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VIEWS REGARDING THE IMPLEMENTATION OF THE NEW SYSTEM OF BUDGETING ELABORATION OF ADMINISTRATIV-TERRITORIAL UNITS

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In this article there are presented the views of the author, who has studied the implementation of the new system of budgeting administrative-territorial units in Riscani and Ocnita districts which have undergone piloting for 2014 year. In the result of the analysis performed by a set of quantitative and qualitative indicators, using the process of comparison of the new and the old system, the author summarizes some opinions, which list the advantages and disadvantages of the new one. Overall, the author concludes that the new local budgeting system leads to strengthening of financial autonomy and raises the responsibility of local authorities for capitalization of the new sources of incomes to the local budget.

Key words: *proper incomes, self-governing incomes, general and special transfers, current costs, capital costs, achievement rank, self-financing rank.*

În acest articol sunt expuse opiniile autorului, care a studiat procesul de implementare a noului sistem de elaborare a bugetelor unităţilor administrativ-teritoriale în raioanele Rîşcani şi Ocniţa, supuse pilotării pentru anul 2014. În rezultatul analizei efectuate cu ajutorul unui set de indicatori cantitativi şi calitativi, utilizând procedeul de comparaţie a sistemului nou cu cel vechi, autorul sintetizează anumite opinii, în care se regăsesc avantajele şi dezavantajele noului sistem. În general, autorul conclude că noul sistem de elaborare a bugetelor locale conduce la consolidarea autonomiei financiare şi ridică responsabilitatea autorităţilor publice locale pentru valorificarea noilor surse de venituri în bugetul local.

Cuvinte cheie: *venituri proprii, venituri autonome, transferuri generale şi speciale, cheltuieli curente, cheltuieli de capital, grad de realizare, grad de autofinanţare.*

В этой статье автор высказывает взгляды, касающиеся процесса создания бюджетов административно-территориальных единиц по новой системе, которая экспериментируется в районах Рышканы и Окница в 2014 году. Автор осуществляет анализ на основе ряда количественных и качественных показателей, используя метод сравнения новой системы создания бюджетов административно-территориальных единиц /БАТЕ/ со старой системой.

В итоге, автор приходит к выводу, что новая система образования БАТЕ способствует консолидации финансовой автономии и повышению ответственности органов местной власти в увеличении доходов в местный бюджет.

Ключевые слова: *собственные доходы, автономные доходы, общие и специальные трансферты, текущие расходы, капитальные расходы, уровень исполнения, уровень самофинансирования.*

JEL Classification: D31; D33; F24; H27; H76.

Introduction. Public finance management is an integral part of the general economic management. Public finance management is one of the pillars of general economic management. The important place that occupies in the context of public finance management is determined by the fact that it is the main tool to promote fiscal policy which, with other financial policies, underlines the growth and sustainable development of the national economy. In order to ensure sustainability of public finances, strengthening budgetary and fiscal discipline and ensure an efficient and transparent management of public finances, Moldovan Parliament approved the Law on public finances and budget and fiscal responsibilities (OJ of RM, no. 206-208 from July 21, 2014).

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In the frame of public finances a special place occupies the local public finances. Law no. 397-XV of 16 October 2003 concerning local public finances (OJ of RM, 2003, no. 248-253), in the reform of local public finances, was amended by Law on amending and supplementing certain acts nr. 267 of 01.11.2013 (OJ no. 262-267/748 of 22.11.2013). Through this law was taken another important step in local public finance management reform. In recent years this reform gained breadth, having as fundamental objective the strengthening of local financial autonomy. The main task of local authorities in achieving this goal is to supplement the proper incomes. Supplementing the proper incomes at local level is related to the tax base of each administrative-territorial unit.

The new law on local public finance meant an essential reform in budgeting elaboration of administrative-territorial units, a new system for calculating the general transfers (equalization), raising the accountability of local government in strengthening local autonomy and fiscal decentralization.

To see the advantages of the new system of budgeting elaboration of administrative-territorial units is needed to compare the new system with the old one, which will be tried to be done below.

1 Analysis of qualitative indicators

In the result of the comparison of the two versions of budgeting elaboration of administrative territorial units – the old and new system, implemented in pilot districts in 2014 we find the following:

a) In section "incomes" we will compare the aggregated indicators:

- Total incomes and rank of achievement;

- Proper incomes;

- Autonomous incomes / breakdowns;

- General transfers (equalization) and special transfers.

I. Total incomes and rank of achievement in terms of implementing the new financing formula LPA compared to the old system.

Total incomes and total incomes per capita increased in 2014 compared to 2013 in all territorial administrative units from Râşcani and Ocniţa districts. In some places this indicator practically doubled.

The improving of the indicator was caused both by the allocation of state budget transfers for capital expenditures and the fact that following the transition to the new funding system, all of the ATU of the I level were winning, which was confirmed by lack of fund compensation transfers for 2014 in the incomes structure of the ATU of the first level from the district. Imposing increases of the indicator in some localities were influenced by the receipt of arrears from previous years to rent payment and land taxes in considerable quantities too.

The transition to the new system for calculating the transfers from the state budget has influenced total incomes growth and per capita in all ATU of the first level from Ocniţa district, which was confirmed by the absence of transfers from the compensation fund for 2014 in the income structure of ATU of the first level from the district too.

The achievement of total incomes did not change significantly in 2014 compared to 2013 and in most ATU he is close to ideal size of 100%, a maximum deviation being in average of 5.9 percentage points in some localities.

ATU that recorded a lower level of achievement had problems collecting lease payments. The predictability of the total incomes in ATU from Ocniţa district is quite high so until and after the implementation of reform transfers. Thus, the degree of realization of incomes has departed from ideal share of 100% compared to 2013 and in the other pilot ATU, there was an increase of predictability of financial flows by an approach of 100% of achieving incomes rank.

In some localities from Râşcani district, the rank of realization of total incomes is weaker, and we established that 1/3 of localities have not achieved the expected level and even being lower than in 2013 by about 3-4%.

II. Proper incomes. At this indicator most localities have achieved increases. There are some localities that have achieved performances at this indicator. The same trend is at proper incomes per capita. It is worth mentioning that the cause of proper incomes growth in 2014 is the revenues from previous years of lease payments and land taxes. In conclusion we can mention that over 70% from administrative-territorial units of the first level there was an increase at this indicator. But along with proper incomes increases has also been registered a considerable decrease of population.

Proper incomes create self-financed conditions. **The self-financing rank** has decreased in 2014 in all analyzed localities. The decrease of self-financing rank in pilot localities was determined by increased transfers. In those localities where the situation has not changed is due to coincidence of the growth rate of

proper incomes and breakdowns of individual income tax (autonomous incomes) with the pace of transfers increases. If there are localities that have a higher degree of self-financing then it is due to the outstanding revenues from other years for land lease payment, and also because those localities do not practice preschool education competence (which was taken over by the second level LPA) and do not receives special purpose transfers for education.

In conclusion we can mention that in most localities the degree of self-financing fell in 2014 compared to 2013, it accounted for 12 to 24%. The reduction cause is of increasing current transfers, and those capitals, including resources received from the Road Fund for the essential repair of roads, which by 2014 were not allocated for level I.

From the above mentioned we can conclude that the ATU have a weak financial base and in this situation are unable to self-financing.

Proper incomes achievement. The achievement of proper incomes from pilot localities of Ocnita and Râşcani districts has a mixed character, varying in 2013 from 80%, rising in some localities up to 200%. In over 50% of localities the degree of realization of proper incomes has approached the ideal size 100%, which involves increasing the predictability of these incomes, and on the other hand, held a removal from this value, which implies a decrease of predictability. However, if we exclude the number of localities in which decreased the predictability of proper incomes, which were collected debts from previous years, that could not be predicted with accuracy and where were not collected incomes from rent, planned according to contracts and unpaid by the renter, the predictability of proper incomes in localities from these districts has increased.

But it should be noted that the degree of realization of proper incomes does not provide a precise characteristic of income predictability, due to the fact that sometimes the amounts planned for the revenues from the existing tax base and according to existing contracts are not paid on time by taxpayers, and sometimes outstanding amounts are collected, which are not planned on account of certainty lack that they will be charged.

Knowing that in proper incomes structure the largest share has the income from property tax would be good to see the revenues dynamics of this tax. The incomes from property taxes in 2014 recorded an increase compared with 2013 in most pilot localities. The increase is largely due to payment arrears from previous years. **The power of decision of LPA from rural localities on property tax is practically inept, subjects, tax rates, exemptions and reductions being approved by law, and in cities this power of decision is limited practically only at election of real estate tax rate for housing estimated at market value in the range approved by law.**

In conclusion we can mention that during a year of implementation of public finance reforms, a significant improvement in the revenues of property taxes are not recorded, since that most stocks were capitalized in prior periods. **The only way to increase revenues at these incomes is to expand the tax base through the sale or land leasing and property belonging to ATU unused.**

Achievement of property taxes. For 2014 **the predictability** (forecasting) of property taxes due to gradual realization, declined in many UAT, where the degree of achievement was removed by size 100% and for certain being closer to the 100% than in 2013.

In conclusion we can mention that the reform system for calculating transfers from the fund for financial support of administrative-territorial units in the first year did not affect the improving predictability of property taxes.

III. Autonomous incomes/breakdowns: in addition to proper incomes, comprise quotas deducted from general shared state taxes. These breakdowns, unlike other transfers from the state budget, are spilled automatically into ATU budget account and reflect very well the situation of the local economy and efforts that LPA makes to development.

In pilot localities, autonomous incomes increased in 2014 compared to 2013 in several localities. Although there are some localities with decrease, though the trend is positive.

The dynamics of **autonomous incomes per capita** is identical with the dynamics of autonomous incomes, with the exception of some localities where due to population decline, the dynamics of autonomous incomes per capita is positive, unlike the dynamics of autonomous incomes overall localities.

In conclusion we can mention, that in most localities of the district autonomous incomes registered a positive trend, which is largely explained by the increased revenues from the individual income taxes (IIT), which in turn was influenced by the increase of salaries in the real and budget sector, as well as

increasing the share of breakdown from IIT from 70% in 2013 to 75% in 2014, following the transfer system reform.

The achievement of self-financing incomes did not significantly change in 2014 compared to 2013. In 2013 this indicator varied from about 80% in some localities up to 200%, being influenced by the payment of debts, paying the rent from previous years.

The degree of financing from autonomous incomes depends on the degree of realization of autonomous incomes and therefore the degree of independent financing income has decreased in most piloted localities in 2014. **The decreasing degree of financing in pilot localities was determined by increasing transfers. The weak tax base from most localities cannot ensure self-financing.**

IV. Transfers to general purpose (balancing)

All administrative-territorial units of the first level received general transfers (balancing) and special transfers. In 2014 general purpose transfers (GT) to a resident return in localities with low fiscal capacity and with a small number of people, and least GT are allocated in localities with a fiscal capacity close to or higher than the national average. General purpose transfers in 2014 registered a decrease compared to 2013.

Special purpose transfers from the state budget (ST) are transfers for financing preschool education, primary, and secondary-general, special, complementary and competences delegated by Parliament to LPA authorities, at the Government's proposal. In 2014 pilot localities funded from ST the preschool education and payment indemnity for tutor. The average of special purpose transfers per capita in pilot localities is from 350 to 600 lei, oscillating between these values.

The degree of dependence of ATU's budget to State Budget. The degree of dependence of ATU by the State budget in piloted localities is irregular: in some of them the dependence decreased and increased in others. The reason lies in changing the calculation of transfers, which helped to reduce the dependence of ATU's budgets to State budget.

In conclusion we can mention that in general the dependence ATU' budgets to the State budget have increased. The cause is the method of calculating the fiscal capacity per capita in a specific locality (FCL i) at the local level and fiscal capacity at the national level, taking into consideration the localities subjected to allocations (FCL n), decreasing these values and therefore, to balance the budget ATU is required larger amounts from the Fund of financial support of administrative-territorial units (FFS of ATU).

Likewise the Local Public Finance Law no. 267 provides a set of activities financed by special purpose transfers. All these provisions increase the dependence of ATU's budget to State budget.

This situation does not affect the financial autonomy, that actually will not depend on the origin of sources, but on the decentralization of competency and administrative autonomy of LPA by having autonomous right, independently using the resources by priorities, on activities laid on programs and measurement indicators of performance.

V. Analysis of expenses

The significance of current expenditures in total expenditures

Expenses for ATU take into account the basic component, which comprise:

1) Current expenditure (recurrent)

2) Capital expenditure

The significance of current expenditure in total expenditure in most ATU tend to reduce. In some localities there is observed an increase of capital expenditures, which in turn, is due to the allocation of transfers from the state budget and resources from Fund road for investments and capital repairs.

The new formula stimulates the formation of additional incomes and by optimizing current expenditures, their savings and use of performance indicators on resources, products, efficiency and results. Reducing current expenses creates prerequisites for increasing capital expenditures, investment expenses. Where there was growth of capital expenditures, they increased due to the reduction of current expenditures.

Personnel costs (art. 111, 112, 116), as part of current expenditures, in 2014 are increasing compared to 2013. The increased personnel expenses is due to the gradual implementation of policies for salary increases in the budgetary sector, promoted by central public authorities, as well as extension of preschool education in many localities, which generated and increased salary expenses. Here it is necessary to mention, that in the new system, at the establishment of the inter-budgetary relations the policies for salary increases are taken into account only at the determination of special purpose transfers

(for education). As for the salary increases of employees from branches financed from general incomes (public administration, culture, etc.), they are not compensated from the state budget, unlike the old system. **Personnel costs per capita** have the same dynamic as the local total personnel costs.

The rigidity of expenditures in analyzed localities shows a trend of declining personnel expenses in relation to the total expenditures in fiscal year 2014 compared to 2013. This is due to the increase of part expenditures from the account of the budget transfers and resources from Fund road for investments and capital repairs.

Autonomous personnel expenditures (excluding education) is similar to the total personnel costs. The same upward trend is influenced by salary increases and indexation by 10-12% and keeps at autonomous personnel expenditures indicator reported per inhabitant too. The positive change in the degree of assurance with resources of purchasing goods and services for achieving own competencies.

The significance of autonomous personnel costs (besides education) in total expenditures. The importance of autonomous personnel costs in total expenditures has been reduced in most localities, and in some of them has been recorded an insignificant increase. This indicates a positive change in the degree of assurance with resources of expenditures for purchasing goods and services for achieving own competences. Reduction of autonomous personnel costs in total expenditures is motivated through the education funding from the state budget.

The gross operating outcome (surplus or deficit) has significantly increased in most localities. This increase indicates a better capacity of LPA of resource mobilization for capital expenditures. In essence this increase demonstrates a superior financial management capacity in 2014 compared to 2013, forasmuch as not using all the resources available to cover current expenditures, but rather creates funds available for investment. Gross operating outcome (surplus/deficit) represents the main and essential source through which LPA can mobilize funds for investment.

The significance of gross operating outcome in total incomes has increased in 2014 in most localities. The indicators of growing operating outcome reflect financial management capacity and refer to the relation between incomes and expenditures, defining the extent to which LPA implements an efficient management of financial resources.

2. Analysis of LPA perception and motivation and collecting incomes

The impact of the implementation of the new financing system in Rîşcani and Ocniţa districts

Indicators	Mean Râşcani	Mean Ocnita	Overall score	Impact evaluation
I. Income indicators				
The rank of realization of total incomes	limited - score 1	significant – score 2	**2**	**It is under „high”rating**
Total incomes per capita	high - score 3	high - score 3	3	Qualification „high” influenced by population reduction
Incomes from property taxes	significant – score 2	significant – score 2	2	Has recorded a „significant”qualifier
Incomes from property taxes per capita	significant - score 2	high - score 3	3	Score generally classified as „high”
The signicance of incomes from property taxex in total incomes	low - score 0	low - score 0	0	As a proportion score is low, therefore it is necessary to change Title VI of CF
The signicance of incomes from property taxex in proper incomes	limited - score 1	significant – score 2	2	The qualifier shows a deviation from „limited” to „significant” depending on financial management promoted by LPA
Rank of property taxes realisation	low - score 0	limited - score 1	1	The qualifier shows a deviation from „low” to „limited” depending on financial management promoted by LPA
Proper incomes	**high - score 3**	**high - score 3**	**3**	Tend to increase to a „high”score
Proper incomes per capita	significant – score 2	high - score 3	3	Tend to increase to a „high”score
Rank of self-finanicng	**low - score 0**	**low - score 0**	**0**	Rank of self-financing is low
Rank of proper incomes realization	limited - score 1	limited - score 1	1	The achievement of proper incomes is „limited” because LPA do not have levers of influence on bad payers.

Autonomous incomes	**limited - score 1**	**high - score 3**	**2**	It varies from „limited" to „high" depending on the promotion of a performed financial management
Rank of autonoumus incomes realization	significant - score 2	significant - score 2	**2**	**Is uniform - „significant"**
Autonomous incomes per capita	limited - score 1	high - score 3	2	In medium is „significant
Rank of finance from autonomous incomes	low - score 0	low - score 0	0	Rank of finance is „low"
General purpose incomes	**high - score 3**	-	-	General purpose incomes recorded a „high" score, because include transfers
General purpose incomes per capita	high - score 3	-	-	„ - „
Rank of finance from general purpose incomes	high - score 3	-	-	„ - „
Rank of general purpose incomes realisation	significant – score 2	-	-	-
Transfers and general destination	low - score 0	Most GT per capita return in localities with low fiscal capacity and a small number of people, and the fewer GT are allocated in localities with a fiscal capacity closer to or higher than the national average. The total amount for 2014 = 8.7 million lei	-	-
General destination transfers per capita	low - score 0	In medium 160,7 lei /per capita	-	-
Rank of finance from general destination transfers	low - score 0	-	-	-
Special destination transfers	high - score 3	-	-	-
Special destination transfers per capita	high - score 3	Oscilates from 1,7 lei/per capita to 579,9 lei/per capita	-	-
Rank of finance from special destination transfers	high - score 3	limited - score 1	2	-
Rank of dependence of ATU'budget to State budget	high - score 3	significant - score 2	2	-
II. Expenditure Indicators				
The significance of curent expenditures in total expenditures	low - score 0	significant - score 2	1	„Limited"
The sighificance of capital expenditures in total expenditures	high - score 3	high - score 3	3	„High"
Personnel costs	high - score 3	high - score 3	3	„High"
Personnel costs per capita	low - score 0	high - score 3	2	„Significant"
Expenditures rigidity	significant - score 2	limited – score 1	1	„Limited"
Autonomous personnel expnditures (without education)	high - score 3	high - score 3	3	„High"
Autonomous personnel expnditures (without education) per capita	high - score 3	high - score 3	3	„High"
The significance of autonomous personnel expenditures (without education) in total expenditures	significant – score 2	limited - score 1	1	„Limited"
III. Operating result indicators				
Gross operating outcome (surplus or deficit)	high - score 3	high - score 3	3	„High"
The significance of gross operating outcome in total incomes	high - score 3	high - score 3	3	„High"

Note: 0, 1, 2, 3 score.

Impact assessment is carried out according to quality indicators through multi-criteria analysis, using four qualifiers:

1. Low – score 0;
2. Limited – score 1;
3. Significant – score 2;
4. High – 3 score.

3. The impact of the new system on how to manage budget resources: conclusions and recommendations.

1. We consider that the new system of elaborating the administrative-territorial unit's budgets creates prerequisites for expenditures responsibility of public money, because they have the right to identify priority activities that need to finance them. ***"It leads over the top, but is administered better bottom".***

2. If in the old system all facilities granted to various categories of taxpayers to pay property taxes (real estate tax) were offset by general transfers, currently these resources no longer compensate. This process leads to the reduction of proper incomes.

3. Through the new funding system, the general transfers are allocated directly to the budgets of first level, which is appreciated by LPA. The direct establishing of relations between administrative-territorial units and state budget removes subjectivity in the transfers' allocations. Have increased special destination transfers to, which is funded preschool education and some delegated activities from the center. All these stimulate local authorities and increase confidence in the central government. We agree that the financial decentralization reform failure, lack of local levers of influence on the collection of local taxes have a negative impact on proper incomes growth. The local autonomy is not strengthened. *We propose that the tax collector to be assigned tax inspector function or ability to draft protocols on taxpayers who do not respect the obligation to the budget.*

4. If in the old system, at expenditures calculation according to the medium-term expenditure framework (MTEF MTBF), elaborated by the Government, were taken into account inflation, the gradual increase of salaries, rising prices and other changes with economic and financial impact, then in the new system these provisions are not adjusted and therefore have a negative impact on proper incomes of ATU of first level.

5. We consider that the administrative-territorial units of the first level should be returned to the breakdown of VAT. It is worth mentioning that, since the first level budgets do not provide a percentage breakdown of the road tax for local roads reparation, would be welcome to review this method in the Tax Code and in the state budget, because the tax landscaping has little value and does not allow the maintenance of local roads. This would increase autonomous incomes, would raise the level of self-financing and create real conditions for financial autonomy.

6. An important issue is the tax (duty) on local natural resources. This tax is an income common to ATU of second level. The fact that, the natural resources, often are on the territory of ATU of first level, for example stone pit, but at the same time is managed by ATU of second level, which leads to the misuse of public goods.

In localities where there is stone pit with a high potential of natural resources, unfolds a real industry of mineral deposits extraction: stone, gravel, bringing annual income of millions of lei, but in the local budget, for this stone pit, is paid only the land tax. Although, according to the Tax Code, the local natural resources are local tax, but flows into the budget of level II, should be amended law, and ATU, on whose territory this stone pit is, should be returned at least 1-2% of annual income. In this case the local budget would not require general transfers. The traders that manage this public good or private one, have to pay in local budget the environment tax, and for the damage brought to local infrastructure.

7. The new system boosts LPA to supplement incomes, because they remain available to LPA and can be used as decided by local councils. They can improve the quality of public services. But for this, has to be solved a principle problem – *all public properties that are within the ATU must be managed by it.* Otherwise, it is reduced the interest and stimulus of LPA to promote an efficient financial and administrative management.

8. Some local public authorities propose to introduce in agriculture a single tax. The idea of introducing single consolidated tax of about 3.1 lei at degree hectare would strengthen some imposts and local taxes. This would streamline the tax administration at the local level.

9. On the territory of local public authorities are located buildings that provide services to the population (ex: Moldova Post, Moldtelecom, electrical networks, etc.). In these cases should be reviewed the land tax and rent payment, if applicable. It is not real to pay only for one occupied m^2. LPA should have the right to charge payment for the sale of goods, whether inside Moldova Post trade is carried out. Even if this building is to the balance of the city hall, but any commercial activity should be subject to local tax on placement of commercial objects. For all must be paid.

10. The lands with afferent edifices belong 100% to the city hall, but buildings located on these lands belong to Ltd. Therefore, these lands should be privatized at a market price.

11. In other localities it is emphasizing that there are irregularities in the bookkeeping of small and medium enterprises (SMEs): do not keep the evidence of the number of employees, is not known precisely the income earned. All these are losses in income local budget. It must be a transparent collaboration between LPA and the territorial state tax inspectorates.

12. In many localities an important source of income is patenting the activity services of holders – owners of tractors. It mentions the need for ***cooperation with territorial STI in view of convincing the owners of tractors to practice patent-based entrepreneurial activity.***

The planned activities for the future will contribute to opening new jobs, to supplement the incomes to local budget.

In conclusion, we can mention that the new system of elaborating the administrative-territorial units' budgets is a sure step towards strengthening local financial autonomy.

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EDUCATION VS. ECONOMICALLY ACTIVE AND INACTIVE INDIVIDUALS ON THE LABOR MARKET IN EUROPEAN COUNTRIES

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In recent years, education has become a key factor and determinant of labor market situation. The education system should therefore be correlated with labor market needs reported by employers. The main task the universities are facing with is the ability to combine theoretical knowledge with practical knowledge through joint implementation of research projects and grants implementation, increasing the level of human capital of a society.

Key words: *education, labor market, business, employment, the knowledge economy.*

În ultimii ani, educaţia a devenit un factor cheie şi determinant al situaţiei pe piaţa forţei de muncă. Prin urmare, sistemul de învăţământ trebuie să fie corelat cu nevoile pieţei forţei de muncă, raportate de angajatori. Sarcina de bază cu care se confruntă universităţile este abilitatea de a combina cunoştinţele teoretice cu cele practice prin implementarea în comun a proiectelor de cercetare şi punerea în aplicare a subvenţiilor, precum şi creşterea nivelului capitalului uman al unei societăţi.

Cuvinte cheie: *educaţie, piaţa forţei de muncă, business, ocuparea forţi de muncă, economia bazată pe cunoaştere.*

В последние годы, образование стало ключевым фактором и фактором, определяющим ситуации на рынке труда. Поэтому система образования должна быть соотнесена с потребностями рынка труда, представленных работодателями. Задачи, стоящие перед вузами – умение сочетать теоретические знания с практическими знаниями через совместное осуществление научно-исследовательских проектов и реализации грантов, повышение уровня человеческого капитала общества.

Ключевые слова*: образование, рынок труда, бизнес, трудоустройство, экономика знаний.*

JEL Classification: N3; E24; J21; J29; L21.

Introduction. One of the main trends of research on labour market issues, which has increasingly been of interest among researchers in the last decade, is the effect of educational level on the situation of workers on the labour market and their employment opportunities. Today education is a specific asset, which is an element of human capital. The benefits of having education refer both to individuals, who possesses it and are rewarded in proportion to their abilities, as well as their economic environment. Macroeconomic models as well as management strategies show that expenditures on human capital development are desirable because they foster economic growth and the development of various sectors, industries and individual companies. Many economic studies conducted in different countries show a positive relationship between the possessed education and the amount of remuneration for work. The aim of this paper is to show the role of education in the context of the situation on the labor market. The article is theoretical and reffers to the economic category which is the labor market.

The main considerations. The contemporary labor market as an economic category is the whole concept of a synthetic imaging removable relation occurring between employer and employee. Increasingly, the labor market is an important point in the functioning of a market economy, especially in the context of economic growth and macroeconomic policies of the government. All the effects of the economic policy pursued, modern information and computer technology, processes of globalization and changes in the education system are reflected in the processes taking place in the labor market. The research of this discipline is the supply of labor resources and demand. The labor market is the main

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recipient of the effects of the education system, because all the participants of the education process will go on the labor market.

The learning opportunities offered by educational institutions, have an impact on employment opportunities, the possibility of becoming economically active, obtaining a fair wage, or affecting the uneven distribution of income in individual economies of many countries. Education shapes both the general competences and allows individuals to obtain specific qualifications, including vocational ones, sought by employers.

The availability of high-tech jobs also affects the training of young specialists. It is highly desirable that the pupils and students do traineeships in modern companies. The problem with organizing the traineeships is not only a result of failure of educational institutions, but must also be seen to side businesses. The mood of the crisis is not conducive for engaging companies in training and internship opportunities for young people, although given the cyclical nature of the economic situation, now is the time to get through involvement in their practical training to prepare the staff for a period of recovery. However, this requires a long-term, strategic perspective and free resources less accessible in terms of weakening economic activity. Combining scientific theory with practice already in the process of learning, learning creates a much better chance of higher education graduates entering the labor market. With these solutions, a significant proportion of young people will be able to be included in the group of insiders. This group is the driving force behind the changes taking place in the enterprise. Therefore, national governments should be more involved in the development of standards for the reconciliation of science students with business practice. Intellectual capital, human capital within the organization becomes the most important link in the chain that more and more frequently determines the competitive advantage in the market. Gustaw Ehrenberg and Adam Smith show that the human capital theory shows employees as individuals having certain skills. They point out, however, that these skills can be "rented" to employers for a fee that is determined by the market wage rates.

It can be stated that the formation of labour demand depends on many factors, among which the following should be mentioned, e. g. economic changes, technological development and the increasing pursuit of knowledge-based economy. To a large extent, the factors determining the demand for labor are the globalization processes taking place in Poland. The transnational corporations present in Poland are increasingly approaching standardization of knowledge management in their institutions and for this purpose use a process that can be described as "digital Taylorism"[1], which can be compared to the standardization of processes in the sphere of production in the period of industrial transformation in transition economies.

Social change in many countries, the transition from the traditional to the modern distribution of resources and services of a modern economy become the domain of many European countries. The quest for knowledge economy, in many countries forced changes in the traditional system of work. The service sector has become the dominant sector, accounting for other needs in the labor market, and the persons involved. It is interesting to refer to the concept of "knowledge economy's", for it more and more frequently will have an impact on the development of vocational and higher education. The economy becomes a "knowledge economy" in the country, when a major factor in the process of economic development is high use and creation of knowledge. Knowledge economy uses knowledge and media expertise as a major driver of economic growth and development of economies. In many economies, information and knowledge are effectively absorbed, created, selected, transmitted and used to accelerate economic development. The definition of a knowledge-based economy more broadly, refers to the statement that "knowledge-based economy is the economy in which there are many businesses that rely on the knowledge of its competitive advantage"[2].

It should be emphasized that the development of the knowledge economy is necessary to increase the level of public education in developed countries, the developing process of internalisation economies

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[1] *This processis related to thetransformation ofwork associated withthe use of specific knowledgethroughitsproperdescription, encodinganddigitizationofinformation packagesthat canbe transferredand usedanywhere in theworld.*

[2] *K. Koźmiński, Jak zbudować gospodarkę opartą na wiedzy [w:] Rozwój polskiej gospodarki. Perspektywy i uwarunkowania, red. W. Kołodko, WSPiZ, Warszawa 2002.*

through an increase in trade in services on an international scale and the development and wide distribution of information and communication technologies. Also the World Bank refers, to the problems of the wider knowledge-based economy which indicates the conditions for the development of the economy, including: institutional and economic environment to allow free movement of knowledge, investment in information and communication technologies (ITC), to encourage entrepreneurship, educated population and having skills in the creation and use of knowledge, dynamic structure information from the radio to the Internet to facilitate effective communication, dissemination and processing of information, a network of research centres, universities, think tanks, private enterprises and adaptation to local needs and the creation of new knowledge.

Employers looking for employees formulate requirements for the competence not only needed, but also their level. Unfulfilled expectations of employers in this regard are called mismatch of competencies (skill gap or skill mismatch). It occurs at the time when the candidates work in the profession have competencies that are too low to the requirements of employers or are of a different type than those which the employer would expect from employees in these positions. Mismatch competence also applies to persons already employed and may be the result of a shortage of competence – in a situation where the employers, because of the lack of the required competencies, are forced to employ people with different (higher or lower) resources of competence. Mismatch competence leads to the imbalance in the labor market, which affects both employers and employees. For employers, this may lead to increased costs due to the need to undertake training activities (training employees with too low competence), organizational change and process all kinds of delaying the introduction of new technologies and innovative solutions. On the other hand, inadequate skills of employees mean that some people have to work not in their profession, carry on working below their competences and, consequently, do not use the learning outcomes.

The concept of *economically active population* can be described through the analysis of employment rate and the analysis of unemployment rate. However, the importance of the education in shaping the person's situation on the labour market should be stressed. It may also be noted that economically inactive population is less educated. Better-educated people, in turn, as they bear relatively higher costs of education, are more motivated to participate actively in the labour market and longer remain economically active. The level of economically active population changes with age. Regardless of the level of education, it decreases fairly rapidly beyond 50 years of age. For persons with higher education, however, this decrease is somewhat slower, while for all other levels of education the activity profiles run closely and are very similar. The economically active population which has a secondary education and in the younger cohorts is approaching the population with higher education drops significantly when they exceed the age of 50 years, so that there is no discernibly significant difference in the relation to basic education. The reason for being longer economically active may be, inter alia, lack of willingness to abandon the high remuneration, which is increasing with age among people with higher education. These people also often do not feel the need for withdrawal from labour force due to health – they are also characterized by better health.

The opportunity to be economically active is only a preliminary step to a success on the labour market. This is a necessary condition, but often insufficient, to achieve it. Only landing a job confirms that one possesses desirable assets on the labour market. Remaining unemployed and an unsuccessful job search may mean that the qualifications gained through the learning do not match the current needs of employers. Trends in the unemployment rate largely reflect the formation of labour demand, but they also depend on how the qualifications and competence of economically active population are in line with this demand. The unemployment rate is, therefore, to a large extend, a measure of the scale mismatches between demand for and supply of labour, which may in particular result from the mismatch between the qualifications of job seekers to meet the needs of employers. In 2010, the unemployment rate for the population aged 25-64 were in many European countries between 6 and 10 percent.

