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THE JORDAN'S EDUCATION AT THE AGE OF KNOWLEDGE ECONOMICS: SYSTEM-HISTORICAL ASPECT

Purpose: to considerate the status of education in Jordan from the perspective of system-historical aspect. Methodology approaches: the system analysis method that includes system-historical, system-structural and system-functional aspects was used while researching. Graphical data representation method was used for a better perception. Results: the publications concerning problematic issues existing in Jordanian educational system were reviewed. The key historical milestones and events that have influenced the course of reforms were outlined. The strategic targets of reformations and the results achieved during the course of national projects implementation were compared. The evolution of the change of Jordanian's place in the international ranking of countries' readiness to move into the knowledge economy was shown. The advantages of studying in Ukraine for Jordanian students comparing with studying in the United States, Britain and in other countries were also shown. Conclusions: The system of education in Jordan is rather young from the historical aspect and it is dynamic developing. Thanks to the strategic goal of the transformation of Jordan into a regional center for information technology correctly chosen by His Majesty King Abdullah II today's vector of Jordanian education development coincide with the economy development vector of advanced countries, which is directed to the knowledge economy.. However, there is some lag in the pace of development of the knowledge and knowledge economy indices. Therefore it is necessary for the Government of Jordan to carry out definite adjustments of the designed development programs in the direction of reforms' pace increasing in the field of education. Further researches prospects: the studying of possibilities to build distance learning systems in Ukrainian universities for students from Jordan.

Key words: knowledge economy, reform, strategy, education, pace of development, international cooperation.

Альзбун Мохаммад

ОСВІТА В ЙОРДАНІЇ В ЕПОХУ ЕКОНОМІКИ ЗНАНЬ: СИСТЕМО-ІСТОРИЧНИЙ АСПЕКТ

Стан освіти в Йорданії розглядено з позицій системно-історичного аспекту. Виділені ключові історичні віхи та події, які вплинули на курс реформ. Проведено порівняльний аналіз стратегічних цілей реформ та результатів, досягнутих в ході реалізації низки проектів. Показана еволюція змін місця Йорданії в міжнародному рейтингу та готовність країни до руху в економіку знань. Рис. 4, дж. 33.

Альзбун Мохаммад

ОБРАЗОВАНИЕ В ИОРДАНИИ В ЭПОХУ ЭКОНОМИКИ ЗНАНИЙ: СИСТЕМНО-ИСТОРИЧЕСКИЙ АСПЕКТ

Состояние образование в Иордании рассмотрено с позиций системно-исторического аспекта. Выделены ключевые исторические вехи и события, повлиявшие на курс реформ. Проведен сравнительный анализ стратегических целей реформ и результатов, достигнутых в ходе реализации ряда проектов. Показана эволюция изменений места Иордании в международном рейтинге и готовность страны к движению в экономику знаний. Рис. 4, ист. 33.

JEL I21

Introduction. Jordan (Hashemite Kingdom of Jordan) is an Arab country in The Middle East with the population of more than 6,3 millions of people. This country has rather small territory; deserts occupy about 80% of the territory. Agriculture is a traditional kind of activity; nevertheless it doesn't satisfy state needs for supply of provisions. Natural resources are limited; however there are phosphate and oil-shale deposits, but water, oil and coal are in short supplies. At the present time the state economy mostly depends on the sphere of services, tourism and outside aid from USA in the first place. Like in many other Asian countries Jordan specific is the population age structure: less than 14 years – about 37%, from 15 to 64 years – about 59%, older than 65 years – about 4% residents. An average age is 21,8 years, an estimated life duration is 80 years.

Problem statement in general terms and its relation to important scientific and practical tasks. Today, at the Age of knowledge economy the educational system is one of the elements which any state should pay attention on. The understanding of what processes occur in it, how reforms advance, what priorities and goals are set by the government, gives an opportunity to assess the possibility of economic development in the conditions of 21st century. These issues relate to Jordan as well, as far as this country sent its forces to the main development of human resources to meet the needs of the knowledge economy [4].

Recent research and publications analysis, which started the discussion of problem solution. The education issues are quite complex and multifaceted. Therefore, researchers are considering the education from different sides. This also applies to the consideration of education in Jordan. Thus, for example, the questions of general and special Jordan educational system are under discussion in publication [5]. The author has analyzed the problems and constraints that encountered in the provision of services for students and people with disabilities opportunities, and gave their suggestions for overcoming them.

