Higher Education and its Financing in the Context of Sustainable Development

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Higher education is an important parameter of quality of life, society, the basic factor of its sustainable development, the essence promoter of national and universal human values. It would be a few conditions: higher education must be dimensioned, rationally organized, adapted and adaptable to current and future needs of society managed with professionalism and competence. Development and modernization of higher education involves increasing resources allocated to it in all the countries - both developed and developing. In the context of sustainable development, Republic of Moldova realizes the importance of investment in higher education quality assurance.

Keywords: Human development, investment in higher education, demographic investment, financial autonomy, university sustainability, expenditures for education.

JEL Code: I20, H5

1. Introduction
Sustainable development represents the fundamental objective of any modern society, aiming at the improvement of the quality of life and welfare of current and future generations, by means of a mainstreamed approach of elements: economy, society, ecology. However, the importance of ensuring sustainable development creates a double hypostasis for people: in the same time, they are executors and beneficiaries. To contribute to quality sustainability it is necessary to obtain education and for quality education are needed sufficient public and private investments.

Higher education has often been primarily valued as a benefit for the individual, but an educated citizenry significantly benefits the state. That is the fundamental principle behind the higher education - economic development linkage. An investment in a strong, accessible, and high quality higher education system is an investment in the economic development of the state, with significant payoffs down the road. Indeed, a state can benefit from wise investment in its human capital.173

2. Reflections on sustainable development
The Summit, held in Rio de Janeiro in 1992, initiated the establishment of strategic directions oriented to global issues, being the basis for the Millennium Development Goals, drawn in 2000. At the Sustainable Development Summit held on 25th of September 2015, UN member states enacted the Agenda for Sustainable Development – 2030, which included a set, that is much more extended than the previous one, of 17 Sustainable Development Goals (SDGs): no poverty, zero hunger, good health and well-being, quality education, gender equality, clean water and sanitation, affordable and clear energy, decent work and economic growth, industry, innovation and infrastructure, reduced inequalities, sustainable cities and communities, responsible consumption and production, climate action, life below water, life on land, peace and justice strong institutions, partnerships for the goals.

An intrinsic component of sustainable development, which defines its objective and final result, is human development. Human development implies investments in human capital, especially in its quality growth, which means, as well, the increase of human capacity to participate efficiently and creatively in the process of economic development, to adjust their model of consumption to the requirement of environment protection. Therefore, human development is a component of sustainable development with an instrumental character, the essential factor of the knowledge-based economy’s development while ensuring sustainability.

Although the art of human development extension is much broader, the Human Development Index (HDI) estimates and prioritizes countries’ achievements within three domains: life expectancy, level of education, and standard of living. HDI values allow the appreciation of the human development

173 Bell, J. D., Higher education and economic development, http://www.wiche.edu/
evolution and comparison various countries' or regions' experience with regard to economic or social progress. Starting with these premises, table 1 comprises a selective ranking of countries, according to the Human Development Index.

Table 1. A selective ranking of countries, according to the Human Development Index, 2014

<table>
<thead>
<tr>
<th>HDI rank</th>
<th>Country</th>
<th>Human Development Index (HDI)</th>
<th>Life expectancy at birth (years)</th>
<th>Expected years of schooling (years)</th>
<th>Mean years of schooling (years)</th>
<th>Gross national income per capita, $</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Norway</td>
<td>0.944</td>
<td>81.6</td>
<td>17.5</td>
<td>12.6</td>
<td>64,992</td>
</tr>
<tr>
<td>2</td>
<td>Australia</td>
<td>0.935</td>
<td>82.4</td>
<td>20.2</td>
<td>13.0</td>
<td>42,261</td>
</tr>
<tr>
<td>3</td>
<td>Switzerland</td>
<td>0.930</td>
<td>83.0</td>
<td>15.8</td>
<td>12.8</td>
<td>56,431</td>
</tr>
<tr>
<td>4</td>
<td>Denmark</td>
<td>0.923</td>
<td>80.2</td>
<td>18.7</td>
<td>12.7</td>
<td>44,025</td>
</tr>
<tr>
<td>5</td>
<td>Netherlands</td>
<td>0.922</td>
<td>81.6</td>
<td>17.9</td>
<td>11.9</td>
<td>45,435</td>
</tr>
</tbody>
</table>

... (continued)

Data comprised in table 1 shows that the Republic of Moldova is ranked 107th out of 188 countries and territories, with a medium human development. Although, in the 1990 – 2014 period, the value of HDI grew with 6.3%\(^{174}\), according to this index, the Republic of Moldova is ranked far from Romania (ranked 52nd) or other European countries.