The situation of people with higher education during the decline of employment in 1999-2003 was relatively better, and the increase in unemployment was the lowest. It should be noted that, despite significantly lower risk of unemployment among people with higher education in European countries, the share of this group in the population of unemployed is increasing (to 13.0% in 2012). It is a natural consequence of the large increase in the share of university graduates in the population. Partly, this increase may also indicate a mismatch between education and labour market needs, especially at the local or regional level. Another potential explanation is the increase in the diversity of the human capital among

university graduates, including those entering the labour market after the first cycle studies (BA or BSc), especially the graduates of private universities, which do not offer the possibility of continuing education in the second cycle. Unfortunately, the available data do not allow us for full assessment of the benefits differentiation for education between graduates of the first and second cycle of studies. Based on the U.S. data it has been shown that each year of study means the average earnings growth of 6-7%[1]. It is worth to recall the studies conducted by Blundell in Great Britain, which, by the use of different econometric methods, show that higher education contributes to the growth of average earnings in the UK by 25%[2]. However, it has not been researched whether the expenditure on education, which is desirable in the macro-scale and advantageous to the economy, is also beneficial at the micro-level. The same problem can be seen in the microeconomic terms by analysing the choices made by individuals. In the 80's, simple models were built by referring to the article by J. Mincer, in which the level of earnings was conditioned upon the level of education and work experience[3]. Currently, economists dealing with the problems of the labour market are developing methods for analysis of the impact of factors such as the level of education on earnings by extending the previously analyzed models with e. g. more complex utility functions, or a more thorough analysis of factors such as technological progress.

Analyzing the situation on the labour market in the context of the level of education it is also worth to point at the aspect of economic inactivity, including the educational passivity of young people. Depending on the age of cohorts (19-30 years), the educational passivity is steadily increasing. This applies to both Poland and other European Union countries[4]. The educational passivity experienced by young people entering the labour market often leads to economic inactivity and consequently to reduction of their own values and psychological problems resulting from the fact of unemployment[5]. Educational passivity results in an economic inactivity and consequently leads to exclusion from the labour market and income poverty, which is a consequence of earlier events. The indicator, which shows the educational passivity and economic inactivity on the labour market is a NEET ratio (called *neither in education nor in employment or training*), which indicates the proportion of people who graduated from school or university and is not employed and does not participate in further educational process. The analysis of empirical material shows that the NEET index value for the European countries takes upward trend with increasing age cohorts. In the age group 16-20 years, this rate is the lowest in almost all EU countries and does not exceed 6%, while in 21-30 years the size of the index exceeds the average for EU countries. E.g. in Poland, every fifth person who is aged 25-30 does not undertake any educational initiative, neither participates in any training nor specialized course, which results in nearly 15% rate among the economically inactive[6]. The NEET indicator is much higher in Poland than in other EU countries, which indicates the fact of unemployment among university graduates and other young labour market participants.

Basing on the analysis of the literature it can be concluded that the level of education significantly affects not only the probability of becoming unemployed, but it also has a significant impact on its durability. Persons with lower qualifications lose their jobs more often than workers with higher levels of education. This especially applies to people with basic vocational education, among whom there is an unusually high proportion of the unemployed.

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[1] *D. Acemoglu, J. Angrist: How Large Are the Social Returns to Education? Evidence From Compulsory Schooling Laws, NBER Working Paper 1999, No. 7444.*

[2] *R. Blundell, L. Dearden, B. Sianesi: Estimating the Return to Education: Models, Methods and Results, IFS Working Paper 2001*

[3] *J. Mincer: Investment in Human Capital and Personal Income Distribution, Journalof Political Economy 1958, vol. 66/4, pp. 281-302*

[4] *Despite the increase ineducational passivityinalmostall countries ofthe European Union, unfortunately this ratio remains ata relativelyhigher level in Poland in compare to other countries.*

[5] *D. Kotlorz, A. Skórska, R. Jeż, T. Jastrzębski: Psychologiczne skutki bezrobocia długookresowego w Polsce (In:) Psychologie a nezamestnasnostzkusenosti a praxe= Psychology and unemploymentexperience and practice: sbornik referatu z mezinarodnikonferencekonanedne 24. Cervna v Brne / ed. BozenaBuchtova; Masarykovauniverzita v Brne. Ekonomicko-spravnifakulta. Brno 2004, pp. 113-121.*

[6] *For comparison,we can citethe resultsof the Scandinavian countrieswhere the proportionof economically inactive peoplestands at 9%.*

Summary. The education system is particularly important in a situation of economic collapse and economic crises that occur in all European economies. The labor market is the place where disturbance and the collapse of the market process are severely felt. It is in the labor market where it comes to meet basic learning process for both participants and stakeholders involving the effects of the educational process (graduates). Education should largely support and propose such learning opportunities, which could be used not only for the economy but by individual market participants too. Economic innovation, the pursuit of his knowledge economy and information society should guide new and creative solutions to the education system should introduce and offer participants the learning process. Only rational decisions, developed a solution based on best practice can enhance and improve the situation on the labor market, while translating into the development of individual labor markets both in terms of local, regional and international levels.

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THE ANALYSIS OF BANKING SECTOR IN MOLDOVA IN 2014 THROUGH FINANCIAL STABILITY INDICATORS

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The objective of this article is to analyze the banking sector in the Republic of Moldova in terms of financial stability indicators. Thereby the authors elucidated the main developments of banking institutions in 2014, as reflected by the deterioration of the prudential indicators of this sector. The problems in the banking sector were caused by dubious transactions of some commercial banks, as well as their plight. Despite the establishment of special administration at 3 financial institutions (B.C. „Unibank" S. A., B.C. „Banca Socială" S.A. and B.C. „Banca de Economii" S.A.), the banking sector failed to maintain a reliable activity, causing problems with bank loans.

Key words: *banking sector, financial stability, indicators of concentration, uncertainty, assets, deposits, loans, profitability and solvency.*

Obiectivul acestui articol este analiza sectorului bancar din Republica Moldova, prin prisma indicatorilor de stabilitate financiară. Astfel, autorii au elucidat principalele evoluţii ale instituţiilor bancare în anul 2014, fiind reflectate prin deteriorarea indicatorilor prudenţiali ai sectorului. Problemele din sectorul bancar au fost încorporate de tranzacţiile dubioase ale unor bănci comerciale, cât şi de situaţia precară a acestora. În pofida faptului instituirii administrării speciale la 3 instituţii financiare (B.C. „Unibank" S.A., B.C. „Banca Socială" S.A. şi B.C. „Banca de Economii"S.A.), sectorul bancar nu a reuşit să menţină o activitate de încredere, generând probleme la capitolul acordarea creditelor bancare.

Cuvinte cheie*: sectorul bancar, stabilitate financiară, indicatori de concentrare, incertitudine, active, depozite, credite, profitabilitate, solvabilitate.*

Цель этой статьи заключается в анализе банковского сектора Республики Молдова с точки зрения показателей финансовой устойчивости. Авторы осветили основные события, которые происходили в банковских учреждениях в 2014 году, о чем свидетельствует ухудшение пруденциальных показателей сектора. Проблемы в банковском секторе были связаны с включением сомнительных операций коммерческих банков и их тяжелым положением. Несмотря на создание специального администрирования трех финансовых учреждений (КБ „Unibank" S.A., КБ „Социальный Банк" S.A. и КБ „Сбербанк" S.A.), банковский сектор не смог поддержать надежную деятельность, создавая проблемы с банковскими кредитами.

Ключевые слова: *банковский сектор, показатели финансовой устойчивости, концентрации, неопределенности, активы, депозиты, кредиты, рентабельность, платежеспособность.*

JEL Classification: G21; G29; E51; E59; D81.

Introduction. The roles of banking institutions are an important fern in the financial sector of any state. For a stable and efficient financial system, the Moldavian banking sector should be encouraged to obtain high and long lasting performance. One of the main objectives of banking institutions is optimizing profits, the bank performance is an indication of stability and depositor confidence.

In 2014, the financial system of the Republic of Moldova faced a series of risks interconnected at sartorial level. Thus, banking sector stability was disturbed by some negative effects that triggered the deterioration of prudential indicators. The problems in the banking sector were caused by dubious transactions of some commercial banks as well by their precarious financial situation. In this context, uncertainty about the quality of loans and that of bank capital will continue to persist in 2015. The

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indicators for assessing the bank performance have a great expressiveness, reflecting many aspects such as the generating profit level and the operational and managerial efficiency.

Degree of financial intermediation

The degree of financial intermediation of the banking sector in the Republic of Moldova (determined as weight of assets, loans and deposits in the GDP) improved significantly over the period 2010-2014, though posting a slight deviation in the 2014 in terms of loans granted in relation to GDP. The weight of bank assets in the GDP increased from 58.8% in 2010 up to 87.5% in 2014. Similar developments were recorded in the case of deposits in relation to GDP. Thus, the weight of deposits in relation to the GDP increased from 40% in 2010 to 58.7% in 2014.

The year 2014 was characterized by a significant increase of 6.7 p.p. in this indicator by the end of 2013, the rise of this indicator was primarily due to the increase (by 26.2%) in balance of deposits at the end of 2014 on account of increase in deposits of individuals by 53%, and in deposits of legal entities by 47.2% (see Figure 1). The growth rate of the intermediation degree pertaining to assets and deposits was more pronounced in 2014 than in the previous year.

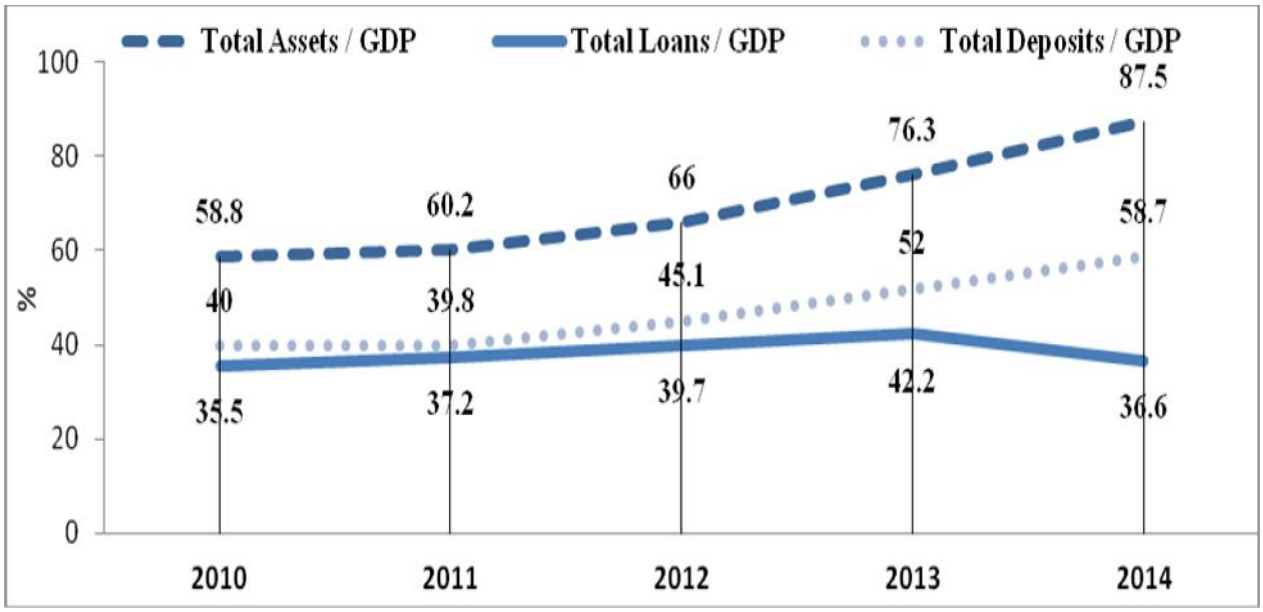


Fig. 1. Degree of financial intermediation, %

Source: Authors' calculations based on the data of the National Bank of Moldova.

Deterioration in the quality of banks' loan portfolio (B.C. „Banca Socială" S.A., B.C. „Banca de Economii" S.A. and BCR Chişinău S.A.), and additionally the institution of special administration upon 3 financial institutions (B.C. „Unibank" S.A., B.C. „Banca Socială" S.A. and B.C. „Banca de Economii" S.A.), continued to affect negatively the degree of financial intermediation, calculated as a percentage of loans provided by banks to the GDP, and at the end of 2014 its value equaled 36.6%, posting a decrease of 5.6 p. p. compared to the end of 2013. The decrease in this indicator will continue to record negative dynamics also in 2015, against the background of problems in the banking sector, which may gradually disturb the stability of the sector.

Analysis of market concentration indices in the banking sector

Having analyzed the market concentration index (Herfindahl-Hirschman Index), as of December 31, 2014, we found that the market concentration ratio in the banking sector is moderate in terms of value of deposits (1,361.6 points) and value of loans (1,560.9 points) (see Table 1).

As of the end of 2014, in terms of bank assets value the market was concentrated. Four commercial banks held 64.2% of total assets. Referring to the assets value, as of December 31, 2014, the market leader was BC Banca Socială S.A. with total assets of 20,115.9 million MDL, i. e. an increase by 4.5 times compared to 31.12.2013, recording a share of 20.6% of the total assets in the sector. It was followed by BC Moldova-Agroindbank S.A. whose volume of assets totaled 15,341.4 million MDL, posting an increase of 14.4 million MDL, compared to 31.12.2013, bank's market share was 15.7%.

Table 1

Concentration index in the banking sector, %

Nr.	Name of the Bank	Market share by value of assets (%)		Market share by value of loans (%)		Market share by value of deposits (%)	
		31.12. 2013	**31.12. 2014**	**31.12. 2013**	**31.12. 2014**	**31.12. 2013**	**31.12. 2014**
1	**BC „MOLDOVA - AGROINDBANK" S.A.**	***17.6***	**15.7**	***22.8***	**26.5**	***18.3***	**17.5**
2	**B.C. „VICTORIABANK" S.A.**	***15.3***	**12.5**	***16.6***	**14.1**	***18.2***	**14.7**
3	**BC „Moldindconbank" S.A.**	***16.8***	**13.6**	***18.8***	**21.8**	***18.0***	**13.7**
4	**B.C. „Banca de Economii" S.A.**	***11.2***	**14.3**	***3.7***	**3.3**	***11.3***	**10.8**
5	**B.C. „EXIMBANK - Gruppo Veneto Banca" S.A.**	**6.0**	**4.0**	**2.5**	**5.6**	**3.9**	**3.1**
6	**BC „BANCA SOCIALA" S.A.**	**5.8**	**20.6**	**7.2**	**4.8**	**5.8**	**21.2**
7	**BC „MOBIASBANCA – GroupeSocieteGenerale" S.A.**	**5.9**	**5.9**	**6.9**	**8.4**	**5.7**	**6.2**
8	**B.C. „UNIBANK" S.A.**	**9.5**	**3.6**	**8.3**	**2.3**	**8.7**	**4.0**
9	**B.C. „ProCredit Bank" S.A.**	**3.9**	**3.2**	**5.5**	**5.6**	**3.1**	**2.7**
10	**B.C. „ENERGBANK" S.A.**	**2.6**	**2.1**	**2.5**	**2.6**	**2,6**	**2.1**
11	**B.C. „FinComBank" S.A.**	**2,6**	**2,1**	**2,6**	**2.6**	**2.2**	**2.1**
12	**BCR Chişinau S.A.**	**1.3**	**1.1**	**1.2**	**1.1**	**0.9**	**0.8**
13	**B.C. „COMERTBANK" S.A.**	**1.1**	**0.9**	**1.0**	**1.0**	**1.1**	**0.9**
14	**BC „EuroCreditBank" S.A.**	**0.4**	**0.4**	**0.4**	**0.4**	**0.2**	**0.2**
HHI index (points)		***1178.2***	***1303.1***	***1385.3***	***1562.9***	***1298.6***	***1361.64***
CR-4index (%)		***60.9***	***64.2***	***66.5***	***70.8***	***65.8***	***67.1***

Source: Authors' calculations based on the data of the National Bank of Moldova.

As of December 31, 2014, B.C. „Moldova Agroindbank" S.A. maintained its market leader position in terms of lending. Thus, the bank's share in all loans provided accounted for 26.5%, a position which would not be lost in a short time (total balance of 10,826.1 million MDL, which increased by 18.0% compared to December 31, 2013). The second market leader was B.C. „Moldindconbank" with a market share of bank loans amounting to 21.8%, followed by B.C. „Victoriabank" S.A. (14.1%). With regard to the structure of deposits, at the end of December 2014, the market leader position in terms of balance of attracted deposits was held by B.C. „BancaSocială" S.A. with a total balance of 13,903.1 million MDL, recording an increase by 5 times compared to December 2013. The bank's market share was 21.2%. It is followed by BC „Moldova Agroindbank" S.A. (17.5%), as of December 31, 2014, it posted balance of attracted deposits totaling 11,487.7 million MDL, or by 20.7% less compared to December 31, 2013.

Dynamics of bank assets

Similar to the situation posted in 2013, total bank assets showed positive dynamics in 2014 following an increase of 28% totaled 97,584.4 million MDL. Profit-generating assets accounting for 44% of total assets, however compared to December 31, 2013 there was a decrease of 13.4%. By the end of 2014, the annual growth rate of bank assets was on the rise. This increase was clearly reflected from October 2014 (18.76%) until December 2014 (28.09%).

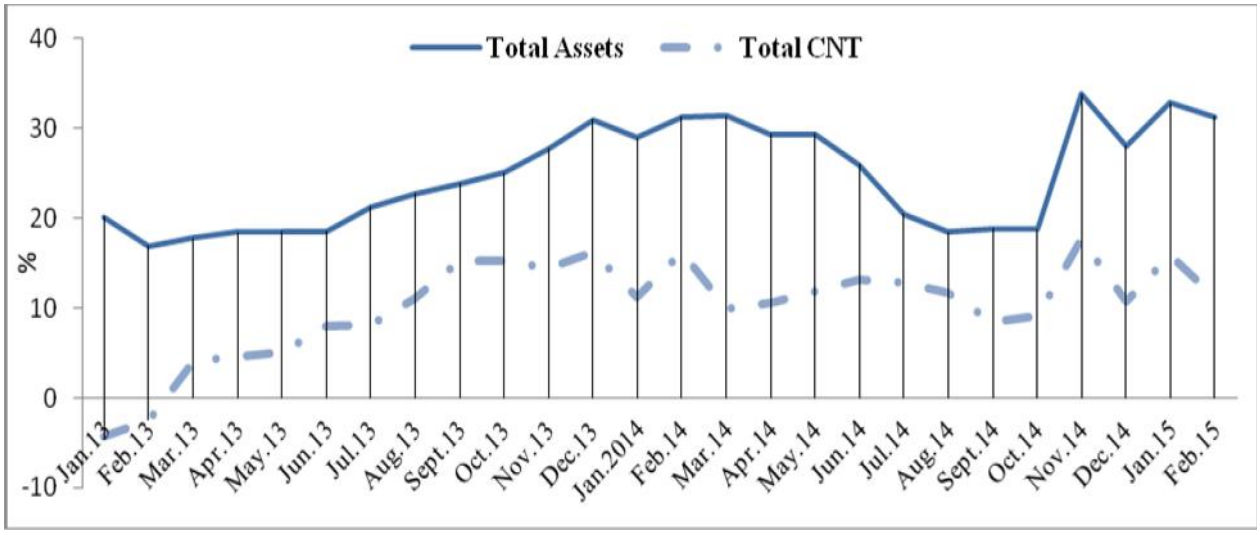


Fig. 2. Annual growth rate of assets and of TRC, %

Source: Authors' calculations based on the data of the National Bank of Moldova.

In 2014, in terms of competition of banking assets held by the top 5 banks in total assets, there was a negative trend. Correspondingly, as of December 31, 2014 the weight of assets held by the top five banks in the aggregate assets accounted for 76.75% posting an increase of 6.32 p.p. in comparison with December 31, 2013. Assets are the one generating the greatest risks for commercial banks therefore there is need for cautious management thereof.

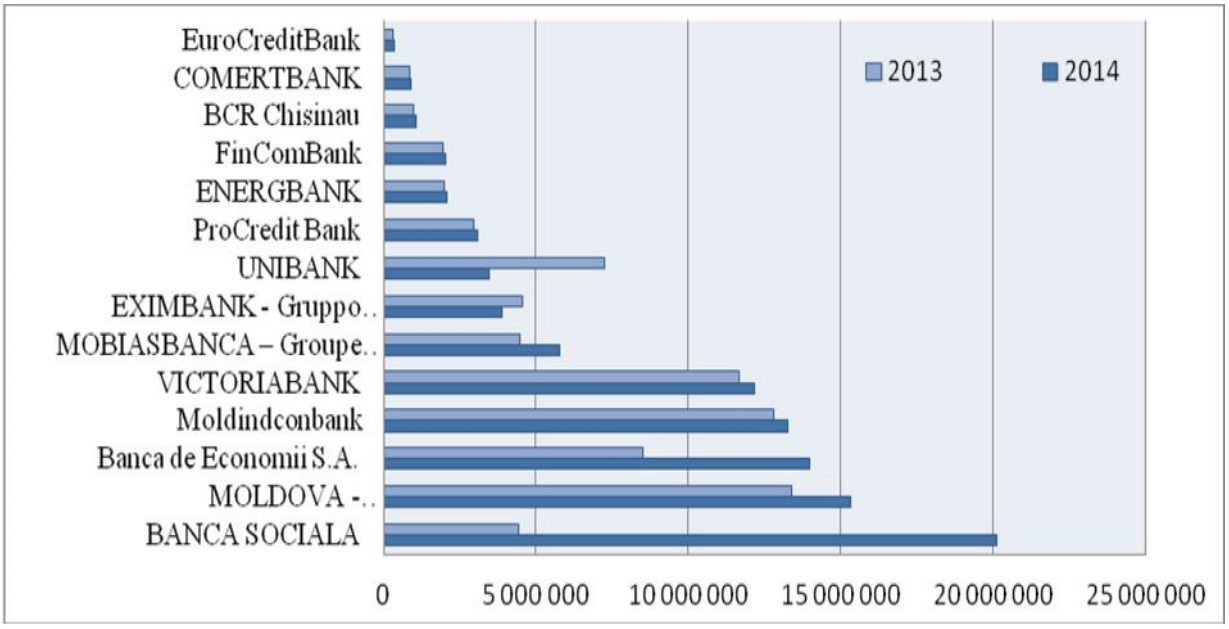


Fig. 3. Development of commercial banks assets, million MDL

Source: Authors' calculations based on the data of the National Bank of Moldova.

Development of bank loans

In 2014, the lending activity in the Republic of Moldova posted contradictory developments. As of December 31, 2014 the *balance of bank loans* amounted to 40,841.98 million MDL, i.e. decreasing by 3.2% compared to December 31, 2013. After a period when the lending activity was on the rise, which lasted almost 10 months (from December 2013 to October 2014), in November 2014 the loan portfolio decreased considerably. Thus, the annual growth rate of loans provided by banks in November 2014 decreased by 0.67% compared to the same period of the last year and in December 2014 by 3.17% splay. The largest contribution to the decrease posted in November 2014 pertained to loans in foreign currency reduced by 17.4% and loans in national currency by 13.6% compared to October 2014.

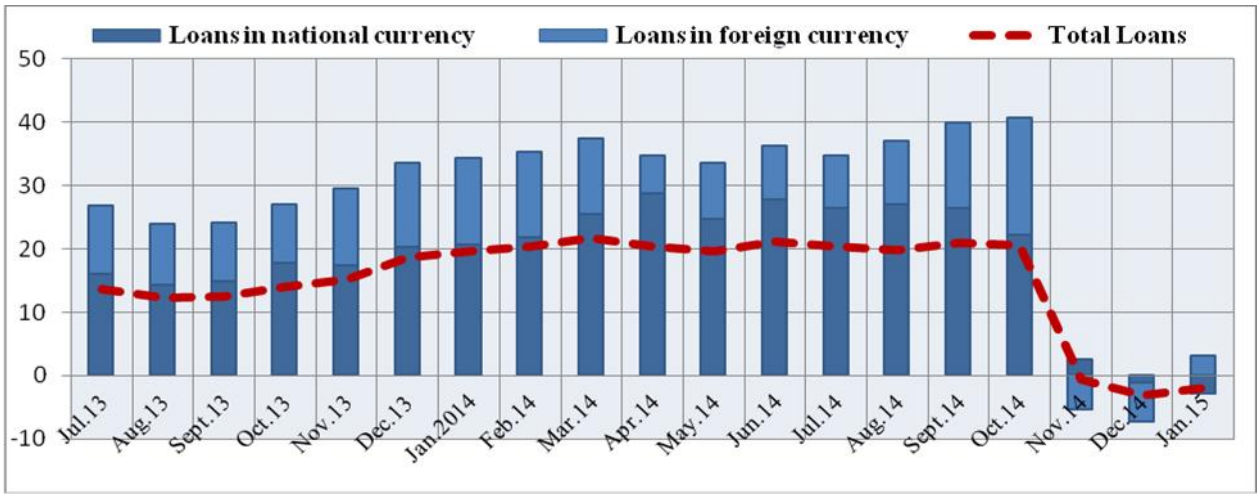


Fig. 4. Annual growth rate of loans in the banking sector, loans in foreign currency and in national currency, %

Source: According to the data of the National Bank of Moldova.

At the same time, in November 2014 there was an excess of new loans made in amount of 21,359.5 million MDL (accounting for 52.5% of total loans in the whole banking sector), respectively, loans provided in national currency accounted for 53.6% of total new loans and in foreign currency - 46.4%. According to the reports published by the NBM, we observe that the excess new loans, granted in November 2014, were made to legal persons in national currency with maturity of 2 to 5 years in the amount of 10,235,072 thousand MDL at an average interest rate of 9.68% and to legal entities in foreign currency (in amount of 9,317,864 thousand MDL) at an average interest rate of 8.20%.

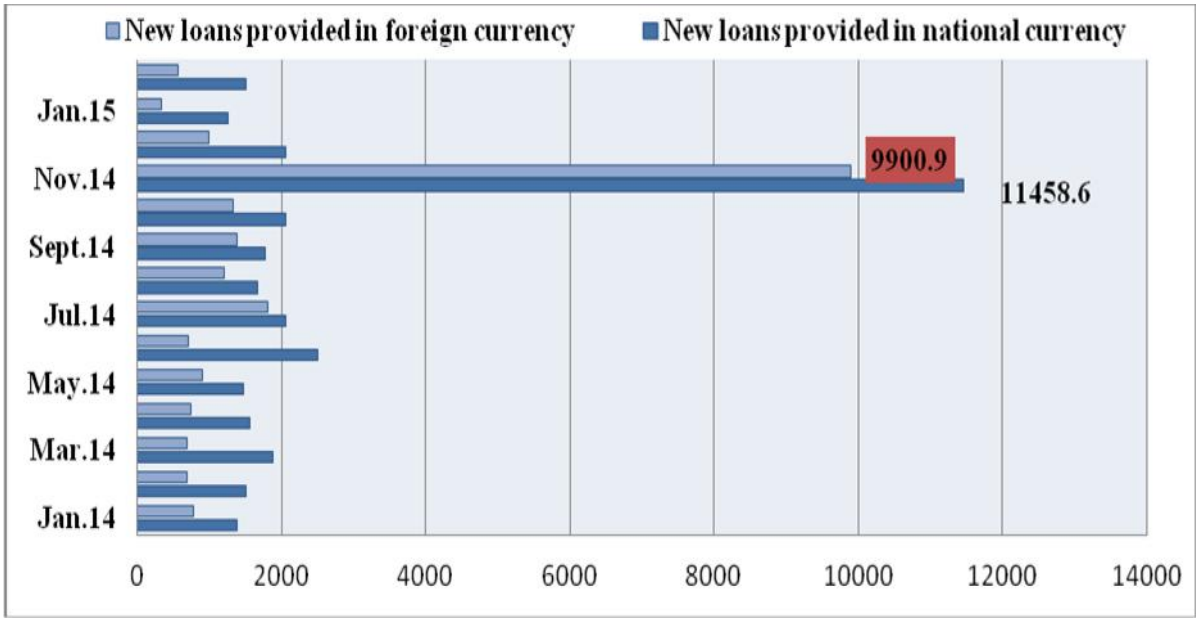


Fig. 5. Volume of new loans provided in MDL in foreign currency, million MDL

Source: According to the data of the National Bank of Moldova.

In this context, the analysis of the loan structure by maturity date in 2014 showed that the loans with maturity from 2 years to 5 years remained the most attractive also in December 2014. Thus, their share in the total volume of loans provided in national currency amounted to 38.4% in December 2014, and average interest rate on these loans was 11.35%. Most of the loans provided in MDL were made to legal entities, i.e. accounting for 79% of total loans in MDL and the average interest rate as of December 2014 was 10.64%.

By the end of 2014, there was an improvement of the loan portfolio quality in the banking sector, as the value of non-performing loans decreased by 2%[1] compared to the beginning of the year. As of December 31, 2014, the weight of non-performing loans in total loans increased by 0.17 p.p., compared to December 31, 2013, equaling 11.73%. Another indicator that showed higher risks for capital loss was the weight of net non-performing loans in the total regulatory capital; as of December 31, 2014, it decreased by 6.6 p.p. down to 53.04% compared to December 31, 2013.

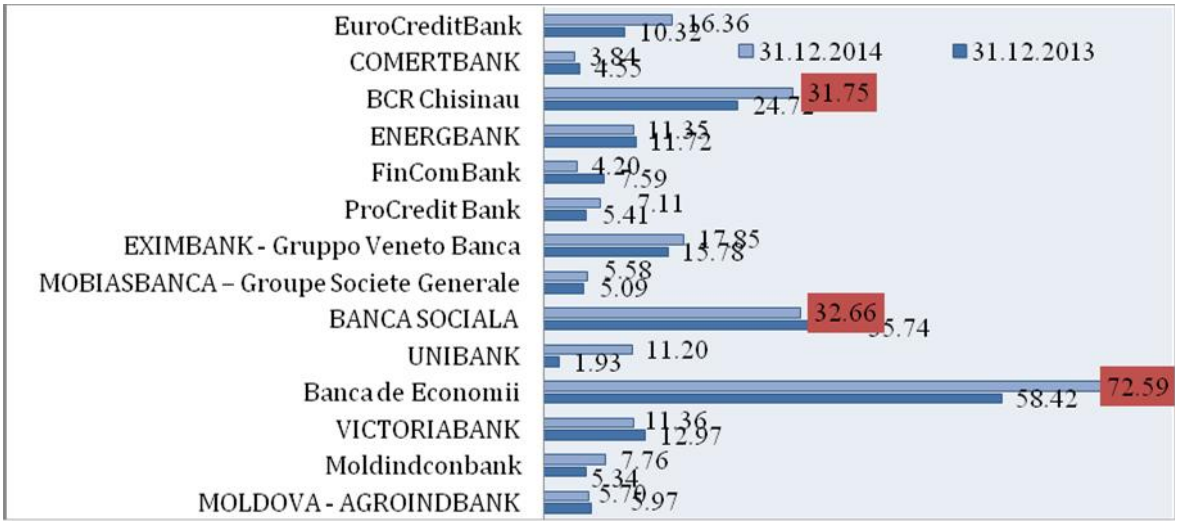


Fig. 6. Weight of non-performing loans in the banking sector as of 31.12.2013 and 31.12.2014, %

Source: According to the data of the National Bank of Moldova.

At the end of 2014, the highest weights of nonperforming loans pertained to three commercial banks (B.C. "Banca Socială" S.A. – 32.66%; B.C. „Banca de Economii" S.A. – 72.59% and BCR Chişinău S.A. – 31.75%) out of 14 banks. The upward trend of this indicator reflects deterioration in the quality of the credit portfolio of these banks as well as the low level of stability of the entire banking system. Lending activity remains to be the main loss-generating source in a bank. Thus, to avoid the lending-related risks, financial institutions turn to make loans to profitable industries. In this context, we noted that in 2014 the highest weight in the total loans pertained to loans provided to trade (32.9%), followed by loans made to food industry (9.8%), consumer loans (7.4), loans to processing industry (7.4%), credits to services providers (7%), followed by loans to agriculture (6.4%).

