	0	0	6	0	0	6	0	0	6	0
7	0	0	7	0	0	7	0	0	7	0
8	0	0	8	0	0	8	0	0	8	0
9	0	0	9	0	0	9	0	0	9	0
10	0	0	10	0	0	10	0	0	10	0
11	3100	8000	11	1400	1550	11	0	0	11	0
12	4900	9800	12	2300	2650	12	0	0	12	0
13	6700	11600	13	3200	3750	13	0	0	13	0
14	8500	13400	14	4100	4850	14	0	0	14	0
15	10300	15200	15	5000	5950	15	0	0	15	0
16	12100	17000	16	5900	7050	16	0	0	16	0
17	13900	18800	17	6800	8150	17	0	0	17	0
18	15700	20600	18	7700	9250	18	0	0	18	0
19	17500	22400	19	8600	10350	19	0	0	19	0
20	19300	24200	20	9500	11450	20	0	0	20	0
21	21100	26000	21	10400	12550	21	900	1570	21	0
22	22900	27800	22	11300	13650	22	1500	2270	22	0
23	24700	29600	23	12200	14750	23	2100	2970	23	0
24	26500	31400	24	13100	15850	24	2700	3670	24	0
25	28300	33200	25	14000	16950	25	3300	4370	25	0

26	30100	35000	26	14900	18050	26	3900	5070	26	0
27	31900	36800	27	15800	19150	27	4500	5770	27	0
28	33700	38600	28	16700	20250	28	5100	6470	28	0
29	35500	40400	29	17600	21350	29	5700	7170	29	0
30	37300	42200	30	18500	22450	30	6300	7870	30	0
31	48500	52000	31	19400	23550	31	6900	8570	31	250
32	50750	53500	32	20300	24650	32	7500	9270	32	500
33	53000	55000	33	21200	25750	33	8100	9970	33	750
34	55250	56500	34	22100	26850	34	8700	10670	34	1000
35	57500	58000	35	23000	27950	35	9300	11370	35	1250
36	59750	59500	36	23900	29050	36	9900	12070	36	1500
37	62000	61000	37	24800	30150	37	10500	12770	37	1750
38	64250	62500	38	25700	31250	38	11100	13470	38	2000
39	66500	64000	39	26600	32350	39	11700	14170	39	2250
40	68750	65500	40	27500	33450	40	12300	14870	40	2500
41	71000	67000	41	28400	34550	41	12900	15570	41	2750
42	73250	68500	42	29300	35650	42	13500	16270	42	3000
43	75500	70000	43	30200	36750	43	14100	16970	43	3250
44	77750	71500	44	31100	37850	44	14700	17670	44	3500
45	80000	73000	45	32000	38950	45	15300	18370	45	3750
46	82250	74500	46	32900	40050	46	15900	19070	46	4000
47	84500	76000	47	33800	41150	47	16500	19770	47	4250
48	86750	77500	48	34700	42250	48	17100	20470	48	4500
49	89000	79000	49	35600	43350	49	17700	21170	49	4750
50	89750	80500	50	36500	44450	50	18300	21870	50	5000
51	90000	82000	51	48280	45550	51	18900	22570	51	5250
52	90000	83500	52	49460	46650	52	19500	23270	52	5500
53	90000	85000	53	50640	47750	53	20100	23970	53	5750
54	90000	86500	54	51820	48850	54	20700	24670	54	6000

55	90000	88000	55	53000	49950	55	21300	25370	55	6250
56	90000	89500	56	54180	51050	56	21900	26070	56	6500
57	90000	88500	57	55360	52150	57	22500	26770	57	6750
58	90000	90000	58	56540	53250	58	23100	27470	58	7000
59	90000	90000	59	57720	54350	59	23700	28170	59	7250
60	90000	90000	60	58900	55450	60	24300	28870	60	7500
61	90000	90000	61	60080	56550	61	24900	29570	61	7750
62	90000	90000	62	61260	57650	62	25500	30270	62	8000
63	90000	90000	63	62440	58750	63	26100	30970	63	8250
64	90000	90000	64	63620	59850	64	26700	31670	64	8500
65	90000	90000	65	64800	60950	65	27300	32370	65	8750
66	90000	90000	66	65980	62050	66	27900	33070	66	9000
67	90000	90000	67	67160	63150	67	28500	33770	67	9250
68	90000	90000	68	68340	64250	68	29100	34470	68	9500
69	90000	90000	69	69520	65350	69	29700	35170	69	9750
70	90000	90000	70	70700	66450	70	30300	35870	70	10000
71	90000	90000	71	71880	67550	71	47640	36570	71	10250
72	90000	90000	72	73060	68650	72	48570	37270	72	10500
73	90000	90000	73	74240	69750	73	49500	37970	73	10750
74	90000	90000	74	75420	70850	74	50430	38670	74	11000
75	90000	90000	75	76600	71950	75	51360	39370	75	11250
76	90000	90000	76	77780	73050	76	52290	40070	76	11500
77	90000	90000	77	78960	74150	77	53220	40770	77	11750
78	90000	90000	78	80140	75250	78	54150	41470	78	12000
79	90000	90000	79	81320	76350	79	55080	42170	79	12250
80	90000	90000	80	82500	77450	80	56010	42870	80	12500
81	90000	90000	81	83680	78550	81	56940	43570	81	12750
82	90000	90000	82	84860	79650	82	57870	44270	82	13000
83	90000	90000	83	86040	80750	83	58800	44970	83	13250