3. The role of education for sustainability

Nowadays, sustainable development challenges universities to review their mission and restructure their syllabus, teaching and research activities, widening and promoting education for sustainability\(^{175}\).

Education, as the main mechanism of human capital quality reproduction, is based on the following doctrinal imperatives:

a) education is a national priority;


According to the Report, within the 1980 – 2014 period, the life expectancy at birth in the Republic of Moldova grew with 6.6 years, the average tuition duration grew with 4.8 years, and anticipated tuition length grew with 0.1 years. The gross national product per capital decrease with 20.8% within the 1990 – 2014 period.

\(^{175}\) Education for sustainability is aimed at the transfer of information regarding sustainable development and formation of competencies for its promotion.
b) anticipated development of the education system and of the human being, as the basis of the country’s national security: economic, ecological, social etc.;
c) substantiation of education on all stages;
d) formation of new education technologies, targeted at competencies’ development;
e) expansion of education accessibility for all social classes;
f) enhancing the responsibility of education institutions, government and society for the qualitative evolution of education.

In the context of sustainable development, a special role is assigned to higher education, which regards:

- Education of students, according to economic, social and environmental challenges;
- Identification of technical and social solutions designed to face the challenges of sustainable development;
- Assumption of the catalyzer position of studying about sustainable development, beyond the higher education barriers, by means of knowledge and ideas’ exchanges with other social entities (local communities, business environment, government etc.).

Yet, graduating a higher education institution, although cannot guarantee, but still fosters a decent standard of living of an individual, and ensure the welfare of a society, as a whole. The demonstration can be observed in figure 1, which shows the poverty rate as a function of the level of education of the head of household.

Data shown in figure 1 pictures that the highest poverty risk is met at households led by people with no education, while the lowest level of risk – at households held by people with higher education. In 2014, the poverty rate at the households held by people with no education was equal to 29.6%, a value that exceeds by 17.4 times the level of poverty of the households held by people with higher education. Thus, it can be stated that promoting higher education at the country level is absolutely necessary for the improvement of the population’s quality of life and assurance of the society’s welfare.

4. The higher education in the Republic of Moldova

Should be mentioned, that the domestic higher education is divided into three cycles: first cycle – Bachelor’s Degrees (level 6 ISCED); second cycle – Master’s Degrees (level 7 ISCED); third cycle – Doctoral Degrees (level 8 ISCED).

The Republic of Moldova has a sufficient amount of higher education institutions in order to supply qualitative educational services. Thus, in the academic year 2014-15 there were 31 higher education institutions (of which 19 – state institutions) and 50 institutions with doctoral activity (31 institution of scientific research and 19 institutions of higher education). These institutions take the responsibility for the qualification of an imposing contingent of future experts (table 2).
Table 2. Amount of students according to study cycles, a. y.2014/15

<table>
<thead>
<tr>
<th>Study cycle</th>
<th>Amount of institutions</th>
<th>Amount of students</th>
<th>Amount of students per 10000 inhabitants</th>
</tr>
</thead>
<tbody>
<tr>
<td>I.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bachelor's Degrees (First Cycle)</td>
<td>71150</td>
<td>200</td>
<td></td>
</tr>
<tr>
<td>Master's Degrees (Second Cycle)</td>
<td>14439</td>
<td>41</td>
<td></td>
</tr>
<tr>
<td>Integrated studies (medical and pharmaceutical higher education)</td>
<td>31 3940 11</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>89529</td>
<td>252</td>
<td></td>
</tr>
<tr>
<td>II.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Doctoral Degrees (Ciclul III)</td>
<td>1628</td>
<td>4,5</td>
<td></td>
</tr>
</tbody>
</table>

Source: adapted by the author based on NBS

Data comprised in table 2 reveals the fact that domestic universities imply a numerous contingent of students, who can be formed and educated in a way to be able to face society’s challenges and to ensure efficacious results within the context of sustainable development. Should be mentioned, that a negative tendency of the evolution of the amount of students can be noted, as a result of demographic processes (a phenomena registered in most developing countries).

