QUALITY AND COMPETITIVENESS OF EDUCATION IN THE REPUBLIC OF MOLDOVA IN GLOBAL INDICES

TATIANA GUTIUM*

gutium.tatiana1@gmail.com

Abstract: *In the age of digitalization, the relevance of studying the quality of education is increasing. The main task facing the education of the Republic of Moldova is to increase the competitiveness on the world market of educational services, because the degree of digitization increases comparatively faster than the level of knowledge, and increases the gap between knowledge and skills. The research object of this study is to evaluate the quality and competitiveness of education in global indices. Various research methods were used: statistical method, comparative analysis, methods to visualize statistical data, etc. The quality and competitiveness of education were analysed both for the Republic of Moldova and for the neighbouring partner countries. In this study, the analysis of the advantages and disadvantages of the Education Index (component of the Human Development Index), the pillar "Education" of the Legatum Prosperity Index and the pillar "Skills" of the Global Competitiveness Index were performed.*

Keywords: *quality of education, Education Index, Human Development Index, Legatum Prosperity Index, Global Competitiveness Index.*

Introduction

The well-being of the population depends on the level of development and competitiveness of the national economy. One of the main factors contributing to the development of both the economy and society is human capital. Therefore, the primary task of a modern society is to enhance the quality and increase the competitiveness of education. In the age of digitalization, society needs specialists capable of professional reorientation, continuous training and access to quality higher education for anyone.

Given the expansion of the globalization process and the departure of some of the active youth to study or work abroad, the education system faces a number of problems: the aging of teachers, the departure of young teachers abroad to work illegally, the demotivation of young people to obtain in the local education system deep knowledge and their application in the home country, because there is a gap between professionalism and

* **PhD., Scientific Researcher, National Institute for Economic Research, Chisinau, Republic of Moldova.**

remuneration. The main task of the education system is not only to acquire knowledge, but also to train the younger generation of skills necessary in everyday life, the ability to adapt to a rapidly changing world.

The research object of this study is the application of global indices to the evaluation of the quality and competitiveness of education. The researches were carried out within the project of the State Program 20.80009.0807.29 "Improving the application mechanisms of the innovative instruments oriented towards the sustainable growth of the well-being of population of the Republic of Moldova."

Literature review

There are many approaches to the quality of education in the literature. Some scholars argue that the quality of education and the quality of teaching are identical concepts, others consider that the quality of education is the quality of knowledge, another group of scientists points out that personality development reflects the quality of education, and the fourth approach focuses on preparing the individual for daily life. We will analyse the scientific interpretation of the "quality of education" in this regard.

Researchers A. Thangeda, B. Baratiseng and T. Mompati believe that quality education provides knowledge and skills "to apply the gathered information in real life scenarios."[1] The views of pedagogues S. Shilova and A. Moiseev are diametrically opposed. The first teacher argues that quality education ensures that the needs of society are met[2], and the second – that educational outcomes must first coincide with the expectations of the students themselves, only then the teachers, the school management and, finally, society[3].

Aspects of quality education are listed by Linda Darling-Hammond in the study "The importance of quality Education: From start to End", such as "earning resources, technology, program enrolled, modules done, lecturing methodology, attachments, qualifications, co-curricular activities, performance awards, etc."[4] McAleese has reduced the number

[1] A. Thangeda, B. Baratiseng & T. Mompati, *Education for Sustainability: Quality Education is a Necessity in Modern Day. How Far do the Educational Institutions Facilitate Quality Education*, *Journal of Education and Practice*, 2016, Vol. 7, No. 2, 9–17.

[2] S. Shilova, *What do we Expect from the Quality Economy System*? *Standards and Quality*, 2002, No. 1, 50-53.

[3] A. Moiseev, O. Moiseeva, *Strategic Management in School: Textbook*, Moscow, Center for Pedagogical Education, 2007, 256 p.

[4] L. Darling-Hammond, *The Importance of Quality Education: From Start to End,* 2013; http: www.nie.edu.sg/nienews/sept13/?g=content/20/01

of factors that can be used to assess the quality of education to the following four: "the teaching system, programs provided, quality of lecturers, and the learning environment."[5]

As in the case of competitiveness, there is no single definition for the quality of education. M. Potasnic reveals that the quality of education is a certain level of knowledge and skills, of mental, physical and moral development, which graduates of an educational institution have achieved in accordance with the planned goals of education and upbringing, that is, it acts as a ratio of goal and result, measures to achieve the objectives set operationally and predicted in the area of potential development of pupils/students[6]. The quality of the educational process is determined by scientists L. Merkulova and N. Solovova as the integrity of the consumer properties of the educational services provided, creating conditions for the comprehensive development of the individual's personality[7] [8].