Dynamics of bank deposits. The *balance of deposits* in the banking system as December 31, 2014, amounted to 65,462.5 million MDL, increasing by 26.2%, compared to December 31, 2013. This ascending trend was largely due to the increase in the balance of deposits in national currency by 9.3% and that of deposits in foreign currency by 47%, compared to December 31, 2013. Following the depreciation of the national currency over the last period, population gave preference to deposits in foreign currency, which accounted for 52.1% at the end of September 2014, while the deposits in national currency represented 47.9% of total deposits. This is explained by the fact that the average interest rate on deposits in the banking system is more attractive in the case of deposits in foreign currency (in December 2014 – 3.98%, or 0.56 p.p. increase compared to January 2014) than the interest rate on those in national currency (in December 2014 – 6.47%, or 0.62 p.p. decrease January 2014). Reducing investment in national currency population was subject to high fluctuations of the exchange rate in 2014, nominal depreciation of the against the USD and EURO is more than 11% compared to previous year, while deposits in domestic place ments exposed population loss of purchasing power risk.

[1]*As of 31.12.2014, in absolute terms, non-performing loans amounted to 4,790.34 million MDL and as of 31.12.2013 – 4,876.44 million MDL.*



Fig. 7. Annual growth rate of deposits in the banking sector, deposits in foreign currency and in national currency, %

Source: According to the data of the National Bank of Moldova.

In terms of maturity of the deposits in national currency, population mostly preferred term deposits for 6 to 12 months. Thus, in December 2014, the highest weight in the total term deposits attracted in national currency still pertained to deposits for terms of 6 to 12 months (41.7%). Correspondingly, the term deposits in foreign currency for terms of 6 to 12 months also had a maximum weight of 44.1% and an average rate of 4.25%.

Development of the average interest rate in the banking system

As of December 31, 2014, the bank loans cheapened by 1.34 p.p., the average interest rate on new loans provided in the banking system decreased from 12.29% in January down to 10.95% in December. Correspondingly, the average interest rates on loans in foreign currency also fell by 0.11 p.p., from 7.83% in January 2014, down to 7.72% in December 2014. New deposits in national currency were attracted by commercial banks, in December 2014, at an average rate of 6.47%, i.e. an increase of 0.56% compared to January 2014 (5.91%). At the same time, the average interest rates on deposits in foreign currency declined from 4.60% in January 2014 to 3.98% in December 2014, decreasing by 0.62 p.p.

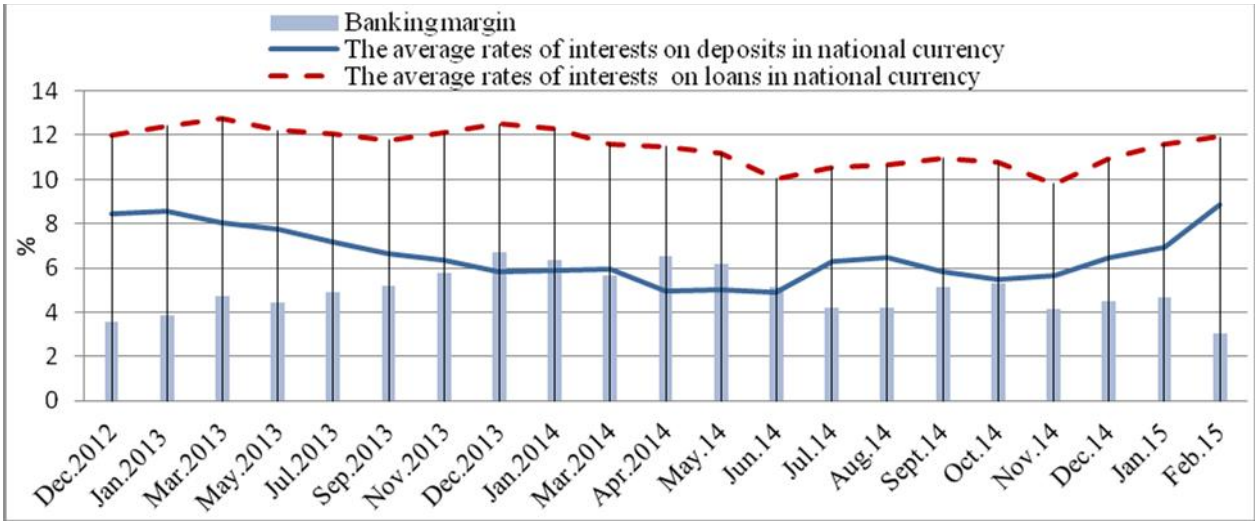


Fig. 8. Development of the banking margin*, average rates of interests on deposits and loans in MDL, %

Source: Authors' calculations based on the data of the National Bank of Moldova.

***Note:** The banking margin index was calculated as the difference between the average rate on loans in MDL and average rate on deposits in MDL.*

The banking margin for transactions in foreign currency had a smaller variation margin compared to that for transactions in national currency. In December 2014, the banking margin for transactions in national currency was at the level of 4.48%, decreasing by 2.21 p.p. compared to December 2013, while the low (4.14%) of 2014 was posted in November 2014. Correspondingly, in December 2014, the margin related to foreign currency transactions recorded a stable development, reaching the level of 3.74%, though posting a slight decrease of 0.66 p.p. compared to December 2013.

Development of bank capital

At the end of 2014 the *solvency ratio* in the banking system recorded a value inferior to the minimum requirement set by law (≥16%), amounting to 13.21% (a decrease of 9.81 p.p. compared to 31.12.2013), due to worsened financial situation in B.C. „Banca de Economii" S.A. (3.22%) and B.C. „Banca Socială" S.A. (2.56%). Despite the under level of the risk-weighted capital adequacy throughout the banking system, at the end of 2014 there was a positive dynamic in the TRC, which posted an increase of 10.6% as of December 31, 2014, compared to December 31, 2013. Correspondingly, as of December 31, 2014, Tier I capital increased by 9.8% up to 8,707.29 million MDL compared to December 31, 2013. The risk-weighted assets recorded in 2014 an increase of 92.6% compared to 2013.

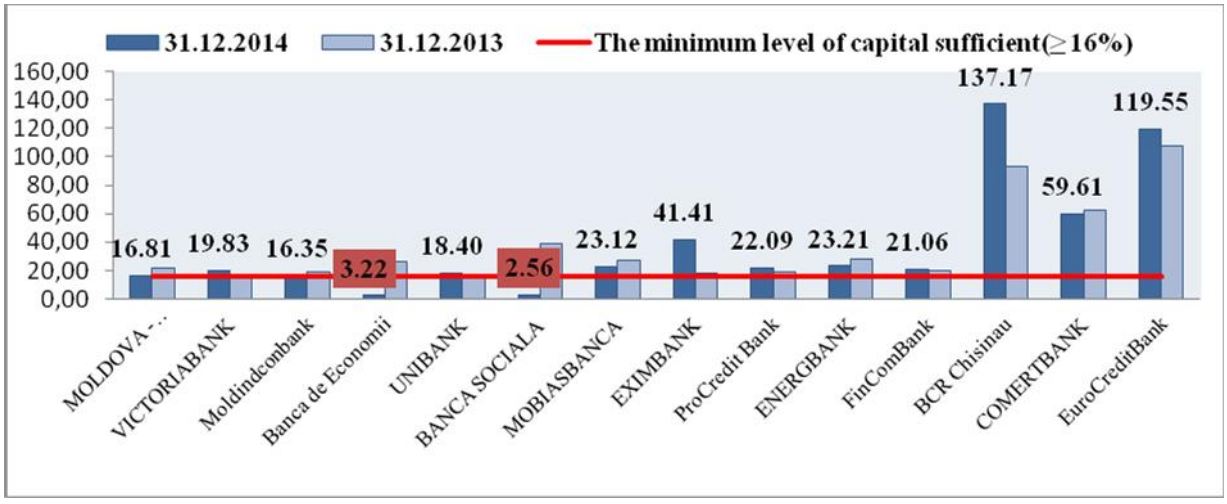


Fig. 9. Average of the risk-weighted capital adequacy in the banking sector, %

Source: Authors' calculations based on the data of the National Bank of Moldova.

The share of foreign investments in the banks' capital increased from 72.24%, as of December 31, 2013 to 76.75% as of December 31, 2014. However, this contributed to lowering of the market concentration degree: by December 31, 2014 the weight of the 5 largest banks' assets in total assets declined to 67.48%. Four licensed banks have fully foreign owned capitals (B.C. „EXIMBANK-Gruppo Veneto Banca" S.A.; B.C. "ProCredit Bank" S.A.; BCR Chişinău S.A.; B.C. „COMERŢBANK" S.A.), followed by B.C. „Mobiasbancă – Groupe Société Générale" S.A. with 96,69% foreign capital and B.C. „Euro Credit Bank" S.A. – 98,82%.

Development of bank profitability and liquidity

The indicator *return on equity* (ROE) throughout the banking sector recorded a lower level than that of the previous year (6.39% in 2014 compared to 9.42% in 2013). ROE analysis based on determinants, revealed a slight deterioration in remuneration pertaining to bank capital as a result of the diminished capacity of assets to generate profit (from 1.56 in 2013 to 0.92% in 2014). The return on assets (ROA) in the banking system measures the effect of managerial capacity to use financial and real resources of the banking society with the view to generate profit. In December 2014, overall banks' profit amounted to 778.2 million, which is 23.7% less compared to the same period of 2013.

Therefore, three commercial banks recorded negative financial results at the end of December 2014: B.C. „Eximbank Gruppo Veneto Banca" S.A. – 217.8 million MDL, followed by Banca de Economii S.A. – 202.5 million MD Land BCR Chişinău S.A. – 3.7 million MDL. In terms of profit, it has to be mentioned that at the end of December 2014, B.C. „Moldindconbank" S.A. was leading with the profit equaling 397.5 million MDL, followed by B.C. „Moldova Agroindbank" S.A., that obtained profit in amount of 357.5 million MDL and B.C. „Victoriabank" S.A. with 205.4million MDL.

At the end of 2014, *liquidity indicators* of the banking sector registered values above the regulated level, liquid assets ratio (liquidity principle II) accounted for 21.63%, or 12.13 p.p. less compared to December 31, 2013. Long-term liquidity throughout the banking system recorded 1.54%, as of December 31, 2014, or by 0.83 p.p. more compared to December 31, 2013. However, on December 31, 2014 there were three commercial banks (B.C. "Banca Socială" S.A., B.C. „Banca de Economii" S.A. and B.C. „Unibank" S.A.) posting values lower than those regulated by the BNM – minimum level of liquidity (≥ 20%). Thus, ensuring adequate liquidity is one of the most important objectives of the management of any banking institution. In order to avoid difficulties in procuring the necessary resources with the view to meet own commitments at any given time, banks have to tackle the liquidity risk.

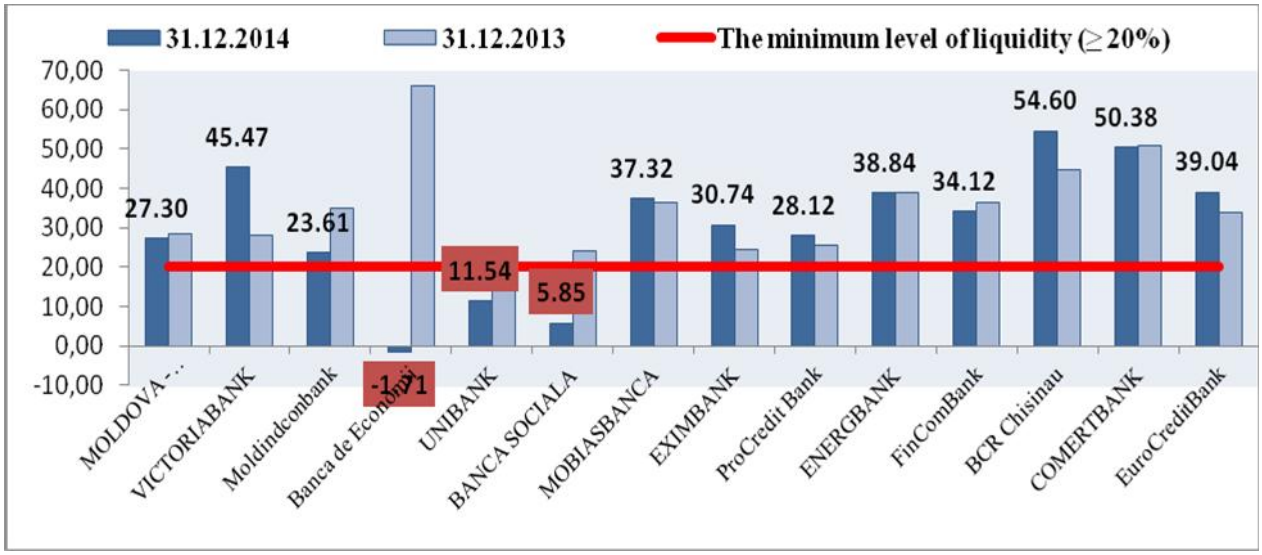


Fig. 10. Liquidity indicators of the banking sector, %

Source: According to the data of the National Bank of Moldova.

Conclusions

The main indicators of the banking sector activity had a contradictory evolution in 2014. Thus, at the end of December 2014 in comparison with the end of December 2013, the main indicators of banking sector activity ***posted following deteriorations*:**

✓ Decline in bank profit by 23.7%, totaling 778.2 million MDL, due to the negative financial results recorded by three commercial banks: B.C. „Eximbank Gruppo Veneto Banca" S.A. – 217.8 million MDL, B.C. „Banca de Economii" S.A. – 202.5 million MD Land BCR Chişinău S.A. – 3.7 million MDL;

✓ Increase in the volume of non-performing loans from11.56% to 11.73%;

✓ Decrease in the balance of bank loans by 3,2%, down to 40,847.98 million MDL;

✓ Capital adequacy recorded a value inferior to the minimum requirement set by law (≥16%), amounting to 13.21% (a decrease of 9.81 p.p. compared to 31.12.2013), due the worsened financial situation in B.C. „Banca de Economii" S.A. (3.22%) and B.C. „Banca Socială" S.A. (2.56%);

✓ Increase in the risk-weighted assets by 92.6%;

✓ Decrease in ROE from 9.42% in 2013 down to 6.39% in 2014;

✓ Reduction in ROA from 1.56% in 2013 to 0.92% in 2014;

✓ Deterioration in the quality of credit portfolio of the banks: B.C. „Banca Sociala" S.A. – 32,66%; B.C. „Banca de Economii" S.A. – 72,59% and BCR Chişinău S.A. – 31,75%;

✓ Decrease of liquid assets ratio (liquidity principle II ≥ 20%) by 12.13 p.p. compared to 31.12.2013, registering 21.63%. Reduction of this indicator down to the limit set by the NBM was triggered by worsened situation in the case of three commercial banks: B.C. „Banca Socială" S.A., B.C.„Banca de Economii" S.A. and B.C.„Unibank" S.A. and institution of special administration upon these 3 financial institutions.

However, despite the problems emerged in the sector because of these three commercial banks, some indicators posted positive developments, thus at the end of December 2014 compared to the end of December 2013 it was attested:

✓ Increase in the bank assets by 28%, up to 97,584.4 million MDL;

✓ Reduction, in absolute terms, in the non-performing loans by 2% down to 4,790.34 million MDL;

✓ Rise in the balance of bank deposits by 26.2%, up to 65,462.5 million MDL;

✓ Increase in the balance of bank deposits in national currency by 9.3% (preponderantly on account of the deposits of banks);

✓ Increase in the balance of bank deposits in foreign currency by 47%;

✓ Decrease in the average interest rate on loans in national currency from 12.51% in December 2013 down to 10,95% in December 2014;

✓ Decrease in the average interest rate on loans in foreign currency, from 8.91% in December 2014, down to 7,72% in December 2014;

✓ Decrease in banking margin for transactions in national currency from 6.69% in December 2013, down to 4.48%, or by 2.21 p.p.;

✓ Decrease in banking margin for transactions in foreign currency from 4.4% in December 2013, down to 3,7%, i.e. by 0.7 p.p.;

✓ Increase of the TRC by 10,6%;

✓ Increase in the I Tier capital by 9.8% up to 8,707.29 million MDL.

The NBM should closely monitor the developments in the economic and financial environment at the country level and possible risks to the financial sector, taking action to maintain an adequate level of prudential indicators by Moldovan banking sector.

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THE ROLE OF GENDER EQUALITY IN ECONOMIC DEVELOPMENT

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To study the problems of gender equality is of great importance for the global business. Gender is a cultural construct, within which our different cultures attach different values, roles and responsibilities to women and men. However, in addition to culture, the gender issues are in close relation with the global business. From this viewpoint, experience of the West is considerable and of great importance. It can be said that the problems of women's rights and a whole number of barriers, which impede to reach the gender equality have long been a great problem for the leading countries of Europe and America. But one problem remains – the so-called „Glass Ceiling" – the barriers, which impede carrier advance of the female representatives.

In the background of such diversity it is interesting to familiarize with the apprehension of gender equality in Georgia.

Key words: *gender, gender equality, economics, business, women's rights, glass ceiling, Georgia.*

Studierea problemelor egalităţii de gen este de mare importanţă pentru businessul global. Genul este un concept cultural, în care culturile noastre diferite oferă diferite valori, roluri şi responsabilităţi pentru femei şi bărbaţi. Cu toate acestea, pe lângă cultură, problemele de gen sunt în strânsă legătură cu mediul de afaceri la nivel mondial. Din acest punct de vedere, experienţa Occidentului este de mare importanţă. Putem menţiona, că problemele drepturilor femeilor şi un număr întreg de obstacole, care împiedică să ajungă la egalitatea de gen au fost mult timp o problemă mare pentru ţările de conducere din Europa şi America. Totuşi, rămâne o problemă: aşa-numitul "plafon de sticlă" – barierele, care împiedică promovarea reprezentanţilor de sex feminin. În conformitate cu astfel de diversitate, este importantă familiarizarea cu starea de îngrijorare a egalităţii de gen în Georgia.

Cuvinte cheie: *gen, egalitate de gen, economie, mediul de afaceri, drepturile femeilor, plafon de sticlă, Georgia.*

Изучение проблем гендерного равенства имеет большое значение для глобального бизнеса. Пол является культурной концепцией, в рамках которой наши различные культуры придают различные ценности, роли и обязанности женщин и мужчин. Тем не менее, в дополнение к культуре, гендерные вопросы находятся в тесной связи с глобальным бизнесом. С этой точки зрения, опыт Запада является важным и имеет большое значение. Можно сказать, что проблемы прав женщин и целый ряд барьеров, которые препятствуют достижению гендерного равенства уже давно являются большой проблемой для ведущих стран Европы и Америки. Но остается одна проблема – так называемый "стеклянный потолок" – барьеры, которые препятствуют несущей развитию женских представителей.

На фоне такого разнообразия, интересно ознакомиться с тривожной ситуацией гендерного равенства в Грузии.

Ключевые слова*: пол, гендер, экономика, бизнес, права женщин, стеклянный потолок, Грузия.*

JEL Classification: B54; J16; J19; J83; M21.

Introduction. Difference in opinion exists among the scientists in regard to culture. Culture forms the attributes accepted and appropriated for men and women as well as expectations in regard to relations of men and women, which in other words can be called the gender. Proceeding from this, gender is a cultural construct, within which different cultures, different values, roles and responsibilities are attached to women and men. The gender roles are formed under the influence of culture. It can be said that women and men are

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cultural products of their society [9, p. 87]. The issues of gender relations and gender identity are critical aspects of culture, because on the basis of mentioned above the style of everyday life is being established not only in the family, but in broader circles of the society as well, at work places, etc. Gender (as well as race or ethnic belonging) is presented as the basis for organization of the society proceeding from the cultural burden attached to being a man or a woman. In many societies exists the practice of work distribution according to the gender. In majority of societies the model is outlined for "working man" and "working woman", both in the family farming and in broader community. The mentioned models, as a rule, in each culture are accompanied by explanations, why this should be this way. These models and their explanations differ in time and space. These gender disproportions are related to both human rights and the issues of development. That's why we think interesting to consider in the present article the topic on the role of gender equality in economic development.

One of the most important aspects for the global business, to which the issues of gender equality are intersected, is economic development of the countries and regions. Proceeding from the importance of gender equality protection and preservation, for the purposes of development UN Development Program (UNDP) annually calculates the index of gender inequality for the world countries and determines relevant ratings. By the data of 2013, the poorest index is fixed in Yemen (0.733), Niger (0.709) and Afghanistan (0.705). The list of five countries with the minimal index of gender inequality, as is expected, includes European countries: Switzerland (0.030), Germany (0.047), Sweden (0.054) and Denmark (0.056). The highest position in the rating, however surprising it may be, is occupied by East European country – Slovenia, with the minimal point of gender inequality (0.021). The index of gender inequality for the world countries is 0.450, and for the countries of Europe and Central Asia it is lower – average (0.317) [3]. This index is not calculated for Georgia. Instead, data on Georgia can be found in the ratings of Gender-related Development Index (GDI) (1), in which our country is on 84th place (among 148 countries). To compare, in the GDI index rating 85th place is shared by the Cyprus and Mexico, and 83th position is occupied by Macedonia [2, p. 53].

The first ten countries of the gender-related development rating are as follows": 1. Slovakia; 2-3. Argentine and Venezuela: 4. Hungary; 5. Norway; 6. Sweden; 7. the USA; 8-9-10. Finland, Slovenia and Bulgaria.

Along with the degree of gender equality the approaches to the gender issues also differ by the countries and regions.

The European civilization, to which the ideas of democracy and gender equality are organic and which stands at an appropriate height from the viewpoint of economic development, faces fewer problems in regard to women's rights protection. The Western culture is still the only one, in which the gender equality was implemented in full.

Islamic countries should be mentioned especially, where the religious laws determine the supreme rights of men over women and this has considerably stronger influence on the system of cultural values and the mode of the population's life than the civil laws. In Saudi Arabia, which by the data of Economist Intelligence Unit (EIU) is the 7th least democratic country in the world, women have to live in the most aggravated conditions.

Cultures and civilizations, especially in the epoch of modern communications, permanently interact and experience mobility and move. In this respect, the western culture is an indisputable leader. Numerous ideas, which are developed inside it, in its local mind, come out on the surface over time and its waves reach other, non-western shores [5. P. 8]. One of such waves, which spread from the west to the east, is the idea of gender equality. However, how any society receives and shares this idea depends on unique determinants of culture, its openness and good attitude to innovations. It is necessary to touch in a few words the gender phenomenon in its Georgian understanding and the researchers' opinion in connection with this. The gender phenomenon in Georgian culture does not reveal identity with the phenomenon of any other culture (neither European nor Asian): it is unique, peculiar and special (6, p. 53). A part of Georgian researchers of gender issues on the basis of analysis of our history and literature concludes that in regard to the gender issue our culture is far more tolerant than all other well-known cultures and considers that the role of a woman, determined by the Georgian culture and tradition is a special phenomenon, which is seen at the very first glance. But not all the Georgian researchers agree on the nature of this phenomenon. For many of them the Georgia model of re-distribution of gender roles and relations between genders is not at all acceptable and exemplary, respectively, often instead of excitement, criticism is heard about the phenomenon mentioned

above. But what is this phenomenon like? As the gender specialists say this issue requires fundamental study and analysis.

Despite the fact that as we have already mentioned above, in Europe and America the fundamental rights of women are no longer doubted, the problems of gender equality in the issues of employment, called by the specialists "Glass Ceiling", still remain a challenge for the western society. Lean Martin determined "Glass Ceiling" as artificially formed barriers, based on the prejudices existing inside of the organization. This does not enable the skilled workers to move forward on the official ladder and succeed in their carrier. Qualified women specialists and representatives of minorities, in major cases, turn to be just under that invisible ladder. The only way left for them is to watch from there how other employees advance.

Possible differences between leadership behavior and management efficiency of woman and man is the subject of special interest not only of scientists, but for the practical specialists in management as well. Interest in this issue becomes sharper by the fact that in the process of selection for the leadership position female representatives still experience discrimination. The fact that in majority of companies an amount of women employed on the high rank leading positions is too small, witnesses the scales of discrimination in this sphere. The tendency, which became stronger and according to which preference is attached to men than women in appointment to high rank governing positions, acquired the name of "Glass Ceiling". In 1995 only 5% of the world countries had woman governor (president or premier). In large business-organizations the number of women employed on the leading executive positions is also small and makes up 30%, though the tendency of improvement is noticed. It is natural that in case of full absence of gender discrimination the mentioned indicator should have been close to 50% both for governmental and private sector as well.

In 2013 the journal "Economist" published a list of the developed countries, in which the gender discrimination in the least amount at work places or in search for work. In other words, the principles of gender equality are efficiently transferred from theory into practice by employers. In calculation of the above-mentioned index for 26 countries the following factors were considered in equal, 23-23% share:

- Difference between the higher education levels among male and female population;
- Coefficient of women's participation in labor force;
- Difference between average incomes of full-time employed men and women;
- Percentage indicator of women employed in higher management;
- Correlation of full expenses for baby care with average salary was considered in the index by 8% share, because not all employed women have children.

Finally, it turned out that the work environment most favorable for women is in New Zealand. It is followed by the Scandinavian countries: Norway and Sweden. It is also interesting that from the viewpoint of education more equal terms are in Finland; Sweden has the highest indicator of women's participation in labor force – 78%; in Spain the difference between the average salaries according to the gender is the lowest – 6%. The most unfavorable business environment for women from the mentioned developed countries is in South Korea and Japan. Probably, this is mostly caused by the fact that the amount of women employed on the positions in higher management in these countries is very low (despite the fact that President of South Korea is a woman).

Considerable steps were recently undertaken in Georgia from the viewpoint of promotion to gender equality. The government of Georgia reached essential progress in the process of observation of obligations charged by the Convention on Eradication of all kinds of Discrimination against Women (CEDAW): the Parliament adopted the Law "on gender equality"; the national plan of activity was elaborated. However, the problems in regard to gender issues still exist.

In the political arena especially difficult for women is in the Parliament. The amount of women, which through elections entered the legislative body in Georgia within last two decades, never exceeded 10% and at present their number approaches 11%; from 150 MPs women are 17.

The situation in the bodies of local self-governance and executive power from the viewpoint of women's participation is not attractive either. The amount of women in the self-governance bodies kept reducing after each following elections; after 15 fixed in the local elections of 1998, the percentage indicator of women in 2002 fell to 12%. In October 2006 elections from 1 750 deputies only 195 (11.14%) were women. This indicator does not improve in the local elections of 2010 either – women were only 11% among elected local authorities.

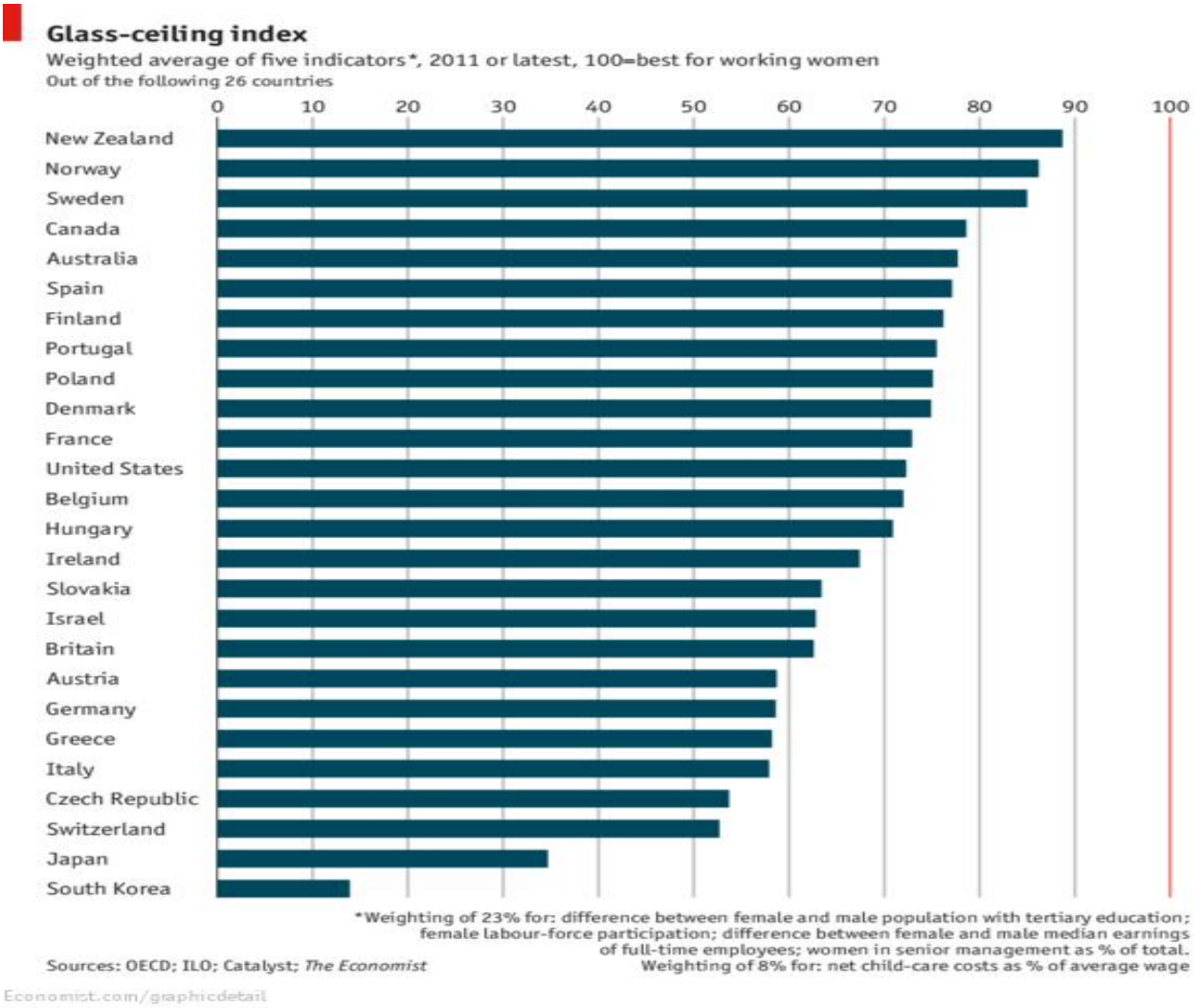


Fig. 1. Glass-ceiling index

In August 2-12 only five women were among 19 ministers. By the data of June 2013 among 20 ministers only three were women, i.e. percentage indicator reduced more.

On the whole, according to the gender inequality index, by the data of 2014 Georgia is on 79th position among 187 countries.

According to the Georgian National Statistical Service, by average data of 1999-2012 average nominal monthly salary of hired employed women is 54% of men's average salary.

While analyzing the indicators of employment and unemployment in the gender aspect, it should be mentioned that in 2012 compared with 2011 the level of unemployment of men reduced by 0.6 percentage point, and among women it increased by 0.7 percentage point. It should also be mentioned that traditionally the level of unemployment among women is less than among men. Main reason of this is that majority of unemployed women are housewives and, respectively, belong to the non-active category of the population. The level of inactivity among women exceeds twice the analogous indicator among men. In 2012 the level of inactivity among women was 42.6, and among men – 21.8%. Thus, compared with men, among women both the level of inactivity and the level of employment are low. Woman heads only 20% of business companies.

From the viewpoint of business are interesting some results of the research conducted by ACT in 2013 within the UN joint program "for promotion gender equality in Georgia". On the one part, these results present what role women have in the family while adopting any decision on any purchase and, on the other, presents more concrete opinion on the condition existing in women employment in Georgia [2].

It appeared in result of research that 67% of the population does not work owing to the simple reason that failed to get job. 18% of unemployed women consider that it will be difficult for them to combine housework with the job and therefore prefer not to work.