In author’s opinion, within the condition of optimization of the educational expenses, and resulting from the small amount of people engaged in the Third Cycle, can be reduced the amount of institutions with Doctoral activities, for the improvement of the quality of rendered services (engaging notorious experts, ensuring research laboratories, speeding the access to information etc.).

The system of doctoral education from the Republic of Moldova, as well, needs a restructuring of doctoral studies towards knowledge and innovation. The course of doctoral education should face towards sustainable principles of research development, in order to ensure the quality and efficiency on the basis of new structures of studies’ organization that would allow sustainable intensification of the training process, amplifying the responsibility of logging and scientific cooperating between doctoral students. The application of the Doctoral sustainable studies cycle within the universities of the Republic of Moldova requires an essential preparation both on the national plan, and on institutional one, which will permit the fulfillment of all the criteria of the European Education.178

5. Expenditures for education

Still, educational institutions, of all degrees, can direct efficiently their efforts towards a sustainable society, worth an appropriate education budget, having the latitude to direct existing resources, to obtain new resources, and to develop a favorable environment for interdisciplinary research and teaching.

Expenditures regarding education and formation of labor force can not only be characterized by redeeming, but also by giving birth to the possibility to obtain results with a multiplier effect. Given the feature of long term placements which recoup in time and out of the newly created value, expenditures of this kind take the features of investments, for this reason being called demographic investments. As components of the demographic investments’ structure, the ones directed towards the education stock’s growth take a separate role, being considered the spiritual resource of the country, its non-material wealth. Education stock is the most used indicator on the national plan and in international comparisons; it quantifies the intellectual heritage accumulated by a country’s population through preschool, school and higher education. Education stock growth is given by the workforce enhancement of the ones who graduated post-secondary or higher education, thus accumulating new knowledge, raising the level of scientific, professional and cultural training to a superior degree.179

Budgetary financing of education in the Republic of Moldova is accomplished through four different ways:

1) Standard financing: standard cost per child/pupil/student and adjustment coefficient;

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177 Integrated studies comprise First and Second Cycles.
179 Doga-Mîrzac M., Rolul cheltuielilor pentru învățământ în dezvoltarea economico-socială a Republicii Moldova, Revista Științifică a Universității de Stat din Moldova, 2012, nr.2(52), p. 137-140
2) Compensatory financing: for children with special educational requirements, children with special skills – through experimental or alternative programs and programs of performance support;

3) Complementary financing: to modernize the material and teaching basis, to subsidize nourishment, to scholar transportation and housing;

4) Competitive project-based funding.

In the Republic of Moldova, education is mostly public. Expenditures on education represent one of the branches priorities in government financing. In 2014, expenditures on education ranked second, numbering a weight of 17.6% in the national public budget expenditures, while the highest weight of 31.9% referred to financing social assistance and support. These two branches obtain the biggest budgetary financing, and this relation can be observed during the last 15 years. Should be mentioned, that during the last years, expenditures on higher education vary within the limits of 8-9% of all expenditures on education.

Figure 2 presents the evolution of expenditures on education as a share of total public expenditures and of GDP during the 2005-2014 period.

Data in figure 2 show that the weight of expenditures on education in the aggregate government expenditures and GDP passed an evolution, which can be divided into two phases. Thus, the weight of expenditures increased until 2009, the year when a maximum level of 9.4% in GDP was registered, while starting from 2010 this indicator was diminishing, reaching the level of 7% in 2014. Although the Republic of Moldova has an advanced level of the weight of public expenditures in GDP, being compared with other states in the region, the efficiency of the educational budget is low (see table 3).