The advantage of this publication is the following: a detailed review of primary, secondary and higher education; legislative foundations of special education are identified; the tasks and functions of organizations and institutions which involved in the provision of educational services are highlighted; statistics are given. However, the article does not provide conceptual, graphical models, whose presence allows us to see, to understand and describe the relationship between the elements highlighted in the general and subsystem special education, to argue the problem situations and existing restrictions on the basis of the goals of the system. In [6] Dr. Fakhri Khader focuses on a holistic, systemic vision of reform in higher education in Jordan. Considering the current situation, challenges and obstacles that make changes more difficult, as well as strategies for reform in education, the author offers to develop roadmaps that will allow focusing on essential goals for reforms. First of all, it is the high quality of education, compliance requirements and the needs of society, the state, the availability of higher education, regardless of social status and religion, building a learning process for non-traditional, innovative techniques, funding for education on the principles of investment in human capital, building an effective decentralized education management system allows to achieve desired results. The author gives concrete recommendations that are necessary to be laid in the reform

programs. In this case, unfortunately, the article pays little attention to the results of previous reforms, and there is no analysis of their efficiency. These issues are increasingly covered in the publication [7] in which Dr. Mohammad A. Akour and Dr. Rifat O. Shannak considers the transformation of the Jordan educational system in historical context. Their main focus has been concentrated on the development of information and communication technologies as key conditions of the transition to the knowledge economy.

In [8-9] the issues related to the management, the creation and transfer of knowledge in Jordan are being covered. The same subject concerning the countries of the MENA region is being discussed in [10]. In these works the knowledge is seen as a product and as a necessary tool for economic growth. The basis of effective use of knowledge in any country, as claimed by Reem N. Bsaiso [9], is the development of appropriate institutions, investment promotion and coordination of actions by directions suggested by the World Bank. These directions are primarily the creation of socio-economic conditions that stimulate the production of new knowledge and the development of the entrepreneurship on their basis. What is important is the direction of building an education system that raises the level of population education and is the source of knowledge creation. The priority areas as well are the formation of the innovation system – a number of research centers, universities, and other organizations, that assimilate and adapt knowledge to local needs and create new technologies. This trend should be increased by development of effective information and communication infrastructure which allows consolidating and transferring of knowledge and information to different range of customers. Publication [9] distinguishes by the presence of high amount of analytical material. The article [11] also examines a wide range of issues related to the implementation of reforms in Jordan, including the education system reforms.

The studies [12-14] consider the issues of countries' and regions' assessment from the perspective of their readiness to move into the knowledge economy in the framework of the methodology proposed by The World Bank. The information presented in these papers gives an idea of the Jordan's place relatively to other countries, what strengths and weaknesses it has and what exactly may affect the change of its rating. However, in the publications mentioned above there is no analysis of the dynamics of change in the index of the knowledge economy and other factors on which the rating is based [15-16].

Identification of the unsolved aspects of the problem. From the above literature review we can see that there is a sufficient number of Studies that address the problems of reforming the Jordan education system from the perspective of the requirements of the transition to the knowledge economy. In this case, we could not find publications in which all the above problems and questions would be systematized and presented holistically. This necessitates the consideration of these issues in some logical ordering and relationships, including the national characteristics in the design and development of the education system, the problems existing in the society, undertaken transformations and the results achieved, both within the country and from a position of outside and international assessment.

Statement of purpose of the article. The aim of the study is an attempt to present the existing information concerning Jordan education in the context of a holistic view of its condition for the possibility of determining different ways of its further development. Understanding the complexity and extensiveness of the claimed task, the author of this work sees it as the beginning of large system research. Therefore, this article puts more specific purpose - to consider the state of education in Jordan from the perspective of the system-historical aspect.

KEY FINDINGS

Methods and techniques of research. To achieve this goal it is expedient to use the method of system analysis [17], which comprises system-historical, system-structural and system-functional aspects. Besides, the method of graphic information presentation [18] is used for a better perception.

The main material of the study. The main document which determines the development of any activity in any country is The Constitution. In the Jordanian Constitution it is proclaimed that the state ensures to all Jordanians work, education, their safety and equality of opportunities (Article 6) as far as possible. At the same time the primary education is obligatory for Jordanians, and it is free of charge in state schools (Article 20) [19]. These provisions of the constitution have defined conceptual foundations of education in Jordan.