Table 1

unemployment reasons N=1257

	Women	Men	Total
Could not find job	46%	3%	6%
Don't want to work	25%	9%	3%
Fail to combine housework with job, so prefer not to work	8%	1%	1%
Due to high age	4%	4%	4%
My spouse doesn't want me to work	4%	0%	3%
Miscellaneous	4%	3%	3%

In general, 48% of women and 39% of men have no personal income. 29% of the population has income from GEL 101 to 300. It should also be mentioned that for 36% of the population this sum is family income. For 30% of the population average family income fluctuates from GEL 399 to GEL 700. Unfortunately, 8% of the population lives in extreme poverty and its monthly income is less than GEL 100. It turns out that majority of women has no income. Almost 1/5 of women say that their husband/partner has more income than they have; equal income, in women's words, is in 15% cases, but according to men, in 25%.

Table 2

income of spouses N=1081

	Woman	Man	Total
My spouse/partner has no income	6%	7%	1%
I have larger income	9%	25%	7%
We have approximately similar income	5%	25%	0%
My spouse/partner has more income	18%	7%	3%
I have no income	52%	24%	9%
Refuse to answer	0%	0%	0%
I don't know	1%	2%	1%

It should be mentioned that despite the fact who has in the family more income, the family members mostly unite all the money and then use in case of need (52%).

Table 3

income of spouses N=1081

	Woman	Man Woman	Total
I manage entire money and give to my spouse/partner proceeding From my views	5%	11%	8%
I manage entire money and give to my spouse/partner Proceeding from his/her needs	9%	17%	13%
My spouse/partner manages entire money and gives me a part of it proceeding from his/her views	9%	6%	8%
My spouse/partner manages entire money and gives me a part of it proceeding from his/her views	15%	4%	10%
We unite entire money and take as much as each of us	51%	53%	52%
We unite a part of money leave the rest to us	5%	5%	5%
We each manage our own money	6%	4%	5%

For such needs as food products, clothes, large purchases, rest/entertainment and children's education, the final decision on expenses is mostly made jointly, though women have more autonomy in buying food products and clothes.

Opinions on women's employment are mostly conditioned by the views of the society, the model of behavior of man and woman within the family, considerations on the role and function of women in the family and the obligations and role of men. According to the Georgian tradition, a man is a head of the family and his obligation is to keep his family; a woman is a housewife and mother and her obligation is to obey her husband, to take care of the family and children. The attitudes mentioned above answer the question – how the society should be arranged? However, it is interesting to analyze why the society considers such arrangement true, i.e. answer to the question – why it should be so?

By analyzing the results of qualitative and quantitative researches conducted by ACT we can separate several arguments, by which the Georgian society answers the question put above:

1. Family hierarchy corresponds to the Georgian traditions

A great part of the population considers that such distribution of roles in the family corresponds to the Georgian tradition. The traditions are not doubted. Respectively, it is necessary that all should adjust their behavior to the traditions.

2. Care of family is woman's unconditional obligation/woman is irreplaceable in the family

It is considered that a woman cannot be as successful in the carrier as a man, because the objective conditions can impede her – due to housework she cannot spare much time to her carrier. The present consideration is supported by the stereotyped opinion that doing housework is woman's prerogative by all means, as this is what she should do in any case and her husband cannot share this work. Respectively, if a woman wants to be as much successful as a man, then she has to make a choice between the carrier and a family, a man does not have to make such a choice.

3. It is natural for a woman to take care of her family

Consideration exists that to be a housewife and to bring up children is pleasant for a woman and in the family environment she feels happier. Without a family she cannot be happy and no success in the carrier can compensate her happiness received from care for the family. Care for the family is in the nature of a woman, it is organic for her.

4. Woman's job should be simple and should not take much time

It is considered that a woman can have a job, but it does not impede her in taking full-value care of her family, husband and children, because woman's primary obligation is to take care of her family. Respectively, the society considers only certain professions suitable for women (e.g. a teacher, a doctor, etc.).

5. **A man cannot want his wife to work**

In some cases a man in the family cannot want his wife to work. Accordingly, proceeding from the consideration that according to the Georgian tradition a woman should obey her husband and that a man is a main decision-maker in the family, a woman cannot be employed due to a simple reason that her husband wants this.

Conclusion. In relation to apprehension and understanding of gender, proceeding from its uniqueness, the Georgian culture cannot resemble any other culture. Besides, as our country is on the transitional stage of economic development, it possesses approaches in relations to gender, which are characteristic for both high developed countries with high level of education and the economically unsustainable countries.

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THE ANCIENT FOUNDATION'S CONCEPT OF THE FAIR RELATIONS OF PRODUCTION AND DISTRIBUTION

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The article discusses about the development of philosophical concepts, motivation and fair protection of national-public interests of the state and the population. Particular attention is given to the contribution to solving the problem from outstanding creative personalities of ancient Greece. For ancient thinkers gathering knowledge and its use for reasonable welfare of the country and citizens is higher than any other activity. Contemporary issues of fair relations of production and distribution remain popular in most countries, including the Republic of Moldova which recently became an independent state. Conceptual approaches can be used to develop strategies and tactics of motivating the fair protection of national-public interests of the state and the population, both in law and in their practical implementation.

Key words: *protection of fair motivation, production and distribution relationships, virtue: theory and practice, the role of public authorities: activity and behavior.*

În articol se abordează dezvoltarea conceptelor filosofice de motivare justă a intereselor naţionale-sociale ale populaţiei şi statului. O deosebită atenţie se acordă în soluţionarea acestei probleme personalităţilor notorii de artă din Grecia Antică. Pentru gînditorii antici dobîndirea cunoştinelor şi folosirea lor pentru creşterea rezonabilă a bunăstării ţării şi cetăţenilor a fost mai presus decît orice altă activitate. Rezolvarea problemelor contemporane ale relaţiilor echitabile de producere-distribuţie rămîne necesară pentru majoritatea ţărilor, inclusiv şi Republica Moldova, care relativ recent a devenit un stat independent. Abordările conceptuale pot fi folosite pentru a elabora strategii şi tactici de motivare a protecţiei intereselor social-economice ale statului şi poporului, atît în baza legislativă, cît şi în aplicarea practică.

Cuvinte cheie: *protecţia motivării echitabile, relaţiile producţie-distribuţie, binefacerea: teorie şi practică, rolul puterii de stat: comportamentul şi modul de viaţă.*

В статье рассматривается развитие философских концепций, и справедливая мотивация зашиты национально-общественных интересов государства и населения. Особое внимание придается вкладу в решение данной проблемы выдающихся творческих личностей Древней Греции. Для античных мыслителей приобретение знаний и их использование для разумного повышения благосостояния страны и ее граждан, являлось выше всякой иной деятельности. Решение современных проблем справедливых производственно-распределительных отношений, остается востребованным для большинства стран, в том числе и для Республики Молдова, относительно недавно ставшей независимым государством. Концептуальные подходы могут быть использованы при разработке стратегии и тактики справедливой мотивации зашиты национальных общественно-экономических интересов государства и населения, как в законодательном порядке, так и в практической их реализации.

Ключевые слова: *защита справедливой мотивации, производственно-распределительные отношения, добродетель: теория и практика, роль органов госуправления: образ жизни и поведение.*

JEL Classification: D6; D69; D64; N3; B3.

Introduction. It is considered that in addition to the devastating process of production and allocation of gross domestic product, hyperinflation can only accelerate the economic collapse. Brutal inflation helps to ensure, even if the measures are taken, to a speculative activity. Businesses are becoming more and more profitable; the overstock stores of raw materials and finished products, significantly exceeds the required reserve, anticipating the future price increases. Meanwhile, the mismatch between the amount of raw materials and demand of finished goods for meeting customer needs leads to further

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inflationary pressures. Therefore, instead of investing in capital goods, manufacturers and individuals defend themselves against inflation and begin to acquire unproductive wealth.

In exceptional circumstances, uncontrolled prices destroy the normal economic relations. Conflict of interests enhances dramatically, the money depreciates and cannot function as a measure of value or medium of exchange. In the end, hyperinflation increases the depression and financial collapse accelerates and generates social and political disorder.

It must be emphasized that all this is happening in conditions of full indifference of the state to protect national interests, obvious permissiveness and confidence in absent punishments and disregard to interests of the majority of defenseless people. After all, it is well known that suffer the most the poor population of the country, with all the negative consequences of their socio-economic formed condition. And as always, in such cases, arises the common question: where, in desperate bursting to power, assuring the population with election promises and party programs. The answers to these questions are already well known. Even our national history of post-reformatory years leads to the main conclusion about the absence of a central government strategy and tactics of motivating the fair protection of national-public interests of the state and the population, both in law and in their practical implementation.

The problem has a wide range of questions, a variety of options and solutions and rather large evolutionary historical period of development. Even at the dawn of civilization among the first countries in the world, Ancient Greece was concerned about the structure of society and the state. And among the creative figures of the ancient world, was Plato.

This fact makes it necessary to refer to the ancient Greek philosophy and its understanding of the life. According to the ancient philosophers, "to a person it's *common intelligent life*" and therefore we can say that the philosopher, who lives a contemplative life puts theory (knowledge) above practices. In other words, the acquisition of knowledge and their use for reasonable welfare of the country and its citizens is higher than any other activity, in contrast, for example, from the prophet or priest for whom the practice, or more exactly, the righteous life, above all scientific knowledge, a true spiritual life is asceticism. With few exceptions, this cannot be said about our functionaries of the central state bodies of the country or popularly elected deputies, who are supposed to legally protect the fair demands of the electorate.

After all, is well known that according to the theory of ancient times the supporters of the "plastic" nature of the Greek world believe that "contemplative" life of a philosopher rises above its daily cares and anxieties and that allows to objectively perceiving wider and deeper the life.

For example Pythagoras, answered to the question of his vast knowledge, that he has no special knowledge or specialty; he's just a philosopher, i.e. "Judicious". Based on this statement of the great scientist, we turn to the ancient Greek understanding of the philosophy and attitude towards life. In general, according to the ancient philosophers, "*to a person it's common intelligent life*" and therefore we can say that philosopher, who lives a contemplative life puts theory (knowledge) above practices. In addition, supporters of "plastic" nature of the Greek world believed that "contemplative" life of a philosopher rises above its daily cares and anxieties, and that this allows him to experience life out the box. This, of course, the position and setting of the contemplative knowledge of the universal world order had always to correlate to their field (ontological, epistemological, ethical and socio-political) permanent and repetitive. In other words, the Greek concept came from the primacy of the repeated constant variable, over the individual and over impersonal personality.

Responding to a question about the philosophers and how they differ from other people, Pythagoras made an analogy with the Olympic Games. To these games come three categories of people: the participants seeking for fame; those who sell or buy something in order to gain; and, finally, those who seek neither fame nor enrichment, but detached, come only to contemplate what is happening around. The same happens in life: most people tend to material goods, comparative minority – to the glory and honor, and few, indifferent to fame and fortune, busy contemplation and knowledge of things.

For Socrates, knowledge is valuable only in the extent of its contribution to the moral perfection of people. More precisely, according to Socrates virtue is knowledge, and so profound intellectual penetration of the moral-ethical problems inevitably leads to moral perfection. Thus, according to the teachings of Socrates, the knowledge of man and his actions constitute a whole: knowledge "the word" determines the value of "the activity" and "the activity" determines the value of knowledge. As a consequence, his belief in true knowledge and true wisdom (philosophy), available to man are inseparable from fair affairs and other manifestations of virtue.

In terms of Socrates, it's quite rightly and improper to be called a philosopher the one who has the knowledge and wisdom, but judging his lifestyle and behavior, devoid of virtue. In accordance with this criterion of true differences from the false philosophy, Socrates sees that the first, based on the unity of knowledge and virtue, aims to moral perfection of citizens, while the second is indifferent to the goal, without thinking on this issue.

It should be noted that the information above, dates back to the IV century B.C. and therefore consonant Socrates-Platonic tradition, distinguished by, among other things, a high estimation of knowledge and indifference to what longs for most people – wealth, fame and honors. On this basis it is appropriate to consider how this representation of philosophy and its relation to life was characteristic to earlier period of Greek philosophy.

The philosophy – subject of which are the sole principles and causes, is universal and the most speculative of sciences. Although from philosophy we do not get the immediate benefit, however, it is the most valuable of the sciences; it exists for its own sake and is aimed at knowledge of the truth (the root causes, the living and eternal). "Thus, all other sciences are more necessary than it, there is no better one compared to philosophy". Consistent with these judgments, Stagirite also comes to the conclusion that knowledge is more valuable in theoretical form and is not related to yield of immediate benefits. After all, when a person makes any useful invention, then this person is called a wise not so much because of the use of his invention, but, as a result of surprise caused by his mental faculties, i.e. due to the high evaluation of his theoretical work. Therefore, the above theoretical science is higher than "creative" and theoretical (contemplative, speculative) is above practical activities.

Summing up in the spirit of Aristotle, we can say that "contemplative life" is not related to utilitarian considerations and is the best form of life, because it is dedicated to the knowledge of the good, fair search of truth, i.e., is the highest form of spiritual and creative activity.

Usually, when it comes to philosophy, i.e., "Bios Theory" refers primarily to Aristotle, who believed that philosophizing is a kind of creative activity, and the "contemplative life" is the highest form of life and activity. However, reference is also made to the great and ancient world materialist Democritus, who taught about "good state of mind" and says: "never believe people who are happy due to their wealth and fame, all such benefits are less constant than the winds. Insatiable desire for money, without knowing the limit, is much painful than the most extreme needs: for big aspirations these generate greater deficit". For example, Democritus rejects narrow-minded view of materialism, which notes that the highest meaning of life and sees in sensual pleasures, money and wealth. He said "people should give a greater importance of the proper state of mind than the body" and "a good state of mind in humans is due to moderation in pleasure and measured life". For Democritus, the happiness of man is to "complacency", i.e. in spiritual harmony and moral satisfaction of knowing of due and rightly affairs. "Those whom rushes joyfully in the soul the affairs of fairness and justice, are happy in their sleep and waking, healthy and carefree; those who neglects justice and does what they need, they are experiencing trouble, fear and scolds themselves". As can be seen from the last two fragments, it follows that Democritus considered a good state of mind ("complacency") in close connection with good deeds and active work for the good of the state and its citizens.

Plato also said and written a lot about the contemplative or speculative reaching the truth, but he was never a "contemplative" philosopher. As none of the ancient thinkers, Plato was full of faith in the possibility of transformation of the entire social and political life. And none of the creators of the ancient world did not seek and did not expect to affect lives of people in the extent to which Plato sought and hoped. He was deeply convinced that the study of philosophy and intellectual effort "behold" excellent or fair, as such, cannot change a person, do not make it morally perfect and virtuous.

Plato believed that misery of people will have no end and the state does not get rid of evil as long as philosophers will not be the rulers, and rulers the philosophers, i.e. until you merge together "government and philosophy, and yet will not be mandatory, suspended those people and there are many – who now seek to separate, or power, or to philosophy". Therefore, "all knowledge is separated from the fair and the other virtues, it is knavery, not wisdom". In understanding the platonic-Socrates, philosophy is not confined to the purely theoretical work, and also includes practical activities, the right course of action, good deeds. If virtue is knowledge, i.e., conformation acts with the good knowledge, it follows that philosophy – even as a purely theoretical (cognitive) activity – necessarily leads to the selection of a certain lifestyle and practice. Therefore, it is possible to agree with well-known scholar of ancient Greek

philosophy C. Vogel, that argues for Socrates and Plato "philosophy could be pure theory, but it was pure theory that guided practical life".

Judging by some statements, the Greeks originally used the word "philosophy" in the most general sense, meaning by them all the knowledge and awareness (in the modern interpretation – awareness). However, to quote some fragments of the Presocratics or by Heraclitus of Ephesus "logo is universal" and therefore wise heed logos and follow it as a criterion for a correct way of thinking and acting. "Those who speak reasonably should be based on universal", "wisdom – to speak the truth and act intelligently, perceiving things according to their nature" etc. Of these, one can assume that a philosopher is a person, that comprehends universal logo and conforms to it not only in his desires and intentions, but also with actions and deeds. Then it follows that philosophy is not only an intellectual activity, but also scientifically sound and orientation practice. Moreover, the guiding force of life cannot be considered a passive contemplation of what is happening in the world. At the heart of the latter is another piece of Presocratics that "most people with uncontrolled logo leads to excessive sensual pleasures and poor lifestyle choices. Most people prefer one to everything: eternal glory to mortal things".

As we see, the hilt words and deeds are one, and therefore there can be no question of his understanding of philosophy as separate from the life of contemplation, devoid of figurative – conceptual thinking and intuitive-rational knowledge. Another important component that characterizes the ancient philosopher – only indifference to wealth makes him a philosopher. By the way, it is necessary to add that Pythagoras also, speaking of philosophy as a contemplative activity meant detachment from the philosopher of wealth and glory for the sake of acquiring personal wealth. It seems that in this case, there is no need to prove the well-known circumstances of life of Pythagoras and his union without self-interest has been actively involved in the socio-political life of the Greek city-states.

In other words, it has been and always will be science and practice, i.e., knowledge of the matter objectively interdependent – and interrelated. But as the integrator of this synthesis has always been and will be a science, in contrast to the practice, a criterion of truth, produced by concrete implementation of research, and it turns out that everything depends on the value of knowledge, in other words, from the lighthouse emitting the true wisdom fair decisions and other good for living conditions. Plato was convinced that "the misery of people will have no end and the state does not get rid of evil as long as philosophers will not be rulers and the rulers – philosophers". On this basis he predicted its positive decision "until merge together government and philosophy, and yet not be mandatory, dismissed the people, and they are many – who now seek to separate, or to the authorities or to the philosophy".

As an applicative confirmation of the above philosophical concepts, it seems appropriate to refer to the practice of the Greek state. In Athens law, back in the V-IV centuries BC, complaints and illegal in compliance with the Athenian constitution were made public institution of special proceedings, called "*Graphe paranomon*" (from the Greek – I write about the injustice). The essence of this trial was as follows: "every Athenian citizen had the right to make a statement that national assembly passed a law contrary to the existing legislation or adopted in violation of the established order. Once such an application was received, the effect of the impugned law was suspended, and a special chamber initiates an investigation of the complaint. If the complaint is recognized to be fair, the new law was annulled, and the author was sentenced to a large fine, expulsion or even the death penalty for having introduced his fellow-members of the national assembly, misleading. Able to initiate such a "complaint on illegal" protected the Athenians from making hasty in the national assembly and ill-conceived bills. However, if "the complaint on illegal" does not confirm, the complainant is brought to justice. Institute' complaints about illegal, "thus giving to every citizen the right to act in defense of the existing laws, the whole structure of Athenian democracy".

In addition, in Athens in order to achieve fairness in respect of the distribution have been adopted and other methods and approaches. Thus, the country has been established, so-called, the liturgy – the state service, which carried the rich citizens, immigrants – foreigners and metikos (allotted to the will of the slaves, engaged in trade and usury, many of whom became rich people). They had to pay for certain public spending. There are two types of the liturgy: ordinary and extraordinary. The first group includes *Choregos* (payment choirs for theatrical performances), A*rhipheory* (funding embassies to participate in religious festivals), G*imnasiparchy* (content gymnasium); to another – to emergency belong the *Trierarch* (crew warships and maintenance of the ship).

In the opinion of Aristotle, knowledge is an activity of the senses and the mind of man, and, intelligence provides a more accurate and extensive knowledge and promotes the acquisition of

knowledge that is in things and substantial and decisive. So, Aristotle concludes "Thus, people are wiser not due to the ability to act, but because they have abstract knowledge and know the reasons".

Philosophy is the subject of which are the first principles and causes is universal – the most speculative of sciences. Although, we do not get the immediate benefit from philosophy, it is the most valuable from all the sciences, existing for its own sake and aimed at knowledge of the truth (the root causes, the living and eternal). "Thus, all other sciences are more necessary than it is, but it is better than all other". Consistent with these judgments, Stagirite also comes to the conclusion that knowledge of the more valuable the more it was theoretically and is not related to yield immediate benefits. After all, when a person makes any useful invention, then this person is called a wise not so much because of the use of his invention, as a result of surprise caused by his mental faculties, i.e. due to the high evaluation of his theoretical work. Therefore, theoretical science is above "creative" and theoretical (contemplative, speculative) above practical activities.

Thus, one of the enduring achievements of the Greek philosophers in the history of theoretical thought was and is still their definition of philosophy and delimitation of the philosophy of the subject of the special sciences, which to some extent contributed to the raising of the Greeks to a new level of historical thinking. Leaving behind a mythological interpretation, as well as chronicles and novelistic description of life processes, the Greeks, in the end, resulted in their science to new applicative, practical achievements. Although for centuries, the Aristotelian definition of philosophy was modified; it has become a basis for all subsequent philosophy of living arrangement and its essence remained to this day, when the problems have changed significantly as materially and spiritually.

Concluding in the spirit of Aristotle, we can say that the "contemplative life" is not related to utilitarian considerations and is the best form of life, because it is dedicated to the knowledge of the good, search of fair truth, i.e., is the highest form of spiritual and creative activity.

These fragments of the evolution of ancient philosophy and conceptual approaches of Greek thinkers, despite centuries of recognition, are most relevant to the assessment of the current socio-economic and political status of the Republic of Moldova.

Protracted crisis situation of the national economy alternating with government changes and permutations in of social-economic structure at different levels of state management, do not give positive results. And there is no need to mention negative results – everything is known and it's not very pleasant to recollect.

The officially brought in advertising and propaganda trash does not make sense to be presented and does not make anyone smarter. But some advice to those who consider themselves elected by people and responsible executors should be laid out. To get a grasp in the above outlined fragments of great thinkers – fathers of modern civilization, it's necessary to think and respect their thoughts and do not engage in discord with supreme logo, be reasonable and consistent with that it is not only their desires and intentions, and actions and deeds. Impeached by acquiring wealth and fame for their personal benefits, facilitate the merging role of government and the ancient concept of virtue. It is today the personal contribution of each of the current governors elected in a bright beautiful tomorrow our Moldovan long-suffering people. God is the only ultimate judge for us all.

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VISIONS OF THE EUROPEAN UNION DIRECTIVE ON DEPOSIT GUARANTEE SCHEMES

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The article aims to illustrate the role of directives of the European Union in organizing the activity of banking deposit guarantee. Given the fact that, at present, financial crises are becoming more frequent, and the consequences affect the confidence of depositors in the banking system, it is necessary to undertake measures for the creation and improvement of institutions for guaranteeing bank deposits. At the European level, are drawn up directives relating to the imposition of banking deposit guarantee schemes and the member countries, during a given period of time, shall be obliged to transpose the requirements of this directive in the national law.

The goal of research is to identify elements of deposit-guarantee schemes recommended by European directives, appreciation of amendments made to Directive 2014/49/EU.

The methodology of research. The article was elaborated în base of European directives given in bibliographic references. In order to obtain research results the author was use the analytical method and comparison method, the last having a higher share.

The research results. The study allowed the appreciation of the importance of European directives in elaborating the deposit guarantee schemes.

Key words: *deposit guarantee schemes, the European Union, guarantee ceiling, directives, bank deposits, financial crisis, financial instability, depositors' information.*

Articolul îşi propune să ilustreze rolul directivelor Uniunii Europene în organizarea activităţii de garantare a depozitelor bancare. Dat fiind faptul că, în prezent, crizele financiare sunt tot mai frecvente, iar consecinţele afectează încrederea deponenţilor în sistemele bancare, este necesar de a întreprinde măsuri de creare şi perfecţionare a instituţiilor de garantare a depozitelor bancare. La nivel european, sunt elaborate directive ce ţin de impunerea schemelor de garantare a depozitelor bancare, iar ţările membre, pe parcursul unei perioade determinate de timp, sunt obligate să transpună cerinţele acestei directive în legislaţia naţională.

Scopul cercetării îl reprezintă identificarea elementelor schemelor de garantare a depozitelor recomandate de directivele europene, aprecierea modificărilor operate în directiva 2014/49/UE.

Metodele cercetării. Articolul dat a fost elaborat în baza directivelor europene indicate la referinţele bibliografice. În scopul obţinerii rezultatelor cercetării autorul a utilizat metoda analitică şi metoda comparaţiei, ultima avînd o pondere mai importantă.

Rezultatele cercetării. Studiul efectuat a permis aprecierea importanţei directivelor europene în elaborarea schemelor de garantare a depozitelor.

Cuvinte cheie: *scheme de garantare a depozitelor, Uniunea Europeană, plafon de garantare, directive, depozite bancare, crize financiare, informarea deponenţilor, instabilitate financiară.*

Данная статья призвана проиллюстрировать роль директив ЕС в организации гарантирования банковских депозитов. Учитывая, что в настоящее время финансовые кризисы становятся все более частыми, и их последствия влияют на доверие депонентов к банковской системе, необходимо принять меры по созданию и совершенствованию институтов, гарантирующих банковские депозиты. На европейском уровне разработаны директивы, связанные с введением новых схем гарантирования депозитов, и государства-члены в течение определенного периода времени обязаны внести требования данной директивы в национальное законодательство.

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Целью исследования является выявление элементов схем гарантирования депозитов,, рекомендованных европейскими директивами, оценка изменений вносимых директивой 2014/49/UE.

Методы исследования. Данная статья была разработана на основе европейских директив, приведенных в списке литературы. Для достижения намеченных целей исследования автор использовал аналитический метод и метод сравнения, при чем последний имеет большее значение.

Результаты исследования. Проведенное исследование позволило оценить важность европейских директив в разработке схем гарантирования депозитов.

Ключевые слова: *схема гарантирования вкладов, Европейский Союз, предел гарантирования, банковские депозиты, финансовые кризисы, информирование депонентов, финансовая нестабильность.*

JEL Classification: *G20; G21; G01; G29.*

Introduction. Through banking institutions are accumulated in the form of deposits, the surplus of capital from depositors, natural and legal persons, which subsequently, distributed in the form of loans, contribute to the development, modernization and upgrading of various sectors of the economy.

Taking into account the importance of these resources, must be taken into consideration to maintain depositors' confidence in banking institutions.

Financial markets present a high level of integration and interconnection, many institutions carrying out operations beyond national borders, and the difficulty of such institutions affect the stability and reliability of the banking system.

The instability of the banking system generates a number of negative effects, including the loss of confidence of depositors in the banking system, which contributes to the withdrawal of savings from bank accounts. In order to eliminate them, most countries of the world have taken measures of increasing people's confidence in banking systems. These measures, in general, refer to the regulations laid down by the monetary authority of each country, which, by means of laws adopted, prohibit or restrict engagement of banks in unhealthy practices that lead to bankrupt.

At present, in most countries of the world, maintaining stability, along with the Central Bank, is ensured by the deposit-guarantee schemes. They are aimed primarily to maintain confidence in the banking system and to protect small depositors in case of bank bankrupt.

Analyzing the international practice on guaranteeing deposits, we note that, in recent times, the emphasis is on improving existing deposit guarantee schemes and, in countries where they do not exist, to be set up. A recent example of this is the case of the Austrian State, deposits in its banking system are guaranteed until July 2015. The guaranteed amount being of 100 000 Euros, half of which is provided by the banking institution, and half by the State. However, from July 2015, since the entry into force of the new legislative changes will create a special insurance fund that will guarantee bank deposits, eliminating the State participation in this process.

At the moment, there is no model of deposit guarantee system, which can be applied by each country, but by the Basel Committee on Banking Supervision and the International Association of Deposit Insurers were developed fundamental principles in adopting effective deposit guarantee systems. The fundamental principles are developed so that it can be adapted to a wide range of circumstances and structures of each country. These principles are not compulsory, but it will be a general voluntary framework for effective practices of deposit guarantee, the national authorities are free to apply and additional measures they deem necessary in their own jurisdiction. At the same time, given the fact that these are general principles, there are times when they do not cover all the needs and circumstances of each banking system. Instead, the specific circumstances of each country should be addressed in the context of existing laws and the powers of achieving public policy objectives and mandate of the deposit guarantee system.

At the European level are drawn up directives aimed to impose deposit guarantee schemes, as a necessary element, as well as the harmonization of issues relating to the deposit guarantee schemes.

The first directive on deposit guarantee scheme was drawn up in 1994, namely Directive 1994/19/EC on deposit guarantee schemes [2], as amended successively by the Directive 2009/14/EC of the European Parliament and of the Council on deposit guarantee schemes as regards the guarantee ceiling and period payout [3].

On April 16, 2014 was adopted the Directive 2014/49/EU of the European Parliament and the European Council on deposit guarantee schemes [1], this directive is coming to replace the directive of 1994, bringing in this way additional improvements of the objective of protection of depositors.

In accordance with the article 4 of this Directive, which deals with the formal recognition of deposit guarantee schemes, each Member State shall bear the responsibility for the establishment and official recognition of one or more deposit-guarantee schemes (DGSs).

At the same time, it is allowed the merger of DGSs of different Member States, or the setting up of cross-border DGSs. If a credit institution fails to comply with its obligations as a member of DGSs, shall be notified immediately the competent authorities, in cooperation with DGSs, promptly adopts all necessary measures, including, if needed, to impose sanctions, to ensure that the credit institution complies with its obligations [1].

Directive requires every credit institution to join to a deposit guarantee scheme; the new Directive recognizes the following deposit guarantee schemes (DGSs):

- statutory DGSs;
- contract DGSs;
- Institutional protection systems (IPS).

Based on the analysis of the functioning period of Directive 94/19/EC, have been synthesized and its main shortcomings. Finally, the new Directive provides for:

- simplification and harmonization of payment arrangements;
- the period during which payment of deposits is made, become unavailable, to be reduced from 20 days at present to 7 working days;
- the introduction of ex-ante funding arrangements, which include a minimum target level established, in general, to 0.8% of the guaranteed deposits, to be set up within a period of 10 years, until 2024;
- the introduction of a standardized form, which will contain information about guaranteeing deposits and deposit guarantee scheme, and are provided for information measures relating to the guarantee scheme for banks and depositors.

In table 1 it is shown the structure of the Directive 2014/49/EU. Comparing with Directive of 1994, it is most voluminous. Comparison of them reveal changes over the existing articles, as well as introducing new articles that covers loans granted between the guarantee schemes, cooperation within the European Union, etc.

Table 1

Structure of Directive 2014/49/EU on deposit guarantee schemes [made by the author]

Nr. Crt.	**Directive 2014/49/UE**
1.	Subject matter and scope
2.	Definitions
3.	Relevant administrative authorities
4.	Official recognition, joining the system and supervision
5.	Eligibility of deposits
6.	Level of coverage
7.	Determination of the amount refundable
8.	Reimbursement
9.	Loans on DGSs
10.	Funding of DGSs
11.	Use of funds
12.	Loans between DGSs
13.	Calculation of contributions to DGSs
14.	Cooperation within the Union
15.	Branches of credit institutions established in third countries
16.	Information provided to depositors
17.	List of authorized credit institutions
18.	Exercise of delegation of powers. Transitional provisions, etc.

Directive 94/19/EC focuses on the principle of minimum harmonisation, i.e. has contributed as at present in the European Union to be the deposit guarantee schemes with different characteristics. As an example, note the different guarantee ceiling as well as the uncoordinated increases of the guarantee ceiling on the periods of financial crises. As a result, it was noted that depositors transferred their funds to credit institutions from countries where the deposit guarantee level was highest. This has contributed to the depletion of credit institutions' liquidity in times of financial difficulties. During periods of stability, cover differs, causes depositors to select those deposits which are better protected. This, ultimately, contribute to the distortion of competition within the internal market. In order to eliminate them, Directive 2014/49/EU calls for deposit guarantee schemes to ensure depositors a uniform level of protection throughout the Union of 100 000 euro.

Thus, all deposits will be guaranteed apart from: deposits made by other credit institutions on their own behalf and their own; own funds; deposits arising out of transactions in connection with which there has been a criminal conviction for money laundering; deposits by financial institutions; deposits made by investment firms; deposits whose holder has never been identified; deposits by insurance undertakings and reinsurance undertakings; deposits by collective investment undertakings; deposits made by the pension funds; deposits by the public authorities; debt securities issued by a credit institution and liabilities arising out of own acceptances and promissory notes [1].

Member States shall ensure that deposit guarantee schemes have adequate systems to determine their potential liabilities, and their available financial resources should be commensurate with these debts. In the event that they are not sufficient, additional funding will be required.

The Directive requires that up to July 3, 2024, available financial resources of DGS to attain at least a target level of 0.8% from the amount of covered deposits of its members. When the capacity of funding will not achieve the target, the payment of the contributions will resume at least until reaching the target.

Where, after the target was reached for the first time, the financial resources available has been reduced to less than two-thirds of the target level, the regular contribution shall be set at a ceiling which would achieve the target levels within six years.

Regular contribution shall take into account, properly, the stage of the economic cycle, as well as the impact it may have pro-cyclical contributions when the annual contributions shall be determined. A Member State may obtain the financial resources available through the compulsory contributions paid by credit institutions to the existing mandatory schemes imposed by a Member State within its territory in order to cover the costs related to systemic risk, bankruptcy and resolution institutions [1].

In addition, it is requested that to the extent permitted by national law, deposit guarantee schemes to use available financial resources to prevent the bankruptcy of a credit institution, which will help to reduce the cost of repayment schemes, as well as other negative effects.

Analyzing the payment of deposits which have become available in recent years, it has been noted that there is still the necessary procedures for a short term of repayment. Therefore, Member States are given the possibility to choose, on a transition period to gradually reduce the repayment period up to seven working days, maximum repayment periods laid down in the directive are [1]:

- 20 working days, until 31 December 2018;
- 15 working days, as from 1 January 2019 until 31 December 2020;
- 10 working days, as from 1 January 2021 until 31 December 2023.

However, the maximum period established by the directive will not prevent deposit guarantee schemes to make early repayments to depositors. But, in order to ensure that, in the transitional period, depositors will not encounter financial difficulties in the case of bankruptcy of the credit institution, it is shown that depositors can have access, upon request, to an amount corresponding to their covered deposits, in order to cover the cost of living. Such access should be provided only on the basis of data supplied by the credit institution. Given the differences between the cost of living in different Member States the amount has to be set by each country in part [1].

Member States may allow deposit guarantee schemes to lend other DGSs on the territory of the Union, on a voluntary basis, if the following conditions are met [1]:

- loaned DGS cannot honor its obligations incumbent;
- loaned DGS appealed to the extraordinary contributions;
- loaned DGS takes its legal commitment to use borrowed funds to pay claims;
- loaned DGS is not already required to repay a loan other DGSs under this article;

- loaned DGS declares the amount of money requested.

The loan will be granted on condition that it will be repaid within a maximum period of five years. At the same time, Member States shall ensure that sufficient contributions levied loaned DGS to repay the amount borrowed and to restore the level of the target as soon as possible.

Equally, taking into account the practice gained, it was proved to be important to inform depositors about the institution guarantying deposits, the conditions under which it will guarantee the guarantee amount, etc. To this end, Directive 2014/49/EU imposes the need of informing depositors via a special form which the depositor shall be handed over before the contract is concluded. Also, depositors must be informed and if at the level of credit institution have taken place changes that can lead to the alteration of the level of protection, the granting of loans on a voluntary basis, between the national deposit-guarantee schemes.

Results and conclusions. Following the study, it was noted that deposit guarantee schemes constitute an essential requirement in the conditions of globalization. Currently, more and more attention is directed towards maintaining the stability of banking systems, the creation of deposit guarantee schemes and to improve existing ones.

Thus, as a result of the analysis, it was noted the tendency of the European Union to harmonise deposit insurance schemes in order to create equitable conditions for banking institutions, but also for depositors.

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APPROACHES OF THE TERRITORIAL ASPECT OF COMPETITIVENESS

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The topicality of this article is determined by the significant impact of territorial (regional) factor on the competitiveness of economic units. The main purpose of the article is to determine the certain aspects of mechanisms of this impact. The following basic research methods were used: systemic analysis, monographic, qualitative and quantitative analysis, synthesis, generalizations, historical and logical, deductive and inductive, etc. The main scientific results of the research obtained in the article are the following: definition and role of territorial competitive advantages; highlighting of some regional environmental factors, which influence competitiveness and stability of an enterprise on several quality levels; detection of peculiarities of regional competitiveness policy; generalization of the methods of complex evaluation of competitive advantages; detection of success factors in regions with above average economic performance; characterization of policies of territorial development support (Danish, Italian and German models).

Key words: *competitiveness, territorial (regional) factor, competitive territorial (regional) advantages, regional policy of competitiveness, complex assessment of regional competitive advantages, national models of territorial development policies.*

Actualitatea prezentului articol este determinată de impactul important al factorului teritorial (regional) asupra competitivităţii agenţilor economici. Scopul principal al articolului constă în determinarea anumitor aspecte ale mecanismelor acestui impact. Au fost utilizate următoarele metode de cercetare de bază: analiza sistemică, monografică, analiza cantitativă şi calitativă, sinteza, generalizări, istorică şi logică, deductivă şi inductivă etc. Principalele rezultate ştiinţifice obţinute în articol urmare a cercetării sunt: definirea şi rolul avantajelor concurenţiale teritoriale; evidenţierea unor factori ai mediului regional, care influenţează competitivitatea şi stabilitatea întreprinderii la câteva niveluri calitative; relevarea particularităţilor politicii regionale a competitivităţii; generalizarea metodelor de evaluare complexă a avantajelor concurenţiale; relevarea factorii de succes în regiunile cu performanţe economice peste medie; caracteristica politicilor de susţinere a dezvoltării în profil teritorial (modelele danez, italian şi german).

Cuvinte cheie: *competitivitate, factor teritorial (regional), avantaje concurenţiale teritoriale (regionale), politica regională a competitivităţii, evaluarea complexă a avantajelor concurenţiale regionale,modele naţionale de politici de dezvoltare teritorială.*

Актуальность данной статьи определяется важным влиянием территориального (регионального) фактора на конкурентоспособность экономических агентов. Основная цель статьи состоит в определении некоторых аспектов механизмов данного влияния. Были использованы следующие основные методы исследования: системный анализ, монографический метод, количественный и качественный анализ, синтез, обобщения, исторический и логический методы, дедукция и индукция и др. Основные научные результаты исследования, изложенные в статье, следующие: определение и роль территориальных конкурентных преимуществ; определение некоторых факторов региональной среды, влияющих на конкурентоспособность и стабильность предприятий на нескольких качественных уровнях; выявление особенностей региональной политики конкурентоспособности; обобщение методов комплексной оценки конкурентных преимуществ; выявление факторов успеха регионов с экономическими показателями выше среднего; характеристика политик поддержки развития в территориальном разрезе (датская, итальянская и германская модели).

Ключевые слова**:** *конкурентоспособность, территориальный (региональный) фактор, территориальные (региональные) конкурентные преимущества, региональная политика конкурентоспособности, комплексная оценка региональных конкурентных преимуществ, национальные модели политик территориального развития.*

JEL Classification: B41; D04; D41; L2; R11.

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Introduction. Being complex and multidimensional concept and process, ***the competitiveness***, both as a prerequisite and a consequence of economic growth (actually, the competitiveness and economic growth affect each other) is under the impact of many factors, including ***the impact of the territorial (regional) factor***. The essence of this factor lies in the fact that the competitiveness of an enterprise, companies, networks of enterprises, clusters, etc., depends significantly on their location – as it is advantageous, favorable and beneficial (or not) for the competitiveness of these entities or their territorial-regional, zonal, economic, business, investment, cooperation, interactional and interdependencial external environment, rate of mutual completeness of production processes within the limits of a concrete territory (region, area) [1].

The problem of influence of enterprises' location on their competitiveness as well as the competitiveness of goods (services) produced (rendered) by them, as a rule, in literature, is approached casually, episodic or additionally to the research of scientific subjects in the much wider surrounding. In this article, the author makes an attempt to investigate the matter itself as a separate issue and the certain adjacent aspects that are close and intertwined with the central issue of this article – the economic growth.

The research of the territorial aspect of competitiveness and economic growth is especially actual for Moldova, in particular in relation to ***economic regionalization of the country***, its division, according to the Regional Development Law of the Republic of Moldova (no. 438 of 28.12.2006) in five Regions of development: North, Center, South, the Autonomous Territorial Unit of Gagauzia, municipality Chisinau, Transnistria; also administrative units included in each region have been established. The National Development Strategy (NDS) of the Government of the Republic of Moldova for the period 2008-2011 determined the regional development as one of five key national priorities, but as ***overarching goal*** – the implementation of sustainable and balanced economic and social development throughout the country by coordinating of the efforts within regions of development.

The Programme of activity of the Government of the Republic of Moldova for 2015-2018 in the chapter ***"I. Balanced regional development"*** outlines the following ***objectives***:

1. Ensuring a socioeconomic and functionally competitive potential of the regions of development in order to guarantee a balanced growth.
2. Creation of conditions for attracting and equitable distribution of investments in regions.
3. Improvement of the quality and impact of regions' participation in cross-border cooperation and Euroregions. The establishing of new partnerships with neighboring countries.
4. Elaboration of the national spatial plan and regional spatial plans.
5. Strengthening of the institutional capacities of regional development agencies and other stakeholders, engaged in the implementation of the regional development policy.
6. Introduction of multi-annual planning and financing of the projects, carried out at the expense of regional development funds.

Impact of the territorial (regional) factor on enterprise's competitiveness

According to Untura Gh., the location, in the narrow sense, is the territory, in which the selected object is placed according to comparative competitive advantages of production factors, influencing the production costs of goods, which also include the transaction costs, related to the stabilization of relations with participants from the external environment.

The location in the broad sense is regional market environment that includes enterprises-competitors and multiple actors, interacting with the enterprise. The result is the level of the enterprise's competitiveness and stability, which depends on the state of microenvironment inside the company.

If the enterprise's competitiveness is based on cost minimization, then advantages in production factors, which provide static competitiveness become decisive. Dynamic competitiveness is based on renovation and search for strategic differences.

Thus, the regional environment is the cover of regional subject and each factor expresses its competitiveness (competitive position of the region).

The epicenter of the emergence of enterprise competitiveness, which represents the country on the world markets, becomes the location and creates regional environment.

Competitive advantages represent the totality of conditions in the region, which creates long-term prospects for production of goods and services. The regional advantages influence the procedures' setting up in the region. Economic units enter the market with competitive goods and the part of the obtained profit becomes a "regional advance" in the competitive battle in the region, where the companies were

created. Thus, the regions begin to compete with each other to attract investment [1]. The analysis of the competitive positions of regions (countries) can be based on qualitative model of mutual influence of different local competitive advantages, proposed by M. Porter [2, 3]:

a) location possesses production factors of a certain amount and a certain quality;
b) location is combined with certain deficiencies and advantages that influence company strategy and rivalry context;
c) location forms quality and peculiarities of the demand state at the regional markets;
d) location can be used to unite enterprises' market activity with local suppliers, connected industries and competitive supporters.

Regional sources of competitive advantages can be examined at the national, interregional and regional levels. Comparative advantages created by the factors of production and market environment play a key role in international division of labor and territorial specialization in the products' manufacture. Regions with pronounced advantages create conditions in which productions, located in them allow to reduce costs and compete in local and global markets.

In 1989, there were studied business conditions in problem regions of the EU and 10 prosperous EU areas, which did not receive the aid from the Community. Managers of 900 companies of industry and services said that the entrepreneurship, regardless of region, is under the decisive influence of two factors (on the first place): the existence of well trained staff and the possibility of innovations' implementation.

In the backward regions, the main factors are "credit price" and undeveloped infrastructure.

The integration of enterprises located in regions influences the competitiveness of goods and enterprises, strengthens their stability ***by***:

a) the possibility of strengthening the competitive position through establishment of interregional economic relations in line with regional interests to satisfy the demand and supply of goods and services;
b) the possibility of integration, included in the development strategy of each region subject;
c) possibilities of increasing competitiveness of enterprises of the region with the support of local administration;
d) the possibility of creation new jobs with local administration support, etc.

So, there can be highlighted the following ***factors of regional environment, which influence competitiveness and stability of an enterprise*** at several qualitative levels:

a) competitive advantages of the country, which create general competition on macro-level;
b) competitive advantages of production factors in the region, where the company is located, or the competitive advantages of markets' localization;
c) structure and quality of the macro-environment of the firm, which is fed from the regional environment;
d) the existence of the goods (resources) as totality of outstanding consumer properties which enjoy high demand in regional localized markets;
e) the firm's strategic approaches of the use of regional advantages of placement;
f) possibilities of entry of an enterprise in a competitive cluster, i.e. a group of producers, situated in close territorial proximity, of interdependent firms and institutes, the location of which allows to use it as a ***unique aglomerational factor,*** which will increase the competitiveness of each participant and its stability in the contemporary economic multi-level network structure [1]. M. Porter proposed the cluster model as a special form of agglomeration cooperation [4].

Currently, according to other scholars (Iasin E., Iacovlev A.), the formation of the mechanisms of sustainable and dynamic economic development must take place from down – from business and regions. It is about ***regional policy of competitiveness*** [5].

The successful integration into the global market takes place more frequently not at the level of national states, but at the level of particular regions or, at least, this process begins at the regional level.

Since the medium-sized business really forms the competition environment, local and regional authorities can create or not conditions for business development and realization of effective business projects. In essence, it is about regional policy of competitiveness growth, which in the industries, in which medium-sized business dominates, becomes increasingly important factor of development.

Priority of regional powers consists in approximation to the potential project, the market, the capital market and in joint interest in realization of each project, capable of giving a rapid economic, budgetary and social effect, - these authors conclude.

For the comprehensive evaluation of competitive advantages of subjects from Central Federal District of Russia, Novosiolova I. [6] used the method based on calculation of the system of independent indicators, developed by a group of Russian scientists under the guidance of Zander E.V. [7].

Each of these indicators shows the result of normalization and aggregation of a number of individual indicators in general, characterizing different areas of current and strategic competitiveness. To normalize the indicators strings, it examines all of their regions and selected regions are classified (arranged). Then calculate the indicator value that corresponds to the number of regions whose indicators are lower than the region's data. Then this figure is compared with the total number of regions from the examined group.

Normalized indicator equals the ratio of the number of regions, which indicators are lower than the region's data, to the total number of regions in the examined group.

Normalized indicators have a value from 0 to 10. Note 10 is assigned to the region with the best indicator, 0 – the worst region in the group. At the same time 10% of the regions in accordance with actual indicator, receive a value from 9 to 10, the next 10% – from 8 to 9, etc.

The aggregation of the obtained normalized indicators is done by calculating the arithmetic average values on respective spheres of competitiveness of the region. Generalized index of competitiveness is calculated as the arithmetic average of the current and strategic competitiveness index.

To assess the current competitiveness it should be examined the areas of production, investment, financial and social of each region. Each sphere is characterized by several indicators.

Within the strategic competitiveness it was demarcated three blocks of generalizing indicators for spheres: foreign trade, innovation and business activity. Each of these blocks includes some indicators.

The complex evaluation of competitive advantages has included the generalized indicator of the competitiveness of regions, the generalized indicator of current competitiveness and strategic competitiveness. According to these three indicators, regions were grouped into two categories: leaders and outsiders.

It was assessed the efficiency of using the potential peculiarities of socio-economic development of regions (low, medium and high) with the same three generalized indicators of competitiveness.

Based on the assessment of use of the competitive advantages by regions, the latest were classified into 4 groups and engaged in "matrix of a full evaluation of the regions" [6].

We believe that this method, based on the calculation system of independent indicators can be tested and if development regions in Moldova, taking into account the specifics of the case: the district will be substituted with the development of Moldovan region and regions in district – the districts that include specific development region in Moldova.

Another method of assessing the competitiveness of the region is proposed by Baranov A.

Initially, the author proposes ***the definition of competitiveness of the region***, which it considers the fullest, and includes five aspects:

- The need to achieve a high level of living for the population;
- Efficiency of the region's economic mechanism;
- Investment attractiveness;
- The effectiveness of small business;
- Tourist attractiveness.

Then the author proposes ***the algorithm of evaluation of the region competitiveness***, which is composed of ***six consecutive steps***:

1) Selection (development) of the methodical (concept) tool of assessing competitiveness of the region;
2) Substantiation of the system of region competitiveness indicators (the original data matrix formation);
3) Creating standardized coefficient matrix;
4) Calculation of rating estimation (coefficients competitiveness target groups);
5) Complex estimation of the region's competitiveness (full coefficient);
6) Development and management decisions in order to increase the competitiveness of the investigated region.

Author performs these steps and gets full coefficient (general) of competitiveness level of Northwest region of Federal District of Russia (9 regions) in 2000-2008 [8].

Territorial Development Policy Committee of the OECD identified ***success factors in regions with above average economic performance:***

a) specialization and sectoral structure;
b) innovation and the ability to manage knowledge: prosperous regions prioritize production and / or distribution innovation;
c) a more favorable local economic structure, physical infrastructure and efficient telecommunications;
d) strategy, connections and capacity of government to showcase its spare resources

But the emergence of this kind of productive model based on cooperation proximity is not a homogeneous process. ***There are specific aspects of business networks, particular on the line of support policy formulation and implementation in territorial development.***

I. The Danish model: from business networks to "Networks brokerage".

It is a public policy of voluntary nature, which debuted in 1989 – EU pre-adderation period. Guideline was initiating a global transformation of the company. A 5 years program was launched to support the SME sector – encouraging the creation of a network of small businesses – a business network– able to compete successfully with major businesses. They had to become enterprise networks with high innovative potential. The objective of the training was basically a category of change agents, able to initiate and animate these groups of SMEs, brokers' kind of networks – "brokerage network".

II. The Italian model: from a spontaneous rise in strong support of public power.

Local productive systems – "industrial districts" – appeared and were developed without specific help from local authorities, the reference model is large enterprises for them. But gradually, local communities have demonstrated their competitiveness, their strength is the ability to constantly innovate, although the pace of the slow adaptation to technological developments.

III. German model

It is influenced by the country's administrative organization. There are federal and local initiatives. There were profiled competence centers in certain kinds of activities.

There are 3 categories of relatively bounded enterprise networks:

a) "Cluster" for SMEs – many small businesses competing or being in complementary relationship;
b) Systems organized around one or more large firms. They are complex systems of subcontracting networks, which must operate orchestrated. Often, they go beyond the major industries in machine building and other industries less demanding in terms of technology (textile, woodworking, etc.);
c) Scientific-industrial systems or technological districts, structures still emerging. They develop strong productions from public scientific and technological laboratories and research units in the industry. They are called to create a productive structure around new technologies. For this type of scientific-industrial organization take care the public authorities in all developed countries. Many of these organizational structures serve as a starting point for organizing a new business, scientific and industrial parks to attract venture capital [9].

Results and conclusions

The essence of ***the territorial factor impact (regional) on business competitiveness*** lies in the fact that the competitiveness of businesses depends significantly on their location – as it is advantageous, favorable and beneficial or not their external environment territorial regional, zonal etc. for their competitiveness. The research of territorial aspect of competitiveness and economic growth has become actual especially for Moldova, in particular in relation to economic regionalization of the country. In the Programme of the Government of the Republic of Moldova for 2015-2018, is devoted a separate section to the regional development objectives.

There are revealed and examined the concepts of: location in the narrow sense; location in the broadly sense; static competitiveness; dynamic competitiveness; competitive advantages; regional advantages etc. Analysis of the competitive positions of regions (countries) can be based on qualitative model of mutual influence of different local competitive advantages, proposed by M. Porter. Regional sources of competitive advantages can be examined at the national, interregional and regional levels. Managers say that on entrepreneurship, regardless of region, influence two factors: the existence of well trained staff and the possibility of implementing innovations.

The scientist Gh. Untura has determined that integration of firms located in regions influences the competitiveness of the goods and the company strengthens its stability through four ways. It highlights six regional environmental factors, which influence competitiveness and stability undertaking several qualitative levels.

Other scientists say that the mechanisms formation of the dynamic sustainable economic development must take place from down – from business and regions competitiveness through ***regional policy.***

The paper studied the concept, methodology and methodical comprehensive assessment of the competitive advantages of Russia's Central Federal District subjects developed by Novosiolova I. Another method assessment of competitiveness of the region is analyzed proposed by the Russian scientist A. Baranov.

Territorial Development Policy Committee of the OECD has identified four ***factors for success in regions with above average economic performance***.

There are specific aspects of ***business networks***, especially on the line to support policy formulation and implementation in ***territorial development***. In this context, the paper explores the characteristics of the three models of supportive policies in territorial development (Danish, Italian and German models).

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APPLICATION OF METHODOLOGY OF STRATEGIC PLANNING IN DEVELOPING NATIONAL PROGRAMMES ON DEVELOPMENT

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Actuality: The main purpose of strategic planning is that long-term interests of sustainable development of a market economy require the use of effective measures of state regulation of economic and social processes. Objective: The aim of the article is determined to analyze the development of strategic planning methodology and practical experience of its application in the design of national development programs. Methods: When writing the article the following research methods were used: analysis and synthesis, target-oriented and monographic. Results: In Ukraine at the level of state and local government authorities strategies of development of branches, regions, cities, etc. are being developed but given the lack of state funding a unified investment strategy of the country is not developed. After analyzing development of the strategic planning methodology and examples of its application in the design of state development programs we identified the need to develop an investment strategy of the state (sectors, regions, etc.), as due to defined directions and guidelines of the activity it will increase the investment level in the country and ensure national strategy "Ukraine-2020".

Key words: *strategic planning, research schools, strategies, "Europe-2020", Strategy for Sustainable Development "Ukraine-2020", investment strategy.*

Scopul principal al planificării strategice rezidă în faptul, că dezvoltarea durabilă a unei economii de piaţă pe termen lung presupune acţiuni eficiente de reglementare de stat a proceselor economice şi sociale. Scopul acestui articol constă într-o analiză a dezvoltării metodologiei de planificare strategică şi a experienţei de aplicare practică a acesteia în elaborarea programelor naţionale de dezvoltare. În procesul de realizare a acestui articol, au fost utilizate următoarele metode: de analiză şi sinteză, de orientare-ţintă şi monografică. În Ucraina, la nivelul administraţiei de stat şi a celei locale se elaborează strategii de dezvoltare a diverselor domenii/ramuri, regiuni, oraşe etc., însă din cauza insuficienţei finanţării de stat nu este elaborată o strategie investiţională unică pentru ţară. În conformitate cu analiza dezvoltării metodologiei de planificare strategică şi a exemplelor de aplicare a acesteia în procesul de elaborare a programelor de dezvoltare de stat, am identificat necesitatea de a dezvolta o strategie investiţională a statului (pe domenii/ramuri, regiuni etc.), deoarece pe anumite direcţii şi activităţi de orientare, ea va permite o ridicare a nivelului investiţiilor în ţară şi va asigura realizarea strategiei naţionale "Ucraina-2020".

Cuvinte cheie*: planificare strategică, şcoli ştiinţifice, strategii, "Europa-2020", Strategia de Dezvoltare Durabilă "Ucraina-2020", strategie de investiţii.*

Актуальность: Основная цель стратегического планирования заключается в том, что долгосрочные интересы устойчивого развития рыночной экономики требуют использования действенных мер государственного регулирования экономических и социальных процессов. Цель: Целью статьи определено провести анализ развития методологии стратегического планирования и практического опыта ее применения при разработке общегосударственных программ развития. Методы: При написании статьи использовались следующие научные методы: анализа и синтеза, программно-целевой, монографический. Результаты: В Украине на уровне государства и местных органов самоуправления разрабатываются стратегии развития отраслей, регионов, городов и т.д., однако учитывая нехватку средств государственного финансирования не разработано единой инвестиционной стратегии страны. Проанализировав развитие методологии стратегического планирования и примеры применения ее при разработке государственных программ развития, нами определена потребность в разработке инвестиционной стратегии государства (отраслей, регионов и т.д.), так как за счет определенных направлений и ориентиров

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деятельности она позволит повысить уровень инвестирования в стране и обеспечить выполнение общегосударственной стратегии «Украина-2020».

Ключевые слова: *стратегическое планирование, научные школы, стратегии, «Европа-2020», Стратегия устойчивого развития «Украина-2020», инвестиционная стратегия.*

JEL Classification: E20; E22; E69; Q01.

Introduction. Need for stabilization policy and updating national economy objectively requires not only additional investment resources but also the use of new advanced management methods, one of which is a system of strategic planning.

The main purpose of strategic planning is that long-term interests of sustainable development of a market economy require the use of effective measures of state regulation of economic and social processes. Strategic planning is a system of institutions and management instruments whose purpose is to direct activity of management bodies at all levels to achieve long-term goals of socio-economic development and providing necessary resources.

Development of strategic planning as well as the general development of scientific thought in the field of strategic studies took place mainly in the USA and countries of Western Europe and was caused by new requirements that were set to management by owners of large companies. Before the advent of strategic planning in management practice of the enterprise instruments of long-term planning were used which were based on the fact that the future can be predicted by extrapolating historically formed trends of growth and turned a reaction of enterprises to the rapid growth, size and complexity [1].

Basic content. Historically the beginning of scientific research in this area is considered to be 1960 when books of founders of this chapter of management theory were published: A. Chandler Treatise "Strategy and Structure" [3], Collective Textbook of Harvard Business School "Business Policy" [10] author of analytical text of which was K. Andrew and work of I. Ansoff "Corporate Strategy" [1].

In these scientific studies a number of classic definitions and concepts about strategic management have been proposed. At the beginning of the twentieth century directors of large US companies showed interest to the problems of strategies – "Managerial Revolution" of A. Sloan for General Motors is revealing. Since 1910 leading business schools began to study this issue in the training course "Business Policy". However, sufficient conditions for the development of scientific achievements in this area have developed only after World War II.

The first scientific studies of founders of strategic management theory have a pronounced applied nature in the form of comments to the educational cases of IBA programs. This stage of studies lasted from the 1960s to the mid 1970s and is defined as analytical. Later scientists exploring strategic planning began to use statistical and econometric analysis methods.

In 1965 in the book of A. Chandler "Strategy and Structure: Chapter of History of the Industrial Enterprise" and Harvard Textbook "Business Policy" for the first time questions were examined: "organizational compliance" of the company to tasks of its strategic development; development of concept and instruments for achieving this status. Thus A. Chandler on the basis of ideas of A. Faiol and Charles Barnard interpreted strategy as the integration of organizational functions and K. Andrews understood it as "organization accordance to its external environment". In both studies the researchers used an inductive method and their conclusions were regulatory in nature.

The first analytical results were obtained by A. Chandler according to data of four largest US companies, later the sample was expanded to 200 firms, scientific achievements were published in the book "The visible hand: administrative revolution in American business" [4]. Next academic work was devoted to a comparative analysis of becoming "big business" in the USA, Germany and the UK and was called "Scale and diversity: dynamics of industrial capitalism" [5].

In these works following the method of induction A. Chandler for the purposes of conceptualizing reasoning was the first to determine the definition of "strategy" and "structure". He stated that: "The notion that different organizational forms is the result of different growth models can be formulated more precisely if planning and implementation of such growth will be understood as a strategy, and organizational form designed for administrative management of these growing activities and resources in volumes – is like structure. The strategy can be defined as the establishment of major long-term goals and objectives of the company and developing programs of action and allocation of resources needed to achieve these goals" [11, p. 15-16]. These terminological definitions became classics because of their

capacitance and conceptual consistency. Approach of A. Chandler was original, especially on the methodology of comparative analysis effective in the study of strategies and organizational forms.

The advantage of the work of K. Andrews "Business Policy" is that he first proposed a clear distinction between strategies of corporate and business levels. Under the implementation of the strategy the scientist saw mainly a set of administrative actions including an adequate organizational structure and organizational processes and providing leadership on the part of top management. The scientist also formulated an approach to the assessment of strategies proposing a set of "10 important issues" and the general logic of the concept of K. Andrews "formation – implementation – evaluation of strategies" has been reproduced in the content of most published textbooks on strategic management since that time.

All this leads to the conclusion that the first designs of strategic management were made in the 1960s by scientists of Harvard Business School who laid the foundation for further development and identified the main directions of development of this theory.

The emergence and development in the theory of strategic management of so-called "planning school" occurred in parallel with the development of "designing school" and classical works for these schools were published in the same year. The fundamental monograph of I. Ansoff, the founder of "planning school" – "Corporate strategy: an analytical approach to the policy of growth and expansion of business" is also widely used as a textbook at leading business schools in the US and Western Europe [1]. To developing its own model of strategic decision-making process I. Ansoff was encouraged by dissatisfaction with existing analytical approaches and methods of long-term planning.

In the book "New corporate strategy" the scientist emphasized that the strategy is one of several sets of rules for making decisions regarding the conduct of organizations which provides: regulations of result measurement, development of company relations with the external and internal environment, management of daily affairs, etc. (target, business, administrative and operational strategies, respectively) [1]. For that period of time it was quite innovative problem statement of strategic planning. I. Ansoff insisted on consistent process of strategic decisions. He distributed all management decisions of the company on three groups: "strategic" (products and markets), "administrative" (concerning organizational structure and resource allocation) and "operational" (on budgeting and controlling).

Summing up the initial research stage of the theory of strategic planning we note that it was "determining long-term goals and objectives of the company, adapting course of actions and resource allocation needed to achieve the goal" [3].

The relevance of this method of research in the 1980s Porter noted, he thought "there are no substitutes for strategic planning". Improving quality is meaningless without knowledge of what quality is significant in each case. Formation of corporate culture becomes impractical if the company does not try to be a leader. Entrepreneurship without strategic perspective will lead to failure likely than to success" [13].

Process of planning strategy was interesting for scientists for a long time; systematization of studies of this theory was carried out by H. Mintzberg, B. Alstrend and D. Lempel [11] in the book "Strategy schools". Scientists summarized the experience in the development of strategic management and identified 10 scientific schools that were responsible for the development of the theory and practice of a certain period (Table 1).

Table 1

Systematization of scientific approaches of strategic management at strategy schools

Scientific schools (representatives)	**Vision of strategic process**	**Methods used in the development of the strategy**
Group I has the administrative nature – its supporters are interested in theoretical strategy formation process than its development.		
Planning (design), W. Newman (1951) K. Andrews (1965)	Strategies as a process of thinking	Maximum accounting of peculiarities and factors in the development of the company; SWOT-analysis
Planning, I. Ansoff (1965)	Strategies as a formal process	Structuring and formalizing the decision-making process within the framework of companies; scenario planning
Positioning Shendal L., K.	Strategies as an	Analysis of the competitive position of the company;

Scientific schools (representatives)	**Vision of strategic process**	**Methods used in the development of the strategy**
Hattena, M. Porter (1980, 1985)	analytical process	assessment of the relationship between strategy and result; matrix analysis methods
Group II – its supporters are interested in the actual process of strategy development		
Entrepreneurial, Y. Schumpeter (1950) A. Cole (1959)	Strategies as a process of prediction	Operational modification strategy; use is limited because of high error rates compared to business units
Informative (cognitive), H. Simon (1947, 1957) J. March (1958)	Strategies as a mental process	Dependence of strategy content on cognitive style of developer thinking, identifying bottlenecks that impede adequate assessment of the position of the company
Training, C. Lindblom (1959) G. Hamel (1990)	Strategies as a developing process	Active management of changes; maximum mobilization of individual potential to implement company policies
Authorities, G. Allison (1971) G. Astley (1984)	Strategies as a process of negotiation	Supplement of promising strategies to reduce aggressive internal and external environment
Cultures, E. Renman (1968) R. Norman (1968)	Strategies as a collective process	Justification of mission and global objectives of the company development; identifying intangible resources of the development; mechanisms of social consensus in substantiating strategies
Environment, D. Friman (1977), D. Pyu (1979)	Strategies as a reactive process	Detection and forecasting environmental characteristics that limit the strategic choice of the company
Group III – its supporters summarize theoretical and practical experience in strategy formation as a process of transformation		
Structural (or configurations), A. Chandler (1962) H. Mintzberg (1978)	Strategies as a process of transformation	Description for consistent implementation of the strategy within sustainable conditions that are violated by random and quite dramatic jumps into the new state

Source: [11].

The emergence of new views on the strategy is primarily associated with different stages of development of strategic management and impact of the external environment on it. Depending on the time and development of the economy views of scientists have changed concerning using foundations of the theory of strategic planning. According to authors of the book "Strategy schools" some schools experienced a heyday and are in decline, others are "gaining momentum", others "make their way to the surface in the form of thin but important streams" of publications and reports on the practical application of the proposed concepts [11].

The peculiarity of the current state of using strategic planning and implementation of strategies of socio-economic development in Ukraine is that in the system of "national economy – macrostructural industry – region – city – urban village – village – company" integrity must be traced. Strategies of socio-economic development of subsystems of micro, meso and macro levels should not contradict each other. Only if there is a mutual solution of development and implementation of strategic plans at all hierarchical levels you can ensure effective functioning of the entire system of strategic planning in the context of national economy management [12].

At the same time foreign experience of applying strategic management becomes important to build a hierarchy of objectives, priorities, principles of planning and more. For example, the development of "European strategy of stability and growth" or the EU Lisbon Strategy in 2000 for 10 years was to strengthen the competitive positions of the EU in the world through the development and implementation of reforms in the EU member states. Its mission is "to become the most competitive and science intensive

economy in the world, capable of sustainable economic growth with more and better quality of working places and greater social cohesion" (15).

The strategy included all spheres of the EU activity aimed at increasing economic efficiency and improving quality of life. However, its disadvantage was that it was not consistent at all levels ranging from executive bodies and ending with EU member countries.

In 2005 Lisbon Strategy was modernized. There was a mechanism that was intended to subordinate national programs to the general strategy of the Union development, to increase the responsibility and competence of various economic and social bodies at national and regional levels.

The renewed Lisbon Strategy in 2005 revealed weaknesses of the EU functioning as a single economic and political system and actualized the need for structural reforms in EU member countries and the need for measures to strengthen the political and economic convergence between EU member countries (17).

Analyzed the mistakes of previously developed strategies by the European Commission the strategy "Europe 2020" was developed and adopted which provides three main factors improving the economy (basic strategic goals):

- Smart growth: economic development through knowledge and innovations (strengthening interaction of scientific development, research and innovations with economic growth and development of the EU);
- Sustainable growth: creating economy based on the appropriate use of resources, environment and competition (construction of a stable and competitive economy, Europe's leadership in the development of new processes and technologies, including green technologies);
- Comprehensive growth: promoting employment, achieving social and territorial agreement (creation of new employment opportunities for the citizens of the EU through investments in knowledge and skills, fighting poverty and improving labor market, education and social security which together will build a cohesive and socially homogeneous society).

The strategy "Europe 2020" identifies the following guidelines that the EU intends to achieve by 2020:

- 75% of the population aged 20-64 should be employed;
- 3% of EU GDP should be invested in research and development;
- Reducing greenhouse gas emissions by 20% compared to the level of 1999, GDP energy efficiency should be increased by 20% and the share of renewable sources in the energy balance should be increased up to 20% (including 30% reduction in environmental pollution);
- The share of students who have no school education should not exceed 10%. Not less than 40% of young people should have higher education;
- Reducing the number of poor people by 20 million.

Defined basic directions of activity are a priority for the EU and for Member States. However, political, economic and social instruments of the EU, including internal market, financial levers, instruments of foreign policy, should also be involved in removing obstacles and achieving the objectives of the strategy "Europe 2020".

In Ukraine the system of strategic planning of socio-economic development is regulated relatively at the legislative level and is based primarily on the Law of Ukraine of March 23, 2000 No. 1602-III "On state forecasting and elaboration of programs of economic and social development of Ukraine" [6], the Budget Code of Ukraine [2] and the Laws of Ukraine "On the National Bank of Ukraine" [7], "On state targeted programs" [8] and relevant regulations of Cabinet of Ministers of Ukraine.

The Law of Ukraine "On state forecasting and elaboration of programs of economic and social development of Ukraine" regulates foundations of medium- and short-term planning, timing of development of the relevant documents, their consistency, general order of development, approval and implementation of forecast and program documents of economic and social development etc. [6].

Of particular note is adopted by the Resolution of the Supreme Council of Ukraine the draft Law "On State Strategic Planning" (No. 9407) of 03.11.2011, which defines legal, economic and organizational bases of forming integrated system of strategic planning of development of the country, establishes the general order of development, approval, implementation, monitoring, evaluation, control of documents of state strategic planning, as well as authorities of members of such planning (14). In our opinion, this normative document complements the Law of Ukraine "On state forecasting and elaboration of programs of economic and social development of Ukraine" because the latter document proved only principles of

medium- and short-term planning. Draft Law "On State Strategic Planning" clearly regulates the time periods of development (long, medium and short), it is determined that strategy is developed for the long term (five years or more).

This project defines the principles of strategic planning, namely: integrity, inner balance, scientific validity, transparency, effectiveness, compliance with national interests, equality, continuity, completeness of decisions, partnership and responsibility. The disadvantage of this Law of Ukraine is that it was sent to the second repeated reading in December, 2011 and is still received only as a draft.

Today the main document regulating the development of the state is "Strategy of sustainable development" Ukraine-2020" [18]. In developing the latter document the negative experience of national and European strategic planning was taken into account and therefore Strategy defines the purpose of its implementation and four vectors, roadmap was developed that provides implementation of 62 reforms and programs for state development. This document clearly indicates means and indicators of implementation of the developed strategy similar to the strategy "Europe-2020".

Implementation of the Strategy envisages achieving 25 key indicators that evaluate the implementation of reforms and programs we note ten key ones that affect the investment climate of the country:

1) Entry of Ukraine into the first 30 positions in the World Bank Rating "Doing Business";

2) Credit rating of Ukraine – rating on obligations in foreign currency by scale of Standard and Poors Rating Agency must not be below investment grade "BBB";

3) By global competitiveness index which calculates the World Economic Forum (WEF) Ukraine should enter the top 40 countries in the world;

4) GDP (purchasing power parity) per one person which calculates the World Bank, should be increased to 16 000 dollars;

5) Net inflow of direct foreign investments for the period of 2015-202? according to the data of the World Bank should be more than 40 billion dollars;

6) The maximum ratio of the budget deficit to gross domestic product according to estimates of the International Monetary Fund should not exceed 3%;

7) The maximum ratio of total state debt and publicly guaranteed debt to gross domestic product according to estimates of the International Monetary Fund should not exceed 60% (according to the Maastricht convergence criteria);

8) By the Corruption Perceptions Index which calculates Transparency International Ukraine will join the top 50 countries in the world;

9) On the results of the survey level of confidence of the expert community (attorneys, lawyers) to the court will be 70 per cent;

10) On the results of a nationwide survey public trust in law enforcement agencies will be 70 percent [18].

Strategy identified the priority implementation of ten reforms and programs. To support investment activity and protection of investor rights in the strategy events are defined aimed at deregulation and enterprise development, including:

- Ensuring effective protection of private property rights, including judicial authorities;
- Harmonization with EU legislation for provisions of the legislation of Ukraine on protection of national and foreign investors and creditors;
- Protection of economic competition;
- The introduction of incentive mechanism of investment activity based on the best world practice.

In the agricultural sector by the Resolution of the Cabinet of Ministers of October 17, 2013 "Strategies of development of the agrarian sector of Ukraine till 2020" were approved [16]. The aim of the strategy is to create organizational and economic conditions for the effective development of the agricultural sector by ensuring the unity of economic, social and environmental interests of society to ensure the population with stable, qualitative, secure, affordable national agricultural products and industry with agricultural raw materials. Implementation of this strategy will be developed through the introduction by Ministry of Agrarian Policy and Food of Ukraine of Concept of state program of development of the agrarian sector for the period until 2020 [9]. However, the strategy, and accordingly, the program determine that for its implementation about 101 billion UAH is required of which only 71.6 billion UAH is public funding. Other funds are private investments and other sources not prohibited by law.

Conclusions. Today at the level of state and local government authorities strategies of development of branches, regions, cities, etc. are being developed but given the lack of state funding a unified investment strategy of the country is not developed. The above strategies point to problems of investment and solutions but they all do not have a common structure – in Ukraine there is no systematic investment strategy formed on the basis of clearly defined priorities for the development of leading industries.

The consequence of this situation is worsening investment environment in the country and a significant backlog of investment per capita, in the period from 2010 it was invested in the economy 11 times less than in EU countries, by 2.5 times less than in China and even three times less than in Russia.

Consequently, analyzed the development of strategic planning methodologies and examples of its application in the design of government programs we identified the need for the development of the state investment strategy (sectors, regions, etc.) as due to defined directions and guidelines of activity it will increase the level of investment in the country and ensure implementation of the national strategy "Ukraine-2020".

Regarding the agricultural sector which is one of the main sectors, application of the methodology of strategic planning in the development of industrial investment strategy will contribute to effective development and will consist of the following:

1. Investment strategy will ensure implementation of long-term and general investment objectives of the future economic development of the sector and the state.

2. Application of strategic planning in the development of investment strategy will simulate capabilities of the industry to the maximum of its internal investment potential.

3. Investment strategy will provide a clear interconnection of strategic, current and operational management of investment activity of the industrial enterprises.

4. Developing the strategy will allow implementing quickly new promising investment projects that arise in the process of changing investment environment factors.

5. In developing the investment strategy value of main criterion assessments to choose real investment projects and financial investment instruments will form.

6. In addition to improving economic indicators of applying developed investment strategy there are changes of general organizational structure of management and organizational culture of industrial enterprises.

All this determines the need for methodology of strategic planning in the development of national programs.

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PRINCIPLES AND APPROACHES APPLIED IN THE DEVELOPMENT OF OPEN INNOVATION MECHANISMS

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Actuality. Open innovation is a new concept, which appeared to change the development approach of new ideas and technologies. At present, the problem of open innovation is not actively discussed in the scientific community of the Republic of Moldova and the research of open innovation paradigms in the writings of researchers it is not conducted. Methods of researches: logic and comparative methods of analysis is used in this paper. The aim of research is to highlight the most actual questions in the field of open innovation research; and the possibility of transition to the principles of open innovation in particular sectors of Moldova's economy. Results: Are theoretical and practical of this study that allows developing a series of proposals for "openness" of innovations in Moldovan companies.

Key words: *the model of open innovation, the principles of open innovation mechanisms, research and development activities, originality.*

Actualitatea. Inovaţiile deschise reprezintă un concept nou, care a apărut cu scopul de a schimba modul de abordare a dezvoltării ideilor şi tehnologiilor noi. În prezent, problema inovaţiilor deschise nu se discută activ în comunitatea ştiinţifică a Republicii Moldova şi cercetarea paradigmei inovaţiilor deschise în lucrările cercetătorilor nu se efectuează. Metode de cercetare: s-a utilizat metoda logică şi de analiză comparativă. Scopul articolului: evidenţierea a celor mai relevante întrebări de cercetare în domeniu inovaţiilor deschise în anumite sectoare a economiei Republicii Moldova. Rezultate: Studiul teoretic şi practic permite să dezvolte o serie de propuneri pentru "deschiderea" inovaţiilor a companiilor din Moldova.

Cuvinte cheie: *model al inovaţiilor deschise, principii, mecanismele inovaţiilor deschise, activităţi de cercetare-dezvoltare, originalitatea.*

Актуальность. Открытые инновации являются новой концепцией, которая появилась для изменения подхода к развитию новых идей и технологий. В настоящее время проблема открытых инноваций не обсуждается активно в научной среде Республики Молдова и исследование парадигмы открытых инноваций в трудах ученых не проводится. Методы исследований: использованы логический, метод сравнительного анализа. Цель работы осветить наиболее актуальные вопросы исследования в сфере открытых инноваций; ***и возможность п****ерехода на принципы открытых инноваций в отдельных секторах экономики Молдова. Результаты. Теоретические и практические исследования позволят выработать ряд предложений к «открытости» инноваций молдавских компаний.*

Ключевые слова: *модель открытых инноваций, принципы, механизмы открытых инноваций*

JEL Classification: O31; O32; O39; I29.

Introduction. At the present stage in the world economy is undergoing major changes and deep restructuring. This means that innovation must affect wider areas, and with this process, each country cannot handle alone.

The world economy is growing slowly. It needs new innovative ways of development, and for that innovations should involve wider spheres of life and become as open as it is possible. With the deepening of economic globalization, countries need to gain together knowledge and values, share the experiences with each other, work together to solve the problems of development. So, now it is necessary openness, a willingness to cooperate and share success with our partners. Namely in this is the meaning of open

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innovation. For Moldova, the introduction of the model of open innovation into practice is also one of the major factors for the economic transition to an innovative path of development.

Actuality of the study is related to the fact that currently the problem of open innovation is not actively discussed in the scientific community of our country, and the state itself operates inefficiently even of the intellectual property that is created on budgetary funds. In Moldova, the research of open innovation paradigms was not carried out by researchers.

Open innovation is a new concept, appeared for changing development approach of new ideas and technologies. Today, the concept of open innovation has been widely developed in the foreign and Russian theory and practice. This concept is considered one of the ways of efficient implementation of innovations in modern conditions of the external and internal environment of the organization [2].

To this concept it is paid special attention to innovation management in the literature: in the works of Russian scientists M.V. Alekseeva, I.V. Aleshin, K. I.Grasmika, Y.N. Grika, I.N. Dzhazovskoy, V.F. Efremchenko, K.I. Ladygina, J.A. Mingaleva, E.A. Monastyrnyi, Y.I. Nikonov, M.Y. Platonova, S.F.Popova, V.V Spitsina and others. Authors investigate a number of different paradigms of open innovation, including: search for ways of implementation the policy of open innovation by companies, open innovation as a reverse process, from the perspective of the company's investment for industrial development, open to new sources of ideas [1-6].

The model of open innovation is widespread among fastest growing companies. Open innovation involve the use of directed inflows and outflows of knowledge for creation of internal innovation, as well as expanding of markets for external use through innovation. According to the model of open innovation company must offer their ideas to third-party companies that will help it to successfully implement the project and to obtain financial results.

Open innovation is a paradigm of modern innovative management, the concept on which today are developing companies, organizations, universities, and even the countries.

Open Innovation represents a natural phenomenon of global dynamic and highly competitive markets of goods, services and ideas. Open innovation processes involve a free and voluntary interested interaction of many independent participants (both individuals and organizations) in a highly dynamic and globalizing market environment.

Open innovation and processes impose more requirements to quality of economic, scientific, political and legal institutions that constitute environment of generation, maintenance and use of innovation. It uses an open approach to the dissemination of knowledge outside the company, allowing it to expand and enhance the innovative potential of the internal innovation. A company for improvement final product attracts people from the outside of organization that offer their ideas, make remarks and suggestions.

The model of open innovation, suggests that exchange of knowledge and joint process of innovations creation (including cooperation with competitors) will be carried out selectively, which greatly enhance the competitive advantage. The company can involve new ideas and enter the market with a new product not only due to its own internal development, but also in collaboration with other organizations.

Western scholars have identified ***three main objectives*** of open innovation systems: motivation, integration, innovation and efficient use of the four main strategies of open innovation:

1. Organization of process of research and development by integration into a common fund.
2. Development of the particular components of an innovative product by individual companies.
3. Free sale of development of wide application, which can be used to create a variety of innovative products.
4. Significant reduction of bureaucracy during decision-making process in the field of innovation within large firms.

We share the opinion of the scientists, who, under the innovative openness of the company realize the joint with customers and suppliers, universities, and national laboratories, startup companies and industry consortia activities on research and development, the creation and promotion of innovative products and technologies on the principles of the concept of open innovation and with the use of open business models [6]. The principles of open innovation are shown in Figure 1.

Let examine in detail the principles of open innovation, which should follow our country during the transition to a model of open innovation. They are presented in Figure 1.

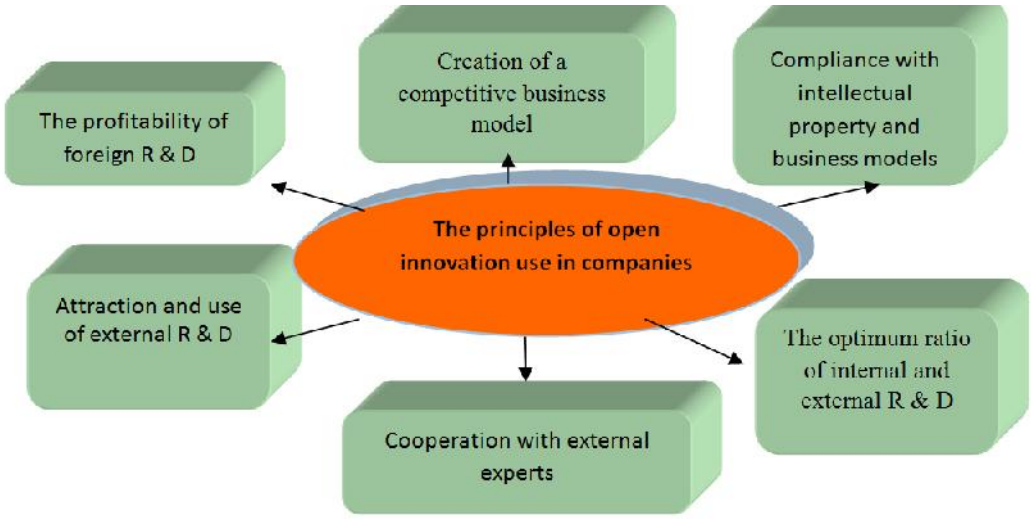


Fig. 1. Basic principles of open innovation

Source: Compiled by authors.

1. Recruitment and use of external R & D

Now the active dissemination of knowledge, the expansion of information field allows companies to apply in their projects the R & D results, not only internal but also external, other words, not deal with all the issues on their own. The new approach allows the company to use the innovative structure of undeveloped global information field, and to involve third-party R & D results.

2. Profitability of external R & D

The results of research and development do not necessarily have to be created within the company to ensure that they bring profit. External R & D, which correspond to the needs of the company and its business model should be used effectively in innovation activity and bring profit.

3. Interaction with external experts

The appearance of new information and communication capacity increases the mobility of workers engaged in research and development. The use of external experts (freelancers and employees, specialized institutions) it is more efficient due to their high competence in specialized areas, and savings on maintenance of staff. It is also appropriate to collaborate on a voluntary basis and with target consumers.

4. Creation of a competitive business model

The company has to build a sustainable and competitive business model that will be adapted to the implementation of open innovation on a permanent basis.

5. Compliance with intellectual property and business models

It is necessary to use patented innovations in production. Often due the companies' lack of necessary resources, equipment, developments remains only projects. Therefore, you must match the value of an idea or technology to company's business model.

6. The optimum ratio of internal and external R & D

External R & D results obtained in the implementation of open innovation should be adapted to the peculiarities of the company and of the target market, in accordance with its unique competence.

In an open innovation approach, the company understands that it is not the best specialists work in the company, not the best ideas arises within it, so, new ideas may be doomed to failure in a functioning business model. The company analyzes the effect of buying other people's ideas and makes a decision: whether to produce all their own ideas. Science insulation in this model is not a guarantee of success, but acts as a limiting factor. A major contribution can be co-operation with other companies in the sector, suppliers, universities and end users.

Particular significance in the implementation of open innovation has information support. We believe that the most important directions for Moldova in the work on information security is primarily the Internet – ***information technology*** and the information on thematic exhibitions, forums, workshops, and participation within and other.

Internet – technologies provide a unique platform for open innovation. Among the most common types of technologies identified are:

• Innovation contest, which can provide information of non-trivial technological tasks innovative issues as well as attract innovators for their solution.

• Innovative markets where in virtual space where suppliers, manufacturers and customers of innovation meet.

• Innovative community – a virtual platform for the exchange of knowledge, ideas and discussion of innovative tasks of scientists, researchers and practitioners.

• Innovative online – tools – internet services with which users can create groups to solve their problems using innovative database of professionals, ideas, Innovative technology – online service, that provides the ability to use the latest software and technology.

In addition, are used the portals dedicated to open innovation, containing all of the kinds of services. Unfortunately, in the Republic of Moldova these resources are not widespread, except for the service of the Agency for Innovation and Technology Transfer http: //www. aitt.asm.md and the Ministry of Information Technologies and Communication of Moldova http: //www.mtic.gov.md.

We believe that with the growing interest in open innovation and the development of the domestic IT market will take place a positive change in the current situation.

Another important area of work on information support it is collection of information on the thematic exhibitions, forums, workshops, and participation in them; establishment of links with research centers, universities, venture capital funds, business incubators on best practices and technology transfer.

At the selected group of management processes can be identified three main areas:

- collection and compilation of information on open innovation from available sources;
- direct interaction with the subjects of innovation activity;
- use of the data in the determination of strategic innovative tasks and their further implementation.

The world practice offers a variety of forms and practice of active use of the business model of open innovation Figure 2.

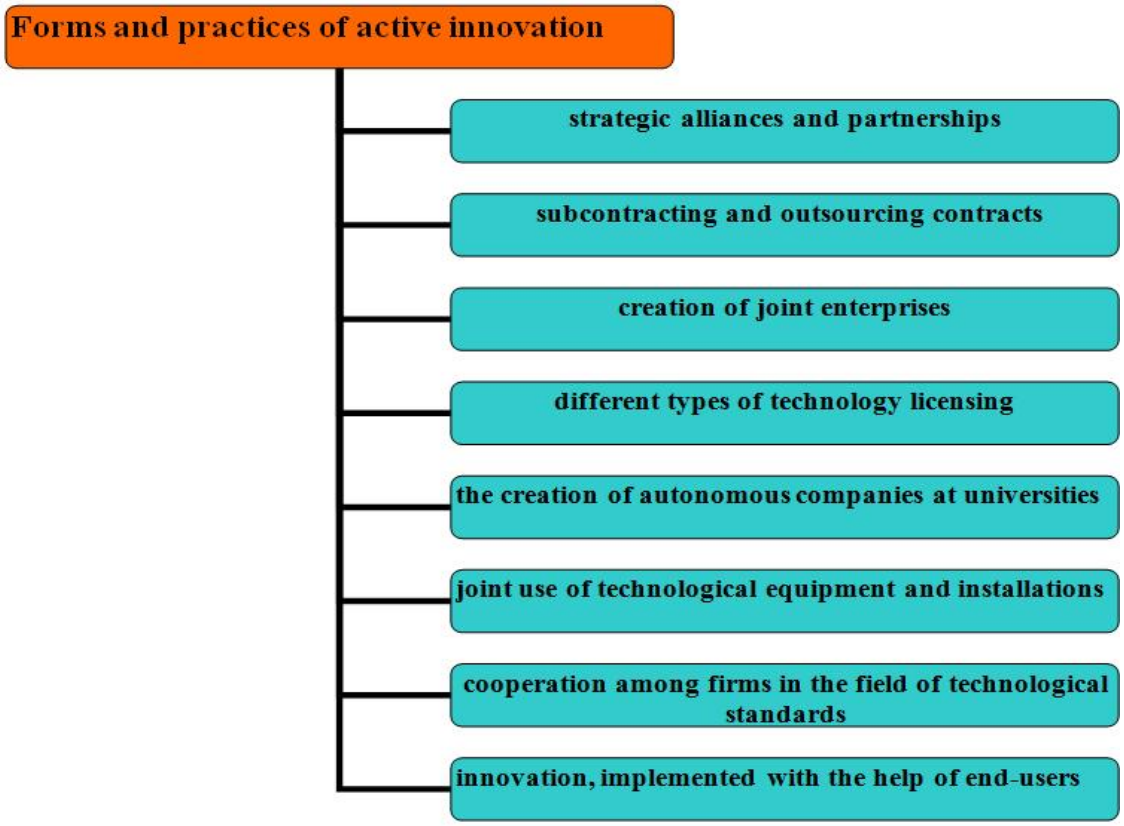


Fig. 2. Basic forms and practices of active innovation model

Source: Compiled by authors.

For the formation of an innovative open company it is needed to implement a set of actions in the following directions:

Management of R & D

- use of ready-made designs, which are from outside the company; the use of electronic databases, data search and selection of external R & D; use by company of both internal and external (joint) research and development;
- the study and use of national and international experience in the fields of innovation management;
- study and use of best practices and technologies of national and international suppliers and partners;
- identification of new spheres of application and of hidden technological reserves received by R & D.

Human Resource Management

- conduction of joint projects, researches and developments with external organizations and experts (researchers);
- development of the individual components of an innovative product (services) by individual companies; cooperation with the best staff in the industry;
- active cooperation with universities and research centers, attraction of young professionals and students in innovative projects;
- staff development through continuous training

Management of intellectual property

- implementation by the company of any innovative developments received under any circumstances: in the company or outside of it;
- forward and reverse transfer of technologies through licensing agreements acquisition by the company of intellectual property that meets its business model; the formation and management of a portfolio of emerging parallel (non-key) ideas;
- management of intellectual property as a complete asset (financial, strategic);
- participation in national and international trade fairs and conferences to presentation of the results of its R & D and learning of best practices

Management of competitiveness

- participation of service marketing in the innovation process;
- innovation management as one of the functions of the business;
- implementation of innovation management and of intellectual property in each business unit of the company;
- participation of suppliers and consumers in the innovation process; search by the company of innovation beyond its borders;
- integration of its own activities and external research and development under a single business model in collaboration with the company.

Conclusion. Our theoretical and practical studies allowed developing a number of proposals to the "openness" of innovation of Moldovan companies, which are as follows:

1. It is advisable to start the process of open innovation through participation in public (state) funded research projects that include other companies and institutions. This practice is gradually observed in local companies.

2. For the implementation of the open model of innovation in the economy entrepreneurs need to pay special attention to adjusting their business - models for the adaptation of successful experience of its application by transnational corporations and start active interaction with the venture capital market, which should be formed the next few years in the Republic of Moldova.

3. The prerequisites for transformation of activities of Moldovan companies towards a model of open innovation can be:

- intense dissemination of knowledge between the subjects of innovation activity;
- rapid growth in the number of new developments in this field;
- the patented developments could not be used due to lack of equipment, training, knowledge.

4. For the wider use of open innovation in our country we need to carry out the following activities:

- ✓ increasing intensification of research in sphere of development of innovative economy;
- ✓ internationalization of education and science;
- ✓ availability of information and the promotion of innovation and innovative values;
- ✓ external methodological support, consulting.

5. For our country it is important to borrow Finnish experience namely in the field of management of innovation processes, and enhance the overall culture of industrial process control, the introduction of evaluation criteria based on achievement of management.

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RECONSTRUCTION OF THE CONTINUITY OF CAUSE-SPECIFIC MORTALITY TRENDS FOR THE REPUBLIC OF MOLDOVA

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The paper presents the stages of reconstruction of the continuity of cause-of-death time series for Moldova based on a special method developed by French demographers Jacques Vallin and France Meslé (Institut national d'études démographiques, INED). The method eliminates the disruptions in death time series provoked by periodic changes in the classification and was successfully used in a number of industrialized countries. For the Republic of Moldova we reconstructed death time series by sex and age according to the short list of the 10th Revision of the International Classification of diseases and Causes of Death for the 1965-2012 period.

***Key words**: mortality, causes of death, method of reconstruction, International Classification of Diseases and Causes of Death, Republic of Moldova.*

În articol sunt prezentate particularităţile de ajustare a metodei de reconstituire a seriilor mortalităţii pe cauze de deces (elaborate de către demografii francezi Jacques Vallin and France Meslé, Institut national d'études démographiques, INED) la datele pentru Republica Moldova. Această metodă asigură continuitatea seriilor de timp ale deceselor pe cauze întreruptă de schimbările periodice ale clasificării şi a fost aplicată cu succes de către un şir de ţări dezvoltate. În urma studiului, au fost reconstituite seriile de timp ale deceselor pentru Republica Moldova pe sexe şi vârste conform listei scurte a Reviziei a X-ea a Clasificării Internaţionale a Maladiilor şi a Cauzelor de Deces pentru perioada 1965-2012.

***Cuvinte cheie:** mortalitate, cauze de deces, metoda de reconstituire, Clasificarea Internaţională a Maladiilor şi a Cauzelor de Deces, Republica Moldova.*

В работе представлены этапы восстановления непрерывности временных рядов чисел смертей для Республики Молдова на основе метода, разработанном французскими демографами Франс Меле и Жак Валлен (Национальный институт демографических исследований, ИНЕД). Данный метод устраняет разрывы временных рядов чисел смертей, вызванные периодическими пересмотрами классификаций причин смерти, и с успехом был адаптирован для ряда стран. Для Республики Молдова получены однородные временные ряды чисел умерших по полу и возрасту согласно краткому перечню 10-го пересмотра Международной классификации заболеваний и причин смерти за 1965-2012 годы.

***Ключевые слова:** смертность, причины смерти, метод восстановления, Международная классификация заболеваний и причин смерти, Республика Молдова.*

JEL Classification: I10; I19; J19; N3.

Introduction. In all countries, the analysis of long-term mortality trends by causes of death is complicated by ruptures in statistical series induced by the periodic revisions of the classification. In very rare cases, responsible statistical offices practice a double classification of causes of death for one or two transition years. This gives a possibility to use the observed transition coefficients to redistribute deaths classified according to the items of an old classification among the items of a new one. However, in most cases, including for the post-soviet countries, such double classification is not available and it is necessary to find a way to estimate the transition coefficients *ex post*. Such a method was developed for France to reconstruct cause-of-death time series classified according to the detailed ICD-9 list since 1925 (Meslé and Vallin, 1996). Then, this method was successfully used to reconstruct cause-of-death time series for different

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countries: the Soviet Union for the period 1970-1987 (Meslé, Shkolnikov and Vallin, 1992), Russia (Meslé et al., 1996), Ukraine (Meslé and Vallin, 2003, 2012), the Baltic countries (Jasilionis et al., 2011), Belarus (Grigoriev, 2012; Grigoriev, Meslé and Vallin, 2012), Armenia and Georgia (Duthé et al., 2010), Czech Republic and Western Germany (Pechholdová, 2009, 2010), Poland (Fihel, 2011) and other countries.

For Moldova, based on the reconstruction method we produced the 1965-2012 cause-of-death time series by sex and 5-year age groups and an abridged ICD-10 list that covers about two hundred items. Let us specify the main steps of the reconstruction method through the examples of matching the 1970 Classification and the 1981 Classification, and then, we shall briefly describe some peculiarities encountered for other transitions.

1. The method of reconstruction

The reconstruction method for each transition from an old classification to a new classification includes three main stages: constructing correspondence tables, defining fundamental associations of items, and calculating transition coefficients.

Correspondence tables

First, two symmetric tables that show correspondences between the old and the new classifications must be produced. One table lists, for each item in the old classification, all the items in the new classification that have one or more conditions in common with it. The other table lists, for each item in the new classification, all the items in the old classification that have elements in common with it. The second table is easily produced based on the first table by sorting the new items in ascending order. Obviously, with regard to the successive revisions of the soviet classification of causes of death, this step remains the same for all the former soviet republics. At this stage, only the medical content of the cause-of-death items is taken into consideration. Within the framework of theoretical definitions of items, the new classification did not introduce substantial changes to the old classification. One item of the 1965 Classification corresponds, as a rule, has no more than two or three items with the same medical content from the 1970 Classification, and conversely.

Fundamental associations of items

The correspondence tables are then used to define *fundamental associations of items* that include the items for all the conditions contained within the association to be identical at both revisions. At first, the fundamental associations are established based on the medical definition of items, i.e. based on the correspondence tables. Each association contains the following information: title and code of the items under the new and old classifications, the corresponding death counts observed in a transition year and a year before the new classification was adopted, and the portion (total or partial) of the item from the old classification corresponds to the item from the new classification. If the portion is total (T), it means that the entire content of the item from the old revision is associated with the corresponding item from the new revision. If the portion is partial (P), it means that the item from the old revision corresponds to several items from the new revision.[1]

There are several types of associations depending on the complexity of the inter-changes between the items of the two successive revisions. A simple association (type 1:1) matches a single item from the new revision with a single item from the old one. Two other types of associations are also very simple: type merging (several items from the old classification merge into a single item in the new classification, type n:1) and type splitting (one item from the old classification is simply subdivided into several new items in the new classification, type 1:n). Finally, in the case of the complex association (type n:n), several items from the old revision correspond to several items of the new revision.

Let us consider a complex association built for chronic obstructive pulmonary diseases *(Table 1*). According to the established correspondences, the death counts from the items 124 and 125 under the 1965 Classification correspond entirely to the item 108 from the 1970 Classification, *chronic bronchitis, lung emphysema*. The item 130 from the 1965 revision counterbalances items 108 and 113 from the 1970 revision. Checking against the other correspondence table (the 1970 revision *vs.* the 1965 revision), we find that the new item 108 compensates for three old items 124, 125 and 130 with the item

[1] Construction of fundamental associations of items was produced with the help of R function (Pechholdová and Camarda, 2014) and a specially written VBA programme (Bâzgan and Penina, unpublished).

130 linked also the item 113. In this case, a complex association represents a mixture of merging and splitting of several items.

Table 1

Example of a fundamental association #83, type n:n

1970 Classification		Number of deaths		1965 Classification		
#	Title	1969	1970	#	T/P	Title
108	Chronic bronchitis, lung emphysema	2001	1564	124	T	Bronchitis and lung emphysema
			23	125	T	Other and unspecified forms of bronchitis
			814	130	P	Chronic abscessive lung diseases, pneumosclerosis and lung emphysema
113	Chronic forms of pneumonia and bronchiectasis	629	’’	130	P	
85	108, 113	2630	2401			124, 125, 130

** T/P – Deaths counts are transferred from an old item to a new one totally (T) or partially (P)*

Source: Penina, Meslé, Vallin.

After producing the fundamental associations of items based on the correspondence tables, the next step is to check their coherence at the statistical level. For that, for each association we verify if the total of deaths classified under the items of the old classification is roughly the same as the total of deaths classified under the items of the new classification. However, this procedure is not enough since a small difference between the numbers of deaths in 1969 and 1970 may be due to the normal fluctuations of mortality trends. Thus, to ensure the statistical consistency, we studied the annual trends in the numbers of deaths for each fundamental association of items for the period 1965-1980 covered by the 1965 and 1970 revisions of the soviet classification. For most of cases, the changes in the numbers of deaths for 1969 and 1970 corresponded well to the changes in annual trends for the whole of the period. For a few cases, however, the trend does not move smoothly across the classification change, and it means that there is a discrepancy between the theoretical definition of items and coding practices. This is a consequence of improved definitions resulting from the advancement of medical knowledge that often causes complex inter-item exchanges (Meslé and Vallin, 1996). A simple visualization of trends in the numbers of deaths (eye check) is a classical approach used to detect the discontinuities in death time series. Another way provided by Camarda and Pechholdova implies a statistically oriented method based on prediction of the mortality series and user-defined cut-offs according to the level of statistical significance (Camarda and Pechholdová, 2014). However, based on the data for the Baltic countries, it was shown that although this automation procedure provides good indication for detecting the disruptions, it cannot substitute entirely the classical eye check of mortality trends (Meslé and Vallin, 2014). After detecting disruptions in associations, it is then necessary to determine which medical definitions actually correspond to coding practices and to adjust the problematic associations accordingly.

Table 2 displays the distribution of the associations by type with the corresponding death counts constructed for the transition from the 1965 revision to the 1970 revision. Fortunately, 99 of the 141 fundamental associations established between the 1965 and the 1970 revisions are simple and contain 26% of the total of deaths in the transition year. The two categories referring to the fundamental associations assigned as type splitting and merging cover 9% and 14%, respectively. The total number of deaths attributed to these two associations is relatively small (5%). Finally, only 19 fundamental associations were built as complex, but they concentrate the biggest part of the total number of deaths (69%).

Once the statistical continuity of each fundamental association is ensured, at least in terms of the total number of deaths, the next stage involves calculating the transition coefficients that make it possible to move from the items in the old detailed list to those in the new one.

Table 2

Distribution of fundamental associations of items by type and death counts. Transition from the 1965 revision to the 1970 revision of the soviet classification

	1970 Classification			
	Associations		Deaths (in 1970)	
Association type	Number	Proportion, %	Number	Proportion, %
type 1:1	99	70	7014	26
type 1:n	9	6	1019	4
type n:1	14	10	162	1
type n:n	19	14	18399	69
Total	**141**	**100**	**26594**	**100**

Source: Penina, Meslé, Vallin.

Transition coefficients

At the third stage, the associations serve as frameworks within which we estimate, item by item, transition coefficients that will allow us to redistribute the deaths classified according to an old classification among the items of a new one. In the case of simple association (type 1:1), 100% of deaths recorded under the old item are transferred to the new item. The same process is used when several old items are merged to form a single new item (type n:1), which is a simple sum of death counts from each of the old items concerned. In the case of splitting one item into several new ones (type 1:n), the hypothetical distribution of deaths recorded under a single item in the old classification is obtained according to the proportions observed for each of the new items.

The computation of the transition coefficients becomes somewhat more difficult in case of complex interchanges between the items. In many cases, the coefficients can be calculated almost automatically, assuming a proportional distribution of deaths. *Table 3* demonstrates the estimation of the transition coefficients for the items gathered into Association 85 presented already in Table 1. At first, a double-classification cross-table must be constructed (part a, Table 3). We know the distribution of deaths in 1969 across the old items and distribution of deaths in 1970 across the new items. So, we can calculate the hypothetical distribution of deaths in 1970 across the old items according to the proportions observed in 1969. We assume that within the associations the respective proportions of the items do not change between 1969 and 1970. In our example, we attribute 1713 deaths of the total 2630 deaths to item 124, *Bronchitis and lung emphysema*, 25 deaths to item 125, *Other and unspecified forms of bronchitis,* and 892 deaths to item 130, *Chronic abscessive lung diseases, pneumosclerosis and lung emphysema* (the estimated values are shown in italic). Then, we redistribute the deaths inside the cross-table. The shaded areas mean that there is no correspondence between the two items according to the links established in the association and these cells are eliminated. The deaths in non-shaded cells can be redistributed automatically. In our example, the entire contents of the cells classified under items 124 and 125 (1713 and 25 deaths, respectively) is transferred to item 108. Similarly, the 629 deaths under item 113 are transferred to the corresponding cell for item 130. Finally, to fill in the last empty cell for item 130, we simply subtract the known deaths from the deaths observed in 1970 (2001-1713-25=263). The transition coefficients (part b, table 3) are then directly deduced from the completed cross table: 100% of deaths under old items 124 and 125 are to be assigned to new item 108. Deaths recorded under old item 130 are redistributed among new items 108 and 113 according to the following proportions: 29.5% (263/892) and 70.5% (629/892), respectively[1].

[1] Construction of double-classification cross-tables and calculation of transition coefficients were produced with the help of a specially written VBA programme (Bâzgan and Penina, unpublished).

Table 3

Double-classification cross-table to redistribute ex post deaths gathered in Association 85 built between items in 1965 and 1970 classifications, followed by transition coefficients

a)

	1965 Classification			
1970 Classification	124	125	130	
108	*1713*	*25*	*263*	2001
113			*629*	629
Estimated deaths in 1970	*1713*	*25*	*892*	2630
Observed deaths in 1969	1564	23	814	2401

b)

	1965 Classification		
1970 Classification	124	125	130
108	100.0	100.0	29.5
113			70.5

**The estimated numbers are shown in italic.*

Source: Penina, Meslé, Vallin

First, the transition coefficients for 209 items of the 1965 classification have been calculated as described above in terms of total numbers of deaths. Then, for each item, the statistical continuity of the series was checked by age. Since the total annual number of deaths is relatively small in Moldova, this was done only for three main age groups: under one year old, 1-59 years, 60 years and over. In most cases, the results were acceptable and the age and cause-specific time series did not show any major discontinuities at the point of transition; however, for 20 out of 210 items in the 1965 Classification coefficients had to be age-adjusted.

After having reconstructed the 1965-1969 time series by sex and age in terms of the 1970 Classification, they were linked to the crude 1970-1980 data, and we obtained continuous time-series classified under the 1970 Classification for the whole period 1965-1980.

2. Other transitions

The reconstruction method as described for the transition between the 1965 and the 1970 revisions was applied to the subsequent changes in classifications. *Table 4* summarizes the results of the transition by the type of associations with the corresponding numbers of deaths. Here, like for the previous transition, the proportion of associations defined as simple (type 1:1) is the biggest and covers a quarter of all the deaths in 1981. At the same time, the share of the items involved in complex exchange of items (type n:n) between the two classifications is relatively small and covers up to 70% of total deaths. The new items resulted from splitting or merging of the old items occur quite rarely. At this step of reconstruction, transition coefficients for 19 out of 185 items of the 1981 soviet classification were adjusted by age.

In 1988, an important amendment in relation to accidental causes of death was introduced into the 1981 classification. Under the 1981 Classification, every accidental cause of death, with a few exceptions, includes two items referring to occupational and non-occupational accident. In 1988, this division was abolished, and the accidental causes of death with and without this specific distinction were united into a single item. As a result, 160-185 items referring to deaths from injury and poisoning were reclassified into 160-175 items. This amendment led us to produce a reclassification of accidental causes of death by simple merging of the two items from the 1981 Classification into one new item in 1988.

Table 4

Distribution of fundamental associations of items built between the 1970 and the 1981 Classification by type and death counts

	1981 Revision			
	Associations		Deaths (1981)	
Type of associations	Number	Proportion, %	Number	Proportion, %
type 1:1	129	84	10265	25
type 1:n	6	4	1935	5
type n:1	6	4	466	1
type n:n	13	8	28810	69
Total	**154**	**100**	**41476**	**100**

Source: Penina, Meslé, Vallin.

In Moldova, the 9th revision of the International Classification of Diseases and causes of Death (ICD) and the last revision of the soviet classification were used in parallel over the period 1991-1995. While the National Bureau of Statistics (NBS) continued to codify causes of death under the 1988 Classification, the National Centre for Health Management (NCHM) adopted the 9th revision of ICD. Certainly, in this situation, we decided first to redistribute death counts classified under the 1988 Classification among the ICD-9 items, and then to produce the last transition from ICD-9 to ICD-10. It seemed to us reasonable to produce the fundamental associations of items and to calculate the corresponding transition coefficients for 1991 year. To avoid too complex associations of items, these were constructed separately for three age groups: under one year old, 1-59 years and 60 years and over.

Table 5 summarizes the results of the transition from the soviet classification to ICD-9, showing the distribution of fundamental associations with the corresponding total of deaths (under ICD-9[1]) by the type and age. For the three age groups, the biggest part of deaths is concentrated in the complex associations (type n:n), varying from 70% for the age group under one year and 86% for the elderly.

Four-digital ICD-10 items have been tabulated into 211 categories with the medical content similar to 214 categories of ICD-9 items. *Table 6* presents the distribution of associations by type with the corresponding numbers of deaths in 1996. Like in all the previous stages of the reconstruction, though most of the fundamental associations of items belong to a simple type (type 1:1), they include only 35% of the total deaths. Twenty complex associations (type n:n), on the contrary, cover 64% of the total of deaths. The check of statistical continuity by three main age groups did not reveal any important disruptions in death time series, and the same transition coefficients were applied to all age groups.

Table 5

Distribution of fundamental associations of items built between the 1981 Classification modified in 1988 and ICD-9 by three age groups, type and death counts

Type of associations	Under 1 year				1-59 years				60 years and over			
	Associations		Deaths (in 1991)		Association		Deaths (in 1991)		Association		Deaths (in 1991)	
	Number	%	Number	%	Number	%	Number	%	Number	%	Number	%
type 1:1	113	80	353	25	87	71	2320	17	92	74	2152	7
type 1:n	16	11	75	5	11	9	478	3	15	12	1397	5
type n:1	3	2	0	0	1	1	347	3	1	1	630	2
type n:n	9	7	1012	70	24	19	10459	77	16	13	26317	86
Total	**141**	**100**	**1441**	**100**	**123**	**100**	**13605**	**100**	**124**	**100**	**30497**	**100**

Source: Penina, Meslé, Vallin

Table 6

Distribution of fundamental associations of items built between ICD-9 and ICD-10 by type and death counts

Type of associations	**ICD-10**			
	Associations		Deaths (in 1996)	
	Number	Proportion, %	Number	Proportion, %
type 1:1	143	85	17568	35
type 1:n	2	1	424	1
type n:1	4	2	5	0
type n:n	20	12	32062	64
Total	**169**	**100**	**50059**	**100**

Source: Penina, Meslé, Vallin.

Using the method of reconstruction, we obtained the continuous 1965-2012 cause-of-death time series by sex, 5-year age groups and 198 ICD-10 groups of items. However, before moving to their analysis, we had to produce some additional adjustments to remove the discontinuities in time series

[1] The total of deaths under the soviet classification recorded by NBS and ICD-9 recorded by NCHM in 1991 differs slightly (45849 versus 45852, respectively).

resulted from the changes in coding practice not related to the adoption of a new classification and occurred over the inter-revision period.

3. Additional adjustment of the reconstructed time series

In addition to the periodic revisions of the official classification, the changes in coding practice issued to certifying doctors or coders may also interrupt the continuity of statistical series for some causes of death. This type of problem affects all the countries, including the former Soviet republics. Further, we shall discuss about the additional *a posteriori* corrections we produced to diminish such discontinuities and the problem of striking growth in mortality from senility that affected Moldova like other former Soviet republics in the 1990s. This type of correction was produced after every transition from an old classification to a new one, i.e. in four steps. We made the first round of *a posteriori* corrections to the 1965-1980 time series classified under the 1970 classification, and the second one to the 1965-1990 time series classified under the 1988 classification. After the third transition, from 1988 soviet classification to ICD-9, *a posteriori* coefficients of correction were applied to the 1965-1995 statistical series. Finally, the fourth round of this type of corrections was produced after producing the 1965-2012 time series according to ICD-10. For example, the number of deaths classified under the item 85, *Chronic rheumatic heart diseases*, under the 1970 classification decreased abruptly in 1974 year, which was simultaneously accompanied by the symmetric increase in number of deaths attributed to the item 84, *Active rheumatism (Figure 1).* To level this disruption, we transferred 30% of deaths attributed to the items 85 to the item 84 for the period 1965-1973.

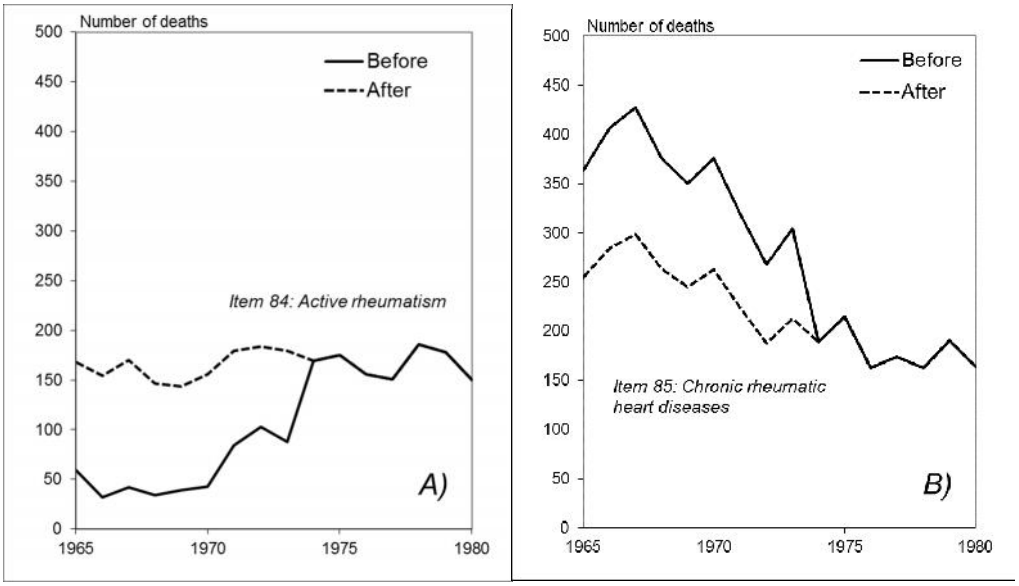


Fig. 1. Annual trends in number of deaths classified under items 84 and 85 according to 1970 soviet classification before (panel A) and after (panel B) *a posteriori* correction, age 1-59 years old, both sexes

Source: Penina, Meslé, Vallin

Conclusions. This paper describes the method of reconstruction of the continuity of death time series under the fixed classification of causes of death for the Moldovan data. Based on this method, we eliminated the breaks in 1965-2012 mortality series for this country provoked by the periodic changes in the classification of causes of death both in the soviet period (three revisions of the soviet classification in 1970, 1981 and 1988) and after the independence (ICD-9 in 1991 and ICD-10 in 1996). Additional *a posteriori* corrections were produced after every transition from an old classification to a new one. A special problem not presented in this paper is the growth of mortality from senility in the 1990s. For Moldova, we adopted a special method of distribution of senility deaths among three groups of diseases of the circulatory system. As a result of our work, we could obtain 1965-2012 death time series by sex and age reconstructed under the 10th revision of International Classification of Diseases and Causes of Death.

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THE EFFECT OF SOCIAL CAPITAL LEVEL OF ACCOMMODATION SERVICES EMPLOYEES ON JOB SATISFACTION

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The aim of this research is to reveal the social capital level of employees in accommodation services, to measure job satisfaction by a Job Satisfaction Survey and to find out the relationship between social capital and job satisfaction. The sample of the research is 210 workers who work in 2, 3, 4 and 5 star hotels in Mardin and Batman and who are chosen with random sampling. For this aim in this research a scale prepared for researchers with 55 articles named "social capital levels in hotel managements" and again a scale to measure the job satisfaction of employees in accommodation services with 36 questions are used. The scale with 55 articles mentioned above is composed of five sections with titles of; organizational commitment, communication-social interaction, collaboration-social networks and participation, confidence, tolerance towards differences and sharing the norms.

At the end of the research it has been found out that there is a positive relation between job satisfaction and social capital except for the aspects of tolerance towards differences and sharing the norms. It has been confirmed that tolerance towards differences and sharing the norms has a slightly negative relationship with job satisfaction. Those results show that to increase the job satisfaction of employees and accordingly to increase their efficiency and to ensure the continuance of the business they should take measures to increase social capital of employees.

Key words: *accommodation businesses, social capital, job satisfaction, organizational commitment, communication and social interaction.*

Scopul acestei cercetări este de a descoperi nivelul capitalului social al angajaţilor din serviciile de cazare, pentru a măsura printr-un sondaj satisfacţia faţă de locul de muncă şi a identifica relaţia dintre capitalul social şi satisfacţia locului de muncă. Eşantionul cercetării include 210 lucrători, care muncesc în hoteluri de 2, 3, 4 şi 5 stele în Mardin şi Batman (Turcia) şi care sunt aleşi prin eşantionare aleatorie. Pentru acest scop, în această cercetare sunt folosite o scală pregătită pentru cercetători cu 55 de articole, numite "niveluri de capital social în gestionarea hotelurilor", şi o scală pentru a măsura satisfacţia locului de muncă al angajaţilor în cadrul serviciilor de cazare cu 36 de întrebări. Scala cu 55 de articole, menţionată mai sus, este compusă din cinci secţiuni cu titlurile: angajament organizaţional, interacţiunea prin comunicare socială, reţele de colaborare şi participare socială, încredere, toleranţă faţă de diversitate şi împărtăşirea normelor.

La sfârşitul studiului s-a constatat că există o relaţie pozitivă între satisfacţia locului de muncă şi capitalul social, cu excepţia aspectelor de toleranţă faţă de diversitate şi împărtăşirea normelor. Astfel, a fost confirmat faptul că toleranţa faţă de diversitate şi împărtăşirea normelor are o relaţie uşor negativă cu satisfacţia profesională. Aceste rezultate arată că pentru a creşte satisfacţia pentru locul de muncă al angajaţilor şi, în consecinţă, pentru a creşte eficienţa şi pentru a asigura continuitatea afacerii, ar trebui să se ia măsuri pentru a spori capitalul social al angajaţilor.

Cuvinte cheie: *afaceri de cazare, capital social, satisfacţia profesională, angajamentul organizaţional, comunicare şi interacţiune socială.*

Целью данного исследования является выявление уровня социального капитала сотрудников в сфере услуг размещения, чтобы измерить удовлетворенность работой и выяснить отношения между социальным капиталом и удовлетворение от работы. Выборка исследования 210 работников, которые работают в 2, 3, 4 и 5-звёздочных отелей в Мардине и Батмане (Турция) и которые выбраны по случайной выборке. Для этой цели в данном исследовании подготовлена шкала для исследователей с 55 статьями под названием "уровень социального капитала в

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гостиничном менеджменте" и, снова, скала для измерения удовлетворенности работой сотрудников в сфере услуг размещения с 36 вопросами. Шкала с 55 статьями, упомянутых выше, состоит из пяти разделов с названиями: организационная приверженность, комуникативно-социальное взаимодействие, сети социального сотрудничества и участия, доверие, толерантность к различиям и разделяющим нормам.

В конце исследования было обнаружено, что существует положительная связь между удовлетворенностью работой и социальным капиталом, за исключением толерантности к различиям и разделяющим нормам. Было подтверждено, что толерантность к различиям и разделяющим нормам имеет слегка негативную взаимосвязь с удовлетворением от работы. Эти результаты показывают, что для увеличения удовлетворенности работой сотрудников и, соответственно, повышения их эффективности и обеспечения продолжения бизнеса, должны быть приняты меры по расширению социального капитала сотрудников.

***Ключевые слова**: бизнес услуг для размещения, социальный капитал, удовлетворение от работы, организационная приверженность, общение и социальное взаимодействие.*

JEL Classification: D83; H54; J62; L84; M1; M14.

Introduction. After a certain time people spend most of their time at their work place. This is the reason working life has an important place in human life, because people's job does not only effect their economic condition but also their psychological well-being. In this respect a working person's well-being and his/her working life is strongly related. Today even though management types show differences according to business type and capacity the main element of management is still human. The aim is to supply physical, social and psychological needs of employees and provide them a more peaceful environment to work.

Despite all technological advances in the tourism industry there will always be a need for human labor in the hotel business which is the main service in the tourism industry. The fact that production starts the minute customers are available, working hours are irregular, employees have to supply services always with a smile on their faces and face to face communication needs to be rich and may cause physical and mental problems (Pelit and Öztürk, 2010). Also, the probability to make mistakes is higher in the accommodation business in comparison with businesses that are highly mechanized. The fact that production is made by human labor makes it harder to provide a standardized service for customers. In an accommodation business even the same kind of services supplied by the same employee show differences. Social capital, job satisfaction, feelings and thoughts an employee has at the time he/she provides services may affect the quality of the service. Consequently job satisfaction of employees and customer satisfaction, thus success of business are directly proportional in the accommodation businesses (Pelit and Öztürk, 2010).

Hence in contemporary management perspective the connection between an organization's success and the importance given to people and their expectance is highly emphasized - Especially after 1930's the importance of employees is understood better and concepts like employee's motivation and job satisfaction started to appear (Pelit and Öztürk 2010). In this respect the subject of employee's satisfaction and effect of this satisfaction on their performance and productivity has become a researcher's field of interest and many studies have been done and many theories have been developed on this subject (Rızaoğlu and Ayyıldız, 2008). The same is true for the accommodation businesses; job satisfaction of employees directly affects satisfaction of customers, quality of services and success of the business. In that case the main subject that has to be handled by businesses is to increase the job satisfaction of employees and one of the elements to increase satisfaction is considered to be social capital (Okazaki, 2008). – In places where communication and trust networks are developed and where the nations get richer, individuals are considered in a frame of companies, neighboring environments and generally with social capital theories (Ekinci, 2012).

Besides, contemporary managers are expected to make an effort to provide and increase job satisfaction of employees. Above all, to provide job satisfaction managers should drop their prejudice that employees are only a means of production. In other words, managers should take into consideration that employees are not only an economic asset but they also have social aspects and they have different social and psychological expectations along with the economical ones, and they work in organizations to provide

those expectations (Toker, 2007). Providing the job satisfaction for employees is also social duty of organizations.

Until today, many researches have been made that examines the elements that increase job satisfaction. But in literature there are few researches that assess the effect of social capital on job satisfaction which was pointed out by scientists like Hanifan, Bourdieo, Coleman, and Putnam (Devamoğlu, 2008). In this study the relation between social capital and job satisfaction is examined by a research that was made in hotels in Batman and Mardin in accommodation businesses, an industry heavily depending on work labor. The aim is to find out the relationship between job satisfaction and social capital of employees in accommodation services.

Social Capital

Until today the elements that are considered to be the main elements for production were labor, capital, natural sources and entrepreneurship. But economic production direction could not be explained by those four factors of production. Hence, in addition to those four factors of production, human capital that involves knowledge and skills of employees and social capital that determines communication level depending on social trust have entered into economic theory as factors of production. In this context there are many empirical studies that reveal the strong relationship between both human and social capital and economic growth (Üngüren et al., 2010).

Sociologists and political scientists refer to the concept of social capital to shed light on questions in their fields in their researches. Social capital is the resource that is referred to in analyzing problems in family researches, behavioral problems in youths, school and education, society/community life, democracy and administration, economic development and collective activity (Rızaoğlu and Ayyıldız, 2008). In this article social capital is considered to be one of the factors that increase job satisfaction and an empirical study has been made accordingly.

Even though it has recently gained importance, social capital is a sociological factor whose importance and impact is seen as historical by social scientists. Especially theorists like Adam Smith, Karl Marks, Emile Durkhaim, Thorstein Veblen an Max Weber pointed the importance of social capital in analyzing social problems (Karagül and DÜndar, 2006). In the1990s concept of social capital -it started to be used more and be more important in social sciences (KOSKEB, 2005). In this period the concept was first used by American reformist L.J. Hanifan in 1916. Hanifan broadened the concept of capital to use it beyond its general concrete meaning which includes premises, private property or money to draw attention to existence of contacts between individuals that create social integration, between families, about peoples' daily lives like goodwill, friendship or sympathy (Devamoğlu, 2008). But the concept gained fame with the studies that were done by Bourdieu (1980, 1986), Coleman (1988, 1990) and Putnam (1993, 1995) (Ergin, 2007).

In his study "The Form of Capital" (1986) Bourdieu relationally separates the concept of capital into three as economic, cultural and social. According to Pierre Bourdieu social capital is concentrated on class conflicts and it is a sum of individual and social resources of a group that depends on acquaintance relationships. To make it clear, social capital is a sum of existing and potential resources that are related to relationship networks which are constituted by high or low amounts of mutual acquaintance relationships. In other words it is being a member of a group that provides trust for its members. According to Bourdieu density and endurance of connections are very important (Helliwell and Huang, 2005).

Coleman explained the concept of social capital in his article written in 1988 as "a concept that explains how people are able to live together". Coleman defined social capital as a perfect public good not only useable for its creators but also for every piece of structure (Ergin, 2007). According to Coleman's approach social capital is what is called as the invisible hand in classical economy. But just like physical capital and human capital, social capital eases the act of producing. The emphasis on "making people's living spaces better and gathering them together" made by Hanifan in 1916 while he was defining social capital was conceptualized on a larger level by Coleman (Devamoğlı, 2008).

Putnam, different form Bourdieu and Coleman, with his political scientist identity – contributes a great deal to the social capital theory with his studies on American society and Italy. He emphasized the place of social capital in social development and in democratic political systems on a macro scale. He found out that mutual relation between government and civil society underlies the institutive performance. He explained the difference between south and north not by socio-economic elements but by emphasizing social networks, level of trust, and mutual norms and related institutive performance difference with regional social capital accumulation (Devamoğlu, 2008). According to Putnam, things like social capital,

communication networks, norms and trust are features of social life that makes participants act collectively to maintain shared goods. According to Putnam as long as trust and social capital are developed individuals, companies, neighborhoods and even whole nations will success and progress (Ergin, 2007).

As can be seen there is not one single accepted definition of social capital in literature. Different philosophers form different disciplines attributed different meanings to social capital. To create a common language and to prevent conceptual confusion it is a must to know meanings attributed to the concepts and define them. Generally in literature, social capital is defined depending on the concepts of trust, reciprocity, networks and associations and membership of unions or groups, norms and collective activities (Tüylüoğlu, 2006).

Another difficulty of social capital faces us as measurement and assessment of social capital because there is not a single reliable method of assessing social capital. That is why it is not possible to measure social capital certainly. But it is possible to observe social capitals – existence and series of reflections in social and economic fields. In this respect today two methods are used to measure social capital. These are *observation* and *questionnaire* data. According to method of observation the elements like rate of crimes against life and property, rates of bills used in debts among individuals, on what level the commercial relations exceed family relations and become anonymous, bureaucratic procedures and density of corruption and divorce are important elements (OECD, 2001:43). Increase in elements written above are indicators of a weak social capital in a society. The other method to measure social capital is questionnaires about trust level and civil institutions. Especially *World Values Survey Questionnaire (WWS)* conducted by World Values Survey has an important place at this point (Duman and Alacahan, 2011).

Briefly, the concept of social capital defined as analyzing trust relations among individuals and institutions in with an economic perspective is considered as an element that is directly related to economic, political and social success of countries (Koç and Ata, 2012).

Job Satisfaction

The Concept of job satisfaction which is used for explaining attitudes of individuals towards their jobs is not only a field of interest for scientists who study the effect of human behavior on organizations or effect of organizations on human behavior but also for psychologists or social psychologists who study the effect of job satisfaction on the sociological structure of society. In some studies job satisfaction is defined as “rate of providing one’s important needs at the work place”. In some other studies it is defined as “the difference between one’s expectation and what they get in reality at the work place”. Job satisfaction may also be defined as rate of comfort of a job (Yelboğa, 2009).

When there is an interaction between social and cultural ways of style and people’s feelings and values there occurs many characteristics of job satisfaction. There are many descriptions of job satisfaction due to this abundance of characteristics and close relations between satisfaction and attitudes (Tütüncü and KOzak, 2007). In general, job satisfaction is contentment that employees have with their jobs Akıncı, 2002). Locke (1976) defined job satisfaction as one’s feeling of content or positive position against his/her job or job experience values. Robins and Coulter defined job satisfaction as general attitudes of an employee towards his/her job (Lam et al. 2001). According to Davis (2004) job satisfaction is a positive effect on the employees’ attitudes towards job status (Davis, 2004). Job satisfaction is about employees’ values and their feelings at work (Akarsu and Aktaş, 2005).

From a different point of view, job satisfaction is the emotional reaction people have against their jobs (Yelboğa, 2009). Again in a different definition job satisfaction is a concept that indicates one’s rate of feeling positive due to his/her job and the job’s level of significance and satisfaction for employees (Shamir and Salomon), 1985, p. 455). While Locke (1976) defines job satisfaction as the positive state oneis in after evaluation of job or job experience, in a similar way Davis (1984) defines it as contentedness or dissatisfaction of employees (Pelit and Öztürk, 2010).

The concept of job satisfaction was first used in 1920’s but gained importance in 1930-40’s. Another reason why job satisfaction is important is that it is about life satisfaction which affects directly physical and mental health (Dinler, 2010). Today, studies about job satisfaction, one of the mostly analyzed issue in fields of management and organization has a common point that they emphasize, and it is the fact that for a business to be successful it has to keep the level of job satisfaction high. In this respect relations between the level of employees’ job satisfaction and other elements frequently become a subject of studies.

The common point of studies about job satisfaction conducted on accommodation services is that "for accommodation service that is a labor intensive industry, job satisfaction has a more delicate importance in organizational success in comparison with technology intensive industries". Thus, researchers suggest managers of accommodation businesses – should keep job satisfaction level as high as possible. Also it is frequently stated that employees are not only an economic assets they also have social and emotional aspects and in this respect their social and emotional expectations must be fulfilled as well as their economic ones (Fine, 2008).

Even though in all the studies about job satisfaction researchers use different theories and models about job satisfaction the point they agree upon is that theconcept of job satisfaction consists of internal and external components. Internal components that can be considered as elements that have effect on job satisfaction include success that causes one to be satisfied by his/her job and motivates him/her internally, recognition, interesting or competition requiring tasks, responsibility, possibility of rising or advance. On the other hand, external components include elements that contribute to job satisfaction and expected to be provided by an organization to make employees work efficiently in organizations like supervision, relationships among individuals, and working conditions (Öztürk and Pelit, 2010).

Although job satisfaction as an attitude is different from motivation that includes behavior it is first analyzed in literature with motivation theories (Toker, 2007). But due to the complexity of human behavior it is hard to say that a single motivation theory can explain motivation and job satisfaction as a whole. In this context Maslow's hierarchy of needs theory, Herzberg's two-factor theory and Adam's equity theory are the main studies that analyze job satisfaction as well as being motivation theories. Along with these theories that explain job satisfaction Hackman and Oldham's model of job design and Smith, Kendall and Hulin's Cornell Model are also important theories that attempt to explain job satisfaction (Toker, 2007).