The author of this study shares the opinion of researchers N. Selezneva, L. Merkulova, N. Solovova who consider that the quality of education is an integral concept that combines the quality of the educational process, its results and the quality of the functioning of the entire educational system[9].

Database and methodology

The theoretical and methodological basis of the study is the approaches presented in the classical and modern studies of foreign and domestic scientists. The dialectical and logical method of research, applied statistical method, comparative analysis, tabular and graphical methods for viewing statistical data were used in this paper. In the study, the comparative analysis was performed for the Republic of Moldova and neighbouring partner countries.

---

[5] M. McAleese, *Improving of the Quality of Teaching and Learning in Europe's Higher Education Institution*, 2013;

http://ec.europa.eu/education/library/reports/modernisation_en.pdf

[6] M. Potasnic. *Management of Education Quality*, Moscow, Pedagogical Society of Russia, 2006, 443 p.

[7] L. Merkulova, *Formation of Professional Mobility of Technical Specialists by Means of Foreign Language*, Dissertation of doctor of pedagogical sciences, Samara, 2008, 454 p.

[8] N. Solovova, *Control of Methodical Work of the University in the Realization of Innovative Teaching Objectives*, Dissertation of doctor of pedagogical sciences, Samara, 2011, 571 p.

[9] N. Selezneva, *The Quality of Higher Education as an Object of Systematic Study: Lecture-report*, Moscow, Research Center for the Problems of the Quality of Training of Specialists, 2004, 95 p.

The analysis period was established for each global index based on the availability of statistical data. A single period for all these indices could not be set because they were elaborated in different years and presented by different institutions.

Education Index

The Education Index is an integral index, the calculation methodology of it was changed in 2010. Initially it was calculated as an index composed of the adult literacy index and the Index of the cumulative share of students in primary, secondary and tertiary education, and today it is calculated based on two indicators: average years of schooling for adults and expected years of schooling for children. This index is considered one of the key indicators of social development and is a component of the Human Development Index[10].

The analysis of the Education Index's evolution of the Republic of Moldova shows that the highest level was registered in 2013. Subsequently, this index decreased in the next three years, then it increased insignificantly. Although in general index has upward trend, the reached level is considerably lower compared to the level of neighbouring partner countries. In Romania, the Education Index increased until the global financial crisis of 2008-2009, after it decreased in the next three years. Ukraine compared to Romania did not register essential disturbances during the analysed period (Figure 1). In 2019, the Republic of Moldova has been ranked at 82nd in the Education Index, while Ukraine - 47th, and Romania - 58th.

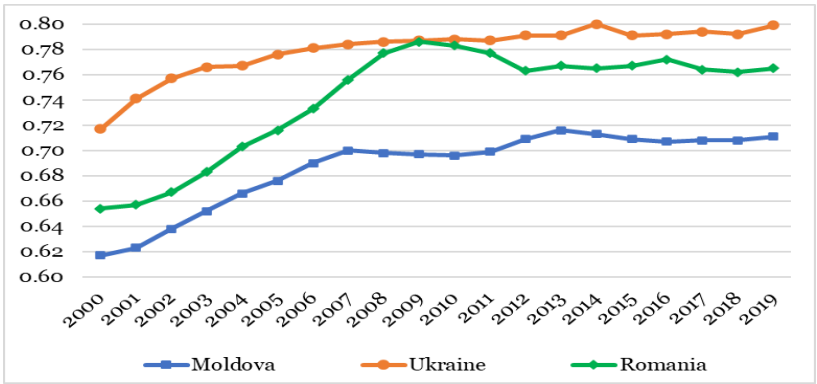

Figure 1. Education Index, 2000-2019

[10] *Human Development Report 2020*, United Nations Development Programme, New York, 2020, 412 p.

This index is a universal indicator, in the latest published report "Human Development Report 2020" it was calculated for 189 countries. However, it also has limitations. Education Index does not take into account students studying abroad; this fact may distort the data for some small countries, such as the Republic of Moldova. In 2016, every sixteenth Moldovan student studied abroad, and in 2019 – every tenth. Therefore, 10% of students are not taken into account (Table 1). The trend of the ratio of the number of Moldovan students studying abroad to the number of students in the Republic of Moldova shows that the share of students who will not be taken into account will continue to grow.

Table 1: Number of Moldovan students studying in the country and abroad

	2014	2015	2016	2017	2018	2019
Number of students in the Republic of Moldova, persons	89529	81669	74726	65543	60608	56840
Number of Moldovan citizens studying abroad, persons	5469	5515	6095	5922	5566	5668
The ratio of the number of Moldovan students studying abroad to the number of students in the Republic of Moldova, %	6.11	6.75	8.16	9.04	9.18	9.97

Source: Data of the National Bureau of Statistics of the Republic of Moldova[11] and data of the statistical compendium of the Ministry of Internal Affairs of the Republic of Moldova[12]

[11] *Moldova Statistical Database*, National Bureau of Statistics of the Republic of Moldova;

http://statbank.statistica.md/pxweb/pxweb/ro/30%20Statistica%20sociala/30%20Statistica%20sociala__07%20INV__INV010__INV010rev/?rxid=b2ff27d7-0b96-43c9-934b-42e1a2a9a774

[12] Statistical Compendium of the Extended Migration Profile of the Republic of Moldova, Ministry of Internal Affairs of the Republic of Moldova, Chişinău, 2020, 40 p.; http://bma.gov.md/sites/default/files/sites/default/files/atasamente/comunicate/cs_al_pme_2017-2019_ed_2020.pdf

Evaluation of Education in the Legatum Prosperity Index

The Legatum Institute was founded in 2007, and since this year it has been collecting the database for calculating the Legatum Prosperity Index. This index initially combined over 70 variables and was calculated for more than 50 countries around the world. In the 2010 edition, 110 countries were classified according to eight basic pillars of prosperity, but in the 2021 edition, the performance of 167 countries was already analysed and the index includes 300 indicators systematized in 12 pillars[13]. One of the pillars of the Legatum Prosperity Index is Education. Figure 2 shows the dynamics of this pillar for the Republic of Moldova and neighbouring partner countries.

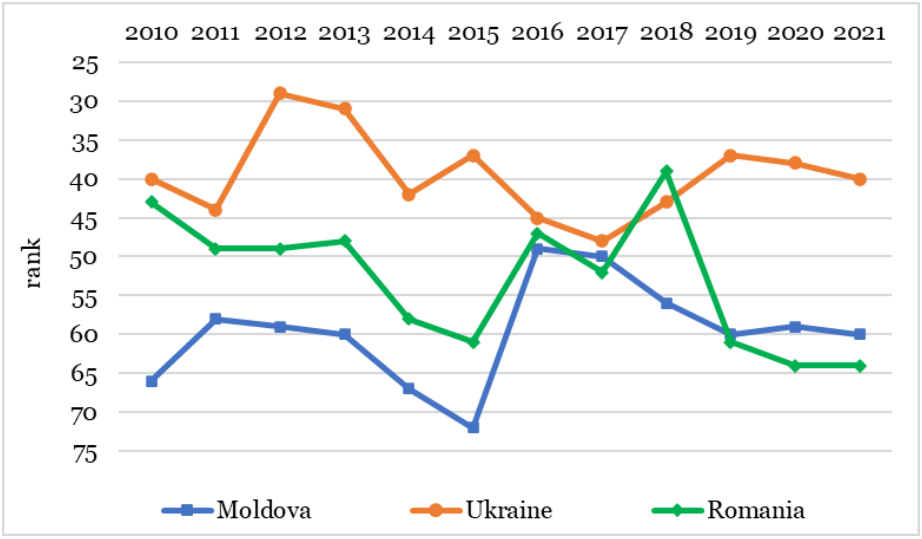

Figure 2. Pillar "Education" of the Legatum Prosperity Index, 2010-2021

The pillar "Education" combined 18 indicators in 2021, including 1 indicator for pre-primary education, 3 indicators for primary education, 4 indicators for secondary education, 5 indicators for tertiary education and 5 indicators for adult skills. Twelve of the eighteen indicators are quantitative. Therefore, every third indicator of the pillar "Education" is qualitative.

The level of education is assessed in terms of access to education, the quality of education and human capital. Access to education is estimated using the following indicators: "the percentage of children (adults)

[13] *The Legatum Prosperity Index*, United Nations Development Programme, New York, 2021, 23 p. https://li.com/reports/2021-legatum-prosperity-index/

enrolled in education (pre-primary, primary, secondary, tertiary), the Gini coefficient of education distribution among 15+ population, accounting for average years of schooling among the population, etc."[14] The quality of education is calculated using indicators that reflect public opinion on education (expert survey). The average number of years of primary, secondary or tertiary education per capita is taken into account in assessing "human capital".

The pillar "Education" of the Legatum Prosperity Index comparative to the Education Index has advantages. Firstly, it contains 9 times more indicators, and secondly it allows the evaluation of the quality of education at various levels of education (pre-primary, primary, secondary, tertiary). The disadvantage of this index is that the method of calculation is changes frequently, which can distort the results of the analysis of the quality of education in dynamics.

In 2021, the Republic of Moldova registered the highest performance in Social Capital and Education (Figure 3). Despite this, during the analysed period the Republic of Moldova yields to Ukraine in the ranking. In 2021 Ukraine ranked on the 40th position in the pillar "Education" (Figure 2).

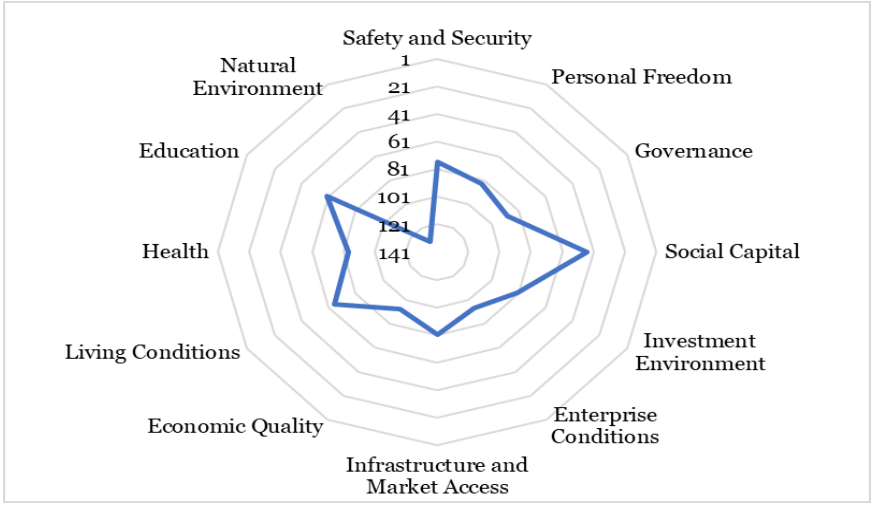

Figure 3. Radar chart of the pillars of the Legatum Prosperity Index of the Republic of Moldova in 2021, rank

[14] *The Legatum Prosperity Index*, United Nations Development Programme, New York, 2021, 23 p. https://li.com/reports/2021-legatum-prosperity-index/

The uneven evolution of the level of education in Moldova is caused by the optimization/closure of primary and secondary educational institutions[15], and the rather modest efficiency of the education reform.

Assessment of the competitiveness of education

The Global Competitiveness Index (GCI) is used to analyse the competitiveness of the national economy, including the competitiveness of institutions, infrastructure, education, health care, etc. In 2017, a new methodology (GCI 4.0) for calculation GCI was developed, and in parallel with the old methodology, the new one was tested in the calculation of competitiveness.

According to the old methodology, the indicators that reflect the competitiveness of education were divided between the 4th pillar "Health and primary education" and the 5th pillar "Higher education and training", and in the new methodology these indicators form the 6th pillar "Skills". The set of indicators has also been modified, 8 out of 10 indicators have been excluded from the calculation algorithm and another 7 new indicators have been included[16]. Therefore, because obtained skills reflect the competitiveness of education, in the new methodology the pillar of competitiveness of education is called Skills.

Unfortunately, the results of the calculations according to the new methodology were published only for the years 2018-2019, and in the subsequent reports for 2020 and 2021 the ranking of 141 countries in the division of pillars and indicators is not presented. The "2021 IMD World Competitiveness Ranking" presents only the ranking of 64 countries according to the Global Competitiveness Index.

Figure 4 shows the dynamics of education competitiveness of the Republic of Moldova and neighbouring partner countries. As we can see, the competitiveness of education in Moldova is comparatively lower compared to the level reached by Ukraine and Romania.

---

[15] T. Gutium, *Approaches to Measurement of Well-being: Case of the Republic of Moldova*. In: *International Conference Innovative Business Management & Global Entrepreneurship (IBMAGE2020),* 2020, Lumen Proceedings: Volume 14, pp. 256-269; https://proceedings.lumenpublishing.com/ojs/index.php/lumenproceedings/article/view/566/568

[16] *The Global Competitiveness Report 2019*, Geneva: World Economic Forum, 2019, 666 p.; https://www3.weforum.org/docs/WEF_TheGlobalCompetitivenessReport2019.pdf

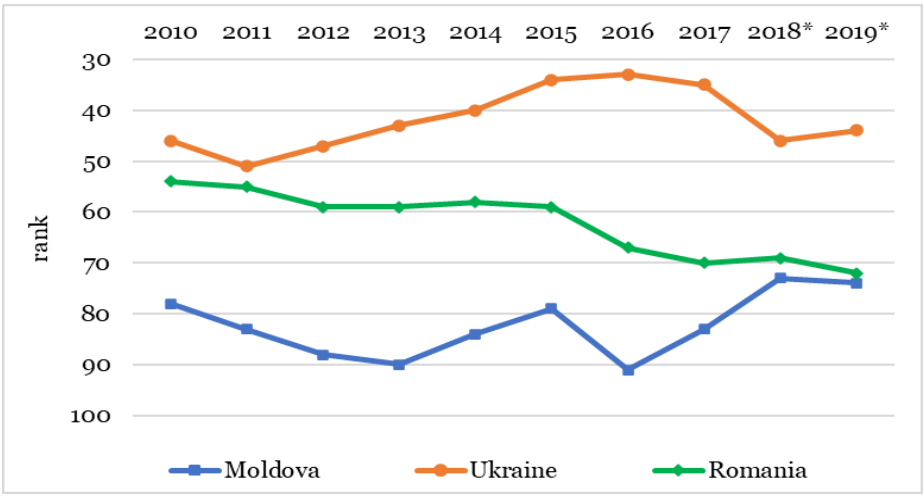

Figure 4. Pillar "Skills" of the Global Competitiveness Index, 2010-2019

Note: * The Global Competitiveness Index is calculated according to the new methodology GCI 4.0.

During the years 2010-2019, Moldova dropped by 18 positions in the ranking of the indicator "Quality of vocational training". As mentioned above, the cause is the closure of primary and general secondary education institutions (Figure 5).

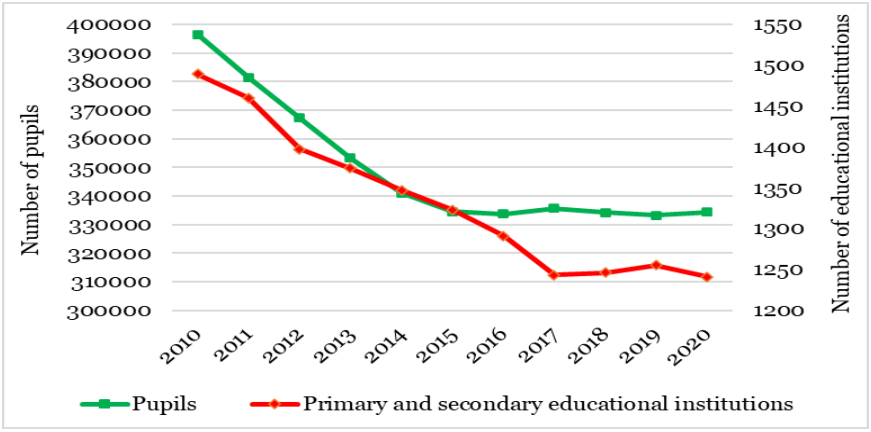

Figure 5. Evolution of pupils and educational institutions, 2010-2020

During the years 2010-2015, both the number of students and the number of educational institutions decreased. In the subsequent period, despite the fact that the number of school-age children was relatively constant, however, in 2016 and 2017 the process of closing schools

continued. The number of primary and general secondary education institutions decreased by 32 institutions in 2016 and by 48 in 2017. In 2020 the destructive process continued, another 14 schools were closed, although the number of pupils increased by 1231 people.

Conclusion

The analysis of the global indices used to evaluate the quality of education showed that the most reliable is the pillar "Education" of the Legatum Prosperity Index. First, it combines 18 indicators, while the Education Index (a component of the Human Development Index) includes only 2 indicators, and the pillar "Skills" of the Global Competitiveness Index – 9 indicators. Secondly, this index is calculated annually by the Legatum Institute, which ensures that the data series will not be interrupted.

The accessibility of education helps citizens to develop their own potential and make a productive contribution to the development of the national economy and the increase of well-being, because education is one of the basic components of well-being and is used to assess quality of life. Therefore, closing schools while the number of pupils is relatively constant or increasing is not rational. Continuing to close primary and secondary schools will inevitably lead to diminished prosperity and quality of life.

REFERENCES

Compendiul statistic al Profilului Migraţional Extins al Republicii Moldova, Ministerul Afacerilor Interne al Republicii Moldova, (*Compendiul statistic al Profilului Migraţional Extins al Republicii Moldova*, (2020), Ministerul Afacerilor Interne al Republicii Moldova, Chişinău, 40 p.;) http://bma.gov.md/sites/default/files/sites/default/files/atasamente/comunicate/cs_al_pme_2017-2019_ed_2020.pdf

Darling-Hammond, L., (2013), *The Importance of Quality Education: From Start to End*; http:

www.nie.edu.sg/nienews/sept13/?g=content/20/01

Gutium, T., (2020), Approaches to Measurement of Well-being: Case of the Republic of Moldova. In: *International Conference Innovative Business Management & Global Entrepreneurship (IBMAGE2020)*, Lumen Proceedings: Volume 14.

https://proceedings.lumenpublishing.com/ojs/index.php/lumenproceedings/article/view/566/568

Human Development Report 2020, (2020), United Nations Development Programme, New York.

McAleese, M., (2013), *Improving of the Quality of Teaching and Learning in Europe's Higher Education Institution*;

http://ec.europa.eu/education/library/reports/modernisation_en.pdf

Merkulova, L., (2008), *Formation of Professional Mobility of Technical Specialists by Means of Foreign Language*, Dissertation of doctor of pedagogical sciences, Samara.

Moiseev, A. & Moiseeva, O., (2007), *Strategic Management in School: Textbook*, Moscow, Centre for Pedagogical Education.

Moldova Statistical Database, (2021), National Bureau of Statistics of the Republic of Moldova;

http://statbank.statistica.md/pxweb/pxweb/ro/30%20Statistica%20sociala/30%20Statistica%20sociala__07%20INV__INV010__INV010rev/?rxid=b2ff27d7-0b96-43c9-934b-42e1a2a9a774

Potasnic, M., (2006), *Management of Education Quality*, Moscow, Pedagogical Society of Russia.

Selezneva, N., (2004), The *Quality of Higher Education as an Object of Systematic Study: Lecture-report*, Moscow, Research Centre for the Problems of the Quality of Training of Specialists.

Shilova, S., (2002), What do we Expect from the Quality Economy System? *Standards and Quality*, No. 1.

Solovova, N., (2011), *Control of Methodical Work of the University in the Realization of Innovative Teaching Objectives*, Dissertation of doctor of pedagogical sciences, Samara.

Thangeda, A., Baratiseng, B. & Mompati, T., (2016), Education for Sustainability: Quality Education is a Necessity in Modern Day. How Far do the Educational Institutions Facilitate Quality Education, *Journal of Education and Practice*, Vol. 7, No. 2.

The 2021 Legatum Prosperity Index Overview report, (2021), The Legatum Institute; https://www.prosperity.com/about/resources

The Global Competitiveness Report 2019, (2019), Geneva: World Economic Forum.

https://www3.weforum.org/docs/WEF_TheGlobalCompetitivenessReport2019.pdf

Acknowledgments

This research has been supported by the State Program 20.80009.0807.29 "Improving the application mechanisms of the innovative instruments oriented towards the sustainable growth of the well-being of population of the Republic of Moldova."