The education system is multilevel in Jordan. It provides two-year pre-school preparation, followed by a ten-years general education (for children from 6 to 16 years). There are so called academic and professional streams aimed for gaining upper secondary or vocational education training in which will be lasting for two years. Jordan higher education belongs to the highest level of educational system. It can be divided into three parts: the four-years training for Bachelors of Science or Bachelors of Arts (for engineering and medical specialties 5-6 years), one and a half or two-year masters training, and at least three-years training for the degree of Doctor of Philosophy.

Higher education in Jordan was introduced in 1952. At that time the illiteracy rate in the country was about 88% of total population for the age of 15 years and over [20]. Since 1962 in Jordan Universities are beginning to be created. At the moment there are 28 universities. There are more private universities (18) than the state ones (10). Their annual enrollment is approximately 200,000 students [21]. There are also dozens of colleges and hundreds of schools. It is through such development of education in the last decades that it was possible to reduce the illiteracy level to less than 5 %.

The management of the educational system is implemented by the Ministry of Education and Scientific Researches, which was created in 2001. Prior to that there existed The Council of Higher Education. At the moment it is a part of Ministry along with The Council of Accreditation, The Council of Personnel Training, Scientific Research Committee [22, 23].

Substantial education reforms were initiated in 2002 by His Majesty King Abdullah II, who set the strategic goal of Jordan's turning into a regional center of information technologies. This goal was fully in line with the vector of progress of developed countries and that was aimed to the creation and development of the knowledge economy. Such vector was enshrined at the Lisbon Program for the European Union [24]. This program has become the main document which set the strategic program of economic and social innovations in Europe in the beginning of the XXI century. As noted in the Program, Europe "should reconsider the strategies for a more complete manifestation of a new society that is focused on knowledge." As the first goal, which determines future policy actions, is proclaimed "the creation of a special, dynamic and knowledge -oriented economy." It is stated that "education and training of specialists are the most important parameters of the society preparation that knowledge is focused on".

Along with the term "knowledge society" it is widely accepted in the scientific literature to use the term "information society". The Internet glossary analysis allowed the author of [25] to give the following definition of Information Society. It is the post-industrial society concept, a new historical phase of civilization development in which the main fruits of production are information and knowledge". The strategic goal of

turning Jordan into a regional center for information technology, delivered by His Majesty King Abdullah II, was the only correct one.

To achieve this objective, the Government launched a major force for the development of human resources. The strategy and the change program "Education reform for meeting the needs of the knowledge economy " were developed. It was supported and funded by The International Bank of Reconstruction and Development . The first phase of the program was designed for ten years and was aimed to change an attitude and conditions for education of younger children, primary and secondary education [26]. From 2003 to 2009 there were realized a number of projects with a total budget of 370 million US dollars [27]. The following main results were achieved:

The national strategy was developed in the field of education.

New management and leadership tools were implemented to enhance community participation in decision-making as well as basic skills and special trainings for the knowledge economy.

New curriculum and new teaching methods were introduced; 80 % of teachers began to use new techniques appropriate for the national strategy in the field of education.

80 % of primary and secondary school-children study in safe classrooms that meet required conditions.

87 % of children study in school buildings that meet environmental requirements.

70 % of primary and secondary school-children use online educational portals.

51 % of children aged 5-6 years attend kindergartens.

100% of kindergarten teachers were trained in accordance with the national standards.

The second phase of the program from 2009 to the end of the 2015 has 408 US million dollars budget and is aimed to enhance the decentralization of education system, capacity development and innovations implementation in schools for their efficient operation, training of teachers, strategic management assistance at the level of the top echelon of leaders of the Ministry of formation [26, 28].

Jordan also actively participates in the Tempus programs [29, 30].

These data indicate that the Jordan education system gradually implements the strategic goal that His Majesty King Abdullah II put. However, there are some difficulties on the way of realization of this goal. The most important problems include: the lack of coordination in the part of legislation that regulates higher education sector; high unemployment; redundancy of specialists in the most prestigious professional fields of activity from the national point of view, such as medicine and engineering. Nowadays new state-competitors appear despite the fact that Jordan is one of the MENA leaders in the field of education. These new state-competitors include Morocco and Oman. These countries activate steps towards the development of their education systems [31]. Jordan is beginning to partially lose its positions on the world arena. It is indicated by the rating change dynamics, which is calculated on the knowledge-based index KI and the knowledge economy index KEI. In 1995 Jordan ranked 61 out of 142 countries, in 2000 - 57, in 2008 - 62, and in 2012 - 75. During this period the index of knowledge KI decreased from 5.51 to 4.71, and the knowledge economy index KEI decreased from 5.55 to 4.95 (Figure 1). These falls were 14.5% and 11%.

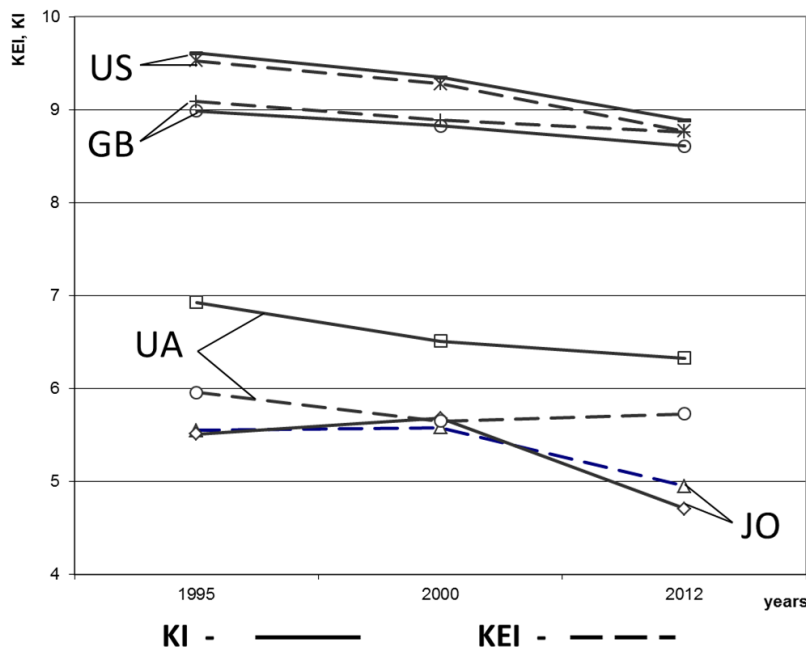


Fig. 1. Dynamic change for the index of knowledge KI and the index of Knowledge Economy KEI for the U.S., UK, Ukraine and Jordan

The loss of 15 points in the rating during last 17 years does not mean that the Jordan reforms go wrong. According to the methodology of calculation, rating should be normalized in relation to other countries. But we can definitely say that the pace of development that is measured by the knowledge indices and the knowledge economy indices are lower than the paces of the countries that "surpassed" Jordan during this period. A similar drop in rating can be seen for other countries. For example, the drop is observed for U.S. and Ukraine. In 1995 the United States took the 1st place, in 2000 – 4, and in 2012 – 12.

Thus, the drop was 12 points. As for this period the absolute values of the indices decreased: KI from 9.61 to 8.89 (7.5%), while the knowledge economy index KEI from 9.53 to 8.77 (8%) (Fig. 1). During the same period Ukraine lost only 5 points (1995 - 52, 2000 - 54, 2012 - 56). But its KI index declined for only 8.7 % (from 6.93 to 6.33), and the KEI index for 3.9 % (from 5.96 to 5.73). It is the smallest drop for the knowledge economy index KEI comparing with other countries.

When comparing the fall of ratings U.S. and Ukraine are chosen not accidentally. According to UNESCO information these countries are the most preferred for abroad higher education destination of Jordanian students [32]. Statistics show that in 2012 there were 2236 students from Jordan in Ukraine, 1977 in USA, only 1355 students in UK (Fig. 2).

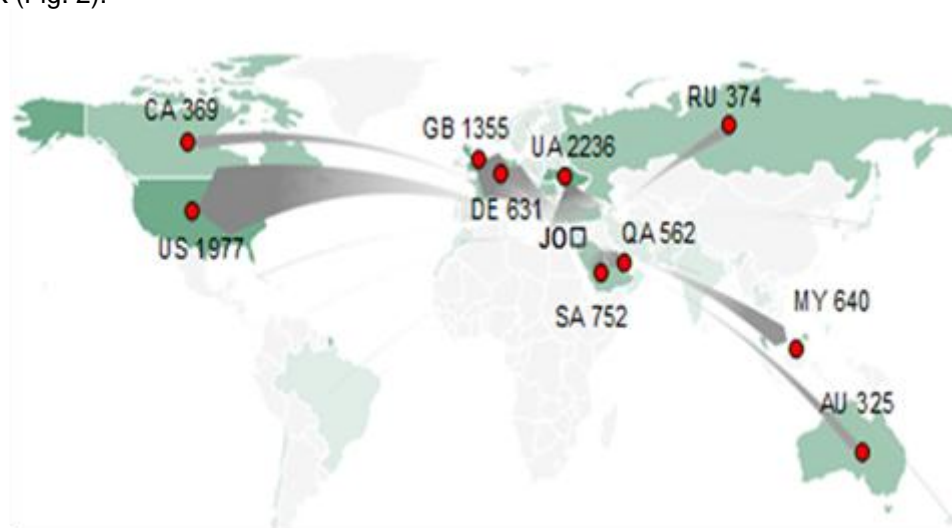


Fig. 2. The number of Jordanian students studied abroad in 2012

As it can be seen from Figure 2 some European Union and Asian countries are also popular among students from Jordan. This indicates that nowadays there is a transfer of current knowledge from all over the world into Jordan. The development of this process continues to grow intensively.

The leading role of Ukraine in this process can be explained not only by the series of agreements of cooperation in higher and vocational education between Ukraine and Jordan [33]. This is also caused by rather stable position of the Ukrainian education system comparing with the education systems of the U.S. and the UK.

This is confirmed by the Ukrainian educational indices [16]. Thus, according to this index Ukraine has lost only 1.1 % (from 8.35 to 8.26) from 1995 to 2012 having

sufficiently high value of the index. During the same period the U.S. has lost 7.8 % (from 9.44 to 8.7), and the United Kingdom 13.9 % (from 8.44 to 7.27). It is a positive fact for Jordan that it has raised for 23.9 % (from 4.48 to 5.55) on this index. However, comparing with the other three countries it is still low.

If we consider the education systems from the position of ratings the facts defined above are confirmed. For example, during the period from 1995 to 2013 the United States, which had 5th place out of 142 countries, has fallen to 13th place (5 points loss), and the United Kingdom - from 17th place to 36th (19 points loss) (Fig. 4). During the same period Ukraine has lost only 2 points, from the 19th place to 21st. At the same time Jordan has significantly improved its position according to this rank and has risen from 78th place to 63d, i.e. 15 points rise. This once again confirms the correctness of strategic objectives delivered by His Majesty King Abdullah II for Jordan in the field of education. In addition it is necessary for the Government of Jordan to carry out definite adjustments of the designed development programs in the direction of reforms' pace increasing in the field of education to improve primarily education index.