### Table 3. The efficiency of expenditures on education, 2014

<table>
<thead>
<tr>
<th>Country</th>
<th>Quality of education sector score</th>
<th>Efficiency score</th>
<th>Rank</th>
</tr>
</thead>
<tbody>
<tr>
<td>Romania</td>
<td>3,8</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Slovenia</td>
<td>4,1</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Bulgaria</td>
<td>3,4</td>
<td>0,74</td>
<td>3</td>
</tr>
<tr>
<td>Lithuania</td>
<td>3,9</td>
<td>0,72</td>
<td>4</td>
</tr>
<tr>
<td>Hungary</td>
<td>3,3</td>
<td>0,60</td>
<td>5</td>
</tr>
<tr>
<td>Slovakia</td>
<td>2,8</td>
<td>0,56</td>
<td>6</td>
</tr>
<tr>
<td>Czech Republic</td>
<td>3,6</td>
<td>0,54</td>
<td>7</td>
</tr>
<tr>
<td>Poland</td>
<td>3,6</td>
<td>0,53</td>
<td>8</td>
</tr>
<tr>
<td>Latvia</td>
<td>3,8</td>
<td>0,49</td>
<td>9</td>
</tr>
<tr>
<td>Republic of Moldova</td>
<td>3,2</td>
<td>0,40</td>
<td>10</td>
</tr>
</tbody>
</table>


With regard to the quality of the education sector, the maximum score is registered by Switzerland (6 p.), being followed by Finland (5,9), Qatar (5,8), Singapore (5,8), Ireland (5,4) etc.
Data in table 3 shows that the Republic of Moldova gets worse positions as other states from the region, according to the following indicators: quality of the education system and efficiency of public expenditures on education. According to the assessment of the independent analytical center Expert-Group, the low efficiency denotes the fact that the current level of education system quality could be obtained by allocating budget sources with a much smaller share than 7-8% of GDP.

The sources of revenue of higher education institutions are:
- Direct public financing (65-75% of the university’s budget);
- Tuition fees that can vary according to specialty and level of training;
- Additional sources (about 10%, given by charity financing, contracts concluded with the real sector of the economy, consultancy services, rendering into service of some buildings etc. owned by the institution etc.)
- Structural funds, programs for research and development (an extremely competitive source amongst universities) etc.

Currently, is more and more used the notion of financial sustainability of higher education institution. This collocation implies the capacity of the university to obtain revenues aimed at maintaining the education process and application of projects and activities that ensure the achievement of the education objective.

In the Republic of Moldova, starting since 2013, higher education institutions activate under the conditions of financial autonomy. Financial autonomy is embodied through:
- duration and type of public financing;
- capacity to keep the surplus;
- capacity to borrow money;
- capacity to hold the ownership right on buildings;
- capacity to levy tuition fees from students.

In the Republic of Moldova, higher education financing from the state budget takes place according to the state order, which is determined emerging from the country’s necessities of certain specialties, being correlated to the amount of graduates, cost per student, financial of the state, coordinated with the Ministry of Education, Ministry of Labor, Family and Social Protection and Ministry of Finance. On that basis, universities’ financial autonomy is straitened, while, simultaneously to the state budget financing reduction, the Government maintains the limit of the amount of students who can be enrolled to a faculty, restricting the revenues of education institutions. In the same time, universities provide paid services, although, their activity, in the context of the current legal frame, is not an entrepreneurial one. Universities wish for obtaining a complete autonomy, both administrative and financial, which implies the establishment, with no Government implication, of the amount of students to be enrolled, the quantities of fees for tuition and accommodation in campuses.

6. Conclusions

Universities from Republic of Moldova should harmonize the directions for institutional development not just according to internal necessities, but also to national priorities and global tendencies. Currently, higher education should face several major challenges: to reach a qualitative and competitive level on the international plan, to assume the responsibility for the formation of a contingent of progressive, creative and intelligent people in the context of sustainable development, to enhance their financing and diversify their financing sources. These major goals imply changes within the domestic higher education, aimed at the improvement of quality of education.

It is an urgent need for Republic of Moldova to build quality and capacity in universities and to create skills that remain in country and, it is possible, first of all, with public and private investments. When all citizens have the opportunity and resources to succeed in the education system, the state reaps the rewards of an educated and productive citizenry. The benefits of a highly educated citizenry include improving the state’s economy, meeting future workforce needs, and improving the state’s quality of life.

181 **Financial autonomy** implies the freedom of universities to manage the financial resources, including their accumulation and allocation, respecting certain principles, such as responsibility, ensuring education quality, compliance with the legal framework, respecting policies of university ethics, assuring the managerial efficiency and efficiency of resources’ usage.

182 **Stat order** regards the amount of budget financed studying scholarships for Bachelor’s Degree (first cycle) and Master’s Degree (second cycle) students.
References: