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Enhancing the University Autonomy in Moldova
(EUniAM)

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Comparative Analysis of University Financial Autonomy in Lithuania, Scotland, Sweden, Denmark and Romania

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1. Introduction

When developing this report, relevant literature defining "financial autonomy" in various countries was studied. It was noticed that in some countries (Lithuania, Romania) the meaning of this term is specified in the actual legislation regarding education or higher education. Large differences in defining this term from one country to another or from one author to another have not been encountered. All unanimously declare that financial autonomy implies the right of the university to organize its activity independently and to self-manage financially respecting the legislation in force. The criteria taken into account when defining the concept differ insignificantly. Therefore, in order to exclude certain differences in this respect we started with the definition of financial autonomy of universities and the criteria submitted by Estermann and Nokkala (2009, 2011) as the capacity of universities to decide on:

- the extent they can accumulate reserves and keep extra budgetary sources;
- the establishment of tuition fees;
- borrowing money from financial markets;
- investing in financial products;
- issuing shares and bonds;
- owning land and buildings.

Also, when establishing specific criteria, the experience of countries with developed financial autonomy was taken into consideration.

2. Methodology

This report aims to perform a reference analysis of financial autonomy in EU partner countries, namely Denmark, Lithuania, Romania, Scotland and Sweden. Data were collected using predefined templates (see Tables 1 and 2 from the Consolidated Report). Before each mission in a target country the author collected and analyzed openly available information on financial autonomy relevant to the country and identified problems as well as questions related to various aspects of financial autonomy that could not be clarified when consulting these available data sources. At the same time, the author proposes possible sources of information. Identified problems and questions for each mission are presented in Annexes 1-4. Within one week after each mission the author began the process of data analysis by filling in Annexes 1-4 with data collected before each mission but not needing clarification or further explanation. The collected consolidated data regarding financial autonomy in target countries are presented in Annexes 5-10. Based on data analysis, a number of benchmarking criteria and respective sub-criteria with regard to financial autonomy (Table 1) were outlined. The case analysis focuses on the outlined criteria and is presented in Chapter 3. The discussion on each criteria and respective sub-criteria focuses on their definitions, concepts, separation

between government and universities, possible links and relationships of financial autonomy with other types of autonomy.

In certain cases that seemed most relevant the Government – University delimitation was highlighted. In particular, there was not indicated the intersection with other components of university autonomy just because the fact that each analyzed criterion cannot be separated from the academic, organizational or human resources components of university autonomy.

Table 1. Benchmarking criteria and sub-criteria

No. crt.	Criterion	Sub-criterion
1.	Higher education financing model	Education financing
		Research financing
2.	Higher education financing mechanisms	
3.	Methodology for allocation of budgetary funds to universities	
4.	Calculation of per student training cost (price)	
5.	Private financing types and their monitoring	
6.	Capacity of universities to borrow money from national and international financial markets	
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3. Financial autonomy by country

3.1. Lithuania

3.1.1. Higher education financing model

Different countries use different models to finance higher education. The models used are determined by several factors both cultural and contextual. Financing systems used for higher education can be divided into two main categories: performance financing and specific allocations that can also be based on performance. On the other hand, certain financing systems aim short- or medium periods depending on selected performance indicators and this doesn't allow universities to determine the possibility for long-term achievements.

In Lithuania public funds are allocated based on global grant divided among various expenditure categories. However, the global grant must be spent according to budget categories submitted to the funding or supervisory body.

The global grant is intended to cover expenses related to teaching and ongoing operational activities and includes the following basic directions.

3.1.1.1. Education financing

In the context put into discussion it is important to identify and calculate all costs both direct and indirect related to carrying out the activity of the university. This process is known as *full costing* (Anna-Lena Thomas Estermann and Claeys-Kulik, *Financially Sustainable Universities Full Costing: Progress and Practice*, 2013, available at <http://goo.gl/t7lgEH>). Full costing has a major impact on relations between universities and donors. Two aspects are differentiated here:

1. Acceptance by donors of the methodology for calculation of costs;
2. Availability of donors to cover all or part of these costs.

The first important spending area that requires financing relates to teaching activities. It includes a number of expenses presented below.

In Lithuania, education expenses are covered by the state only for those students who managed to obtain vouchers. Each voucher provides a certain amount of money for the student and depends on the field, the type and the level of education. Other students, meeting the requirements for admission but failing to obtain a voucher, have the possibility to finance their education themselves. Therefore, with regard to this component, one can say that Lithuania has a mixed financing system: both state financing and own students' sources by means of tuition fees.

3.1.1.2. Research financing

The mission of a classic university includes two basic components: teaching and research. Research requires certain expenditure. Its amount varies depending on research area. In this respect, in Lithuania part of such expenditure is covered by core funding and the rest remains to be attracted by researchers through competition.

3.1.2. Higher education financing mechanism

The term *Mechanism* is understood as the manner in accordance to which the financing system of universities is organized. In this context, one can mention two higher education financing lines in Lithuania: state budget and private sources. The legal act providing the framework for universities financing is the Law on Higher Education and Research (LHER) No. XI-242 of April 30, 2009 (Chapter VII).

The Law establishes the following sources of financing for public universities:

1. *core financing sources* from the state budget for public higher education; 3 expenditure items are financed:
 - research (around 50% of this item);

- general and administrative expenses;
- other needs.

State budget funds for research, experimental development (social, cultural) and expansion of artistic activities are allocated to public education and to research institutions according to a government-established procedure depending on evaluation results of research (artistic) activities both within public education and within research institutions.

2. *state budget funds intended for education* in accordance with the legal procedure for higher education. These refer to the education cost, are fixed in the voucher, and include:

- payment of tuition fees for students following budget funded education;
- as provided by Article 71 of the Law, compensation of tuition payments of students who achieved best results in their education and whose studies are not being funded by state;
- financing of special purpose studies;
- state loans or loans guaranteed by the state;
- social scholarships and other kinds of support.

3. *state funds for investment programs and investment projects* intended for public higher education and for research institutions; these are amounts directed to investments. Projects developed are submitted to the Ministry of Economy which analyzes them and allocates money to winners.

Government – university delimitation. The government approves priority areas for the development of the country during a specified period and the necessary number of specialists in areas to which financial resources are allocated. Financial resources are directed to universities which students choose to attend. In this respect, the Government allocates money for training of a certain number of specialists in specific areas and monitors their use.

3.1.3. Methodology for allocation of budgetary funds to universities

The meaning of *Methodology* employed in terms of our context refers to the description of budgetary resources allocation process for universities, containing a set of documented procedures that allow to determine the amount of money entering the university according to the above mentioned directions.

Allocation of financial resources to state universities (private ones do not receive any allocations from the state) is done according to the above directions. It can further be specified here how the allocation of financial resources for education takes place (state budget sources for education). The principle employed is "money follows students". Only for cycle I the state allocates a certain number of budget-financed places for certain programs of study (specialities). Admission is carried out by an independent agency. Once all places have been occupied (depending on average graduation scores) students choose the university that

participates in this program and at which they want to study (the image of the university matters). State budget money, by means of the voucher, go to the university where students want to study.

The number of state-funded places for II cycle- or doctorate students is established by government each year depending on study areas and taking into account national development, economic, social and cultural needs as well as financial possibilities of the state. The number of places is distributed among universities by the Ministry of Education and Science based on their research (artistic) activities. PhD places are distributed among higher education and research institutions by the Ministry of Education and Science based on results of research (artistic) activities and of PhD studies.

Thus, higher education voucher-based financing works in a way that allows students to use their vouchers at any accredited institution, these vouchers being equivalent to a certain period of time or to a certain amount of ECTS points (for example, Lithuania, cycle I).

This form of financing higher education by demand is characterized as the most advanced student-centered financing method because it takes into account student's wishes within national and international dimensions of higher education [3].

The voucher system is often criticized through the following opinions: students' option for one university or another does not depend solely on a free and informed choice, but is also strongly linked to students residency and other possible obligations. Problems may arise if voucher students are not satisfied with the education obtained. There is no possibility for them to be refunded as consumers are refunded in case of complaints about the quality of the product. Although vouchers could change the manner according to which HEI manage students and their education, it is more likely that institutions will try to attract students employing unrealistic presentations by means of expensive and prestigious advertizing than to try to improve the quality of education.

The amount of money to be allocated from the state budget to finance budget places in universities is calculated based on the level of education (I cycle, bachelor), curriculum, type of education. The number of students studying based on places financed from the state budget is multiplied by the normative price, calculated by the university. If the university calculates a price higher than the normative one, the multiplication is done by normative price. If the price calculated by the university for full-time and part-time (extended) education is different, the lower price is taken into account.

Certain situations are envisaged for cases that affect the amount of allocated funds:

When calculating the amount required for graduating years (except for level 3 probationary studies), the number of students is multiplied by 2/3 of the education price.

If a student changes his study program within the same field in accordance with the regulations in force and the price of the new program differs from the previous one the lower amount is taken into account. After transferring to another study program a student from a foreign branch loses its budget student status.

The number of students taken for calculation of the financial resources to be allocated decreases by the number of expelled or suspended students and decreases or increases depending on the number of students that have changed their study program.

The amount of funds for cycle I, cycle II, integrated studies, continuous training students to be enrolled in the following year by universities is calculated starting from the amount of current sources minus the amounts calculated in previously mentioned paragraphs. This amount is allocated to universities based on the number of enrolled students. When calculating the amount to be allocated to the university the number students is multiplied by 1/3 of the normative price.

Government – university delimitation. The government allocates money to best students graduating from high school through voucher system as well as to those who had best results during study years but at admission have not received a voucher. The university collects the money through vouchers brought by enrolled students and provides them qualitative study conditions.

3.1.4. Calculation of per student training cost (price)

Per student cost (price) is the total expenditure in relation to the number of students financed from the state budget. It is calculated according to Government Decision no. 402 of May 13, 2009.

This document introduces the education *normative price*, comprising (one could name it basic price):

- salaries of teachers and researchers (hereinafter called academic staff) and salaries of other staff categories (hereinafter – service personnel) – employees salary costs;
- cost of goods and services related to education (hereinafter – costs of goods and services);
- students stimulation costs.

The normative price for study programs at cycle I, bachelor is calculated by multiplying the core price by the coefficient specified in the Annex to this program (depending on the field of study) plus costs for encouraging students referred to in Section 5. It complies with the following:

Basic normative price is calculated by adding employees salary costs and basic costs of goods and services:

- Employees salary costs are calculated based on basic salaries of academic staff and service personnel plus relevant state social insurance costs calculated in accordance with the law;
- Basic salary expenses for academic staff are calculated starting with the basic salary amount established by the Government of Lithuania (hereinafter called BMA): BMA 22,3

(for higher education) or BMA 19 (for college education) is multiplied by 12 months and divided by the normative number of students assigned to a teacher and which is equal to 20;

- Service personnel salary costs are calculated through multiplying BMA 8,8 by 12 months and the result divided by the normative number of students assigned to a service employee which is equal to 25;
- Basic costs for services and goods are calculated from the amount of basic social payments (BSI): for universities – 5,8 BSI, for colleges – 3,2 BSI;
- Students stimulation costs amount 2,5 BSI.

For cycle II and probationary studies salary costs are calculated based on BMA for cycle I, cycle II – 28 BMA, probationary studies – 73 BMA.

The basic price for cycle III is calculated by adding up academic staff costs plus costs for the purchase of goods and services plus students encouraging costs, as mentioned in paragraph 5. Salary costs are calculated by adding up all academic staff costs for the given program plus social security charges in accordance with the legislation in force.

In order to calculate the basic price for cycle III the following will be taken into account:

- Academic staff salaries costs are calculated multiplying 29,7 BMA by 12 months and dividing the result by the number of students per one member of academic staff which is equal to 3;
- Service personnel salary costs are calculated based on BMA 8,8 multiplied by 12 months and divided by the number of students per one service personnel which is equal to 4;
- Costs of goods and services amount 36,3 BSI.

Part time studies (extended) price is 1,5 times lower than the corresponding price for full-time studies.

The normative price for integrated studies is calculated as follows: for the first part (240 credits) the normative price is calculated as the normative price for cycle I and for the second part – as the normative price for cycle II.

The normative price for university studies (except probationary studies), which does not end with awarding certain diplomas (postgraduate studies) is calculated as the normative price for cycle II. The normative price for college studies with no diplomas granted is calculated as the normative price for college studies.

3.1.5. Private financing types and their monitoring

Private financing involves financial resources types that the university can attract, except those coming from the state budget. Universities have to act with responsibility in order to ensure better use of the existing funds. However, in order to preserve stability and to

guarantee the fulfillment of the many tasks of higher education in the society, it is considered that public funds should remain the main source of financing HEIs.

There is a wide range of alternative funding sources which should be analyzed and considered seriously. None of the possible effects should be overlooked in the attempt to diversify funding sources. Together with the issue of alternative financing of higher education one should remind that there is no free amount, that any source of financing involves interest and effects on the task and significance of education. In no case and by no means should academic freedom and basic research be jeopardized in the search of new resources. Increased attention should be paid to the distribution of money among academic disciplines without neglecting those disciplines with lower commercial value.

There exists the possibility for a wide variety of private financing sources (other than tuition fees) for higher education institutions in Lithuania. These are stipulated in LHER and include:

- Funds received under competition from research funding programs;
- Funds allocated by foreign and international foundations as well as by organizations;
- Funds received as sponsorship under charity and sponsorship law;
- Other legally received funds.

However, universities do not use all these sources because not all of them are currently available. (Donations /bequests, rentals /property income, use of research results /contract-based research). Private sources are employed depending on the strategy adopted by the university. Monitoring over the use of resources is carried out through internal financial audit and through external financial audit done by the Accounts Chamber verifying the use of financial resources by destination as determined by university plans.

Government – university delimitation. By attracting a greater number of private funds the university is offered greater development possibilities. The government encourages universities to collect private funds and use them for the continuous development of universities.

3.1.6. Capacity of universities to borrow money

The capacity of the university to borrow money regards the rights of the university, when necessary, to receive a loan for the implementation of a project necessary for the development of the university and given the lack of sufficient own sources. Money can be borrowed from a national or an international financial market.

State higher education institutions have the right to borrow money through loans, to sign credit agreements, employ leasing (financial leasing) within general loan limits established by the Law approving the financial indicators of the state budget and municipal budgets for the respective year. The Ministry of Education and Science distributes this loan limit among higher education institutions. State higher education institutions take this into account and act

in accordance with the established procedure. A higher education institution can put in pledge no more than 20 percent of its own managed assets.

Government – university delimitation. The government may establish cases when universities can borrow money.

3.1.7. Degree of university freedom when establishing the amount of tuition fee

Tuition (education) fee is the amount a student has to pay depending on the area of study and on the type of education for one year of study, that includes expenses necessary for student training. The tuition fee is an economic contribution that a student has to pay to a HEI, to the higher education sector of a state or to the state, before, during or after studies in order to apply, follow or complete higher education.

Tuition fees are established by the university. Usually, the amount of the tuition fee is equivalent to per student cost calculated at government level and paid by the government by means of the voucher system.

If the university establishes a lower tuition fee than the amount from the voucher, the university receives the respective amount from the state. If the fee amount is higher than the voucher amount the state pays the voucher cost only.

Government – university delimitation. Per student cost indicated in the voucher is determined by the Ministry according to a formula developed according to areas of training. Each university independently determines its student training costs. However, the government monitors this in the manner described above. It allows to monitor the situation in the universities and to exclude situations where universities, in order to attract more students paying tuition fees, would establish lower fees than the actual per student training cost.

3.1.8. Year-to-year transfer of unused funds

Unused funds are the money that remain at the end of the reporting period - the calendar year on bank accounts of universities. Although universities are non-profit organizations, balances at the end of the calendar year can occur for various reasons: e.g. money accumulated for some future investments, etc. The balances remaining from budget funds at the end of the year are transferred (back) to the state budget. Own funds balance shall be kept by the University and can be transferred to the next year. The possibility to keep unspent funds and transfer them from one year to another is an important aspect of financial autonomy enjoyed by higher education institutions. Such flexibility helps universities when developing medium or long term strategies and allows projects financing for several years, even creating a possibility to invest in order to increase income.

Government – university delimitation. State budget funds unused during the calendar year are transferred to the budget. The university has more freedom with regard to own resources.

3.1.9. Freedom of universities to own buildings

The capacity of universities to own buildings involves understanding of the fact which body has the right of ownership over universities property and what kind of relationships are established between the owner and the university.

In Lithuanian Universities, buildings purchased from state money belong to universities which have management and renting rights. The state has the property right. Buildings purchased from the universities own money are their own property.

Government – university delimitation. The state owns buildings purchased from budget money and the university ensures their effective management. The university is the owner of own money purchased property ensuring their effective maintenance and management.

3.1.10. Tuition fee policy with regard to foreigners

Foreigners are those who study in other countries than in their own. Are there differences in the treatment of local and foreign students in terms of tuition fees?

European Union citizens can participate in the competition for admission under the same conditions as Lithuanian nationals. For non EU students the university establishes fees, usually higher than for students from Lithuania.

State involvement is limited to determining per student cost which actually serves as a basis for calculating tuition fees as well. The universities are free to determine the amount of tuition fees for foreigners.

3.1.11. Scholarships and other financial support means for students

Financial support for students can take various forms and is reduced to that refundable or non-refundable aid that can be obtained from different institutions in order to provide the possibility to study. Without an appropriate support of students a large number of people could be excluded from higher education due to economic reasons. It is important not to lose track of higher education costs which consist of not only tuition fees, but also include study and living expenses such as accommodation, transportation and study materials. Public money for student support should rather focus on helping students with top marks instead of supporting irresponsible students.

Two kinds of scholarships are offered: performance-based and social scholarships. Performance-based scholarships are established by the university, the social scholarships are exclusive and established by state. It is interesting how the university carries out the allocation of performance scholarships to students. Each university receives money allocated for scholarships and determines the number of beneficiary students and the scholarship amount. There is a choice depending on institution-level policy: to allocate scholarships to a greater number of students but in smaller amounts, or to a smaller number of students but in larger amounts.

Another way to support and also stimulate students' performance lies in the fact that students at cycle I, bachelor or integrated studies, paying tuition fees and having completed with good

results the first two years or half of the study period (for those attending integrated studies) do not pay tuition fee for the remaining period. Their number is determined by the university (but not more than 10% of students that in the given academic year completed the first two years of studies) and the money is allocated from budgetary sources.

Students can get loans supported by the state to cover their study costs, living expenses, partial studies in accordance with international agreements.

Mobility usually is a component of higher education internationalization strategies and initiatives. Financing dominates the top of identified obstacles to sending mobilities and is the second most frequently mentioned barrier to receiving mobility. Lack of support services and accommodation services for international students is also very often expressed together with immigration- and visas related difficulties.

For Lithuania one can speak about the lack of scholarships and grants portability. The concept of portability indicates whether students studying at a higher education institution in another country can use their grant or loan under the same conditions as within their home institution.

Government – university delimitation. Both the state and the university are responsible for financial assistance of students whenever possible.

3.1.12. Allocation of financial resources within the university

Financial resources entering the university whether from budgetary sources or from own sources are distributed inside the university in a centralized manner, i.e. by the university administration.

3.2. Scotland

3.2.1. Higher education financing model

The main source of financing for Scottish higher education is the Scottish Parliament allocating to the Scottish Funding Council yearly amounts for national universities. It is the responsibility of the Funding Council to determine how and how much to allocate to each higher education institution. There are determined annually:

- the total number of students to be financed;
- block financing of teaching and research allocated to each institution;
- special funds linked to strategic objectives and the purpose for which these funds must be used.

Scottish Funding Council (SFC) allocations are conducted annually in the form of global financing and fall into three main categories:

- financing of learning and teaching, including extension;
- research funds;
- special funds.

SFC's mission is to ensure that institutions have a financial management competent enough to use allocated funds in coordination with the purposes for which they were allocated.

Government – university delimitation. The government provides sufficient financial resources for universities to provide qualitative training of specialists.

3.2.1.1. Education financing

The Funding Council offers funds to support direct and indirect costs of providing teaching and learning to students studying at Scottish HEIs. These include teaching, administrative, technical and service personnel-related costs as well as some accommodation, equipment and materials facilities. Financing is allocated based on a transparent formula taking into account the number of students from an institution and per student price established for a specific field of study.

This is a basic price and not a cost-based system. These allocations are based on certain formulas that enable universities to know in advance the amount of money to be received in compliance with the specified criteria.

In the teaching formula as applied, all academic subjects are assigned to one of six price groups and a standard price for FTE (full-time equivalent) students is calculated for each group. The total standard resource of an education institution is calculated by multiplying FTE students from each price group to the standard price for the group, and the totals for the six groups are summed.

These calculations produce a standard per student financing rate for each institution. Institutions may have a certain flexibility when managing their own number of students, so that the real financing rate may be higher or lower than the standard rate within a 5% limit. If the standard variation is greater than 5% the Funding Council shall adjust the financing rate or the number of students for the institution so as to bring the actual financing in accordance with the standard. Where necessary, period adjustments are made to allow the institution to manage the desired change.

3.2.1.2. Research financing

SFC research funds allocation policy is selective and based on the quality of research. Research in Scotland is mainly concentrated in universities. The actual financing system operates according to the "dual support" principle whereby universities receive core funding from the SFC, which is designed to cover research and infrastructure costs needed to support competitively financed research projects (e.g. permanent academic staff salaries, premises, libraries, computers). The money is allocated according to the quality of work. SFC role in research is to contribute to the improvement of quality and international competitiveness of

research infrastructure from Scotland as well as to ensure dual support. The second part of the financial resources can be obtained from the Research Council of Great Britain, which provides financing for specific programs and projects in seven main areas:

1. Arts and Humanities;
2. Biotechnology and Biological Sciences;
3. Engineering and Physics Sciences;
4. Economic and Social Sciences;
5. Medical Sciences;
6. Natural Sciences;
7. Technological Sciences.

Research councils are interested in promoting research excellence and therefore selectively distribute research funds to institutions that have shown their research quality by reference to national and international standards.

The role of this fund is to stimulate excellence in research and to facilitate access to international research. The amount of financing is closely related to research quality. There is a methodology for assessing the competitiveness of research based on previous years achievements. In addition, there are various grants that can be obtained, including doctoral research grants.

Research quality has been periodically evaluated in a research assessment exercise (RAE) conducted by four higher education financing bodies from Great Britain. The vast majority of research funds are allocated as quality research grants (QR). Funds allocated to an institution under this heading refer directly to the quality of work performed within the most recent RAE. The QR funding method also takes into account the volume of research primarily measured by the number of employees subject to evaluation, but also additional measures such as the number of research students, charity research income and businesses research income. The mentioned volume is measured by the number of active employees in research, submitted to RAE. Topic totals are distributed to institutions proportionally to research volume multiplied by the quality of research on topics for each institution. For quality marked with 1, 2 or 3 there is no financing; for 4,5 and 5 points – financing shall be obtained. RAE 2008 results were used to perform financing calculations for research in 2009-2010 for the first time. From 2011-2012, the financing method gradually included the Research Excellence Framework (REF) which is a new research evaluation and financing system.

The Research Council can also allocate special funds without the formula thus allowing changes or activities not included in the formula. Special financing level is continuously reviewed to ensure its justification.

Government – university separation. The state shall promote performance of research, in this case the basic share of financing sources coming on a competitive basis. The university must demonstrate its performance.

3.2.2. Higher education financing mechanisms

In Scotland, higher education institutions are financed directly by the Scottish Funding Council (SFC) which is a non-departmental public body of the Scottish Government. The only exception is the Scottish Agricultural College which is currently financed by the Department of Agriculture of the Scottish Government.

Three basic directions for allocation of financial resources to universities were presented above.

Funds for education and research are strictly separated. When distributing funds for teaching and research, SFC aims to preserve the diversity as well as increase opportunities, encouraging the efficient use of public funds.

Education and research financing together with subsidies granted for covering part of the tuition fees are separate and independent parts of institutional allowance. Total grants and subsidies for covering tuition fees form the resources of public higher education activity. The mechanism for allocation of funds to universities is based on four main stages: determination of standard resources for an institution, determination of current resources of the institution, comparison of the two stages and determination of final grants.

Standard resources are determined for every higher education institution based on the number of students and on the educational profile. The number of students is quantified based on the number of attending equivalent students (FTE). A part-time student is quantified by comparing his educational activity to the activity of a full-time student. Students performing practical activity outside the university during one year are quantified at a rate of 0,5/student compared to full-time equivalent students from that year.

When determining next year financing standard for an institution it is considered the number of existing students plus the number of potential students enrolled through competition for the next year. Not all students are financed in the same proportion. Factors such as students' type and nature of the field of study lead to a different level of resources. Taking these factors into account when determining the standard resources every institution is granted certain bonuses depending on the field of study, student status and HEI ranking.

Thus, financing of a full-time student is calculated by dividing the amount of total available funds for education financing (grants allocated by the Scottish Funding Council plus subsidies for covering tuition fees) to the total number of equivalent students. This financing rate (grant + subsidies) is called the basic price.

Therefore, the standard resource for a university is obtained by weighting the total number of equivalent students to the basic price.

Further, the standard resource is adjusted based on inflation and on Funding Council estimates of income obtained from student tuition fees.

Government – university delimitation. The mechanism employed by the government stimulates the performance of universities.

3.2.3. Methodology for allocation of budgetary funds to universities

Distribution of funds among universities is carried out largely based on allocations from previous years and depending on the state level existing budget. Also, for certain areas, e.g. health, stomatology, pedagogy, depending on state need of a certain number of trained specialists, the number of students to be trained is specified and a certain amount of money is allocated. Beside that, SFC also analyzes directions for the use of these funds. Depending on previous years results the amounts can be increased or decreased.

SFC allocates for research an insignificant amount, just for maintenance of the equipment. Main allocations come from the Research Council of Great Britain depending on performance achieved, i.e. on competitive basis, employing a formula. The Council is divided into seven research departments that finance specific research projects in a wide range of academic areas.

The Funding Council provides just over one-third of financing for investment in facilities for teaching and research through specific grants. The rest is financed through commercial loans, bonds and other loans, other earned income.

SFC concludes a separate Memorandum agreement with every university. This financial Memorandum establishes the expectations of an institution and the requirements which are a condition set by the Funding Council. The main requirement of the financial memorandum is that governing bodies should ensure good governance and should effectively implement a system of good governance, leadership and management in the institution under its regulation.

The allocation of budgetary resources is a long process. The Ministry forwards to the SFC the amounts available for next year together with some recommendations on the use of this money. The Council is not obliged to take account of these recommendations, but given that it is public money, the recommendations are usually taken into account. The relationship between the two bodies is very close and problems that arise are amicably solved. Here we refer to the fact that the Ministry indicates development priorities for the next year to the SFC and maintains a dialogue with the latter until a consensus is reached and approval of the budget takes place.

SFC concludes with every university a Financial Memorandum. The Memorandum contains the requirements established by every institution, including:

- ✓ The legal (regulatory) basis according to which public financing is provided and areas for which it is provided;

- ✓ The need for efficient and proper use of public finances, existence of an accounting system allowing to meet these requirements;
- ✓ The need of the institution to have management systems, including risk management and internal control management;
- ✓ The need to ensure financial viability of the institution.

In addition, every year a guide for the allocation of financial resources to universities is developed, indicating the next year price per each student seat out of the 6 budget-funded groups of seats. It also indicates the allocation of financing to teaching for seats additionally offered under programs opened for the first time in the respective year, i.e. for widening the access. Annexes to the document present detailed additional allocations for certain universities based on strategic directions for the respective period.

In December, institutions provide annual information regarding the number of FTE students. These figures make the core of the teaching activity that will be financed in the next year. If an institution does not enroll the appropriate number of students recruited to ensure the expected volume of teaching activity, SFC shall retain some of the financial sources.

The financing methodology itself is designed to be transparent, equitable, efficient and flexible.

Government – university delimitation. Universities timely submit the information requested by the Funding Council that allocates, based on demonstrated performance by every university, financial sources. To a large extent, the university is free to use them by own wish, it only needs to demonstrate performance.

3.2.4. Calculation of per student training cost (price)

Costs are calculated according to the methodology known as TRAC (Transparent Approach to Costing), a transparent approach to costs calculation. Beginning with 2000, TRAC has become a standard methodology used by 165 higher education institutions (HEIs) in Great Britain to calculate the costs related to core activities (teaching, research, other important activities) and to inform about public financing of higher education. However, TRAC is not the only method for cost calculation.

Costs can obviously vary from one institution to another as well as the approach to cost calculation. Some elements are under the control of the higher education institution, others may be imposed (e.g. specialized equipment costs).

The advantage of TRAC is that it has a wide acceptance and is flexible enough to cope with various challenges, enabling higher education institutions to make good estimates. In addition, the method does not require additional administrative effort and does not require teachers to complete the timesheet. Also, TRAC has been accepted by the government and important public funders of research and teaching (especially the Funding Council and the Research Council) as an appropriate and robust method for the calculation of costs in higher education.

TRAC can also be considered as a collaboration between HEIs and key stakeholders and public funding bodies. The success of TRAC implementation in the higher education sector as well as the support of Treasury to TRAC was beneficial for all institutions both directly in terms of their financing and indirectly by means of trust the government invested in them. The processes underlying TRAC allow to take account of all institution costs, both direct and indirect, so these could be analyzed and attached to activities in a fair and reasonable manner. TRAC relies on activity principles based on cost calculation but applies them in a way that is appropriate for complex activities and culture existing in higher education institutions. The approach is flexible because it respects the diversity of institutions in Great Britain and is so comprehensive and holistic that it is suitable for all activities and all institutions. Cost calculation is not an end in itself but is an essential tool that allows a more efficient management in the higher education sector. It has four main objectives:

- a) to meet the responsibility requirement, especially for the use of public funds, when the institutional portfolio includes a complex mix of activities;
- b) to provide coherent and solid information on the cost of activities in order to assist with planning and institutional management;
- c) to provide a basis for the pricing of activities, especially for publicly funded activities;
- d) to provide both institutionally and nationally a proper and comprehensive cost model in order to guide future investment.

TRAC introduced in institutions some new processes and activities that stand alongside the existing accounting and project management systems. The most notable (from the academic perspective) are the requirements to allocate time to teachers and to include research costs based on full economic costs. In this respect for every teacher there are developed and made available various instructions regarding time allocation for such activities as: teaching, research and other activities. These instructions provide various possibilities for time allocation. Based on this, the respective costs as well as salaries are determined. There are developed materials specifying in great detail how to calculate the cost of courses taught (e.g. Course costing in Higher Education: An overview for senior management).

These are materials for the consultation of universities on how to facilitate the cost assessment of courses. Also, these instructions envisage not only the calculation of costs for activities performed by teachers, but also the calculation of other costs, such as maintenance of libraries. It is noted that libraries and learning resources represent about 4% of total institutional costs. And in this respect there are developed recommendations for the calculation of costs related to these activities.

One should mention the guide developed with reference to the TRAC method [12], which is very detailed and, together with the annexes of this guide, allow the calculation of all costs of university activities.

Thus, TRAC is a national-level developed methodology based on activity cost allocation using time allocation studies (not timesheets) by the academic staff as cost drivers to allocate

all relevant activities costs. TRAC also includes proximate cost adjustments to take account of the fact that the "real" costs of universities are higher than costs historically established into their accounts due to a combination of: underestimation of current assets value in some institutions; insufficient investment in physical assets (for example, presented by maintenance delays) as well as in services and in students support; the need to allow a surplus or risk margin, financing and development.

Time allocation was the most controversial issue, and it is essential that HEI know the direction where the effort of teachers should be directed and whether the financing of these costs can be planned.

Government – university delimitation. The methodology employed by universities for cost calculation allows taking into consideration all expenses incurred by the university and also stimulates the efficient use of financial resources. The government monitors the efficiency of the use of financial resources in accordance with strategic directions established by the university.

3.2.5. Private financing sources and their monitoring

Although a normal approach of SFC is to allocate core funding through financing formulas for research and teaching, a number of activities cannot be financed in such a way and are instead supported by special funds. Financing methods are used to minimize the burden of institution's responsibility and they are normally introduced only after consultations with the sector.

Scottish Universities may have other sources of income than those received from SFC. Among them one could mention:

- ✓ donations;
- ✓ position sponsorship (especially for professor positions, which are often fixed-period);
- ✓ interest earned on cash balances and investments;
- ✓ revenues from the exploitation of research results and commercial application of inventions;
- ✓ teaching contracts for specific customers (education, continuing professional development, initial teacher training);
- ✓ tax revenues for short-term courses;
- ✓ income from student tuition fees (non EU, cycle II);
- ✓ rent taxes.

The use of income obtained from private sources is not particularly monitorized and these are used depending on the needs of the University based on the strategy adopted. Also, universities can obtain research funding through grants and contracts from the Research

Councils, contracts with industrial and commercial companies as well as with governmental entities, grants from charity organizations and EU.

The importance of such other income flows varies from institution to institution: income from investments in facilities, for example, tend to be more important in large universities and donations tend to concentrate on medical universities.

Government – university delimitation. Although the state provides universities with sufficient financial resources so they could to provide quality educational services, the latter can also access private sources.

3.2.6. Freedom of universities to borrow money from national and international financial markets

When necessary and lacking own resources, a university can borrow money from banks only based on justification and with the consent of SFC.

3.2.7. Degree of university freedom when establishing the amount of tuition fee

The financing method allows higher education institutions to supplement funds according to the criteria established annually by the Scottish Funding Council. Higher education institutions receive public funds in the form of grants and subsidies to cover tuition fees offered by the SFC. Full-time students receive government support in the form of tuition fees depending on family's financial situation. Students enrolled in postgraduate courses involving only teaching and not research activity pay full tuition fees.

Instead, the tuition fees of students enrolled in postgraduate courses in the area of research are covered – mostly – by the Research Council. More than 1/3 of tuition fees of part-time students are paid by employers. Tuition fees, usually for cycle II master-level students are established by the university.

Tuition fees for cycle I, bachelor students from Great Britain and from countries outside the European Union are established by the university. Usually, the fee for British students does not exceed the value established by British universities.

Government – university delimitation. In principle, a university is totally free to establish tuition fees for studies for cycle II master-level only. At cycle I, students from Scotland study free of charge and for students from Great Britain there is established a fee usually at the level of local universities and students are able to come to study in Scotland. When setting higher fees these students shall have to remain in the UK.

3.2.8. Year-to-year transfer of unused funds

The money allocated by the SFC, remaining within the university at the end of year are reimbursed. Own money, earned through income other than state-given money, remain at the university.

Government – university delimitation. The state monitors closely the use of financial resources, but the money obtained from private sources are fully available to the university.

3.2.9. Capacity (freedom) of universities to own property

The property is managed by universities. They can sell buildings, but if the construction of property was carried out by the state SFC permission is required. Money obtained from the sale of property can be used either by the university for investment or shall be returned to SFC.

Government – university delimitation. The state protects its own money while those obtained from private sources are at the discretion of the university.

3.2.10. Tuition fee policy with regard to foreigners

Student and staff mobility has increased in the last decade, contributing to the diversification of higher education in terms of both domestic students and foreign students. Governmental attitude towards international students has evolved to such an extent that they were considered a new source of income. In this situation, these students are charged as much as possible so as to diminish the need of state to invest in the education of young people.

The tuition fee for international students in Scotland is established by the university. It is usually higher than the fee for UK students by 65%. It is worth mentioning in this regard that the fees for international students, being a source of income for universities, can be seen as a hindrance to internationalization and integration, thus creating obstacles for mobile students.

Government – university delimitation. Universities are free to establish tuition fees for non-EU citizens.

3.2.11. Scholarships and other financial support means for students (including mobility financing)

Scholarships for students are offered by an independent agency. Student dormitories are also outsourced as university services. Students can borrow money from a specialized agency to pay both tuition fees and living expenses. The money is refunded after employment and achievement of a certain salary level for a period of up to 15 years.

Institutions may receive a grant allocated by SFC to help students facing financial difficulties. The criteria for the allocation of these funds are determined and institutions are responsible for deciding which students should receive financing.

This model of financial support for students (also known as "friendly" tuition fee) seems to be acceptable, but various sources bring certain critics made in its address. Thus, ESIB considers repayment plans after graduation as policies that are unacceptable, misleading and damaging to higher education wider access and graduation. One of the most delicate and uncertain period of human life is when an individual is seeking employment and pursues career and family plans. Even in cases when repayment plan shall enter into force when that individual's salary reached a certain level, the threat of a waiting debt is a determining factor

for many students when choosing to enroll in higher education or not (<http://www.bologna.ro/a/upfolders/finantarea%20invatamantului%20superior.pdf>).

In fact, this method can be rather considered as financial assistance and not financial support, which is transformed by the reimbursement condition into a false mean of support.

Financial support for students is performed by the Student Awards Agency for Scotland (SAAS). This organization publishes guidelines stipulating the types of support, eligible individuals and the allocation method.

Government – university delimitation. The university is exempt from student fostering problems. Through a state developed mechanism students have well-defined ways to ensure their living conditions during their studies at the university.

3.2.12. Allocation of financial resources within the university

Allocation of financial resources within universities is done in a decentralized manner. Every department, every person has a special account. The faculty pays for hours worked within the faculty.

Financial resources obtained from SFC are allocated by the university depending on the policies approved at institutional level. The university also decides each year, within available financial resources, the number of students as well as specialties at which they are to be enrolled. Although there exists a differentiation during the allocation stage according to the directions mentioned, in the end, all of them form a single block which means that internally these funds can be used for teaching, research and other related activities. Other special funds may be used for activities agreed upon with SFC.

Government – university delimitation. The state does not get involved in resource management at university level. Every three years some monitoring is performed to verify that public money was directed in accordance with strategic development plans of the institution. Best Practice Guidelines are published annually so that universities have the possibility to benefit from certain recommendations. These guidelines are published by the SFC based on annual reports submitted by the universities.

3.3. Sweden

3.3.1. Higher education financing model

Public financing models for higher education are the levers employed by central governments to pursue their strategic goals in this sector. In Sweden, the state budget finances higher education institutions allocating 85% of funds in the form of grants. Grants for higher education are allocated as block grants. This means that internally universities are free to distribute the allocations at will, without following a strict order.

Money amounts are allocated from the budget, every university having a separate financing line. In turn, every university has two financing lines: for teaching and for research.

The amounts allocated to teaching (about 95% of the budget) include amounts assigned to teaching, but also to other expenses necessary for this activity, including amounts required to pay the rent of study buildings.

Research amounts (about 55% of the needs) are allocated to cover the costs of research staff. In addition to research funds allocated from the state budget as block grants, the remaining 45% are allocated by the Research Council based on project competition. The university can also benefit from funds based on contractual sources with different organizations and businesses.

Funds are provided as a lump sum.

Government – university separation. The government allocates money for the training of required specialists. The university is responsible for allocation of this money in a way that ensures performance.

3.3.1.1. Education financing

The education financing system is based on educational activities contract negotiated between the Ministry of Education and each university. This contract establishes objectives for a three-year period with a breakdown for the nearest year. These contracts include:

- ✓ The minimal number of degrees awarded (bachelor, master);
- ✓ The total minimal number of FTE students;
- ✓ The fields of study where the number of students will increase or decrease;
- ✓ Other issues.

According to the objectives set out in activity contracts concluded with universities, a preliminary calculation of teaching funds is carried out, based on the first two elements:

- ✓ The number of study credits earned by students during a year;
- ✓ The real number of students.

It is important that in Sweden students can choose courses that they want to attend and thus create their own educational path.

The results obtained during three years of study stand at the basis of negotiation for the next three-year period. The only condition related to the spending of public funds in this respect is that long-term objectives of the education contract must be met. In order to ensure the flexibility of institutions between fiscal years as well as to facilitate their long-term planning, institutions are entitled to transfer unused parts of its budget to the next fiscal year. Institutions may keep only grants or FTE study results corresponding to a maximum of 10%

of the budget. Teaching budget is based on forecasting the number of students. However, institutions are free to enroll more students, although this will not affect their budget.

Government – university delimitation. The government allocates money for studies, but does not indicate for which students and what programs these amounts should be used, except for some state-level needs. Universities have the responsibility to train specialists in those areas which will help graduates to find employment. This makes universities to be in permanent contact with employment agencies.

3.3.1.2. Research financing

In Sweden, as in other European countries, public funds for research are allocated based on a dual support system composed of core research funds, whose spending is decided by the institution, and public funds for specific research projects awarded according to a competitive model. Core financing for research is allocated by the Ministry of Education and Science by means of grants including both education financing and research financing. Financial support for teaching and operational activities is also provided. Basic research funds allow institutions to establish their own priorities and to finance own infrastructure and current activities. However, the existence of this mechanism for the allocation of funds does not indicate neither the amounts involved nor the fact that public funds allocated to research should be sufficient. In Sweden there is no well-developed mechanism that would allow transparency in the allocation of research funds. Many consulted sources notice the political nature of these allocations. State financing by means of grants on average makes 55% of the sources used for research. Along with direct research funds, there are funds allocated indirectly through research councils based on competitive-based project proposals.

Government – university delimitation. Government-allocated money for research include only the amounts required for salaries and infrastructure. This stimulates universities to participate and win various projects on competitive grounds.

3.3.2. Higher education financing mechanism

As in many European countries, the Swedish financing mechanism is based on a financing formula. The use of financing formulas for calculating the amount of public funds allocated to higher education institutions is a widespread practice considered a way to increase the transparency of public financing by objectively distributing available funds among institutions and avoiding excessive political pressures. Within the financing formulas the number of students taken into consideration is calculated together with the cost unit established per student. These costs are determined depending on the field of study into which the student is enrolled and the level of education as well as depending on the fact whether the studies are full-time and also on other factors. In Sweden, performance criteria are also taken into account (around 60%). Thus, the performance is determined considering the number of FTE students, i.e. the equivalent students that accumulated 60 credit points (the total number of study credits accumulated by all students in the respective year is divided by 60 to determine the number of FTE students). Elements included in the performance formula are given higher weight compared to input elements (e.g. student load). On average,

60% of the funds assigned for teaching are based on the number of credit points accumulated by students, while 40% are based on the number of students. The 60/40 ratio represents a political compromise between 70/30 and 50/50.

Government – university delimitation. The state employs a clear and transparent mechanism to finance higher education.

3.3.3. Methodology for allocation of budgetary funds to universities

The allocation of funds to universities takes place by means of a budget proposal made by the Government and accepted by the Parliament.

Distribution among universities occurs largely depending on allocations from previous years and according to the existing budget at the state level. Money are planned for a 3-year period with yearly specification of this amount.

Largely, the number of students is not taken into account. The amount allocated by the ministry is used by the university depending on its own policies. However, every year the university submits a report to the Ministry justifying its expenses. In this respect the number of equivalent students (with 60 credit points) and the field of study are taken into consideration.

Exactly the same thing happens at budget development level. Calculations are performed taking into consideration the number of equivalent students (FTE).

Financial autonomy is accomplished through per student funds allocation. As a basis of per student cost is taken the cost of education in humanities, but when financing programs using advanced technology components a coefficient depending on the complexity is included.

The following equation is used to calculate the allocation of financial resources by the ministry:

$$T_{i,t} = (S_{i,1,t} * T_{s1,t} + C_{i,1,t} / 60 * TC_{1,t}) + (S_{i,2,t} * T_{s2,t} + C_{i,2,t} / 60 * TC_{2,t}) + \dots + (S_{i,6,t} * T_{s6,t} + C_{i,6,t} / 60 * TC_{6,t})$$

Where: $T_{i,t}$ – the teaching budget of institution "i" in year "t";

$S_{i,1,t}$ – the real number of students in university "i" in the field "j" (there are 6 fields: 1. Humanities, theology, law, social sciences; 2. Science, engineering, pharmacology, health; 3. Dentistry; 4. Medicine; 5. Educational Sciences; 6. Other);

T_{s1} – per full-time student cost for every field "j";

C_{i1} – the number of credits earned in every field "j" during the year;

$TC_{1, t}$ – yearly performance price.

These charges are set at ministerial level yearly for every field and it only remains to multiply and summarize.

On average, 60% is given for the number of students and 40% for performance, i.e. for FTE.

That is, per student price breaks down into two components operated with: HST of about 40% and HPR of about 60%. These amounts are established yearly by the ministry for particular fields.

We can also present a simplified formula:

$T_{i,t} = \text{real number of students at December 31} * \text{HST} + \text{FTE students at December 31} * \text{HPR}$

Government – university delimitation. The state provides money for the training of students and universities are free to choose how to manage financial resources so to ensure the highest performance. This is afterwards rewarded by the government (through allocation of higher amounts).

3.3.4. Calculation of per student training cost (price)

The cost of training for one student is determined taking into account all actual expenses that are incurred by the university. In Sweden, the calculation methodology known as full cost or Full Costing is applied. This involves calculating the cost of any process, project, taking into account direct costs (directly related to the calculated unit) and indirect costs (common to several or all cost units).

We consider useful to study and present here, in a summarized form, steps undertaken by Swedish universities until reaching the model used today, that, anyway, is not considered an ideal one. The introduction of this calculation model in Sweden was coordinated at national level. Full Costing was a problem involving many discussions among universities and research financing organizations. In 2005, the Swedish Association of Higher Education (SUHF) that represents higher education institutions established a special group to deal with questions regarding indirect costs financing. This group included universities representatives as well as representatives from important financing organizations.

Another group (HFR Redovisningsrad) was already established in the mid-nineties by university administrators to develop generally accepted accounting principles for Swedish universities. This group began to discuss the full cost calculation as an alternative while the Swedish National Audit Office criticized several universities for incorrect accounting of revenue in the autumn of 2005. Both groups began working together in 2006. HFR Redovisningsrad developed a Swedish model, important issues were discussed and an agreement with the group SUHF was reached. In March 2007, the SUHF group issued a report describing the fundamentals of the model and a manual was also drafted. In November 2007, SUHF recommended the adoption of the model for all its members.

Starting with January 1, 2011, all Swedish universities and university colleges have been applying this model. However, the challenge for the costing of spaces that are mainly hired by universities has not been solved yet. Clarifications, minor changes and model follow-ups, including solutions for heating costs are currently being discussed by a group within SUHF.

The SUHF model is based on budgeted costs, not real costs. Corrections should be made retroactively for cost deviations to identify actual costs. Every institution has different time allocation methods, but these are often based on management estimates rather than time recording. It is an accounting model for indirect costs presenting the full cost of education and research at higher education institutions from Sweden.

The most important change factors came from inside the institutions. Full Costing was necessary as a tool for strategic management, decision-making and improved internal control. In addition, there is necessary to improve accounting principles and achieve long-term financial sustainability of universities.

The basic *principles* of the model are:

- ✓ The activities of a higher education institution are divided into basic activities and common support activities;
- ✓ Basic activities at first are defined as education /training or research and then divided into cost units (cost unit (or cost carrier) = activity for which a separate measurement is done within the total revenue and total costs);
- ✓ Support (administration) activities are classified as support for education and research. Activities that support both education and research are divided between the two. The costs of support activities (indirect costs) are accumulated and allocated to the cost unit;
- ✓ The indirect cost allocation base preferably is made of direct costs related to labour (salaries); an alternative basis could be direct labour costs + direct operating costs;
- ✓ All revenues and costs will be allocated to cost units to allow a Full Costing assessment;
- ✓ The project budget is based on total costs calculation and represents total costs (direct costs and a fair share of indirect costs) and total revenue (external financing and government grants) [13].

Schematically, this model can be presented in the following way:

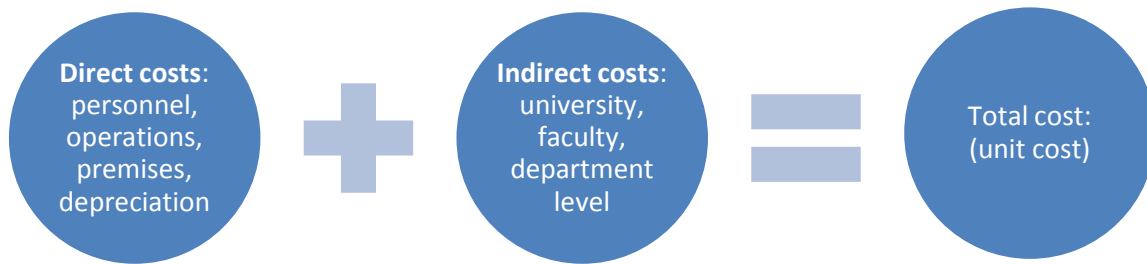


Figure 1. Full cost structure based on SUHF methodology

Direct costs reflect basic operations and concern, as mentioned above, directly to the process, object, while the indirect costs reflect support activities for direct costs.

Indirect costs include:

- ✓ management costs, including premises-related costs;
- ✓ support for education and research;
- ✓ accounting and human resources;
- ✓ infrastructure services;
- ✓ library;
- ✓ others.

All these costs are carefully divided and allocated between education and research.

To calculate per student cost, after Full Costing calculations at institutional level, all costs are divided by the number of students taking into account the field of study and the study form. Thus, as a basis for calculating per student cost serves the humanities education cost and when financing programs using advanced technology components a coefficient depending on the complexity is included. As basis, there is also taken the full-time student, part-time students quantified as 0,75.

Government – university delimitation. In order to calculate the unit cost, the government contributed by coordinating the working group so as to develop a common approach. Based on this approach, every university determines its specific costs.

3.3.5. Private financing types and their monitoring

Universities can have additional income from certain private sources, such as:

- Income based on research contract activities;
- Donations;
- Interest earned on cash balances and investments;
- Teaching contracts for specific customers (education, continuing professional development, initial teacher training);
- Revenues from short-term courses fees;
- Income from student fees (non EU).

We would like to mention that considerable financing sources are sources coming from different foundations. Foundations are an important addition to direct government financing. In 2012, 1.3 billion Euros was awarded for research in Sweden by six state-financed foundations:

1. *SSF, the Swedish Foundation for Strategic Research.* This is a Swedish Foundation for Strategic Research, founded in 1994, aiming to support research in natural sciences, engineering and medicine. These contribute to the increase of the competitiveness of Sweden. There are two predominant types of grants: framework grants and individual grants. A strategic mobility program aims the increase of mobility between university and industry in both directions. The grant period is normally three to six years. The annual contribution is approximately 600 million Euros [15].

2. *Mistra, the Foundation for Strategic Environmental Research.* The Swedish Foundation for Strategic Environmental Research (Mistra) plays an active role in solving problems from this area by investing in the type of research that helps to make a significant contribution to sustainable development of society. This is done by investing in various initiatives within which researchers and users make joint contributions to solving key environmental issues. Annual investment in various research projects is around 200 million Euros [17].

3. *The Knowledge Foundation.* The Knowledge Foundation is the sponsor of university research, with the task to ensure the increase of research competitiveness in Sweden. This Foundation was established in 1994 and since then it has invested approximately 8.4 billion Euros in more than 2,400 projects. The Knowledge Foundation strives to help Swedish universities to create internationally competitive research environments. Universities are responsible for a significant part of knowledge and research development [20].

4. *The Foundation for Baltic and East European Studies.* The Baltic Foundation (the Foundation for Baltic and East European Studies) was founded by the Swedish government in 1994. Its mission is to support research and doctoral studies as well as the academic infrastructure at Södertörn University (Södertörn University). Since its establishment, the Foundation has awarded 2.4 billion SEK to the university. The Foundation for Baltic and East European Studies financed approximately 160 research projects and 115 doctoral students

trained at Södertörn University. The Foundation supports research in humanities and social sciences as well as research in natural sciences, particular research in environmental matters. In recent years, the Foundation for Baltic and East European Studies has been awarding Södertörn University £ 200 million per year. Approximately 40% of these funds were allocated to research projects. A large number of projects are multidisciplinary. In addition, projects financing also targeted the recruitment of teachers, invitation of visiting research fellows at the university, provision of funds for participation in conferences as well as for the academic infrastructure at Södertörn University. All these have enabled the university to continue its activities in certain areas of specialization [21].

5. *The Vårdal Foundation.* The Vårdal Foundation is one of the most important players in Sweden for interdisciplinary research in the field of health and social care. The Foundation is an independent financier of research, now focusing on aging and health challenges as well as on problems related to children and teenagers. The Vårdal Foundation was established in 1994 by a resolution of the Swedish Parliament. Since its inception, approximately 930 million SEK were allocated to different types of research grants [22].

6. *STINT, the Swedish Foundation for International Cooperation in Research and Higher Education.* The mission of this Foundation is to promote the internationalization of Swedish higher education and research. The Foundation offers a wide range of financing and scholarships, programs supporting strategic internationalization of higher education institutions. It is a player with broad capacities and knowledge. Support is provided to international academic cooperation through financing exchange professors and researchers (http://www.stint.se/en/stint/about_stint).

Apart from research councils, private organizations allocate significant funds for research within universities. Thus, it can be mentioned that Knut and Alice Wallenberg Foundation only, for example, offered 5 billion USD for research over the past five years. Or, the Riksbankens Jubileumsfond, an independent foundation financed by the Swedish Central Bank, is another important source of financing, allocating more than 400 million Euros for research in 2013 [23].

The income obtained from private sources is not particularly monitored and it is used depending on the needs of the university according to the adopted strategy.

Government – university delimitation. Universities are entitled to attract private financial resources in various ways. The government only monitors their use in accordance with the strategy of the university and with the expected directions for their use, but does not interfere in the manner in which financial resources are to be used.

3.3.6. Capacity of universities to borrow money

A university can borrow money from the financial market only at the bank specified (designated) by the responsible authority.

3.3.7. Degree of university freedom when establishing the amount of tuition fee

Cycle I, bachelor and cycle II, master education is free for Swedish and European Union students.

The amount of tuition fees is annually established by the university. Tuition fees should be calculated to cover the full cost of all operations financed by tuition fees. According to the *Ordinance on application fees and tuition fees at higher education institutions*, a higher education institution must calculate its tuition fees in order so that to cover its full costs for all activities. Tuition fees must be the same for all students at the same program of study in the respective year. This does not apply if there is a government decision on tuition fees for those studying in the framework of an exchange or a partnership program.

Also, both the Ordinance in question and universities internal regulations establish very specifically all periods during which payments must be made as well as the consequences that may occur in certain situations, or situations when the money can be refunded.

Government – university delimitation. The government pays for university studies. Universities have complete freedom in determining tuition fees only for students from outside the European Union. The only condition of the government is that these fees must take into account all expenses required for all activities related to the training of a student.

3.3.8. Year-to-year transfer of unused funds

The capacity to keep unspent funds and to transfer them from one year to the next year is an important aspect of financial autonomy enjoyed by certain higher education institutions. This flexibility facilitates institutions by the possibility to create medium or long term strategies and allows financing of projects lasting several years, even creating the possibility to invest in order to increase income. State-allocated money unspent at the end of year remain at the university. The balance can occur if less students than planned come to study at the university or if many students were expelled. If during three years end balances remain year after year then the Ministry can decide to allocate less money because the university cannot perform the established tasks.

Own money remain at the university. The deficit must be covered by the university.

In order to provide the flexibility of institutions between fiscal years and to facilitate long-term planning, the institutions are entitled to transfer unused part of their budget to the next fiscal year. Institutions may keep only grants or FTE study results corresponding to a maximum of 10% of the budget. The teaching budget is based on the forecast of number of students. However, institutions are free to enroll more students although this will not affect their budget.

Government – university delimitation. The government allows keeping the balance but under certain specified conditions. These conditions should stimulate universities to work under performance conditions.

3.3.9. Freedom of universities to own buildings

The buildings are not universities' property. The universities rent these buildings from a state agency and pay the rent. Rent money is allocated from the state budget (included in per student cost). For this reason, universities are not entitled to make any transactions with the property (sale, purchase).

Government – university delimitation. The government decided that universities (the administration) should not waste time with improper issues such as building maintenance. All property may be rented from a state agency responsible for maintaining the property. Rent money is allocated by the state.

3.3.10. Tuition fee policy with regard to foreigners

The amount of tuition fee for foreigners is determined by the university. It usually exceeds the actual costs of training one student.

EU citizens, but also those from Switzerland are put in the same conditions as nationals of Sweden. Citizens of other states should pay tuition fees. However, there are some exceptions. Thus, will not pay tuition fees the student which:

1. Is a family member of a citizen from an EU country and has the right of residence or has permanent residence in Sweden in accordance with applicable requirements;
2. Is a family member of a Swiss citizen and has the right to live in Sweden;
3. Has a permanent residence permit in Sweden;
4. Has a limited-period residence permit in Sweden, but for purposes other than education;
5. Has a permanent residence status in Sweden;
6. Has a permanent residence status in another European Union state and has a residence permit in Sweden;
7. Is a student at an university outside Sweden and follows a limited part of the educational process at a Swedish university within an exchange agreement and paying no tuition fees, these being charged by the host university;
8. Is studying within an exchange program that does not require any tuition fees as provided by a government decision.

Government – university delimitation. The government takes financial responsibilities when training Swedish students. For others, the university has full freedom in determining the tuition fee. The respective regulations are of a lower degree: the amount must not be smaller than the actual cost.

3.3.11. Scholarships and other financial support means for students

Speaking of facilities for students it must be mentioned that dormitories are outsourced from university service. The cafeteria does not belong to the university either.

Scholarships may be awarded to cycle I, bachelor and cycle II, master students to ensure financing of certain expenses during their studies, such as:

- Studying abroad for a period of time;
- Performance of graduation work.

In general, one can find that in Sweden students may receive real financial aid in order to study at universities. The aid for education is universal, applies almost to all citizens, is given directly to the student, is mainly given independently from parents or student family's financial situation.

There are various types of state support for education to meet different needs.

All adult students may apply for student support, regardless of their education level. Student support may be granted for full-time or part-time studies. Students have the possibility to choose employment with a certain amount of work along with their studies without reduction of support received. Student support consists of a loan and a partial grant paid for the education period, normally of 40 weeks per academic year. There are some limitations regarding the right to student support that are related to the education period and student's age. The upper age limit for receiving student support is 54 years.

The amount paid as a student grant is equal for all and is adjusted annually to follow the general price trend in the society. Student grants represent about one third of total support given to students and is exempt from taxes. A larger amount of the grant may be awarded to those students that have special educational needs or additional training. Students with children receive special allowances for children.

The amount lent to students is about two-thirds of the total student support. More than two thirds of all students also choose to take a student loan. It is also possible for some students to receive additional loans and borrow studies-related additional expenses credits.

Student support system involves repayment of student loans. Reimbursement begins the next year after the completion of education and normally continues for 25 years. Interest is added directly to the debt. The interest rate is advantageous compared to other loans interest and takes into account the rules of tax deduction within the tax system. Security issues are also taken into consideration within the reimbursement system, making it possible to take into account individual's capacity to pay.

In Sweden, special emphasis is placed on opportunities to study abroad at postgraduate level. Therefore, there are generous conditions for obtaining support by students who want to study abroad. Students from abroad are also eligible to obtain education-related loans [24].

Government – university delimitation. The government has many levers to provide financial support to students for their education, so that they could largely dedicate their time

to obtaining quality education and universities have all possibilities to offer such quality education being exempt of certain services related to their area of competence.

3.3.12. Allocation of financial resources within the university

This is done by the university in a decentralized manner. Every department and every person has a special account. The faculty pay for hours worked within the faculty.

Every dean discusses with the rector about the budget, developments perspectives, launching of new programs, employment, etc.

Further, the model used by universities shall be presented, however, data on specific quota and amounts are set by the Senate Committees of each university.

The basis of sources distribution within the university is the same method for cost calculation and allocation, called Full Costing and described above in section 3.3.4.

The main idea of the model for cost allocation as well as for income allocation, taken from the manual developed to facilitate calculations done by universities, is about the fact that the total expenditure incurred by a higher education institution must be incurred by costs carriers, representing the lowest level based on which all revenues and costs shall be identified and paid [13].

When all costs were identified by cost units, all costs can be distributed and full coverage of the costs can be monitored. In the model, the costs are divided, as mentioned, in direct or indirect costs for all cost units. Direct costs are those directly assigned to cost unit (cost carriers), while indirect costs are costs common to several or all costs carriers. Common costs that may arise at different organizational levels, are aggregated and distributed from level to level until they are eventually assigned to cost carriers. In a higher education institution three levels can be highlighted: at central level total institution costs are allocated, at faculty level – the costs incurred at this level and every faculty allocates common costs to particular departments. Finally, every department distributes common costs (including costs shared by different sections) as well as common central costs and the faculties costs for cost units.

First, direct costs are calculated. If the basic model is used as a criterion for allocating indirect costs, direct labour costs are used and after that the indirect costs of the department are calculated. If the university employs an alternative method of cost allocation, then operating costs are added to the labour costs and this amount serves as basis for calculating indirect costs at department level.

The distribution of costs within the other two levels can be based on the same (or another) calculation method. Step-by-step distribution of costs at the above level is done in the form of fixed amounts. The allocation can also be expressed as a percentage applied directly to the direct cost unit for cost carriers.

This model is based not only on costs distribution among different levels, but also between different activity areas. Each level costs must be analyzed and allocated for teaching or

research. The division between these activities shall be maintained at the subsequent levels as well.

We shall refer to the calculation and allocation of direct and indirect costs:

Direct costs can be traced directly from a specific cost carrier. The concept directly indicates which expenses have a direct relation with and a definite link to a particular cost carrier. More often, direct costs are divided into four basic groups:

1. Direct salaries: salaries, including salary-related taxes for those directly involved in the Project;
2. Direct operating costs: materials, conferences, reference travel materials, project consulting services;
3. Equipment directly related to the cost carrier /depreciation:amortization of project equipment;
4. Direct premises-based costs: offices and laboratory space for the project as well as part of auxiliary space, such as departmental corridors.

Direct costs are usually cut directly into accounts at the cost carrier. It is characteristic the fact that direct costs are either entirely attributed to the cost carrier (e.g. travel expenses, conference fees) or are assigned to the cost carrier through a certain proportion (e.g. salaries must be allocated proportionally based on certain timesheets or personnel programs).

Indirect costs are shared by all or many cost carriers. The *indirect* term indicates that these costs are indirectly related to the direct cost carrier, but, also clearly indicates that these costs are not the result of activities decided by cost carriers themselves.

Thus, the presented mechanism for allocation of financial resources is actually a mechanism of cost calculation at the source of occurrence and then of income distribution again until the lowest level. It is a relatively simple model but requiring at its beginning a clear separation of all concepts used and of the mechanism for calculating direct and indirect costs per every cost unit. If this is well done, the model is transparent and its use requires digital skills.

Government – university delimitation. Allocation of financial resources within the university is done by the university. Cost generation at each level needs to be taken into consideration. The government comes with general recommendations and the university solely decides on the effective use of money.

3.4. Denmark

3.4.1. Higher education financing model

During the last 10-15 years the Danish higher education financing model experienced various changes. The reform of the financing system was aimed primarily at decentralization from a

planned financing toward a global financing in the form of grants, with the state giving a higher priority to education programs and to the implementation of a quality control system.

The current financing model is based on the number of active students and those passing their exams, therefore institutional financing is output-oriented. In Denmark, funds allocated for education financing are separated from funds allocated to research. Thus, higher education institutions have separate budgets for education and research.

The Danish higher education sector is financed by the Ministry of Education (research financing is done by the Ministry of Research and Information Technology). The university is allocated a certain amount for every student successfully completing an exam. All these so-called "active students" determine the available budget. Within this system every exam is scored.

Universities are not "compensated" for students not passing the exams. Funds allocation based on passed exams varies by the field of study and has three components:

1. funds allocated for education and equipment expenses;
2. funds allocated for common expenses (e.g. administration, buildings);
3. funds allocated for practical work.

Research in Danish universities is financed by means of grants. In addition to this basic allocation institutions can compete for additional financing with projects submitted to the Danish Research Councils and Research Foundations. This is a dual financing system: based on both government grants and research contracts.

Basic grants for research are awarded to the institutions as a global amount.

An oftenly mentioned disadvantage of the Danish financing system is its unlimited character (at least for a short period). The more students pass the exams the more resources are needed by universities. It is not possible to determine in advance the exact number of active students and therefore, it is not possible to accurately forecast government allocations. The Ministry of Finance is particularly concerned with this issue. The Ministry of Education and the Ministry of Finance have reached an agreement regarding budgetary expenditure overrun.

In order to prevent future unpleasant surprises certain measures were taken. One of these measures is the establishment of a fixed maximum grant for certain forms of education for which it is difficult to estimate the number of active students.

The Ministry allocates grants to universities for teaching, research and dissemination activities as well as for other tasks assigned to the university.

Government – university delimitation. The government is responsible for the allocation of money for training of the required specialists. The university is responsible for the use of this money in a way that ensures performance. The government pays only for performance.

3.4.1.1. Education financing

Danish higher education receives funds from the Ministry of Education to provide free education (there were introduced tuition fees for foreign and non-European students as well as for some courses adapted to the education of adult people and to the needs of business sector) through the taximeter system that links direct funds with the number of students that pass examinations. The taximeter varies substantially between different fields of study and current rates are mainly historically-based. However, there is no direct link between subsidies and use. Due to the lump sum allocation and the autonomous character of institutions, universities are free to re-allocate received funds among education, research and common expenses.

An important feature is that universities do not receive allocations for students that are not passing exams. The rate paid for each passed exam, the "taximeter", varies substantially between different fields of study and has three components which include: education and equipment costs; common costs (e.g. administration, buildings) and practical training costs (applicable for some courses only). Current rates are primarily historically established. However, taximeter rates are adjusted annually in order to balance the budget of the Ministry of Education.

Quality assurance is an important issue arising in connection with this mechanism of universities financing. It is achieved by means of different methods. The Danish Evaluation Institute (EVA) conducts periodic evaluation of educational programs. A negative evaluation does not have direct financial consequences for the institution, but in principle the Minister of Education may interfere if the performance is not improved. Another moment that contribute to quality assurance is the lengthy external review system. The main tasks of external examiners are to ensure equal treatment of all students; to monitor quality standards at national level; to advise the institution on the quality of programs [25].

Government – university delimitation. The government, by means of its method for allocation of financial resources, stimulates performance and universities must ensure this performance through responsibility and quality.

3.4.1.2. Research financing

Denmark has a dual system of allocating resources for research. The first level are the basic grants allocated in accordance with the Finance Act by various ministries directly to institutions. The second level includes the allocation of resources from the National Research Council, strategic research programs, foundations, research and development funds of various ministries as well as private funds.

Basic research grants are allocated to institutions as a lump sum. The basic level of the grant is calculated to a great extent based on an increment. Basic grants are not intended for specific research purposes. Unlike other subsidies and sources of university income, basic grants are allocated for research as unspecified activities funds. The distribution of grants among universities is relatively permanent and based on historical issues. Budgets are

characterized by the fact that they take into account factors such as freedom of research, budgetary stability and historical traditions.

However, two aspects offer a rather different image of the static characteristics of basic research grants. First of all, the grant is affected by overall fluctuations of the framework conditions submitted by the Ministry of Science, Technology and Innovation, which include general requirements for the achievement of greater efficiency and assurance of savings in compliance with financial documents issued annually by the government.

Secondly, the new research grants are more and more distributed depending on certain models based on activity parameters. This means that there is a certain degree of redistribution of funds within the university and this part of the subsidy has a certain degree of dependence on the creation of appropriate incentives. Every year, 2% of the core funds of universities is kept to improve productivity. This share is returned to universities through the 45-20-25-10 model.

In addition to the restructuring fund a huge increase in research funds due to various political agreements occurred. Growing research financing to some extent has been distributed according to political priorities, i.e. for doctoral studies, especially in natural sciences, health sciences and technical sciences.

Prior to 2010, all new research funds were distributed according to the 50-40-10 model. According to this model universities were financed based on their education financing (50%), their ability to attract external research funds (40%) and their production of doctoral theses (10%). In the summer of 2009 it was decided to include the fourth parameter in this model. Starting with 2010 research publications were introduced in that model. However, it was also decided that there should be a recall period from 2010 to 2012 and a testing of the new model in 2012.

The above model provides:

45% of the mentioned fund is distributed depending on university education financing.

20% – according to external research financing, for example, research funds obtained by universities from Research Councils, from the European Union, etc.

25% – according to the publications resulting from university research (bibliometrics).

10% – according to the number of students completing doctoral thesis.

Government – university delimitation. In research, financial resources allocation mechanism is based on performance as well. The government monitors the assurance of performance and universities ensure performance.

3.4.2. Higher education financing mechanism

As mentioned above, the mechanism employed for university financing is based on the taximeter system. Taximeter management has been developed in accordance with a number of necessary considerations:

First, the intention was to establish a financial management system oriented, to a greater extent, toward results and incentives. With the taximeter system, the amount of the grant is therefore related to the direct results of the institution, measured in terms of the annual number of full-time equivalent students (FTE). Therefore, institutions also have an incentive to adjust their capacity in order to match demand and continually seek ways to save and become more efficient.

Secondly, the intention was to ensure that funds are transferred effectively from education programs which are experiencing activity decline to those recording growth, partly to support the free choice of free education and to provide institutions with allocation security through open enrollment or open access. This transfer happens "automatically" with no negotiation elements or administrative redistribution.

The basic principle is "money follows work" and creates incentives for a behavior easy to use.

The system applied in universities is based on three essential charges:

- The teaching taximeter, designed to cover direct teaching expenses, such as salaries, teaching equipment and materials;
- Construction and maintenance taximeter, which is a grant designated for capital costs, including building rental, interest and mortgage debt, and for expenses related to the maintenance of buildings;
- Collective spending taximeter, designed to cover the types of expenses that can not be properly related to individual educational programs, such as administration and management expenses, etc.

In order to stimulate performance so-called completion bonuses are used. These were introduced in 2009 and are conditioned by the study period of graduates. It is stimulated the reduction of study period from universities.

Cycle I, bachelor-bonus is awarded when students have graduated from this level within the fixed period plus one year, and cycle II, master-bonus is offered to students graduating within the fixed period. Recent data show that 16% of students are completing the Master program within the prescribed study period and the corresponding figure for bachelor programs is 35%. The intention is not to replace the commonly used taximeter system, but to use it as a supplement in order to add financial weight on performance obtained. It is expected in the future that around 10-12% of higher education financing shall be made based on completion bonuses [26].

For the cycle III, Ph.D. studies, the taximeter model is not used because an annual performance evaluation is not carried out. Therefore, all university graduates are considered active students, limited to a three year-period for each student.

The annual budget for teaching at institution "i" in year "t" is calculated by the following formula, which, for clarity reasons, does not take into account continuing training students:

$$T_{i,t} = A_{i,1,t} * (TT_{1,t} + TO_{1,t}) + A_{i,2,t} * (TT_{2,t} + TO_{2,t}) + \dots + A_{i,n,t} * (TT_{n,t} + TO_{n,t}) + PR_{i,1,t} * TP_{1,t} + \dots + PR_{i,k,t} * TP_{k,t} + PGE_{i,t} * (TTE_t + TOE_t) + PGN_{i,t} * (TTN_t + TON_t)$$

Where:

$T_{i,t}$ – teaching budget of institution "i" in year "t";

$A_{i,j,t}$ – number of active students at institution "i" enrolled in programs within the "j" (j = 1, ..., n) area in year "t";

$TT_{j,t}$ – teaching cost per active student in programs from area "j" (j = 1, ..., n) in year "t";

$TO_{j,t}$ – indirect costs per active student in programs from area "j" (j = 1, ..., n) in year "t";

$PR_{i,h,t}$ – number of active students performing practical training in area "h" (h = 1, ..., k);

$TP_{h,t}$ – cost of practical work required in area "h" in year "t";

$PGE_{i,t}$ – number of graduate students in laboratory-based (experimental) areas at institution "i" in year "t";

$PGN_{i,t}$ – number of graduate students in non-laboratory (non-experimental) areas at institution "i" in year "t";

TTE_t – teaching cost for post-graduate students at laboratory (particularly experimental) based disciplines in year "t";

TOE_t – indirect costs for postgraduate students at laboratory-based (experimental) disciplines in year "t";

TTN_t – cost of teaching for postgraduate studies graduates in non-laboratory areas in year "t";

TON_t – indirect costs for postgraduate students in non-laboratory areas in year "t" [27].

3.4.3. Methodology for allocation of budgetary funds to universities

The procedure for allocating financial resources to universities is the following. At university level there is calculated the number of equivalent (FTE) students from the previous year (n-1) and forecasts for the following year (n+1) are made. For every study program is done a calculation regarding how many credit points were accumulated by students depending on the exams taken. It is a record keeping program (Excel). The information is sent to the Ministry specifying the number of FTE per areas of study.

The Ministry allocates resources depending on the FTE number and per student cost in the particular area for: teaching, basic research. For teaching it is fixed a per student amount for social and humanities sciences (history) students. For others - depending on the coefficient. There is also allocated an amount of money based on performance: for the number of diplomas obtained within the study period.

When the Ministry has additional sources these are divided approximately according to the following structure: 45% – depending on the number of students; 20% – research; 25% – publications; 10% – PhD students.

3.4.4. Calculation of per student training cost (price)

This is done according to Full Costing methodology. All expenses, both direct and indirect, related to the training of one student are calculated.

3.4.5. Private financing types and their monitoring

In addition to basic grants, universities obtain considerable revenue partially as grants from research councils, the European Union, private foundations and donations, etc., partially as operating revenue obtained in return for services rendered under market conditions. Both revenue groups are dependent on performance. The amount of these revenues is directly related to the ability of institutions to attract grants from external sources through competition with other research institutions and to sell services under market conditions. The level of external grants varies between different areas of research. In addition to these sources of external grants, financing can also be obtained from private funds, companies and organizations.

There are also mentioned revenues from tuition fees for MBA programs, for the second specialty, for non-EU citizens.

3.4.6. Capacity of universities to borrow money

Universities can borrow money without restrictions.

3.4.7. Degree of university freedom when establishing the amount of tuition fee

Danish universities do not charge tuition fees neither at bachelor nor master, nor doctoral level to domestic and European Union students. There are tuition fees for students applying to MBA or wishing to follow a second specialty.

However, there are certain legal provisions by which the university is required, when calculating the tuition fee, to take into consideration all expenses incurred by the university, both basic and overheads. The tuition fee, in accordance with subsection (2) of The Danish (Consolidation) Act on Universities (the University Act), must at least correspond to the costs incurred. So, one can conclude that there is freedom when setting tuition fees, but a rather relative one because universities must establish its amount no less than the actual cost of training for one student in this university. Also, it is mentioned that the Ministry may establish regulations regarding the calculation base.

Government – university delimitation. Universities are free to determine the amount of tuition fees. The government ensures that universities are establishing the fees in a way that provides the quality of education, therefore such regulation exists.

3.4.8. Year-to-year transfer of unused funds

Surplus financial resources can be kept without restrictions. The balance is transferred to the next year. The cumulative result of income-generating activities cannot be negative for four consecutive years.

Government – university delimitation. The government does not interfere with the balances of financial resources from universities as long as the quality of education is not affected.

3.4.9. Freedom of universities to own buildings

In Denmark, higher education institutions are theoretically capable to own (and sell) their buildings. Universities are eager to acquire ownership rights in order to attract capital and increase flexibility. However, conditions under which buildings could be purchased are unpredictable and adverse. Most buildings are therefore still owned by the state. Universities usually have the right to own only buildings that were received as donations or were acquired through merger with an entity that owns the building. There are some exceptions, such as Copenhagen Business School and the Technical University of Denmark that own all their buildings.

University rents are regulated under a system that aims to create conditions similar to free market conditions with regard to the use of buildings.

The state owns the buildings of the universities and these pay the same rent as the free market rent. Universities can decide how many buildings they need and thus regulate their expenses according to other purposes. In reality, there are some problems when establishing a rental market price, for example, for special purpose buildings and very old buildings. Renting costs are paid from funds for the main purpose, namely, from education funds.

Government – university delimitation. In general, the state owns the buildings in which universities operate, although, theoretically it is possible that universities become owners of property.

3.4.10. Tuition fee policy with regard to foreigners

Tuition fees for non-EU students at bachelor and master cycles are established by universities and by an external authority, which cooperate in determining tuition fees.

There are no fees at doctoral level studies.

3.4.11. Scholarships and other financial support means for students

All Danes from the age of 18 are entitled to public support for continuing learning, regardless of social position, but with a reduction of the subsidy depending on income. Danish Agency

for Universities and Internationalization sets financing limits for every university with regard to scholarships and grants. Universities are free to decide on funds within the scope of this framework.

Education in Danish universities is free for Danish and all European Union students as well as for students participating in exchange programs. But also, the state offers them support in terms of covering living costs under a wide variety of courses and studies. Support to cover students' living costs is provided by the State Educational Grant and Loan (Dutch acronym: SU), a system managed by the Danish Agency for Higher Education in collaboration with education institutions and under the auspices of the Danish Ministry of Higher Education and Science.

Every student enrolled in a higher education course is entitled to a number of monthly scholarships corresponding to the established period of study chosen, plus 12 months. Within a maximum of 70 scholarships, students may change from one course to another.

All students living with their parents are supported with a grant smaller than the grant for students living separately. Students under 20 years of age enrolled in a youth education program are considered as living with their parents, whether it is so or not, and may apply for an exemption from the rule.

Students accepting support in the year when their private income is higher than a minimum provided allowance have to return part of grants and loans received in that year, plus 7%. However, they can refuse support for an extended period of time.

Higher education students (under a time limit) have the possibility either to use these grants later or to continue their education (for example, to prepare for a repeated exam after failing the first time) or, under certain conditions to obtain double subsidies for a period of time at the end of their studies. In particular situations - especially in cases of sickness and birth - students may apply for additional monthly grants. New mothers are eligible to claim 12 and new fathers 6 additional monthly grants subject to certain provisions. In general, rules imposed on education support allow the system to be flexible.

Students have the possibility to organize their education according to personal preferences and income opportunities. At the same time, they have full personal responsibility for managing their own finances. Also, students may benefit from additional loans from the state (ratio: 2/3 – subsidies, 1/3 – credit). The interest rate on these loans is established by the Parliament [29].

Students must begin to reimburse state loans no later than one year after the end of their graduation year or after the end of year in which they have given up their studies. The maximum reimbursement period for this loan is 15 years. About half of all students make use of state loans.

Danish students can also receive support for studying abroad when accepted to an education program within a Danish institution. These studies must meet equal recognition conditions as in Denmark. Furthermore, training acquired must be usable in Denmark.

In Northern countries, educational support is provided for the established period of education chosen, plus 12 months. For studies in other foreign countries, students are accepted to four-year education or to the last four years when the education period is longer.

Usually, foreign students enrolled at Danish universities are not eligible to receive educational support. Exceptions are made based on specific conditions for refugees and their relatives as well as for other foreigners that have lived and worked for a long time in Denmark. As for EU citizens, they are entitled to receive support.

Universities may also grant partial or full scholarships to some foreign students. These scholarships may be awarded either as a full grant or a partial subsidy, or no grant at all. In Denmark, the grant is intended to cover student's living costs while studying at the university (The Danish (Consolidation) Act on Universities (the University Act)).

3.4.12. Allocation of financial resources within the university

Many Danish university apply the financing principle at country level and within the internal allocation of funds. Internal application of the financing principle assumes less funds allocated to a department with low student performance (e.g. more students not passing their exams) will be fewer.

Allocation of financial resources within the university is carried out through a mechanism similar to per university distribution and could be described as follows. Regardless of their source of origin and money-bringing units, all money are collected at university level and the same allocation methodology applies. The decision is taken by the Board which is guided by the principle "money follows work".

First, it is considered the number of FTE students, i.e. those that passed the exams at each faculty. As basis are taken the social sciences students, for others a Ministry-approved coefficient depending on the complexity of education is applied. At university level, for administrative expenses there are retained 10% of all amount. 4,8% is retained for library needs and for its maintenance (actually, the library submits an exact plan of activities and for these money is given according to the rate mentioned). The remaining money goes to faculties. Faculties distribute the money among departments.

The faculty develops a specific budget providing also 8.3% allocated for faculty needs. Around 17% are amounts required for building maintenance.

An example of department-level budget is given below:

REVENUE:

I. Teaching work:

- Teaching activities (FTE-based according to the taximeter principle);
- Revenue depending on the number of graduates (performance). Is a bonus by which the Ministry stimulates completion of education within the established period;

- Tuition fees paid for MBA or for second diploma education.

II. Research activity:

- Revenue from core financing;
- Depending on the number of publications;
- External funds;
- Direct external financing (from the Research Council as a result of competition).

III. Doctorate:

- Depending on the number of enrolled students;
- Depending on the number of degrees obtained.

IV. Payment-based services:

- Consulting services for companies;
- Other.

EXPENDITURE:

I. Salaries:

- For teaching;
- For administrative work.

II. Building expenses (depending on surface)

III. Degree programs and courses (per student allocation negotiated at dean and course level)

IV. Department administration:

- salaries for service personnel (secretary);
- delegations, conferences;
- IT;
- representation expenses (coffee, ...).

V. Various taxes:

- 10% university;
- 4,8% library;

- 8,3% faculty.

VI. *Teaching from other faculties.*

Government – university delimitation. Allocation of financial resources within the university is decided by the university. It is guided by the principle "money follows work" at every level. The government comes with general recommendations and only the university decides over the most effective allocation.

3.5. Romania

3.5.1. Higher education financing model

Since 1999, Romania adopted overall financing of the universities, which brought their financial autonomy and connection to the international system. Overall financing of higher education institutions is carried out by the Ministry of Education and Research (now the Ministry of National Education) with the support of the National Council for Higher Education (CNFIS). Overall financing involves raising the degree of decision making on the amounts allocated from the state budget for every higher education institution as well as increasing the financial autonomy, both regarding the use of budget allocations and of own revenues in accordance with the objectives set by the institutional strategic plan and with the revenues and expenses budget.

Under this system of universities financing the Ministry does not have the right to allocate budget items already, thus allowing universities their financial autonomy. Such a system of overall financing involves the shift from inputs financing to outputs financing.

Public financing of state higher education institutions is carried out from the budget of the Ministry of Education and has three main directions: [30]

- *core financing*, covering major teaching-related expenses and being allocated through multiannual education grants following priority education areas that provide sustainable and competitive development of the society;
- *complementary financing*, covering several aspects related to the teaching process: accommodation and food subsidies, funds for equipment, investments and capital repairs, and funds for scientific research;
- *supplementary financing*, offered to stimulate the excellence of institutions and education programs both within state and private universities.

The financing methodology is provided by the Ministry of National Education, mainly employing methodological proposals developed by CNFIS based on statistical studies and simulations conducted by the Higher Education Financing Service (FIS) within the Executive Unit for Financing Higher Education, Research, Development and Innovation (UEFISCDI).

3.5.1.1. Education financing

This is performed through core financing.

Core financing refers to:

1. personnel costs (CP): salaries for teachers, auxiliary teachers, researchers involved in carrying out educational programs, bonuses, CAS, other legal contributions, domestic and international travels;
2. material expenses (CM): maintenance and infrastructure expenses, functional character materials and services expenses, research-related expenses concerning study programs, inventory, current repairs, books and publications, personnel training, protocol, work safety, etc.;
3. expenditure supporting human resource education and development projects;
4. expenditure directed by higher education institutions to conduct a specific study program.

Before performing core financing a number of preceding steps are made:

- at central level;
- at national level;
- at university (internal) level.

STAGE I: Central Level

- By proposal of the Romanian Agency for Quality Assurance in Higher Education (ARACIS), the Ministry of National Education (MEN) approves the number of students depending on:
 - Field of study;
 - Education cycle;
 - Teaching language.
- By proposal of the National Council for Higher Education Financing (CNFIS), MEN approves the list of priority areas:
 - MEN adjusts a proportion of the number of students per field, cycle and teaching language according to priority areas.
- By proposal of CNFIS, MEN determines the number of equivalent students taking into account the approved number of students:
- The number of equivalent students is established per field of study, cycle and teaching language taking into consideration:

- **Equivalence coefficients** for each cycle, form of study and teaching language;
- Cost **relative coefficients** for the field of study.
- Based on standards proposed by CNFIS and considering equivalence coefficients universities propose an **average cost per equivalent student**.
- This proposal **also substantiates the amount tuition fees** set by the university.
- The average cost per equivalent student:
 - For the field of study;
 - For the education cycle;
 - For the teaching language;
- The **amount of grant per equivalent student** is set taken into consideration equivalence and cost coefficients.

STAGE II

- Evaluation and prioritization of educational programs is done.
- 3-type university classification is done:
 - universities focused on education;
 - universities focused on education and research;
 - universities based on advanced research and education.
- Universities financing shall be carried out depending on these classifications and priorities.

STAGE III

- At the university level.
 - A university can decide on the use of MEN allocated grants for bachelor and master programs.
 - These can be allocated **entirely** in order to cover students training costs or **partially** depending on criteria established by the university.

3.5.1.2. Research financing

University research financing is conducted in two ways:

1. Partially, certain elements are included in core financing through: expenses with research personnel involved in carrying out educational programs, national and international travel expenses, educational programs-related research expenses;

2. According to Government Ordinance on scientific research and technological development, no. 57/2002, approved with amendments and supplements by Law no. 324/2003, with further amendments and supplements, and according to specific research and development legislation.

The following sources of financing for research carried out by institutions within the national research system are mentioned:

- a) state budget funds;
- b) funds raised from businesses;
- c) funds from international programs and/or cooperation;
- d) other funds established by law.

State budget financing of research and development is carried out on a competitive basis for priority programs and projects. There is developed a project evaluation mechanism.

3.5.2. Higher education financing mechanism

Additional financing is provided from public funds by the Ministry of National Education to stimulate the excellence of institutions and study programs, both at state and private universities. Additional funding is granted at national level as a sum of at least 30% of the amount allocated to national state universities as core financing, based on criteria and quality standards set by the National Council for Higher Education Financing and approved by the Ministry of National Education.

The Ministry of National Education provides basic financing of state universities through study grants calculated using the average cost per equivalent student, per field of study, per education cycle and per teaching language. Study grants are mainly allocated to fields that ensure sustainable and competitive development of society, and within the field, based on priority, to the best-positioned programs in terms of quality hierarchy, the number of grants allocated to an educational program varying by program location within this hierarchy.

Core financing is a multi-annual process provided for the whole duration of an education cycle. Complementary financing is carried out by the Ministry of Education, Research, Youth and Sports by means of: (LNE)

- a) accommodation and food subsidies;
- b) funds allocated on the basis of priorities and specific norms for equipment as well as for other investment costs and capital repairs;
- c) funds allocated on competitive basis for university scientific research.

State higher education institutions financing is done based on a contract concluded between the Ministry of National Education and the relevant higher education institution, as follows:

- a) core financing institutional agreement regarding scholarships and students' social protection fund, institutional development fund as well as investment objectives financing;
- b) complementary agreement regarding financing of capital repairs, equipment and other investment costs as well as accommodation and food subsidies;
- c) institutional and complementary contracts are subject to regular control conducted by the Ministry of National Education and CNFIS.

Scholarships and students' social protection funds are allocated depending on the number of full-time students paying no tuition fees. Master and doctoral programs in science and advanced technology, taught in internationally spoken languages, as well as doctoral studies in partnership with prestigious foreign universities benefit from preferential financing allocated at the proposal of CNFIS.

3.5.3. Methodology for allocation of budgetary funds to universities

Effective distribution of budgetary allocations to universities is done by MEN, based on contracts concluded with higher education institutions. Consolidation and validation of support information, development of electronic applications and their use for the calculation as such as well as relevant paperwork regarding proposals on annual and monthly allocations of budget funds to higher education institutions is carried out by FIS Service of UEFISCDI under the guidance of CNFIS.

The methodology for allocation of budget funds to core and additional financing based on the excellence of state higher education institutions from Romania undergoes changes from one year to another. For 2013, [35], there were provided specific details. One could mention here that the amounts approved for excellence-based core and additional financing coming from the budget of the Ministry of National Education are outlined separately in institutional contracts with higher education institutions. The contract specifies: the number of students (unit equivalent) financed from the state budget, education cycles and the number of financed doctoral grants. Institutional contracts providing budgetary funds allocation are subject to regular control conducted by the Ministry of National Education and the National Council for Higher Education (CNFIS).

The contract provides both core financing (shown above) and supplementary financing intended to encourage excellence in higher education institutions. Allocation of funds for additional financing envisages prioritization of education programs for the excellence-based component as well as other criteria relating to:

- a) preferential financing of master and doctoral programs in science and advanced technology, of programs taught in internationally spoken languages as well as of joint doctoral studies;
- b) institutional capacity building and increase of managerial efficiency;
- c) an active role of higher education institutions at local and regional level.

The amounts allocated to every university as core financing for students enrolled by the university based on their number for a bachelor degree program, master's or doctorate, shall be allocated proportionally *to the number of unit equivalent students in relation to the actual number of students*. The number of unit equivalent students at the university is determined by weighting the actual number of students with the equivalence and cost coefficients.

The methodology referred to contains some exceptions. Thus, for PhD students enrolled for the 2011/2012 academic year, based on the approved number of students financing is carried out through established-amount doctoral grants.

Further, a step-by-step calculation of university allocations shall be presented, as it was made in 2013 according to the mentioned methodology.

I. *Grants financing fund* is distributed among universities for PhD students enrolled in the 2011/2012 academic year, by aggregating the value of grant-assigned distributed amounts:

$$F_{GD}^U = \sum_{d=1}^D (VGD_{d,I} \times GD_{d,I}^U + VGD_{d,II} \times GD_{d,II}^U)$$

where:

- $VGD_{d,I}$ and $VGD_{d,II}$ are grant values which do not include the doctoral scholarship for study years I and II, corresponding to prioritization area d;
- $GD_{d,I}$ and $GD_{d,II}$ is the number of doctoral grants for study years I and II financing the university U in programs assigned to prioritization area d;
- D is the total number of financed prioritization areas.

II. *Core financing* budget allocations for state universities according to education cycles (bachelor, master, doctoral years III and IV) are determined based on the following procedure:

1. Funds allocated for core financing (FB) in 2013, related to education cycles (bachelor, master, doctoral years III and IV) are determined:

a) from the amount allocated in the national budget for institutional financing of universities the following are deducted: the amount allocated to finance specific situations that cannot be integrated into the financing formula, and the amount allocated to finance doctoral grants for PhD students enrolled for the 2011/2012 academic year;

b) from the remaining amount it is calculated the amount of funds corresponding to the proportion indicated in Annex 2 to the document mentioned for FB.

2. The number of unit equivalent students at every university and every education cycle (bachelor, master, doctoral years III and IV) is determined. The procedure occurs in two stages.

a) During the first stage, for every university U and education cycle r, the number of equivalent students $SE_{r,d}^U$ in the prioritization area d is determined:

$$SE_{r,d}^U = \sum_{fr=1}^{Fr} e_{fr} \times S_{fr,d}^U$$

where:

- $S_{fr,d}^U$ is the real number of students in the prioritization area d, at the form of education fr, associated with education cycle r, enrolled at university U, in relation to a fixed reference date (October 1, 2012 for preliminary distribution and January 1, 2013 for final distribution);
- e_{fr} is the equivalence coefficient corresponding to the form of education fr (all coefficients are given in the Annex of the mentioned document);
- fr is the total number of forms of education financed by the state budget, associated with the education cycle from Romanian universities r (a listing is contained in the document).

b) During the second stage, for every university U and every education cycle r there is determined the number of unit equivalent students SEU_r^U :

$$SEU_r^U = \sum_{d=1}^D c_d \times SE_{r,d}^U$$

where:

- c_d is the cost coefficient corresponding to prioritization area d (all coefficients are given in the annex to the mentioned document);
- D is the total number of financed prioritization areas (contained in the document).

3. The total number of unit equivalent students SEU is determined:

$$SEU = \sum_{U=1}^u \sum_r SEU_r^U$$

where u – is the total number of state universities financed from the budget of the Ministry of National Education.

4. The allocation per unit equivalent student fb_s is determined:

$$fb_s = \frac{FB}{SEU}$$

where:

- FB is the amount of core financing allocation;

- SEU represents the total number of unit equivalent students.
5. For every university U and education cycle r the amount of funds for core financing FB_r^U is calculated by multiplying the allocation fb_s to the number of unit equivalent students enrolled at the university in educational programs associated with the cycle r:

$$FB_r^U = fb_s \times SEU_r^U$$

where:

- SEU_r^U represents the total number of unit equivalent students at university U;
 - fb_s is the amount corresponding to the allocation per one unit equivalent student.
6. Core financing FB^U allocated to every university U is determined:

$$FB^U = \sum_r FB_r^U$$

III. State universities budget allocations for *excellence-based additional financing* are determined according to the following procedure:

1. At the first stage there is determined:
 - a) the amount of total budgetary allocations for excellence-based additional financing;
 - b) the amount of budget allocations for excellence-based additional financing for each prioritization area d;
 - c) the amount of budget allocations for excellence-based additional financing for each education cycle r (bachelor, master, doctoral years III and IV) from each prioritization area d.

In this respect:

(i) From the amount remaining after deduction of funds for doctoral grants, from the amount allocated by the national budget for institutional financing, there is calculated the amount of funds corresponding to the proportion established in Annex 2 to the mentioned document for FSE.

(ii) There are determined FSE_d funds allocated for excellence-based additional financing FSE 2013 for each prioritization area as follows:

- There is determined the number of unit equivalent students SEU_d^U in prioritization area d (except PhD students enrolled for 2011/2012 academic year and students at special education forms mentioned in the document):

$$SEU_d' = \sum_{U=1}^u SEU_d^U$$

where SEU_d^U is the number of unit equivalent students at university U in area d, determined after eliminating the mentioned categories.

- Total funds FSE_d are determined taking into consideration the share of unit equivalent students from prioritization area d in the total FSE amount:

$$FSE_d = \frac{SEU_d'}{\sum_{d=1}^D SEU_d'} \times FSE$$

(iii) Similar to the procedure which determines FSE_d , the amount allocated for excellence-based additional financing on $FSE_{r,d}$ for prioritization area d and education cycle r is determined, considering into FSE_d amount the share of unit equivalent students from prioritization area d enrolled in educational programs associated with the cycle r:

$$FSE_{r,d} = \frac{SEU_{r,d}'}{SEU_d'} \times FSE_d$$

2. In the second stage there is determined the amount of budgetary allocations per unit equivalent student weighted by excellence index for each prioritization area and education cycle:

(i) The number of unit equivalent students $SEUP_{r,d}^U$ weighted by excellence index within prioritization area d and education cycle r at university U is determined:

$$SEUP_{r,d}^U = k_r \times SEU_{r,d}^U$$

where k_r is an excellence index that depends on the class in which educational programs offered by university U in areas and education cycle r (bachelor, master, doctoral study years II and III) are prioritized. The value of k_r indices is given in the document.

(ii) The number of unit equivalent students $SEUP_{r,d}$ weighted by excellence index in the prioritization area d and education cycle r is determined:

$$SEUP_{r,d} = \sum_{U=1}^u SEUP_{r,d}^U$$

where $SEUP_{r,d}^U$ is the number of weighted unit equivalent students from university U in the prioritization area d and education cycle r (except doctoral students enrolled for the 2011/2012 academic year and students at special education forms mentioned in the document).

(iii) From FSE there is determined the amount of budget allocations $a_{fse,r,d}$ per equivalent student weighted by excellence index for prioritization area d and education cycle r:

$$a_{fse,r,d} = \frac{FSE_{r,d}}{SEUP_{r,d}}$$

where:

- $SEUP_{r,d}$ is the total weighted number of unit equivalent students from prioritization area d and education cycle r;

- $FSE_{r,d}$ represents the excellence-based additional financing corresponding to prioritization area d and education cycle r.

3. At the third stage there is determined the amount of budget allocations for excellence-based additional financing for every university, for every education cycle r and as a total value:

(i) There is determined for every university U the amount of excellence-based additional allocation for prioritization area d and education cycle r:

$$FSE_{r,d}^U = a_{fse,r,d} \times SEUP_{r,d}^U$$

where:

- $SEUP_{r,d}^U$ is the number of weighted unit equivalent students of university U within prioritization area d and education cycle r;

- $a_{fse,r,d}$ is the amount from FSE of the budgetary allocation per equivalent student weighted by excellence index corresponding to prioritization area d and education cycle r.

3.5.4. Calculation of per student training cost (price)

It was mentioned above that core financing is carried out taking into account the number of equivalent students. This leads to per equivalent student cost. This financing indicator, known as budgetary allocation per equivalent student, was and still is an "apple of discord" between the Ministry of National Education and universities, being considered the result of an unreal justification, and hence arises the conclusion, almost universally supported, that it does not reflect the actual cost and as a result the Romanian higher education is underfinanced.

The methodology employed by universities for calculating the equivalent student training cost shall be present according to sources [36, 37].

Both methodologies are practically identical and assume that the cost per equivalent student per year, C_{SE} can be calculated by the equation:

$$C_{SE} = A + B + C + D,$$

where:

A is the cost of education per equivalent student/year;

B – the cost of services and support materials per equivalent student/year;

C – own resources development costs;

D – own resources for student facilities costs (scholarships, transport, material aid, etc.).

The cost of education per equivalent student/year, A:

$$A = (FS_T) / N_{SE}$$

where:

FS_T – the total cost of teachers' and auxiliary teachers salaries/year;

N_{SE} – the number of equivalent students calculated according to CNFIS methodology (National Council for Higher Education Financing).

$$FS_T = FS + CS_1 + D_1$$

where FS_T is the cost of teachers' and auxiliary teachers salaries/year;

CS_1 – social contributions (CAS, unemployment, etc.);

D_1 – cost of human resources upgrading (according to human resources improvement plan)/year.

$$FS = FS_{pd} + FS_{pda} + RS_{pd} + RS_{pda}$$

where FS_{pd} is the cost of teachers salaries/year;

$$FS_{pd} = 12 \sum_{i=1}^5 N_{pcdi} \times S_{cdimed/L}$$

where N_{pcdi} is the position number of teachers with teaching degree $i = 1 \div 5$ (1-preparatory teacher, 2-assistant, 3-lecturer, 4-associate lecturer, 5-professor);

$S_{cdimed/L}$ – the average salary of teacher with teaching degree i /month;

FS_{pda} – auxiliary teachers salary costs/year:

$$FS_{pda} = 12 \times N_{pda} \times S_{pdaimed/L}$$

where:

N_{pda} – the total number of auxiliary teachers;

$S_{pdaimed/L}$ – the average salary of auxiliary teachers/month;

RS_{pd} – safety financial resource taking into account occupation of higher teaching degree positions during the year, teachers rankings regarding seniority, etc.;

$$RS_{pd} = 0,3 \times FS_{pd}$$

RS_{pda} – safety financial resource taking into account occupation of new positions during the year, overtime teaching hours, salary raises, per diems for travel within the country and abroad, etc.;

$$RS_{pda} = 0,3 \times FS_{pda}$$

Specifying the above, there is obtained:

$$FS_T = 1,3 \times 1,293 \left(12 \sum_{i=1}^5 N_{pcdi} \times S_{cdimed/L} + 12 \times N_{pda} \times S_{pda_{med/L}} \right) + D_1$$

The cost of services and support materials per equivalent student/year, B, is calculated as:

$$B = \frac{FS_{pAdT} + C_{mc} + C_{ST}}{N_{SE}}$$

where:

FS_{pAdT} – the cost of administrative personnel salaries, total/year:

$$FS_{pAdT} = FS_{pAd} + RS_{pAd} + CS_2 + D_2$$

where:

FS_{pAd} – is the cost of administrative personnel salaries/year;

$$FS_{pAd} = 12 \times N_{pAd} \times S_{pda_{med/L}}$$

where:

N_{pAd} – the number of administrative personnel;

$S_{pda_{med/L}}$ – monthly average salary of administrative personnel;

RS_{pAd} – safety financial resource taking account occupation of new posts during the year, overtime teaching hours, salary raises, per diems for travel within the country and abroad, etc.;

$$FS_{pAd} = 0,3 \times FS_{pAd}$$

CS_2 – social contributions (CAS, unemployment, etc.);

D_2 – cost of human resources upgrading (according to human resources improvement plan)/year;

C_{me} – materials and energy costs/year:

$$C_{me} = C_1 + C_2 + C_3 + C_4 + C_5 + C_6 + C_7 + C_8$$

Where:

C_1 – heating cost/year;

C_2 – electricity cost/year;

C_3 – cleaning materials cost/year;

C_4 – office supplies (paper, toner, etc.) cost/year;

C_5 – cost of materials needed for laboratory work/year;

C_6 – incidental repairs cost/year;

C_7 – books, periodical papers, database access costs/year;

C_8 – transport means, spare parts, fuels, lubricants costs/year;

C_{ST} – support-service cost/year:

$$C_{ST} = C_{S1} + C_{S2} + C_{S2} + C_{S3} + C_{S4} + C_{S5} + C_{S6} + C_{S7} + C_{S8} + C_{S10} + C_{S11} + C_{S12}$$

Where:

C_{S1} – water supply, sewerage costs/year;

C_{S2} – waste collection cost/year;

C_{S3} – mail, telephone, fax, radio, TV services costs/year;

C_{S4} – guarding and security services costs/year;

C_{S5} – equipment maintenance cost/year;

C_{S6} – teaching base maintenance cost/year;

C_{S7} – institutional representative costs/year;

C_{S8} – delegations (accommodation, transport) costs/year;

C_{S9} – scientific, cultural, sports events costs/year;

C_{S10} – advertising and publicity costs/year;

C_{S11} – internet and intranet communications services, website maintenance costs/year;

C_{S12} – education facilities and other education means rental costs/year;

Own-resources institutional development expenses/year:

$$C = \min 5\%(A+B)$$

Own-resources student facilities expenses (scholarships, support materials, transport, etc.)/year:

$$D = \min(1\%, A+B)$$

The procedure for calculating per equivalent student cost/year at the university shall take into account the NES from the university, and in order to calculate per equivalent student cost/year at the faculty the NES at the respective faculty shall be taken into account.

3.5.5. Private financing types and their monitoring

State higher education institutions operate as institutions financed by means of funds allocated from the state budget, extra-budgetary funds and from other sources, according to the law. In addition to the amounts allocated by the Ministry, universities can benefit from other financing sources, such as: investment objectives funds, competition-based funds allocated for institutional development, competition-based funds allocated for inclusion, scholarships and students' social protection, as well as from own revenues, interest, donations, sponsorships and fees legally received from Romanian or foreign natural and legal persons, and also from other sources. These revenues are used by higher education institutions under university autonomy conditions in order to achieve their respective goals assigned according to the state policy in the field of university education and scientific research.

3.5.6. Capacity of universities to borrow money

The Law on National Education provides that state financing of higher education can be performed on a contract basis also through the assistance of other ministries for those higher education institutions that train specialists based on the needs of respective ministries, as well as by means of other sources, including loans and external aid.

3.5.7. Degree of university freedom when establishing the amount of tuition fee

Under the above law, higher education institutions have autonomy in determining the amount of tuition fees. Their value is determined by university senates. The value of tuition fee is based on the cost of training for an equivalent student, calculated by the university.

3.5.8. Year-to-year transfer of unused funds

Funds remaining at the end of the year after budget execution in accordance with institutional and complementary contract, as well as funds related to university scientific research and extra-budgetary revenues remain available to universities and are included in the income and expenditure budget of the institution, with no payments to the state budget and without affecting next year's state budget allocations (LNE, Art.225).

3.5.9. Freedom of universities to own buildings

Public or private universities own their assets, managing them by law. State universities may own movable and immovable assets within the public or private domain of the state. Subjective rights of the universities over public sector assets, under the law, can be administration, use, concession or renting rights.

By government decision, public domain assets can be converted into private property of the state and transmitted to state universities in accordance with the law. State universities have proprietary rights on their owned assets. Ownership over real estate and other real rights of state universities are subject to real estate public procedure stipulated by special legislation.

The law also provides that in case of public university dissolution, its assets remaining after the liquidation procedure are passing into state private ownership.

3.5.10. Tuition fee policy with regard to foreigners

Romanian Government Ordinance no. 22 of August 29, 2009 sets the minimum amount of tuition fees, in currency, for people studying on their own account in Romania as citizens of non-European Union countries as well as from non-European Economic Area countries and non-members of Swiss Confederation. University senates may establish the final amount of these fees, but not lower than the amount set in that ordinance.

3.5.11. Scholarships and other financial support means for students

Students benefit from performance- or merit scholarships in order to stimulate excellence and also from social scholarships financially supporting low-income students. The minimum amount of social scholarships is proposed annually by CNFIS taking into account that these must cover minimum food and accommodation expenses. Also, universities can supplement their scholarship fund through extra-budgetary income. It is important to mention that the number of students receiving scholarships is very small compared to the number of real students.

Scholarship values are determined by every higher education institution individually. They are designed to cover accommodation and food costs. The university establishes the number of scholarships from the total amount of higher education-financed expenditure. Funds are released annually by the Ministry. There is no possibility for state guaranteed loans or family allowances, and parents receive no tax benefits at all.

3.5.12. Allocation of financial resources within the university

Allocation of financial resources inside Romanian universities is decentralized. Financial resources cover the costs of university structures and services, utility payments and provide a maintenance and development fund for a university. The amount corresponding to each category is proposed by the Administrative Board and approved by the Senate at the beginning of every academic year. After allocating money for payment of utilities, services and ensuring maintenance and development funds, the funds from core financing and from tuition fees are distributed within the university according to allocation structure of funds.

Every department of the university manages its allocated funds based on legal regulations in terms of a positive financial balance. The entire responsibility lies with the head of the department. Budgetary funds provide differentiated salaries for teachers and auxiliary teachers, as well as support materials necessary for the organization, administration and carrying out of the educational process. Funds provided by complementary and

supplementary financing are allocated to university structures for which they were directly assigned.

Financial resources obtained through self-financing are used by their creating entities (faculties, departments, scientific research /artistic creation /sports performance centers) except for a specified share, determined by the Senate, collected for the development of the university according to the law and own regulations.

3.6. Conclusions

The analysis performed within this report has allowed to observe financial autonomy of universities characteristic to every country studied. The degree of freedom that every university presented within various analyzed aspects differ from one country to another, while the responsibility for effective management of financial resources, both from the state budget and from own sources, is the same and is a great one.

4. Comparative studies

Based on the above material the information reflecting the situation in the area of financial autonomy of universities from 5 countries - Lithuania, Scotland, Sweden, Denmark and Romania, was summarized according to certain criteria considered basic and presented at the beginning of the report. Summarized information is presented in Table 2 and forms the core of comparative analysis for these countries according to criteria taken into consideration.

Table 2. Comparative analysis of financial autonomy by criteria

No.	Lithuania	Scotland	Sweden	Denmark	Romania
1.	Education financing model				
	Global subsidy, with specified items of expenditure	Annual <i>global financing</i>	<i>Block grant</i>	<i>Overall financing in the form of grants</i>	<i>Global financing</i>
1.1.	Education financing				
	Through the voucher system, implying a certain amount of money that goes by student and depends on the field of study, the type and level of education	Carried out by SFC by using certain calculation formulas based on FTE	Through a contract negotiated between the Ministry and University	Through taximeter system	Carried out through core financing
1.2.	Research financing				
	<i>Dual system</i>	<i>Dual system</i>	<i>Dual system</i>	<i>Dual system</i>	<i>Dual system</i>
2.	Higher education financing mechanisms				
	Financing by three main directions	By SFC in 3 basic areas	Based on financing formula taking into consideration 40% real students and 60% FTE students	Based on taximeter system	Through core financing
3.	Methodology for allocation of budgetary funds to universities				
	The money follows students	Depending on allocations from previous years and on the existing state-level budget	Largely depending on allocations from previous years and on existing state-level budget	Outputs-based system	Based on contracts concluded between the university and MNE

4.	Calculation of per student training cost				
	Based on education normative price	Based on TRAC methodology	Based on Full Costing methodology	Based on Full Costing methodology	Methodology based on calculation formulas
5.	Private financing types and their monitoring				
	Established by the legislation. Monitoring done according to strategic decisions of the university	Well defined Monitoring done according to strategic decisions of the university			
6.	Freedom of universities to borrow money from national and international financial markets				
	Limited possibility to borrow money	Universities can borrow money from banks only by justification and by SFC consent	Limited possibility	Universities can borrow money with no restrictions	Universities can borrow money under legal terms
7.	Degree of university freedom when establishing the amount of tuition fee				
	The tuition fee is established by the university	The university determines the amount of tuition fee	Tuition fees are established by the university, but must cover all direct and indirect costs	The university is free to set the tuition fee, but provided that its amount shall not be smaller than actual incurred costs	University Senate approves the amount of tuition fee, which should not be lower than the unit cost per student
8.	Year-to-year transfer of unused funds				
	Balances remaining at the end of year from budget sources are returned to the state budget. Balances from own resources are kept by the university and can	SFC-allocated money remaining at the end of year are reimbursed. Own money, earned through income other than state financing, remain at the university	Unused funds, regardless of their sourcing remain at the university and can be transferred from one year to another	Surplus financial resources can be kept without restrictions. The balance is transferred to the next year. The cumulative result of income-generating activities cannot be negative during	Remain available to universities and are included in the income and expenditure budget of the institution, without any payments to the state budget and without

	be transferred to the next year			four consecutive years	affecting next year state budget allocations
9.	Capacity (freedom) of universities to own property				
	Property purchased with state money is state property, property purchased from own sources is university property	Property is managed by universities	Universities do not own property. It is rented from a state agency	Assets purchased from budgetary sources belong to the state, from own sources – to universities	Universities own their property
10.	Tuition fee policy with regard to foreigners				
	The policy for EU students is the same as for local students. For non-EU students the university establishes a tuition fee usually higher than the fee for Lithuanian students	EU students are under the same conditions with the Scottish students. The fee for non-EU and UK students is established by the university and is higher than the fee for local students	EU citizens are under the same conditions as local students. Tuition fees for other foreign nationals are established by universities. Usually, these exceed the actual per student training costs	Tuition fees for non-EU students at bachelor and master level are established by universities in collaboration with an external authority	University senates can establish the final amount of fees for foreigners, which should not be lower than the amount set by the Government Ordinance
11.	Scholarships and other financial support means for students				
	There are practiced performance- and social scholarships. Students can obtain state-assisted loans	Scholarships are allocated by an independent agency. There are available loans that must be reimbursed within a period of up to 15 years	Everyone can apply for student aid. There are grants and loans available to students up to the age of 54 years. These must be reimbursed in a 25-year period	Grants and loans that must be reimbursed during a period of 15 years are available to students	There are two kinds of scholarships: performance- and social. Money is allocated to the university which decides over the number and amounts of scholarships offered. Universities can also provide support from their extra-budgetary sources

12.	Allocation of financial resources within the university					
	Centralized, university administration	by	Decentralised	Decentralised	Decentralised	Decentralised

4.1. Higher education financing model

In all five analyzed countries higher education financing is carried out from two basic sources: public and private. What differs is the percentage ratio between these sources. State budget financing in the analyzed countries is based on different approaches: In Lithuania public funds are allocated based on *global grant*, divided between different categories of expenditure. However, the global grant must be spent according to budget categories approved by the financing or supervisory body, so the university does not have the freedom to decide which way to spend those amounts. In other countries (Scotland, Sweden, Denmark and Romania) financing takes the form of a *block grant* for two financing lines: teaching and research (in Sweden), or for 3 financing lines: in Denmark - funds allocated for educational and equipment expenses, funds allocated for common expenses (e.g. management, buildings), funds allocated for practical work; in Romania – core financing, complementary financing, supplementary financing.

4.1.1. Education financing

Although, as indicated above, there are different financing components, education expenditures are highlighted in all 5 countries. It differs from country to country the way how these amounts are calculated and allocated to universities. In Lithuania, the state covers education expenses only for students that managed to benefit from vouchers. Each voucher provides a certain amount of money that goes by student and depends on the field of study, the type and level of education. In Scotland, the Scottish Financing Council is in charge of education financing, calculating the amount required by every university according to a FTE-based formula. In Sweden, the education financing system is based on educational activities contract negotiated between the Ministry of Education and every university. This contract sets the objectives for a three-year period with the nearest year breakdown. Such contracts include: the minimal number of degrees awarded (bachelor, master); the total minimal number FTE students; the fields of study with increasing or decreasing number of students; other. In Denmark, the calculations are based on the so-called taximeter system linking direct funds to the number of students passing examinations. The taximeter vary substantially between different fields of study and current rates are mainly determined historically. In Romania, this is done through core financing which includes personnel costs, material costs, expenditures to support educational projects and the development of human resources, directed expenditures.

4.1.2. Research financing

Research financing in all 5 countries is based on the dual system, which means that one part of expenses is covered by the state and is included either into the voucher (Lithuania) or into core financing (Scotland, Romania, Denmark), and is supposed to cover certain operational and maintenance costs of the infrastructure needed for research. The second part is allocated on a competitive basis for projects by responsible bodies from each country.

4.2. Higher education financing mechanisms

In all five analyzed countries, higher education financing mechanism implies state allocation of sources, by means of various responsible bodies (e.g. SFC in Scotland and the Ministry of Education in other countries), through core financing for 3 directions: core financing sources, state budget funds assigned to education, state funds from investment programs and investments projects - in Lithuania; financing for teaching and learning, including extension, research funds, special funds - in Scotland. In Sweden, the calculation is based on a financing formula that takes into consideration 40% of real students and 60% FTE (based on performance).

In Denmark, the financing mechanism is based on the taximeter system. It is composed of three basic elements: teaching taximeter, construction and maintenance taximeter, collective expenditure taximeter. In Romania, core financing is employed, taking into account the number of unit equivalent students and per student cost. And, performance-based financing (around 30%) also exists.

4.3. Methodology for allocation of budgetary funds to universities

Each country has its own methodology for allocating financial resources to universities. It's only natural that some elements are common and others are specific to each country. Thus, in Lithuania, the allocation of budgetary resources is done according to the principle "money follows the student". State budget money, by means of vouchers go to universities selected by beneficiary students. In Scotland and Sweden allocation is carried out largely based on allocations from previous years and depending on the existing state-level budget. In Scotland, SFC annually concludes with every university a memorandum establishing the respective conditions. In Sweden, the amounts are planned for a 3-year period with yearly breakdown of these amounts. There is a calculation formula. Denmark employs an outputs-based system for allocation of financial resources. The Ministry allocates resources according to the FTE number and per student in the respective area for teaching and basic research. In Romania, resources are allocated to universities based on contracts concluded with MEN. It also exists an annually reviewed methodology, based on formulas.

4.4. Calculation of per student training cost

The five analyzed countries historically established their own methodologies for calculation of per student training cost (price). In Lithuania, the methodology is based on the calculation of per student cost (price) which represents total expenses related to the number of students financed from the state budget. It is carried out according to the Government Decision no. 402 of May 13, 2009. There is also a methodology for calculating the normative price. The price varies depending on the level of training (bachelor, master, doctorate), education form (full time, part time) and field of study.

In Scotland, the calculation of per student training cost is based on the so-called TRAC methodology. The processes underlying TRAC allow to take into account all costs of the institution, both direct and indirect, in order to be analyzed and attached to activities in a fair and reasonable manner. Cost calculation itself is not an end-purpose but an essential tool providing a more efficient management in the higher education sector. TRAC is a nationally

developed methodology based on activity cost allocation employing academic personnel time-allocation studies (not timesheets) as cost drivers for allocation of all expenses to relevant activities.

In Sweden and Denmark, calculation of cost per student is done based on Full Costing methodology that allows to take into consideration all costs, both direct and indirect, incurred by the institution to train a student. Once Full Costing calculations are performed within an institution, all costs are divided by the number of students taking into account the field of study and the education form. Thus, humanities education cost serves as a basis for calculation of per student cost and when financing programs involving advanced technology components a complexity-based coefficient is included. Also, the student following his full-time university studies is taken as a basis, part time students quantified by 0.75 (Sweden). In Romania there is a methodology based on calculation formulas taking into account all costs incurred by the university.

4.5. Private financing types and their monitoring

The universities from all five countries enjoy financing from private sources along with state budget financing. Both the share of private sources and their structure differ depending on the country. Virtually every country has legal provisions regarding private sources that may be attracted to higher education as well as procedures for their monitoring. Private sources are used depending on the strategy adopted by the university. Monitoring the use of resources is carried out by internal financial audits, but also by external financial audit through various supervision bodies specific to each country, which verify the use of financial resources by destination specified in university plans. Thus, the use of income from private sources is not particularly monitored and is used depending on the needs of the university according to the strategy adopted.

4.6. Freedom of universities to borrow money from national and international financial markets

Not all universities can borrow money from the financial market. Thus, in Lithuania, higher education institutions have the right to borrow money through loans, to sign credit and leasing (financial leasing) agreements within overall lending limits established by the Law on approval of financial indicators of state budget and municipal budgets for the respective year. In Scotland, universities may borrow money from banks based on arguments and with SFC consent only. In Sweden, universities can borrow money within the financial market only from the bank specified (designated) by the responsible authority. In Denmark, universities are allowed to borrow money from the financial market without restrictions. In Romania, the law allows universities to borrow money.

4.7. Degree of university freedom when establishing the amount of tuition fee

Universities from all five analyzed countries are free to determine the amount of tuition fees. Even in countries where there are no tuition fees for local and European Union (Scotland, Sweden, Denmark) students, universities establish the amount of fees for students from

outside the European Union as well as for other categories of students, such as MBA students, etc. The condition imposed in all these countries is that the fee should take into consideration all expenses and should not be lower than the actual per student training costs. In Lithuania, it was developed a mechanism providing that the tuition fee shall not be smaller than voucher amount.

4.8. Year-to-year transfer of unused funds

In Lithuania and Scotland, state budget money remaining at the end of the year must be returned to the state. Own resources balance shall be kept by the university and can be transferred to the next year. For universities from Sweden, Denmark and Romania, the unused funds, regardless of their sourcing remain at the university and can be transferred from year to year. In Denmark there is one condition: the cumulative result of income-generating activities cannot be negative for four consecutive years.

4.9. Capacity (freedom) of universities to own property

In this respect the situation varies for different countries. Thus, universities from Lithuania, Romania, Denmark can be owners of buildings purchased from their own sources. Buildings purchased from state budget money belong to the state. In Sweden, universities do not have ownership rights over buildings and are renting facilities from a state agency. In Scotland, the property is only managed by universities. **In these situations the behavior of universities in making investments in the development of the infrastructure is different. Thus, only universities in Romania and Lithuania are interested in making investments in real estate. In other countries, these services are outsourced and universities have no implications in the process.**

4.10. Tuition fee policy with regard to foreigners

In all five countries there is the same tuition fees policy both for local and European Union citizens. For students coming from countries outside the European Union the universities establish tuition fees by themselves. These fees are usually higher than fees for local students and higher than the actual training costs. In Romania, university senates may establish the final amount of fees for foreigners, which must be not lower than the amount set by the Government Ordinance.

4.11. Scholarships and other financial support means for students

In Lithuania and Romania, performance-based and social scholarships are granted to students by the university. In Lithuania, students can obtain state-assisted loans to cover their education costs, living expenses, partial studies in accordance with international agreements. In Scotland, scholarships are granted by an independent agency. In Scotland, Sweden and Denmark, students receive grants and loans under certain conditions. Thus, in Denmark and Scotland loans should be reimbursed during 15 years after graduation, and in Sweden - during 25 years.

The financial autonomy of universities offers the possibility to manage financial resources and contribute to creating working and study conditions for students and teachers. This allows the university to highlight itself compared to other universities, creating premises to ensure excellence and to emphasize itself in the academic competition.

4.12. Allocation of financial resources within the university

In Lithuania, the allocation of resources within the university is carried out centrally by the administration. In other countries (Scotland, Sweden, Denmark and Romania) it is decentralized. In Scotland, every department, every person has a special account. The faculty pays for hours worked at the faculty. In Sweden, the mechanism for allocation of financial resources calculates the costs at the source of occurrence and then distributes the income again until the lowest level. Many Danish universities apply the financing principle at country level and for internal allocation of funds. The principle is „money follows work”. In Romania, budget funds are allocated to faculties and departments depending on the number of students, annual average per student costs, achievement of quality indicators relevant to the educational process and on other criteria established by the Senate.

All these confirm the freedom of universities in deciding the directions for financial resources use. Of course, one of the basic principles remains the increased responsibility of universities for their entire performed activity, including the quality assurance of education.

Various (higher or lower) freedom of universities in obtaining and use of financial resources does not exempt universities of complying with the existing laws in each country. While respecting the laws, each university develops internal regulations which detail or reflect certain aspects of financial autonomy.

Conclusions: Financial autonomy is an important component of university autonomy. Each country has accepted its model that is most appropriate for the country. Different components of this model are in constant development, so universities (also the state entirely) are looking for some optimizations. However, we have highlighted some common elements that exist in the countries we have analysed.

At the same time, we have noticed the different degree of autonomy of universities, and also for each separate criterion. Each university, when taking decisions within the boundaries of financial autonomy, is subject to certain risks. In this case, the importance of collective decision, thorough analysis of the situation, and also the internal monitoring of the use of financial resources increases.

Obviously, we cannot take over a full model and implement it in Moldovan universities. It is necessary to consider the peculiarities existing in the country.

4.13. Conclusions

The comparative analysis carried out in this report allowed to draw the following conclusions:

1. Higher education institutions financing from public funds is the main source of income for universities in all five countries studied. Their share is the only thing that differs.
2. Higher education financing in general and higher education institutions in particular are increasingly employing "innovative allocation mechanisms", especially focused on performance-based measures and financing formulas.
3. In all analyzed countries global financing is used, largely including several main directions: teaching financing, research financing (only certain costs are included) and others. The definition itself varies from country to country, but the content is about the same.
4. Education financing is carried out based on different criteria: in Lithuania – on the number of real students (by means of vouchers); in Scotland – on the number of equivalent students. In Sweden, both the number of real students (about 40%) and performance identified through FTE students (about 60%) are taken into consideration. In Denmark, performance-based students are taken into consideration only. In Romania – on the number of equivalent students according to 70% and 30% ratio based on relative quality indicators.
5. Research financing in all countries is carried out by means of a dual system of financial resources allocation. There are different mechanisms employed.
6. Calculation of unit cost per student, although using different formulas and methodologies, in all analyzed countries is based on the calculation of all costs incurred by the university.
7. All universities, regardless of the share of state-obtained revenues, also have private financing sources. The legal framework differs from country to country, but sources are almost the same, and monitoring of these sources is reduced to their use according to the directions established in the strategic plans of universities.
8. In all five countries universities can borrow money from the financial market and only in some cases there are no restrictions (Denmark), in other cases (Scotland - SFC) approval is needed.
9. All universities have the right to establish the amount of tuition fees, but in most countries it is provided that these must not be lower than the actual per student training cost, and in Lithuania - not lower than the amount provided by the voucher.
10. Unused funds at the end of the year can be transferred to the next year regardless of their sourcing in Sweden, Denmark and Romania. In Lithuania and Scotland, state budget money remaining at the end of year should be returned. Own money remain at the university.
11. Support for students is different in the analyzed countries: in Lithuania and Romania students are granted performance-based and social scholarships, in Denmark and Sweden state subsidies are granted. In all countries except Romania loans are available to cover living or education expenses.

12. The allocation of resources inside the universities is carried out differently. Only in Lithuania there is a centralized mechanism, while in other countries – a decentralized one.

5. Final conclusions

The study demonstrated that the financial autonomy of universities is characteristic for all analyzed countries. What differs is the degree of freedom that universities have when solving certain problems. One can notice that an ideal model of financial autonomy, perfect for use in any country, cannot be identified. In every case it starts from specific traditions and historical evolution of universities. Also, it was found that universities use their financial resources with a high degree of responsibility.

Although in every country the legislation regulates the activity of universities, it was found out that there is a clear trend towards deregulation and greater autonomy of higher education institutions with regard to institutional policies and, in particular, management of institutional budgets.

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ANNEXES

Annex 1. Problems and questions identified for Lithuania

Problem formulation	Material consulted ¹	Unresolved question /issue	Suggested meetings
1. Financing methods in higher education.	Law on Higher Education and Research THE STATUTE OF MYKOLAS ROMERIS UNIVERSITY	The mathematical formula according to which budget allocation is done. Do universities have a financing formula, if yes what is it? What is the importance of this formula in comparison with other mechanisms for public funds allocation, does it vary from university to university? The advantages and limits of these models, seen by their users or beneficiaries. Calculation of per student cost. What are the elements included in the calculation of per student cost? Are the fees reflecting the real expenses of an institution? How often are they reviewed? Monitoring mechanisms regarding the use of public funds by universities. Freedom of universities. Do private higher education institutions have access to public funds?	Step 1. Regulations based on the methodology calculating the information of interest to us. Step 2. Discussions on the matter with competent persons from the University or from the Ministry.
2. The methodology for allocation of budgetary financing resources for the universities.		Is research and development financed? By what mechanism? What are the regulations for the use of private funds? Are economic agents stimulated for sponsoring universities? Are foreign funds accepted?	

¹ In this column provide just citation (e.g., von Prondzynski (2012)), but in the end note provide full reference with the link; if the link is too long, use <http://goo.gl/> to shorten the links; the link in end note ii coincides with the place where the documents are – so it is ok to use the link as it is – however, in most cases you need to provide exact link to the download of the document (using <http://goo.gl/> to display the link)

<p>3. Private financing forms and monitoring.</p> <p>4. The capacity of universities to borrow money.</p> <p>5. How large is the autonomy of higher education institutions in terms of tuition fees paid by students? Who establishes the amount of tuition fee?</p> <p>6. Can higher education institutions transfer their unused funds from one year to another?</p>		<p>What are the forms and terms? Are specific conditions for their use stipulated? How are they monitored?</p> <p>What other forms of private financing are allowed by authorities?</p> <p>Do students have access to scholarships? Are the scholarships offered for all years of study or are they depending on the results obtained during each year?</p> <p>By what methods can private scholarships be obtained?</p> <p>What other fees, except tuition fees, do students pay? Are they identical for all students or are they subject to any differentiation criteria?</p> <p>Is the right to education ensured for each student, taking into consideration financial aspects and different financing possibilities for education of students' families?</p> <p>Are there any facilities for socially vulnerable students (low incomes, disabilities)? What about those achieving high performance?</p> <p>By what methods can private scholarships be obtained?</p> <p>Are scholarships offered during all years of study or are they depending on the results obtained during each year?</p> <p>Do foreign students have the</p>	
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		same rights as local students from the financial point of view (access to scholarships, private scholarships, facilities, the amount of tuition fee, etc.)? If there are any differences, are there any criteria?	
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Annex 2. Problems and questions identified for Scotland

#	Problem formulation	Material consulted ²	Unresolved question /issue	Suggested meetings
1	<p>What financing methods are employed in higher education?</p> <p>Monitoring mechanisms regarding the use of public funds by universities. Freedom of universities.</p> <p>Do universities employ a financing formula, if yes what is it? What is the importance of this formula in comparison with other mechanisms for public funds allocation, does it vary from country to country? The advantages and limits of these models, seen by their users or beneficiaries.</p> <p>What are the elements included in the calculation of per student cost?</p> <p>Is research and development financed? By what mechanism?</p> <p>How large is the autonomy of higher education institutions in terms of tuition fees paid by students? Who establishes the amount of tuition fee?</p> <p>Do private higher education institutions have access to public funds too?</p> <p>What elements are included in the tuition fees? Are the fees reflecting the real expenses of</p>	<p>The Scottish Code of Good HE Governance³</p> <p>Neil Kemp, William Lawton. A STRATEGIC ANALYSIS OF THE SCOTTISH HIGHER EDUCATION SECTOR'S DISTINCTIVE ASSETS</p> <p>A study commissioned by British Council Scotland, April 2013⁴</p>	<p>The methodology for allocation of budgetary resources for the financing of universities.</p> <p>The mathematical formula according to which budget allocation is done.</p> <p>Calculation of per student cost.</p> <p>Private financing forms and monitoring.</p> <p>Private universities receive state support.</p> <p>By what methods can private scholarships be obtained?</p> <p>Are scholarships offered for all years of study or are they depending on the results obtained during each year?</p>	<p>Step 1. Regulations based on the methodology calculating the information of interest to us.</p> <p>Step 2. Discussions on the matter with competent persons from the University or the Ministry.</p>

² In this column provide just citation (e.g., von Prondzynski (2012)), but in the end note provide full reference with the link; if the link is too long, use <http://goo.gl/> to shorten the links; the link in end note ii coincides with the place where the documents are – so it is ok to use the link as it is – however, in most cases you need to provide exact link to the download of the document (using <http://goo.gl/> to display the link)

³ <http://www.scottishuniversitygovernance.ac.uk/>

⁴ <http://www.britishcouncil.org/scotland-report-a-strategic-analysis-of-the-scottish-higher-education-sectors-distinctive-assets.pdf>

<p>an institution? How often are they reviewed? Are there any facilities for socially vulnerable students (low incomes, disabilities)? What about those achieving high performance?</p> <p>The capacity of universities to borrow money.</p> <p>What are other forms of private financing allowed by authorities?</p> <p>What are the regulations for the use of private funds?</p> <p>Are economic agents stimulated for sponsoring universities?</p> <p>Is the right to education ensured for each student, taking into consideration financial aspects and different financing possibilities for education of students' families?</p> <p>By what methods can private scholarships be obtained?</p> <p>Are scholarships offered during all years of education or are they depending on the results obtained during each year?</p> <p>What other fees, except tuition fees, do students pay? Are they identical for all students or are they subject to any differentiation criteria?</p> <p>Can higher education institutions transfer unused funds from one year to another?</p> <p>Are foreign funds accepted? What are the forms and terms? Are specific conditions for their use stipulated? How are they monitored?</p>			
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	Do foreign students have the same rights as local students, from the financial point of view (access to scholarships, private scholarships, facilities, the amount of tuition fee, etc.)? If there are any differences, are there any criteria?			
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Annex 3. Problems and questions identified for Sweden

#	Problem formulation	Material consulted ⁵	Unresolved question /issue	Suggested meetings
1	<p>1. Higher education financing methods.</p> <p>2. The methodology for allocation of budgetary financing resources for the universities.</p>	<p>Ordinance on application fees and tuition fees at higher education institutions⁶</p> <p>Ordinance on scholarships for students required to pay tuition fees⁷</p> <p>Scholarships and grants to students at first and second levels</p> <p>Internal Regulations (KTH) 13/2008⁸</p> <p>Scholarships for students in doctoral studies (third cycle) and at post doc level at KTH⁹</p>	<p>The mathematical formula according to which budget allocation is done.</p> <p>What is the importance of this formula in comparison with other mechanisms for public financing allocation, does it vary from university to university? The advantages and limits of these models, seen by their users or beneficiaries.</p> <p>Calculation of per student cost. What are the elements included in the calculation of per student cost?</p> <p>Are the fees reflecting the real expenses of an institution? How often are they reviewed? Monitoring mechanisms regarding the use of public funds by universities. Freedom of universities.</p> <p>Do private higher education institutions have access to public funds?</p> <p>Is research and development financed? By what the mechanism?</p> <p>What are the regulations for the use of private funds? Are</p>	<p>Step 1. Regulations based on the methodology calculating the information of interests to us.</p> <p>Step 2. Discussions on the matter with competent persons from the University.</p>

⁵ In this column provide just citation (e.g., von Prondzynski (2012), but in the end note provide full reference with the link; if the link is too long, use <http://goo.gl/> to shorten the links; the link in end note ii coincides with the place where the documents are – so it is ok to use the link as it is – however, in most cases you need to provide exact link to the download of the document (using <http://goo.gl/> to display the link)

⁶ <http://www.uhr.se/sv/Information-in-English/Laws-and-regulations/Ordinance-on-application-fees-and-tuition-fees-at-higher-education-institutions/>

⁷ <http://www.uhr.se/sv/Information-in-English/Laws-and-regulations/Ordinance-on-scholarships-for-students-required-to-pay-tuition-fees/>

⁸ ^{iv} <http://intra.kth.se/en/regelverk/ekonomi/stipendiegivning/stipendier-och-bidrag-till-studerande-pa-grundniva-och-avancerad-niva-1.27287>

⁹ <http://intra.kth.se/en/regelverk/ekonomi/stipendiegivning/stipendier-till-studerande-pa-forskarniva-och-postdoktorer-vid-kth-1.70626>

	<p>3. Private financing forms and monitoring.</p> <p>4. The capacity of universities to borrow money.</p> <p>5. How large is the autonomy of higher education institutions in terms of tuition fees paid by students? Who establishes the amount of tuition fee?</p> <p>6. Can higher education institutions transfer their unused funds from one year to another?</p> <p>7. The capacity of universities to own buildings.</p>		<p>economic agents stimulated for sponsoring universities?</p> <p>Are foreign funds accepted? What are the forms and terms? Are specific conditions for their use stipulated? How are they monitored?</p> <p>What other forms of private financing are allowed by authorities?</p> <p>Do students have access to scholarships? Are scholarships offered during all years of study or are they depending on the results obtained during each year?</p> <p>By what methods can private scholarships be obtained?</p> <p>If local and European students do not pay tuition fees, do they pay other fees?</p> <p>Is the right to education ensured for each student, taking into consideration financial aspects and different financing possibilities for education of students' families?</p> <p>Are there any facilities for socially vulnerable students (low incomes, disabilities)? What about those achieving high performance?</p> <p>By what methods can private scholarships be obtained?</p> <p>The degree of university freedom regarding the management of property.</p>	
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Annex 4. Problems and questions identified for Denmark

#	Problem formulation	Material consulted ¹⁰	Unresolved question /issue	Suggested meetings
1	<p>1. Higher education financing methods.</p> <p>2. The methodology for allocation of budgetary financing resources for the universities.</p>	<p>The Danish (Consolidation) Act on Universities (the University Act)¹¹</p> <p>Ministerial Order on the Funding and Audit etc. of Universities¹²</p> <p>Ministerial Order on Scholarships with Grants to Cover Living Costs incurred by Certain Foreign Students at Universities¹³</p> <p>Funding programmes for research and innovation¹⁴</p> <p>Autonomy and control: Danish university reform in the context of modern governance. SUSAN WRIGHT AND JAKOB WILLIAMS</p>	<p>The mathematical formula according to which budget allocation is done. Do universities have a financing formula, if yes what is it? What is the importance of this formula in comparison with other mechanisms for public financing allocation, does it vary from university to university? The advantages and limits of these models, seen by their users or beneficiaries.</p> <p>Calculation of per student cost. What are the elements included in the calculation of per student cost?</p> <p>Do private higher education institutions have access to public funds?</p> <p>Is research and development financed? By what mechanism?</p> <p>What are the regulations for the use of private funds? Are economic agents stimulated for sponsoring universities?</p> <p>Are foreign funds accepted? What are the forms and terms? Are specific conditions</p>	<p>Step 1. Regulations based on the methodology calculating the information of interest to us.</p> <p>Step 2. Discussions on the matter with competent persons from the University or from the Ministry.</p>

¹⁰ In this column provide just citation (e.g., von Prondzynski (2012), but in the end note provide full reference with the link; if the link is too long, use <http://goo.gl/> to shorten the links; the link in end note ii coincides with the place where the documents are – so it is ok to use the link as it is – however, in most cases you need to provide exact link to the download of the document (using <http://goo.gl/> to display the link)

¹¹ <http://www.science.ku.dk/english/research/phd/student/filer/UniversityAct.pdf/>

¹² <http://fivu.dk/en/legislation/prevaling-laws-and-regulations/education/ministerial-order-on-funding-and-audit.pdf>

¹³ <http://fivu.dk/en/legislation/prevaling-laws-and-regulations/education/the-scholarship-and-grant-order.pdf>

¹⁴ <http://fivu.dk/en/research-and-innovation/funding-programmes-for-research-and-innovation/find-danish-funding-programmes>

	<p>3. Private financing forms and monitoring</p> <p>4. The capacity of universities to borrow money</p> <p>5. How large is the autonomy of higher education institutions in terms of tuition fees paid by students? Who establishes the amount of tuition fee?</p> <p>6. Can higher education institutions transfer their unused funds from one year to another?</p>	<p>ORBERG¹⁵</p>	<p>for their use stipulated? How are they monitored?</p> <p>What other forms of private financing are allowed by authorities?</p> <p>Do students have access to scholarships? Are scholarships offered during all years of study or are they depending on the results obtained during each year? By what methods can private scholarships be obtained?</p> <p>What other fees, except tuition fees, do students pay? Are they identical for all students or are they subject to any differentiation criteria? Is the right to education ensured for each student, taking into consideration financial aspects and different financing possibilities for education of students' families? Are there any facilities for socially vulnerable students (low incomes, disabilities)? What about those achieving high performance? By what methods can private scholarships be obtained? Are the scholarships offered during all years of study or are they depending on the results obtained during each year? Do foreign students have the same rights as local students,</p>	
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¹⁵ http://forskpul-arkiv.pbworks.com/changes/f/Autonomy_and_Control-LATISS.pdf

	<p>7. The capacity of universities to own buildings.</p>		<p>from the financial point of view (access to scholarships, private scholarships, facilities, the amount of tuition fee, etc.)? If there are any differences, are there any criteria?</p> <p>The degree of university freedom regarding the management of property</p>	
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Annex 5. Data reporting and data analysis for Lithuania

Short description of the meeting: 23/01/2014, the Ministry of Education, Head of Economic Department

Problem /question formulation	Findings	Comments
Higher education financing methods.	<p>The following sources of financing for public universities are provided¹⁶:</p> <p>1. Core financing sources from the state budget for public higher education and research institutions; allocated for three areas: research (about 50% of the expenditure item), general and administrative expenses, other expenses (dormitories).</p> <p>State budget funds for research, experimental development (social, cultural) and expansion of artistic activities are allocated to public education and research institutions according to government-established procedure depending on evaluation results of research (artistic) activities from public education and research institutions.</p> <p>2. State budget funds assigned for education according to the procedure provided by law for higher education and research institutes; called education price fixed as voucher's amount, including: both teachers' and administrative personnel salaries with respective breakdowns, education services, performance scholarship.</p> <p>State budget sources for education are also allocated for other needs:</p> <ul style="list-style-type: none"> - coverage of tuition fees for budget-financed students; - compensation, as provided by Article 71 of the Law, for the tuition fees of students achieving best results in their studies that are not being financed by the state; - financing of special purpose studies; - state loans or state-guaranteed loans; - social grants and other kinds of support. 	<p><i>The financing method of education from the state budget is interesting. Although education allocations are not directly related to university performance, indirectly this is taken into consideration by the fact that the student holding the voucher selects the university where state money shall go.</i></p>

¹⁶ According to the Law no. XI-242 on higher education and research of April 30, 2009 (Chapter VII)

	<p>3. State funds from investment programs and investment projects for public higher education and research institutions; money directed to investment. Projects developed are submitted to MEC. These are analyzed and money is allocated to the winning projects.</p> <p>4. Income received as payment for education as well as income received from economic activities, research and services.</p> <p>5. Funds received based on competition from research financing programs.</p> <p>6. Resources allocated by foreign and international funds as well as by organizations.</p> <p>7. Resources obtained as sponsorship under the law of charity and sponsorship.</p> <p>8. Other legally received funds.</p>	
<p>The methodology for allocation of budgetary financing resources for the universities.</p>	<p>Allocation of financial resources among state universities (private universities not receiving state allocations) is carried out according to the above directions. It can be additionally mentioned here how the allocation of financial resources for education occurs (state budget sources for education). The principle is "money follows students". Only for cycle I at state-level there is allocated a number of budget places for certain education programs (specialties). Admission is carried out by an independent agency. Once all places are covered (depending on high-school graduation average mark) students select the university where this program exists and where they want to study (the image of the university counts). Budget money, by means of the voucher, go where students want to study.</p> <p>The number of state-financed places for cycle II or doctoral students is determined by the government every year depending on areas of education, taking into account national economic, social and cultural development needs as well as financial possibilities of the state. Student places are distributed among universities by the Ministry of Education and Science based on their research (artistic)</p>	<p><i>It is necessary to understand from the document in Lithuanian language how to calculate per student cost – the calculation formula.</i></p>

	activities. The Ministry of Education and Science distributes places for higher education and research institutions to doctoral students depending on research (artistic) results and PhD studies.	
Private financing forms and monitoring.	There is a wide variety of possible sources for private financing (other than tuition fees) for higher education institutions. Yet, they are not using all these sources, because not all sources are available at the moment (donations /bequests, rentals /property income, use of research results /research contract). Private sources are used depending on the strategy adopted by the university. Monitoring of the use of resources is carried out through internal financial audits as well as external financial audit by the Court of Auditors, which supervises the use of financial resources according to the destination set by university plans.	<i>It is appropriate to perform own resources monitoring through both internal and external audit according to university decisions, i.e. according to destinations determined by the university.</i>
The capacity of universities to borrow money.	Higher education institutions have the right to borrow money, to sign credit and leasing (financial leasing) agreements within overall lending limits established by the Law approving financial indicators of the state budget and municipal budgets for that year. The Ministry of Education and Science distributes this borrowing limit among state higher education institutions. Higher education institutions take this into consideration and act in accordance with the established procedure. A state higher education institution can put in pledge no more than 20 percent of its material assets managed in accordance with the property right.	<i>This is an interesting practice. I suppose there is a possibility for its use in Moldova. There could also be identified the needs for loans.</i>
How large is the autonomy of higher education institutions in terms of tuition fees paid by students? Who establishes the amount of tuition fee?	Tuition fees are established by the university. Usually, the amount of tuition fee coincides with the per student cost calculated at government level and paid for through the voucher system. If the university establishes a fee lower than the sum calculated as voucher's amount, then the university also receives that amount from the state. If the amount of fee is higher than that of the voucher, the state pays the cost	<i>The situation in the Republic of Moldova has shown a total chaos in this regard, so the method used in Lithuania seems logical. On the one hand, universities are free to establish any tuition fees at will, and on the other hand the conditions for the allocation of resources through the voucher limit the</i>

	calculated according to the voucher.	<i>promotion of populist actions.</i>
Can higher education institutions transfer their unused funds from one year to another?	Balances remaining at the end of year from budget sources are returned to the state budget. Own resources balances shall be kept by the university and can be transferred to the next year. The possibility to keep unspent funds and to transfer them from one year to another is an important aspect of financial autonomy enjoyed by higher education institutions. This flexibility facilitates the establishment of medium or long term institutional strategies and allows financing of projects over several years, even creating the possibility to make investments in order to increase income.	<i>Good practice.</i>
The capacity of universities to own buildings.	Buildings purchased from state money belong to universities based on management and renting right. Those purchased from own money – are owned by universities.	<i>In our opinion this makes sense.</i>
Tuition fees policy with regard to foreigners.	EU citizens can participate in the competition for admission under the same conditions as Lithuanian nationals. For non-EU students the university establishes a tuition fee, usually higher than the fee for students from Lithuania.	
Student scholarships.	There are two types of scholarships: performance-based and social scholarships. Performance scholarships are established by the university while social scholarships are uniform and are established by the state.	<i>In our opinion, the establishment of performance scholarship by the university within the available fund is correct and might be introduced in the Republic of Moldova.</i>
Allocation of financial resources within the university.	At university discretion. Usually centralized, by university administration.	<i>For now, we consider that this practice should remain in the Republic of Moldova.</i>

¹According to the Law no. XI-242 on higher education and research of April 30, 2009 (Chapter VII)

Annex 6. Data reporting and data analysis for Scotland

Short description of the meeting: 06/02/2014, the Scottish Funding Council

Problem /question formulation	Findings	Comments
Higher education financing mechanisms.	<p>In Scotland, higher education institutions are financed directly by the Scottish Funding Council (SFC), a non-departmental public body of the Scottish Government. The only exception is the Scottish Agricultural College which is currently financed by the Scottish Government Department of Agriculture.</p> <p>SFC provides funds to support direct and indirect costs related to teaching and partially to support research in terms of equipment maintenance. These funds include academic, administrative, technical, support and facilities, accommodation, equipment and materials costs.</p> <p>Financing is allocated based on a transparent formula, taking into account the number of students from an institution and the price group allocated to a particular program. This is a basic price and not a cost-based system.</p> <p>Although SFC allocates funds by means of core financing formulas for research and teaching, a number of activities cannot be financed in this way and are supported instead by special funds (such as, for example, investments). All special financing methods are tested to reduce the burden of institutions responsibility and are normally introduced only after relevant consultations.</p>	<p><i>It is interesting to observe the Ministry released of executing small stuff or less characteristic to Ministry's work, focusing instead on setting strategies and policies. Creation of a Financing Fund would be a good idea for the Republic of Moldova as well. Currently, when solving some financial stuff coordination with the financial unit of the ME and with the Ministry of Finance is necessary. Sometimes this is hard and lengthy. The mechanism of grant financing, covering strictly the essentials and competitive-based research would stimulate universities to make more effort, but mainly to try hard to be more competitive. Obviously, in the end everything depends on state available resources.</i></p>
The methodology for allocation of budgetary financing resources for the universities.	<p>Distribution by universities is done largely based on allocations from previous years and according to the existing state-level budget. Also, for certain directions, such as health, dentistry, pedagogy, depending on state needs for training of a certain number of specialists a certain amount of money is</p>	<p><i>Conclusion of the agreement (memorandum) of good governance and accountability in the use of state funds in compliance with its provisions by both parties is a good idea for RM.</i></p>

	<p>allocated. Besides, SFC also analyzes directions for the use of these funds. Depending on previous years' results the amounts may be increased or decreased.</p> <p>SFC allocates for research an insignificant amount just for equipment maintenance. The main allocations in this direction are provided by the Research Council of Great Britain depending on performance achieved, i.e. on competitive basis, using a calculation formula. The Council is divided into seven research departments that finance specific research projects in a wide range of academic areas.</p> <p>SFC provides just over a third of funds for investment in teaching and research facilities by means of specific grants. The rest is financed through commercial loans, bonds and other borrowings, other income.</p> <p>SFC concludes a Memorandum agreement with every university. This financial memorandum establishes the expectations of the institution as well as requirements that are a condition set by the Council. The basic requirement of the financial memorandum is that governing bodies should ensure and effectively implement the system of good governance, leadership and management of the institution under its regulations.</p>	
<p>Private financing forms and monitoring.</p>	<ul style="list-style-type: none"> • equipment and trusts income aimed at raising money for the institution, particularly through graduates; • Donations; • Sponsorship of positions (especially for professors' positions, often in areas of immediate interest of the affiliated company and, sometimes, for a fixed term); • interest earned on cash and investments; 	<p><i>It is appropriate to perform own resources monitoring through both internal and external audit depending on the decisions taken by the university, i.e. according to destinations established by the university and not by the state.</i></p>

	<ul style="list-style-type: none"> • revenues from research results or inventions that have commercial application; • teaching contracts for specific customers (education, continuing professional development, initial teacher training); • revenues from tuition fees for short-term courses; • income from student tuition fees (non-EU, cycle II); • rent payments; <p>Income from private sources is not specifically monitored and used depending on the needs of the university according to the adopted strategy.</p>	
The capacity of universities to borrow money.	Universities can borrow money from banks only based on explanation to SFC and with the consent of the latter.	<i>We believe that this a practice deserving to be studied further.</i>
How large is the autonomy of higher education institutions in terms of tuition fees paid by students? Who establishes the amount of tuition fee?	<p>Tuition fees, usually for cycle II master students, are established by the university.</p> <p>Tuition fees for cycle I, bachelor, for students from other parts of the United Kingdom and from countries outside the European Union are established by the university. Usually, the fees paid by students from other parts of UK are at the level of local universities.</p>	<i>Establishment of tuition fees should be done exclusively by universities. The Ministry (or the Funding Council, if any) can monitor this and interfere when necessary.</i>
Can higher education institutions transfer unused funds from one year to another?	The money allocated by SFC, remaining at the end of year are returned. Own money remain at the university.	<i>Good practice.</i>
The capacity of universities to own buildings.	The property is managed by universities. They can sell buildings, but SFC permission is required if the construction was carried out with state money. Money can be used either for investment or returned to SFC.	<i>We think this makes sense.</i>
Tuition fees policy with regard to foreigners.	The tuition fee is established by the university. It is usually higher than for students from UK by 65%.	
Student	Student scholarships are offered by an	<i>Outsourcing of student dormitories</i>

scholarships.	<p>independent agency. Management of dormitories as a service is also outsourced by the university.</p> <p>Students can borrow money from a specialized agency both for payment of their tuition fees and living expenses. Money is refunded, after graduates are employed and achieve a certain level of salary, for a period of up to 15 years.</p>	<p><i>maintenance services would release a lot of time for academics and save a lot of trouble. Perhaps, in this case dormitories would become more comfortable.</i></p>
Allocation of financial resources within the university.	<p>Is decentralized at the university. Every department, every person has a special account. The faculty pays for hours worked at the faculty.</p>	<p><i>Decentralized allocation of financial resources within the university is a good practice. The responsibility for each person's use or resources increases. Currently, we cannot see how this could be implemented in Moldova.</i></p>

Annex 7. Data reporting and data analysis for Sweden

#	Problem /question formulation	Findings	Comments
1	<p>1. Higher education financing mechanisms.</p> <p>2. The methodology for allocation of budgetary financing resources for the universities.</p>	<p>Swedish higher education institutions are given 85% of necessary funds from the state budget in the form of grant. The budget money is allocated to every university through a separate financing line. In its turn, funds for every university are coming through two lines of financing: for teaching and for research.</p> <p>The amounts allocated for teaching (about 95% of the university budget) include the amounts required both for teaching and for other expenses necessary for this activity, including amounts necessary to pay the rent of facilities.</p> <p>Research amounts (about 55% of the needs) are assigned to cover research personnel costs. In addition to research funds allocated from the state budget, the remaining 45% are allocated by the Research Council through its 6 commissions to projects based on competition. The university can also benefit from contractual sources based on different organizations and businesses.</p> <p>Funds are provided as a lump sum.</p> <p>http://www.menntamalaraduneyti.is/media/MRN-pdf_Annad/radstfjarmModelsofFinancingHigher.pdf</p> <p>The allocation of funds to universities takes place through a budget proposal made by the government and accepted by the Parliament.</p> <p>Distribution among universities is carried out largely based on allocations from previous years and depending on the existing state-level budget. Amounts are planned for a 3-year period, with a yearly breakdown.</p> <p>Largely, the number of students is not taken into consideration. The amount allocated by the Ministry is used by the university according to its policies. However, every year the university prepares a report to the Ministry, justifying the expenses. In this respect, the number of equivalent students (with 60 credit points) is taken into consideration and relates to the field of study.</p> <p>Exactly the same thing occurs at budget development level. It is calculated based on equivalent students.</p> <p>Financial autonomy is achieved allocating funds per student. As a basis of per student cost serves humanities education cost and a complexity coefficient is included, when financing programs using advanced technology components.</p>	

<p>3. Private financing forms and monitoring.</p> <p>4. The capacity of universities to</p>	<p>The following equation is used to calculate the allocation of financial resources by the Ministry:</p> $T_{i,t} = (S_{i,1,t} * T_{s1,t} + C_{i,1,t} / 60 * TC_{1,t}) + (S_{i,2,t} * T_{s2,t} + C_{i,2,t} / 60 * TC_{2,t}) + \dots + (S_{i,6,t} * T_{s6,t} + C_{i,6,t} / 60 * TC_{6,t})$ <p>Where:</p> <p>$T_{i,t}$ – the budget for teaching at institution i in year t</p> <p>$S_{i,1,t}$ – the number of real students at university i in area j (there are 6 areas: 1. humanities, theology, law, social sciences; 2. Engineering, pharmacology, health; 3. Dentistry; 4. Medicine; 5. Educational Sciences; 6. Other)</p> <p>T_{s1} – per full time student cost for every area j</p> <p>C_{i1} – the number of credits accumulated in every area j during the year</p> <p>$TC_{1, t}$ – performance year tariff.</p> <p>These tariffs are set at ministerial level for every year and for every area and it only remains to multiply and sum up.</p> <p>On average, 60% are allocated for the number of students and 40% for performance, i.e. for FTE.</p> <p>That is, the price per one student breaks down into two components operated with: HST - about 60% and HPR - about 40%. These values are established by the Ministry every year for every area.</p> <p>There is also a simplified formula:</p> $T_{i,t} = \text{number of real students at December 31} * HST + \text{number of FTE students at December 31} * HPR$ <p>Universities may have additional income from certain private sources, such as:</p> <ul style="list-style-type: none"> • <i>Income from contract research activities;</i> • Donations; • interest earned on cash and investments; • teaching contracts for specific customers (education, continuing professional development, initial teacher training); • income from fees for short-term courses; • income from tuition fees (non-UE students). <p>The use of income from private sources is not specifically monitored and it is spent depending on the needs of the university in accordance with the strategy adopted.</p> <p>The university can borrow money from the financial market, including Banks.</p>	
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	<p>borrow money.</p> <p>5. How large is the autonomy of higher education institutions in terms of tuition fees paid by students? Who establishes the amount of tuition fee?</p> <p>6. Can higher education institutions transfer unused funds from one year to another?</p> <p>7. The capacity of universities to own buildings.</p> <p>8. Tuition fees policy with regard to foreigners.</p> <p>9. Scholarships and other support facilities for students.</p> <p>10. Allocation of financial resources within the university.</p>	<p>Cycle I, bachelor and cycle II, master education, is free of charge for Swedish and European Union students.</p> <p>Tuition fees for students from outside the European Union are established by the university. Usually the fees are established at the level of actual existing expenditures.</p> <p>Money allocated from the state budget, left at the end of year remains at the university. The balance can occur when fewer students have come to study than planned by the university, or if many students were expelled. If balances remain at the end of year during a three-year period then the Ministry can decide to allocate less money because the university cannot perform the tasks proposed.</p> <p>Own money remain at the university.</p> <p>Universities are not the owners of property. They rent the buildings from a state agency and pay the rent. Rent money is allocated from the state budget (included in per student cost). For this reason, universities are not entitled to make any property transactions (sale, purchase).</p> <p>Tuition fee is established by the university. It is usually higher than the actual costs for the training of one student.</p> <p>Student dormitories are also services outsourced by the university. The cafeteria also does not belong to the university.</p> <p>Students can borrow money from a specialized agency to pay both tuition fees and living expenses. Money has to be reimbursed, after employment and achievement of a certain level of salary, for a period of up to 15 years.</p> <p>Is decentralized at the university. Every department, every person has a special account. The faculty pays for hours worked at the faculty.</p> <p>Each dean discusses with the rector over the faculty budget, development perspectives, launching of new programs, employment, etc.</p>	
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Annex 8. Data reporting and data analysis for Denmark

#	Problem /question formulation	Findings	Comments
1.	Higher education financing mechanisms.	<p>Block grant and there are no restrictions on the allocation of funds.</p> <p>Public funding cycle: 1 year.</p> <p>The Ministry allocates subsidies to universities for teaching, research and dissemination activities and also for other tasks assigned to the university.</p>	
2.	The methodology for allocation of budgetary financing resources for the universities.	<p>The procedure is as follows. At university level the number of equivalent students (FTE) from the previous year (n-1) is calculated and forecasts for the following year (n+1) are made. For every study program the number of credit points accumulated by students based on exams taken is calculated. It is a results-tracking program (Excel). The information with the number of FTE per education areas goes to the Ministry.</p> <p>The Ministry allocates resources depending on FTE number and per student cost in the respective area for: teaching and basic research. For teaching it is established per student cost for social and human (history) sciences students . For others – depending on a coefficient. Money can be allocated depending on performance: based on the number of diplomas earned in the established period.</p> <p>When the Ministry has additional sources, these are divided approximatively by the following percentage: 45% based on the number of students; 20% – research; 25% – publications; 10% – doctoral students.</p>	
3.	Private financing forms and monitoring.	<p>Universities can obtain income from the following sources:</p> <ul style="list-style-type: none"> - Budget allocations indicated above; - Competition-based allocations for research from the National Research Council; - Tuition fees for MBA programs, second specialty; - Consultancy and others services for business; - Other. 	

4.	The capacity of universities to borrow money.	Universities can borrow money without restrictions.	
5.	How large is the autonomy of higher education institutions in terms of tuition fees paid by students? Who establishes the amount of tuition fee?	There are no tuition fees neither for bachelor nor master and doctoral education for local and the EU students. Students attending MBA or second specialization education pay tuition fees.	
6.	Can higher education institutions transfer unused funds from one year to another?	Money surplus can be kept without restrictions. The balance is transferred to the next year. The cumulative result of income-generating activities cannot be negative for four consecutive years.	
7.	The capacity of universities to own buildings.	The owner is a public authority. Universities can sell their buildings without restrictions.	
8.	Tuition fees policy with regard to foreigners.	No tuition fees for non-EU students at bachelor and master's education cycles. Universities and an external authority cooperate when establishing the level of tuition fees. The doctoral students pay no fees.	
9.	Student scholarships	Students receive grants from the state (non-refundable) for living. These are not performance-based.	
10.	Allocation of financial resources within the university.	Allocation of financial resources within the university is carried out through a mechanism similar to per university distribution and could be described as follows. Regardless of their source of origin and money-bringing units, all money are collected at university level and the same allocation methodology applies. The decision is taken by the Board which is guided by the principle "money follows work". First, the number of FTE students is considered, i.e. those that passed the exams at each faculty. As basis the social sciences students are taken, for others a Ministry-approved coefficient depending on the complexity of education is applied. There are 4 areas	

		<p>of education. At university level, for administrative expenses 10% of all amount is retained. 4,8% is retained for library needs and for its maintenance (actually, the library submits an exact plan of activities and money is given according to the rate mentioned). The remaining money goes to faculties. Faculties distribute the money among departments.</p> <p>The faculty develops an exact budget providing also 8.3% allocated for faculty needs. Around 17% are amounts required for building maintenance.</p> <p>An example of department-level budget:</p> <p>REVENUE:</p> <p><i>V. Teaching work:</i></p> <ul style="list-style-type: none"> - Teaching activities (FTE-based according to the taximeter principle): - Revenue depending on the number of graduates (performance). Is a bonus by which the Ministry stimulates completion of education within the established period. - Tuition fees paid for MBA or for second diploma education. <p><i>VI. Research activity:</i></p> <ul style="list-style-type: none"> - Revenue from core financing; - Depending on the number of publications; - External funds; - Direct external financing (from the Research Council as a result of competition). <p><i>VII. Doctorate:</i></p> <ul style="list-style-type: none"> - Depending on the number of enrolled students; - Depending on the number of degrees obtained. <p><i>VIII. Payment-based services:</i></p> <ul style="list-style-type: none"> - Consulting services for companies; - Other. <p>EXPENDITURE:</p> <p><i>V. Salaries:</i></p> <ul style="list-style-type: none"> - For teaching; - For administrative work. <p><i>VI. Building expenses (depending on surface)</i></p> <p><i>VII. Degree programs and courses (per student</i></p>	
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		<p><i>allocation negotiated at dean and course level)</i></p> <p><i>VIII. Department administration:</i></p> <ul style="list-style-type: none"> - salaries for service personnel (secretary); - delegations, conferences; - IT; - representation expenses (coffee, ...). <p><i>V. Various taxes:</i></p> <ul style="list-style-type: none"> - 10% university; - 4,8% library; 8,3% faculty. <p><i>VI. Teaching from other faculties.</i></p>	
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Annex 9. Data reporting and data analysis for Romania

#	Problem /question formulation	Findings	Comments
1.	Higher education financing model.	<p>Global financing. Under this financing system of universities the Ministry is entitled to allocate budget chapters no more, thus allowing universities to be financially autonomous. Such a global financing system implies the shift from inputs financing to outputs financing.</p> <p>Public financing of higher education institutions is carried out from the budget of the Ministry of National Education according to three main directions¹⁷:</p> <ul style="list-style-type: none"> • <i>core financing</i>, covering major teaching-related expenses and being allocated through multiannual education grants following priority education areas that provide sustainable and competitive development of the society; • <i>complementary financing</i> – covers several aspects related to the teaching process: accommodation and food subsidies, funds for equipment, investments and capital repairs, and aslo funds for scientific research; • <i>supplementary financing</i> – offered to stimulate the excellence of institutions and education programs both within state and private universities. 	<p><i>Core financing is carried out to finance both education and part of research. Normative acts sufficiently describe this fact.</i></p>
2.	The methodology for allocation of budgetary financing resources for the universities.	<p>Effective distribution of budgetary allocations to universities is done by the Ministry of National Education based on contracts concluded with higher education institutions.</p> <p>Consolidation and validation of support information, development of electronic applications and their use for the calculation as such as well as relevant paperwork regarding proposals on annual and monthly allocations of budget funds to higher education institutions is carried out by Higher Education Financing Service (FIS) within the Executive Unit for</p>	<p><i>The allocation of financial resources to universities is also done taking into account their performance.</i></p>

¹⁷ <http://uefiscdi.gov.ro/Public/cat/569/Finantarea-Invatamantului-Superior.html>

		<p>Financing Higher Education, Research, Development and Innovation (UEFISCDI) under the guidance of the National Council for Higher Education Financing (CNFIS).</p> <p>The methodology for allocation of budget funds to core and supplementary financing based on the excellence of state higher education institutions from Romania undergoes changes from one year to another. For 2013¹⁸, there were provided several specific details.</p>	
3.	Private financing forms and their monitoring.	<p>Universities may have financial benefits from certain private sources, such as: investment objectives funds, competition-based funds allocated for institutional development, competition-based funds allocated for inclusion, scholarships and students' social protection, as well as from own revenues, interest, donations, sponsorships and fees legally received from Romanian or foreign natural and legal persons, and also from other sources. These revenues are used by higher education institutions under university autonomy conditions in order to achieve their respective objectives assigned according to the state policy in the field of university education and scientific research.</p>	
4.	The capacity of universities to borrow money.	<p>The Law on National Education provides that state financing of higher education can be performed on a contract basis also through the assistance of other ministries for those higher education institutions that train specialists based on the needs of respective ministries, as well as by means of other sources, including loans and external aid.</p>	
5.	How large is the autonomy of higher education institutions	<p>Under LNE, higher education institutions have autonomy in determining the amount of tuition fee. Their value is determined by university senates. As basis for the amount of tuition fees</p>	<p><i>We consider it correct that the amount of tuition fee should reflect the</i></p>

¹⁸ Methodology for allocation of budget funds for core financing and supplementary funding based on excellence of higher education institutions from Romania for 2013, link <http://goo.gl/WrmCqt>

	<p>in terms of tuition fees paid by students? Who establishes the amount of tuition fee?</p>	<p>is considered the cost of training an equivalent student, calculated at every university.</p>	<p><i>total costs of student training.</i></p>
6.	<p>Can higher education institutions transfer unused funds from one year to another?</p>	<p>Funds remaining at the end of the year after budget execution in accordance with institutional and complementary contract, as well as funds related to university scientific research and extra-budgetary revenues remain available to universities and are included in the income and expenditure budget of the institution, with no payments to the state budget and without affecting next year's state budget allocations (LNE, Art.225).</p>	<p><i>The possibility to transfer unused funds from one period to another enables universities to make long-term plans.</i></p>
7.	<p>The capacity of universities to own buildings.</p>	<p>Public or private universities own their assets, managing them by law. State universities may own movable and immovable assets within the public or private domain of the state. Subjective rights of the universities over public sector assets, under the law, can be administration, use, concession or renting rights.</p> <p>By government decision, public domain assets can be converted into private property of the state and transmitted to state universities in accordance with the law. State universities have property rights on their owned assets. Ownership over real estate as well as other real rights of state universities are subject to real estate public procedure stipulated by special legislation.</p>	
8.	<p>Tuition fees policy with regard to foreigners.</p>	<p>Romanian Government Ordinance, no. 22 of August 29, 2009, sets the minimum amount of tuition fees, in currency, for people studying on their own account in Romania as citizens of non-European Union countries as well as from non-European Economic Area countries and non-members of Swiss Confederation. University Senates may establish the final amount of these fees, but not lower than the amount set in the mentioned ordinance.</p>	
9.	<p>Scholarships and</p>	<p>Students benefit from performance- or merit</p>	

	<p>other students support facilities</p>	<p>scholarships in order to stimulate excellence and also from social scholarships financially supporting low-income students.</p> <p>Scholarship values are determined by every higher education institution individually. They are designed to cover accommodation and food costs. The university establishes the number of scholarships from the total amount of higher education-financed expenditure. Funds are released annually by the Ministry. There is no possibility for state guaranteed loans or family allowances, and parents receive no tax benefits at all.</p>	
10.	<p>Allocation of financial resources within the university.</p>	<p>Allocation of financial resources inside Romanian universities is decentralized. Financial resources cover the costs of university structures and services, utility payments and provide a maintenance and development fund for a university. The amount corresponding to each category is proposed by the Administrative Board and approved by the Senate at the beginning of every academic year. After allocating money for payment of utilities, services and ensuring maintenance and development funds, the funds from core financing and from tuition fees are distributed within the university according to the amounts attracted by the structures.</p>	