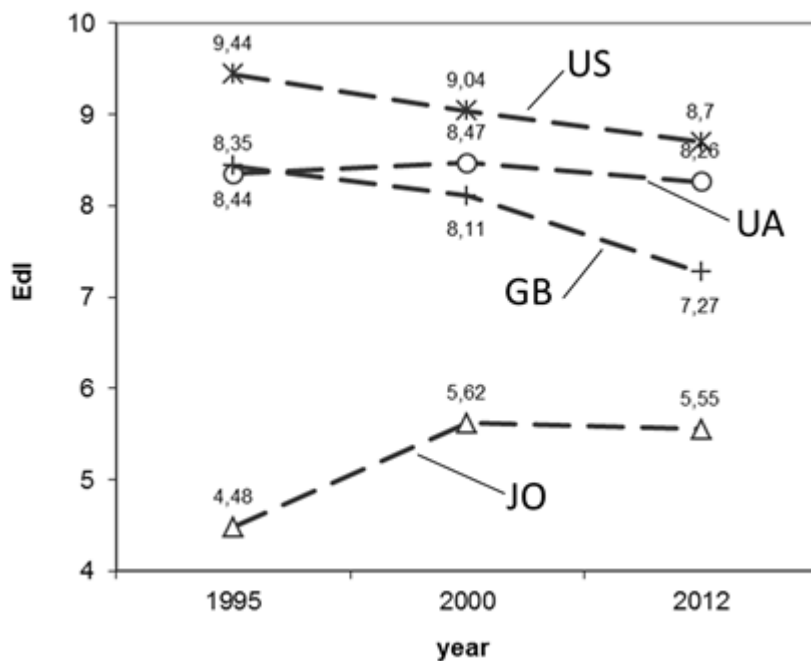


Fig. 3. Education index for the U.S., the UK, Ukraine and Jordan

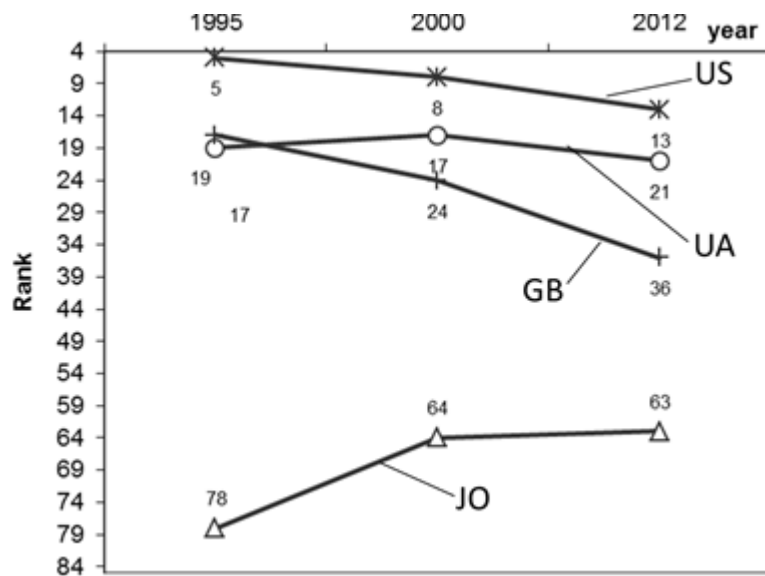


Fig. 4. Education index rating for the United States, Great Britain, Ukraine and Jordan

Let us have a look at the structure of the Jordanian students training in Ukraine. In the beginning of 2013-2014 academic year the total number of Jordanian students studying in Ukraine will predictably be about 2,500 people. The majority of students will take bachelors and masters degree programs. This amount will be approximately 1990 -1995 people. About 1,770 people will choose the specialty "General Medicine" and "Dentistry" out of total amount of students. Approximately 6.3% (125 people) will master different engineering specialties and 1.7 % (34 people) will master agricultural specialties. In addition about 1-10 students will choose the specialties that are associated with the management and the economy, the human health science, social sciences, law, arts, liberal education, etc. It is planned that there will be about 475 people studying at the preparatory department, and 30 people will take postgraduate studying. There are 12 girls (0.6 %) out of total amount of students studying in Ukraine.

The most popular Ukrainian institution of higher education among Jordanian students is the Donetsk Medical University named after Maxim Gorky. At the present time the total number of Jordanian students who have "General Medicine" program runs up to 1,000 people. From year to year the number of Jordanian graduates of this University increases. There in 2011-2012 academic year approximately 170 students graduated from the University, and in 2012-2013 academic year - 240 graduates.

The wave of demonstrations and protest marches that began in the Arab world in the end of 2010 and called "Arab Spring" has had an impact on student flows that come to Jordan for studying and go out to other countries. Thus, in 2012 more than 20,000 students came to Jordan from the MENA region countries. The number of Jordanian students willing to study in neighboring countries reduces due to the current events. For example, in 2012 there were only 181 people studying in Kuwait, 123 in Oman, 68 in Morocco [32]. In such conditions Ukraine is precisely the preferred country to gain quality higher education for the majority of Jordanian families with small profits. It is conditioned by certain reasons. The first reason is lesser cost of education comparing with the United States and English ones. The second reason is an opportunity to gain special subjects knowledge taking preparatory courses that last

one year. Therefore the students who enroll to the medical specialties additionally study chemistry, physics and biology. This guarantees that in the beginning of training the students will have more deep knowledge comparing with their level when they come for studying.

DISCUSSION

Justification of the received results. The results presented are based on scientific studies reviews carried out by different authors and published in well-known journals and publishers, as well as on official documents analysis. This allows us to assert that the results and conclusions are well-founded and reliable.

Conclusions. Jordan's education system is young enough and is dynamically developing in historical aspect. Thanks to the strategic goal of the transformation of Jordan into a regional center for information technology correctly chosen by His Majesty King Abdullah II today's vector of Jordanian education development coincide with the economy development vector of advanced countries, which is directed to the knowledge economy. However, there is some lag in the pace of development of the knowledge and knowledge economy indices. Therefore it is necessary for the Government of Jordan to carry out definite adjustments of the designed development programs in the direction of reforms' pace increasing in the field of education. Taking into account the established relationships between Jordan and Ukraine in the field of education, it is reasonable to expand the number of students who choose not only medical professions, but also other science directions. Besides it is essential to increase the number of women who study in Ukraine because Ukraine is the country that is sufficiently tolerant in gender issue.

Perspective researches in this direction. The next step in system studying of Jordan education in the age of knowledge economy should reasonably be made in the direction of researching the features of the distance and interactive education development. Jordan pays much attention to these kinds of education.

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