84	90000	90000	84	87220	81850	84	59730	45670	84	13500
85	90000	90000	85	88500	82950	85	60660	46370	85	13750
86	90000	90000	86	90000	84050	86	61590	47070	86	14000
87	90000	90000	87	90000	85150	87	62520	47770	87	14250
88	90000	90000	88	90000	86250	88	63450	48470	88	14500
89	90000	90000	89	90000	87350	89	64380	49170	89	14750
90	90000	90000	90	90000	88450	90	65310	49870	90	15000
91	90000	90000	91	90000	90000	91	66240	90000	91	41235
92	90000	90000	92	90000	90000	92	67170	90000	92	41905
93	90000	90000	93	90000	90000	93	68100	90000	93	42575
94	90000	90000	94	90000	90000	94	69030	90000	94	43245
95	90000	90000	95	90000	90000	95	69960	90000	95	43915
96	90000	90000	96	90000	90000	96	90000	90000	96	44585
97	90000	90000	97	90000	90000	97	90000	90000	97	45255
98	90000	90000	98	90000	90000	98	90000	90000	98	45925
99	90000	90000	99	90000	90000	99	90000	90000	99	46595
100	90000	90000	100	90000	90000	100	90000	90000	100	47265
total	6 300 000	6 300 000		4500000	4500000		2700000	2700400		900000

Part V FINDINGS AND RECOMMENDATIONS FROM THE WORKING GROUP IN SERBIA

V.1. Report on internal stakeholder consultations

The existing model of higher education institution financing supports faculty finances within a university, with higher numbers of enrolled students, but the criteria of the model formula (especially the percentage of participation of budget revenue in the total revenue of an institution) do not encourage efficient business of the institutions and do not contain corrections with the goal of rectifying unequal distribution of funds to institutions with different economic positions at the higher education market. Due to that, competitiveness is not a qualitative quality of the financing model that is applied in the higher education in Serbia. Additionally, the existing model is complex and not transparent, and actually only a small number of subjects in the system, often at management positions, are sufficiently familiar with this financing system.

Quantitative qualities of higher education financing in Serbia, through this model, are: that the financing is done from multiple sources – budget income, tuition and so-called other revenue of an institution (own revenue) and the like. Funds for higher education activities of institutions are distributed according to defined budget allocations: for salaries and permanent (material) expenses, as well as financing of other expenses and the institutions are not allowed to move funds among different expense categories. In that sense, higher education financing in Serbia, i.e. AP of Vojvodina, through ‘lump sum funding’, i.e. acceptance and application of European higher education financing standards presents a challenge that needs to be resolved in the following period.

The University of Novi Sad is financed from two budget sources: employee salaries are financed from the budget of the Republic of Serbia, transferred to the budget of AP of Vojvodina, while permanent and other expenses of teaching, projects, investment maintenance and equipment purchases are financed from the budget of AP of Vojvodina. Even though the budget funds allocated to faculties with the University of Novi Sad are insufficient, regular dynamics of fund transfers, with the use of funds from other sources, enables a stable and liquid financial activities of these faculties.

V.2. Recommendations of stakeholder consultations

The Strategy adopted in 2012 anticipates introduction of a linear scale of co-financing of tuition for every co-financing student. That means that a unique ranking list would be created for a higher education institution; the students would be ranked according to their grades, and only for the first year of studies, combined with the criteria of social status (the ratio of the criteria could be, for example, 50:50%, with a strict control of the validity of the social status). The Strategy also anticipates that, for co-financing of tuition, the students should be provided with loans, subsidized by the state, and that the loans could also include life expenses (Strategy for Education Development in Serbia 2020, 2012).

On the other hand, the Working Group paid much more attention to the economic context in which higher education in Serbia operates. Therefore, as a result of this working package, they offered a simulation of a financing model of an educational institution, which represents a simulation of a higher education institution financing, respecting the defined function of the goal, which referred to a more uniform and socially balanced higher education institution financing system, as well as the limitations that follow higher education institution financing in Serbia.

The basic assumption of the presented model, which does not necessarily have to be fulfilled, is that faculties have the same tuition revenue compared to the current model. Also, it was planned that each faculty creates its own model of defining tuition, which they will implement in the following academic year. The number of students who do not pay tuition could vary among faculties, while the increase of the amount paid by students could be, but not necessarily, linear. Each faculty could define a model according to which the students will pay tuition, with the obligation of the faculty to transparently publish, with the enrollment competition, the exact amount that each student at a specific ranking position would have to pay. Introduction of this financing model includes an increase in the number of students that pay some tuition, so that, as a consequence, only the students that would, according to the current model, pay the full amount of tuition, would approve the suggested changes in the financing model, but that would achieve higher uniformity.

Adoption of the suggested model defined by the Working Group would certainly provide a more equal distribution of the existing funds that are allocated to higher education institutions. Still, implementation of higher education financing model has to follow student standard. That, in the context of student ranking, means that co-financing students would have to have the opportunity to compete for subsidized accommodation, food, as well as student loans, but, at the same time, it has to be taken into account in what way will students will be ranked in general and how misuse will be prevented.

The suggested changes will be difficult to implement without a more serious increase of higher education funds by the government. Still, if universities, especially the big ones, such is the University of Belgrade, are reorganized, there would be a higher level of integration within scientific and education fields, better exchange of information, decrease of the number of institutes and innovation centers, which would rationalize budget spending.

Additionally, there would be a more equal distribution of funds which are allocated to higher education institutions by the government, as well as monitoring of spending of the funds. While waiting for the new strategy for 2015/2025, as well as new action plans that should come out of the strategy, the financing model suggested by the Working Group would certainly contribute to a more equitable and socially more just distribution of funds.

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