Elements that effect job satisfaction are separated into two as social and individual elements. In the first one it is about the job itself, job's rank, opportunities of rising, recognition, working conditions, wage, attitudes of managers, physical conditions, relationships between people working in the workplace, status of profession in society, whether the job is suitable for the employee and prices. The second one on the other hand includes element like personality and former experience, age, gender, educational background and term of service. It is of great importance to detect variables and their significance level that has the effect on job satisfaction and to describe profiles of employees according to their level of job satisfaction for developing efficient strategies and policies (Üngüren and Doğan, 2010).

Since in the accommodation business service is intense and employees should work with a team spirit. The most important factor that makes employees work in that way is certainly strong communication among employees. Management should make participation compulsory for eliminating or at least reducing communication problems. The common aims that will provide business continuity can be determined, and shared norms among employees can be constituted by achieving participation which is the core of total quality management. Thus employees will not resist to decisions that are made with a participatory approach and they will work more efficiently and be more productive to realize the decisions (Okazaki, 2008). If the intensity of working hours exceed over physical capacity of employees it will tire them and cause mistakes to increase and even to work accidents. Education an employee gets from his/her family or from school may also affect the business success (Örücü and Esenkal, 2005).

Relation Between Social Capital And Job Satisfaction

In many studies it has been confirmed that there is a direct relation between economic growth and social capital. It has been confirmed that in preventing waste of goods used in the production phase and in reducing cost of operation, the level of trust in society has an important place. Also social capital has an important contribution to regional development strategies of countries because while determining shared aims about the future in society the level of trust is helpful for economic development. It is more accurate to define social capital as a supplementary factor that affects in a positive way in the case of high rates of other economic and social activities and affects in a negative way in the case of deficiency of other factors (Karagül and Dündar, 2006). To assess the effect of social capital's level emphasized in the empirical study to job satisfaction will be the main aim of this study.

In these studies on this topic Brass (1982), Hurlebert (1991) and his friends (1995) and Hodson (1997) get different results. For example, Hurlebert (1991) studies work relations in network and he finds out that members of a network can reach more sources to improve themselves. Hodson (1991) finds out that solidarity among employees have positive effects on job satisfaction. Brass (1982) was not able to

find out a relation between an employee's network and job satisfaction. In the same way Bulder and his friends (1995) were not able to find a relation between number of available relations in a network or number of people in a network and job satisfaction. On the contrary, they find out that network diversity may have negative effects. Douthit (1999) defines human and social capital as individual investment that provides objective and concrete outputs. He presumes that potential power of human and social capital shows itself in concrete forms like social capital. Social capital leads the way and motivates giving opportunities and rising to make more money. Social capital theory presumes that intelligence capability, education and superiority in different fields is related to social status of an individual in his/her organizational social structure. As Douthit (1999) says social capital makes it possible for people to orient themselves to their social appearances by which they can use their full capacity (Douthit, 1999).

In Mohsenzade and Ahmadini's studies, three different effect of social capital on job satisfaction is mentioned. First one motivates employees for solidarity who are satisfied by job's features like strategic network about job, income, security, and job opportunities. Second one enhances job satisfaction by social features of jobs like closed networks, general social conditions of the job, cooperation with management, cooperation with co-workers. Thirdly, one has an intense negative effect despite the fact that an inseparable bow shaped network encourages trust in job's social conditions (Mohsenzadeh and Ahmadi, 2013).

The Aim of the Study. Human factor and accordingly social capital level and job satisfaction have great importance in the accommodation businesses since their production style is labor intensive. For both of the variables affect directly success of the business and employees' satisfactory services. In this study the aim is to find out effect of social capital's level on job satisfaction by detecting social capital level of employees in the accommodation businesses. In this respect two main aims are designated for this study.

A) According to employees in accommodation services, on what level do the social capital scores in businesses predict the job satisfaction score?

B) According to employees, on what level is the job satisfaction predicted by businesses low social capital scores?

Method. In this study, the first literature review is made about social capital level and job satisfaction, then second hand resources are analyzed through theoretic data that has been achieved by information sharing about employees. Depending on the information gathered the questionnaire method is used in fieldwork. Two distinct assessment instruments are used on employees. First one of them aims to assess employees' social capital level and consists of 55 questions. The second one is a common job satisfaction survey consisting of 36 questions. In this study among general screening models relational screening model is used. Relational screening model is a research model that aims to find out existence or level of covariance among more than one variable.

Population-Sample. 2, 3, 4 and 5 star of 29 hotels in cities Batman and Mardin constitute this research's population. It has been determined that there was 1200 employee in 29 hotels that constitute this research's population. Hotels in this research are detected depending on the data from Culture and Tourism City Directorship in these cities. Sample of this research is constituted by 285 employees from 12 accommodation businesses selected from the population through random sampling. After sorting out the wrongly or deficiently filled assessment tools 210 assessment tools are evaluated. 166 of the participants are male and 44 of them are female.

Data Collection Tools. Social Capital Survey: "social capital survey in schools" consisting of 62 articles and developed by Ekinci (2008) is changed and developed by separating into five parts and 55 questions to assess social capital level of employees in the accommodation businesses. Social Capital Survey which has the type of 5-point Likert type is used in frequency as always, very frequently, occasionally, rarely, very rarely and never. It is assessed as the high score would show the high level of social capital. Reliability rate of this social capital survey which consists of five dimensions is reported as 0.96 points. It has been observed that – the survey consists of five factors as organizational commitment, communication-social interaction, cooperation-social networks, participation, trust, tolerance for differences and shared norms. And these factors explain 58.78 of the total variance of the assessment tool.

In the reliability analysis that has been made depending on the data from research survey's internal consistency is measured as 0.95. After the factor analysis *Kaiser-Mayer-Olkin* value has been assessed as 0.89 and the Barlett test has been found meaningful. As it is known in multiple factor surveys, declared variance should be 2/3 of the total variance (Bütüköztürk, 2003).

Job Satisfaction Scale: To measure the effect of social capital level on job satisfaction in the accommodation businesses Job Satisfaction Survey (JSS) which is widely accepted and whose reliability and validity has been presented by many researches (Yelboğa, 2009).

The survey consists of 36 articles and is 5-point Likert type. Options are between strongly agree-strongly disagree. By using data from 210 employees who constitute the sample of the research it has been assessed that the reliability ratio of survey is 0.71. After the factor analysis KMO value has been assessed as 0.89 and the Barlett test has been found meaningful. It has been observed that the assessment tool consists of one factor and this factor explains 65.09% of variance in the assessment tool. Since 30% variance rate is seen as sufficient in single-factor scales it can be said that the rate achieved by this research is very high. According to analysis outcomes it has been found out that survey articles' factor loading is between the lowest level of 0.35 and the highest level of 0.66 and all articles has been found functioning and processed accordingly.

Table 1

Cronbach Alpha Reliability Index and Declared Variance Rates According to Dimensions of Employees' Job Satisfaction Surveys and Social Capital Level in Accommodation Businesses

Extents	Article Number	Reliability Index	Declared Variance %
Organizational Commitment	11	0.909	41.834
Communication-Social Integration	14	0.886	5.709
Cooperation-social networks and participation	9	0.925	4.196
Trust	13	0.751	3.616
Tolerance towards Differences and Shared Norms	8	0.927	3.433
Total Social Capital	55	0.962	58.788
Job Satisfaction	36	0.731	65.093

Source: Created by the author.

According to data in Table 1 it can be seen that survey's extents' Alpha reliability index change between 0.751 and 0.927. Hence it can be said that along with Social Capital Survey as a whole every sub-dimension of it is reliable – as well. Five sub-dimensions of survey explain 58.78 of total variance.

Table 2

KMO and Barlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.894
Bartlett's Test of Sphericity	Approx. Chi-Square	821.052
	Df	10
	Sig.	.000

Source: Created by the author.

Analysis of Data. Data from answers of employees in hotels in the sample of the research has been analyzed with a packaged software SPSS which was developed for social sciences. Data has been analyzed statistically in frame of descriptive statistics and inferential statistics. In the study both of the assessment surveys are graded from positive to negative points 5, 4, 3, 2, 1 in the 5-point Likert type and

high points shows high level of information sharing. Analysis of data has been evaluated through measuring the average of the answers of employees to "Social Capital Scale in Accommodation Businesses" and "Job Satisfaction" and regression model and correlation analysis has been applied to total score.

Before starting regression analysis Mahalanobis distance values, distortion and kurtosis values were checked. Data that has been observed to violate the normality assumption were omitted from evaluation. It was investigated if there was autocorrelation between included variables and observed that there was not autocorrelation by looking Durbin-Watson values (DW=1.776…). Also the data set has been analyzed through multicollinearity assumption and it has been observed that there is not multicollinearity between independent variables (for all variables VIF<10, CI<30). After all these examinations it has been observed that the data set is appropriate for regression analyze and analysis has been made.

Findings. This part includes findings about the effect of social capital level of employees in the accommodation businesses on job satisfaction. With this aim firstly the correlation between employees job satisfaction and sub-dimensions of social capital in the work place according to employees' ideas is given, and then findings about the prediction level of social capital and sub-dimensions of it is evaluated.

Table 3

Correlations About Employees' Job Satisfaction and Sub-Dimensions of Social Capital

	Communication-Social Interaction	Cooperation-Social networks and participation	Trust	Tolerans towards differences and shared norms	Job Satisfaction
Organizational Commitment	0.635**	0.754**	0.707**	0.703**	0.585**
Communication-Social Interaction		0.709**	0.757**	0.656**	0.418**
Cooperation-Social networks and participaiton			0.802**	0.796**	0.492**
Trust				0.742**	0.452**
Tolerance towards differences and Shared Norms					0.404**

Note: **P<0.01
Source: Created by the author.

In Table 3 when the social and correlation index between capital's sub-dimensions and job satisfaction is analyzed it can be seen that there is a meaningful relation between all of the sub-dimensions of social capital and job satisfaction. When the correlation index is analyzed it has been seen that the highest correlation is between social capital's organizational commitment sub-dimension and job satisfaction. These results show that job satisfaction of accommodation businesses employees is more related to the "organizational commitment" which is considered as the most important component of social capital.

In Table 4 there are regression analysis results of effect of social capital level of employees on job satisfaction of the same employees.

Table 4

Variables	B	Standard Error	β	t	p
Modulus	2.427	.099		24.638	.000
Total Social Capital	.246	.027	.535	9.085	.000
R=.535 R^{2} =.286 F = 82.531 p = .000					

Note: Job Satisfaction= 2.427 + 0.246 Total Social Capital
Source: Created by the author.

Model Summary b						
Model		R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
dimension0	1	.535a	.286	.283	.32642	1.776
a. Predictors: (Constant), X6						
b. Dependent Variable: Y1						

When the regression analysis results are examined it can be seen that the model is meaningful as a whole (F082.531; p<0.01) and there is a highly meaningful relation between social capital and job satisfaction of employees (R0 0.535 R2= 0.286). When R2 is examined it is seen that 29% of variance about job satisfaction is explained by social capital in the regression model. This fact shows that job satisfaction level of accommodation businesses employees is highly predicted by total social capital and this regression model is highly supported by the data set.

The equation achieved through linear regression analysis about the relation between sub-dimensions of social capital and employees' job satisfaction sharing is:

Job Satisfaction of Employees = 2.427+0.245*Total Social Capital

In Table 4 findings about multiple linear regression analysis between social capital's sub-dimensions in accommodation businesses and job satisfaction of employees are presented.

Table 5

Regression Results about Prediction Level by Social Capital's Sub-Dımensions in Accommodation Business of Social Capital

Variables	B	Standard Error	β	T	P
Modulus	2.444	.102		23.884	.000
Commitment	.189	.034	.509	5.571	.000
Communication	.025	.046	.049	.540	.590
Cooperation	.060	.045	.155	1.327	.186
Trust	.012	.048	.028	.258	.797
Tolerance	-.047	.036	-.130	-1.303	.194

Job Satisfaction = 2.444 + 0.189 + 0.025 Communication + 0.06 Cooperation + 0.012 Trust – 0.047 Tolerance, R = 0.595 R2 = 0.355, F = 22.195 p = 0.0000
Source: Created by the author.

Model Summary b						
Model		R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
dimension0	1	.595a	.355	.339	.31342	1.667
a. Predictors: (Constant), X5, X2, X1, X4, X3						
b. Dependent Variable: Y1						

The calculated regression index (Table 5) shows that "organizational commitment" dimension which is in the model as one of the explainers of dependent variable job satisfaction is the most important one among social capital's sub-dimensions. It is observed that the relative order of importance of sub-dimensions in this regression model is this; 1. Organizational commitment (β=0.509), 2. Cooperation (β=0.155), 3. Communication (β=0.49), 4. Trust (β=0.28), 5. Tolerance (β=-1.130). And it is observed that among these dimensions only organizational commitment is statistically important.

As seen in Table 4 the model is meaningful as a whole (F022.199; $p<0.01$). Calculated coefficient of determination (R2=0.355) shows that about 36% of variance about job satisfaction is explained by social capital's sub-dimensions in the regression model. This fact shows that job satisfaction of accommodation businesses employees is explained by social capital's dimensions.

Results, Discussion and Recommendation. In the studies, the importance of job satisfaction for all organization types shows consistency. There is a strong relation between job satisfaction and efficiency of employees, wages, participation in decision, and health etc. A satisfied person is committed to his/her work and has high motivation. Being unsatisfied – with the job will reflect on performance, efficiency, employee relations, management policies and procedures, absenteeism and employees'' turnover rate. Also employees who have high job satisfaction have fewer tendencies to quit the job – than employees who have low job satisfaction (Tütüncü, 2000).

In the research they made in 2005, Cabrera and Cabrera concluded that social capital provides an opportunity for job satisfaction through increasing motivation by interpersonal relationships and social interaction. According to Cabrera and Cabrera's results, social capital causes job satisfaction to increase especially with its structural and cognitive dimensions. Achieved findings show that the most important predictor of employees' job satisfaction level is "organizational commitment" which is considered to be the most important component of social capital. These findings are also supported by other researches' findings (Kankanhalli, Tan and Wei 2005; Mayer and Gavin 2005; Pan and Scarborough 1999; Wang, 2004).

In accommodation services which is in the service industry and depending heavily on human labor employees' relations with customers is of great importance. In these businesses since customer satisfaction depends on relationships with employees, employees' job satisfaction is important. There are many elements that affect job satisfaction in these institutions. These elements mentioned as organization's social capital take shape depending on the relationships mentioned before. In this respect social capital is an important concept that determines job satisfaction in accommodation businesses.

In this research employees' job satisfaction level is detected as 3.29 which can be seen as a positive value. Along with this, ın the study it has been shown that among the variables that affect job satisfaction low probability of rising in the job has the lowest average which is 2.34 and detected by factor analysis. With this it is understood that employees are desperate about their future. Apart from this they are most displeased about jobs that are not defined clearly with average of 4.1. In other words employees have complaints mostly about not having a chance to rise and jobs that are not clearly defined.

According to results of study the most important predictor of employees' job satisfaction level is organizational commitment. Thus especially international hotel chains' main aim in giving on-the-job-trainings and other trainings during their activities is to make employees feel belonging to the business. The commitment feeling of employees to the business makes them responsible to the business and customers and makes them work devotedly. Also with the results of the study it is observed that commitment affects job satisfaction in a positive way. In this respect commitment to the workplace will increase the job satisfaction level and efficiency of employees and it will contribute to success and continuity of the business.

As well as being a prerequisite, indicator and a product of social capital, and organizational commitment it is also an element that makes other profits possible (Cohen and Prusak, 2001). Organizational commitment is the main element of social capital with this aspect (Fukuyama, 2005). Coleman (1988) and Putnam (1995) see "organizational commitment" as one of the key elements of social capital and as an important factor that determines the effect of social capital. In this respect a high organizational commitment level makes employees' job satisfaction increase and makes business activities go on easily and without problems.

Similar results have been achieved in a research Albino and his friends made (Yang and Chen, 2007). The results show that social capital's dimensions called network connections and active relationships affect information movements and sharing in organizations in a positive way. In a similar way Willem and Scarbrough (2006) claims that social capital's dimensions like trust, shared norms and organizational commitment establish a ground for motivating actors to contribute to job satisfaction actively and voluntarily (Ahmadi, Ahmadi and Zandieh, 2011).

Social capital opens channels of communication and information by creating opportunities of active networks and connection between actors in the organization (Nahapiet and Ghoshal, 1998). In this regard social capital act as oil which enables system to work in an active way and which shapes the relationships that creates channels (Requena, 2002). According to King (2004) networks that gain functionality in organizational processes – have a qualification that builds relationships and in which there is an information flow by definition (Oguz, 2006).

With the result of this research it can be see that when the findings of multiple linear regression analysis between social capital's sub-dimensions and employees' job satisfaction in the accommodation businesses, the model is meaningful commitment, communication and cooperation which are dimensions of social capital predict job satisfaction among employees is seen in a meaningful way. This result show that employees' job satisfaction level is also highly predicted by social capital's network and this regression model is highly supported by the data set. The results that have been achieved show that organizational commitment contributes to job satisfaction on an important level. In this respect social capital as a whole establishes a ground for increasing job satisfaction level by increasing opportunities for regulating human relationships and providing sincerity, warmth and cooperation relationships (Cohen and Prusok, 2001).

When the results are evaluated in general it can be said that social capital has important functions in the accommodation businesses in respect to job satisfaction. It is possible to say that in businesses where the organizational processes consist intensely of information, ability and experience, employees' organizational commitment and sharing of information actively and efficiently leads to increasing job satisfaction level and customer satisfaction.

Although the results above are achieved there are limits to this research. Firstly, the research is made in Mardin and Batman and even though the number of sample is enough theoretically it is not enough to make a generalization. So it can be supported by other researches. Along with this the fact that the survey that has been used is a 5-point scale is also important. Some researchers claim that number of these factors can be increased in number but they also agree on that the factors in this survey are suitable for all jobs (Ergin 1997: 35).

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ICT PROFESSIONAL SKILLS AND ICT CAREER – REPUBLIC OF MOLDOVA CASE STUDY

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Actuality: Developing professional skills in ICT is a key factor that determines the development of the ICT sector from Moldova. In 2014 ISDI and StarNet launched the initiative of establishing a network of centers of excellence in ICT outside the capital of the country. The initiative is based on a pre-feasibility study conducted by the ISDI team during December 2014 – February 2015. The aim of the article is to analyse the results of the pre-feasibility study, with a focus on surveys and discussions held with representatives of public authorities, teachers and pupils from 6 visited districts. The article presents some of the results of the visits made by ISDI team and an analysis of international and local situation in the area of ICT professional skills. The methodology comprises several research methods: data analysis (statistical and pre-feasibility study period), statistical review, descriptive method, comparative method, case studies. Results: It was performed an analysis of the international and European experience in e-skills field. Survey results and discussions shows that pupils want new extracurricular activities in their localities in the area of ICT. Teachers and public servants support the idea of creating centers that would allow students to develop their ICT professional skills.

Key words: *ICT professional skills, centers of excellence in ICT, computer science, ISDI, Information and communications technology.*

Actualitatea: Dezvoltarea competenţelor profesionale în domeniul TIC reprezintă un factor cheie care determină dezvoltarea sectorului TIC din Moldova. În 2014 IDSI şi StarNet au lansat iniţiativa privind crearea unei Reţele de Centre de Performanţă în TIC în afara capitalei. Iniţiativa are la bază un studiu de prefezabilitate realizat de echipa IDSI în decembrie 2014- februarie 2015. Scopul articolului este analiza rezultatelor studiului de prefezabilitate, cu accent pe sondajele şi discuţiile organizate cu reprezentanţii autorităţilor publice locale, profesorii şi elevii din 6 raioane vizitate. Articolul reflectă câteva dintre rezultatele vizitelor realizate de echipa IDSI în teritoriu precum şi analiza situaţiei internaţionale şi a celei locale în domeniul e-competenţelor. Metodologia utilizată cuprinde un mai multe metode de cercetare: analiza datelor (statistice şi cele colectate pe parcursul studiului de prefezabilitate), revizuirea statistică, metoda descriptivă, metoda comparativă, studii de caz. Rezultate: A fost realizată o analiză a experienţei internaţionale şi europene în domeniul competenţelor profesionale. Rezultatele sondajelor şi a discuţiilor organizate arată că elevii îşi doresc activităţi extracurriculare în localitatea lor în domeniul TIC. Profesorii şi funcţionarii publici susţin ideea de creare a unor centre care ar permite elevilor dezvoltarea competenţelor profesionale TIC.

Cuvinte cheie: *competenţe profesionale TIC, centre de performanţă în TIC, informatica, IDSI, Tehnologia Informaţiei şi Comunicaţiilor.*

Актуальность: Разработка профессиональных навыков в области ИКТ является ключевым фактором, который определяет развитие сектора ИКТ в Молдове. В 2014 году Институт Развития Информационного Общества (ИРИО) вместе с компанией StarNet стартовали инициативу по созданию сети центров ИКТ за пределами столицы Республики Молдова. Инициатива основывается на технико-экономическом обосновании, проведенном группой специалистов ИРИО за период декабрь 2014 г.- февраль 2015 г. Цель статьи является анализ

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результаты предварительного технико-экономического исследования, сосредоточив внимание на опросах и дискуссий организованных с местными органами власти, преподавателей и студентов из шести посещенных районов. Статья отражает некоторые из результатов посещения выполненные рабочей группой ИРИО на местах, а также анализ положения вещей связанных с наличием компьютерных навыков как в нашей стране так и за рубежом. Методология включает в себя несколько методов исследования: анализ данных (статистический и те, собранные в ходе предварительного ТЭО), рассматривает статистические данные, описательный метод, сравнительный метод, тематические исследования. Результаты: был проведен анализ международного и европейского опыта в профессионально-технических навыков. Результаты опроса и дискуссий, показывают что учителя и государственных служащих поддерживают идею создания центров, которые позволили бы учащимся развить профессиональные навыки в области ИКТ.

***Ключевые слова**: профессиональные навыки, центры повышения квалификации в ИКТ, информатика, ИРИО, Информационные и коммуникационные технологии.*

JEL Classification: I2; I21; I25; J2; L63; L86; L96.

Introduction and methodological issues

In 2014 Information Society Development Institute (ISDI) and StarNet company launched the initiative of establishing Centers of Excellence in Information and Communications Technology (ICT) outside the capital of Moldova. For this purpose, a pre-feasibility study was carried out by ISDI team during December 2014 – February 2015. This article aims to present the results of the study, as well as an analysis of the international and national situation in the field of digital literacy, focusing on survey results carried out in several districts of the country.

The localities to be included in the launched initiative were identified by means of a desktop research of several districts, based on a set of criteria such as: general situation in the district - existence of youth centers; business incubators activities etc.; the results of mathematics and computer science study contests (olympiads) from 2013-2014; level of teacher training etc. Following the desktop research, several surveys were carried out on different categories of respondents in 8 identified districts, 6 of which were visited by ISDI team to assess the level of communities' readiness and the receptivity of key actors to such an initiative. Four types of questionnaires were developed for the survey, one for each category of potential beneficiaries and stakeholders: local public authority (LPA) representatives; school and college principles; teachers; pupils. The questionnaires designed for LPA representatives were focused on district presidents, mayors, officials from the departments of education and other relevant departments. These questionnaires were aimed to understand whether there is political will in each locality, which could ensure the establishment as well as sustainability of IT centers. The questionnaires for school and high school principles were aimed to identify the available resources, as well as the willingness of schools to get involved in the project. Questionnaires for teachers, mostly for those teaching computer science, as well as mathematics or physics, included questions concerning the openness of teachers to participate in this project and their potential role in the activities of the Center. Questionnaires for pupils were aimed to identify the interest of pupils in ICT and their willingness to attend an IT center in their locality. Questionnaires were available in various formats: on paper, distributed by ISDI project team in visited localities; in Word format – sent by e-mail to identified contacts and on-line questionnaires.

Look@IT Network mission is to provide support to pupils and teachers for enhancing the knowledge, acquired during regular curricular studies and to gain more advanced ICT skills, complementary to the curricula, as well as to guide pupils towards ICT jobs and specializations, according to the increasing demands of the labor market and for personal fulfillment.

International experience regarding ICT professional skills

Obtaining adequate quantities of workers with the right e-skills is proving to be a challenge across the world. Many countries are reporting difficulties in creating sufficient numbers of workers with the right skills in the right place at the right time. In *Europe* it is estimated that there will be an ICT skills gap within Europe of up to 1.3 M practitioners by 2020. *USA* states that, unlike the fiscal cliff where they are still peering over the edge, they careened over the "IT Skills Cliff" some years ago as the economy digitalized, mobilized and further "technologized" and their IT skilled labour supply failed to keep up. In *Canada* it is widely acknowledged that it is becoming increasingly difficult to recruit for a variety of

critical ICT occupations – from entry level to seasoned. *Brazil's* ICT sector requires about 78,000 [new] people by 2014. But, according to Brasscom, there are only 33,000 youths studying ICT related courses in the country [6].

The ability of European companies to compete and evolve in the early 21st century depends increasingly more on the innovative and efficient use of new technologies. E-skills strategy is part of the Digital Agenda for Europe and the Employment Package to boost competitiveness, productivity and employability of the workforce. Europe aims to create better framework conditions for innovation, growth and new digital jobs. Despite high levels of unemployment, e-skills shortages continue to grow in all sectors. The lack of coordination between the available skills and labor market needs exists in all EU member states, although in varying degrees. Remarkably, the demand for ICT specialists, which increases by approximately 4% per year, still exceeds the supply. Almost 500,000 vacancies are expected by 2015 and most of them will remain vacant, unless more will be done to attract young people to get degrees in computer science and unemployed will be reoriented towards the same specialities [4].

Digital skills deficit is particularly alarming in terms of new emerging technologies. A survey conducted by IBM among 1,200 IT specialists and decision makers from 13 countries, showed that two thirds of them believe that mobile, analytical, social and cloud technologies are strategically important; however, 25% reported major shortages of skills in each sector and 60% reported moderate to major deficits. European governments significantly increase their efforts to reduce skills shortages be means of policies, initiatives and dedicated partnerships. There are additional positive signals, when member states are becoming more active, such as Greece, Italy and Bulgaria that have established in 2014 National Coalitions for Digital Jobs as part of the "Great Coalition for Digital Jobs" launched by the European Commission in March 2013.

ICT professional skills overview in the Republic of Moldova

Like many other states Republic of Moldova is facing the problem of shortage of highly qualified ICT specialists. No doubt this phenomenon has many causes. The crisis of the political, economic and social system under transformation after the fall of the Soviet totalitarian regime led to the reduction of a large number of jobs. Combined with low salaries, this caused the emigration of specialists from Moldova. Another cause is the poor quality of specialists training in our country. Although the annual number of ICT university graduates is quite high, their quality is low due to outdated teaching methods and curriculum etc. An effective partnership between the educational, academic (research and development) and business sectors is missing and there is a low number of qualified teachers. Out of the 1,500-2,000 graduates every year, only 20-30% can be immediately employed and the companies have to make investments of about half a year in their training [7].

Despite economic difficulties, recently the Republic of Moldova assured a steady increase of funds allocated to education. During 2005-2012, the share of public expenditure on education in GDP increased from 7.9 to 8.4% [9]. According to the analyses of educational strategies [9] [10], the number of young people interested in vocational secondary education and specialized secondary education is decreasing, the focus being on higher education. In the academic year 2012-2013, in 66 secondary vocational education institutions there were 19,580 students, compared to 24,500 in 2007-2008. At the beginning of the academic year 2012-2013, the number of students in 47 colleges (41 public and six private institutions) was of 30,700 people, showing a decrease of 2% compared to the academic year 2007-2008 [10].

The belief that only higher education can make you a professional and get you a well paid job is still popular among youth in Moldova. Young people do not feel ready and motivated to choose their career and have no alternatives for personal and professional development.

On the other hand, employers are warning that graduates are not adequately prepared for the labor market. The lack of qualified personnel for various activities is one of the main barriers to business development, as reported by local and international companies in Moldova. This is confirmed by the position of Moldova in international rankings of competitiveness and ease of doing business. The international ranking of competitiveness for 2014-2015 placed Moldova on the 84th position for quality of higher education and 82nd position for labor market efficiency, among 144 countries included in the report. As shown in numerous studies carried out in this regard, one of the main problems of the vocational education in the country is the mismatch between labor market demand and the educational offer, therefore the education system doesn't provide a sufficient number of graduates for required occupations as well as adequate skills required for these occupations [3]. Likewise, the poor preparation of higher

education graduates is due to poor preparation in high school. This fact is confirmed by the results of the baccalaureate exam (in 2014 – 44% passed the basic exam session [1]).

ICT education is limited by the low rate of computer coverage and their use at a later age. There were about 35,584 computers in the education system in the academic year 2012-2013. A low rate of computer coverage of about 15 pupils per computer, compared with maximum 3 children per computer in the EU, is also complemented by a high degree of computer wear: half of the PCs are outdated. Furthermore, ICT education is carried out through the subject of Computer science, which is compulsory from the VIIth grade. However, in the majority of EU member states ICT education, in one form or another, begins in elementary school.

Interactive ICT methods and devices are not widely used in teaching various subjects. In the academic year 2012-2013, only 6061 computers were used by teachers. In order to deeply integrate ICT in the educational process, 140 schools were equipped with specialized software for core subjects, but they are used in different degrees due to a low motivation and insufficient teachers training. Out of 1,400 teachers who teach Computer science in general education system, 50% have real sciences background and only 36% have specialised background in teaching computer science. Most teachers are not involved in continuous training activities and often don't have access to the adapted Computer science curriculum [9].

Case study: the survey regarding the establishment of the Look@IT network in Moldova

In the period **16 December 2014 - 6 February 2015**, the Look@IT project team from ISDI visited six regional centers: Ungheni, Nisporeni, Drochia, Soroca, Cahul and Comrat (Gagauzia). These regional centers were selected based on the analysis of the results of regional contests in computer science and mathematics; on the promotion rate of the Baccalaureate exams and the level of teacher readiness in schools.

The research methodology is based on 614 completed surveys and six discussion groups. The target group of the research included 487 students, 115 teachers and 12 officials from local governments. Most questionnaires (95%) were completed on-line, the rest were completed on paper, scanned and sent by e-mail. The error is about 4% [11].

The meetings were attended by 8 people in Ungheni (directors, teachers and officials from the Directorate of Education), in Nisporeni – by 14 people, Drochia - 2 (district president and mayor), Soroca – 6 people, Cahul – 27 and Comrat – by 28 people. All 6 visited localities expressed a unequivocal political will on the initiative launched by ISDI and StarNet. The readiness level of the 6 districts is appropriate: there are business incubators, supporting business initiatives at the local level; district and local authorities (councils, mayors) have websites which are used to inform citizens and ensure transparency of decision-making; there are youth centers; local projects; municipalities or districts have medium-term (2020) development strategies etc.

Table 1

Number of pupils in primary and secondary schools in 2013-2014 in the visited/analysed districts

District	Pupils
Drochia	8247
Nisporeni	7717
Orhei	11974
Soroca	8707
Străşeni	9672
Ungheni	12907
Cahul	12908
UTA Găgăuzia	16051
TOTAL	**88183**

Source: National Bureau of Statistics [2].

For the academic year 2013-2014, the pass rate for the baccalaureate exams in 6 visited districts is as follows [5]: **Ungheni - 64.03%, Nisporeni – 70.18%, Drochia – 62.74%, Soroca – 48.68%, Cahul – 63.09%, Gagauzia – 55.97%.**

The table below shows the level of teacher training in schools, rating the top ten localities with the highest qualification of teachers in schools:

Table 2

The level of teacher training in schools

Senior degree		I st degree		IInd degree		TOP 10
Locality	**%**	**Locality**	**%**	**Locality**	**%**	
Teleneşti	10.94	Criuleni	30.51	Ocniţa	77.91	I
Soroca	9.28	Teleneşti	23.44	Sîngerei	75.54	II
Bălţi	7.96	Orhei	21.82	Briceni	70.30	III
Chişinău	6.85	Cimişlia	21.62	Floreşti	68.79	IV
Drochia	6.31	Bălţi	21.14	Rezina	65.75	V
Glodeni	6.14	Ialoveni	21.01	Cantemir	65.22	VI
Calaraşi	5.71	Rîşcani	20.34	Ungheni	65.20	VII
Edineţ	5.37	Donduşeni	20.00	şoldăneşti	65.17	VIII
Orhei	5.21	Soroca	17.72	Basarabeasca	65.09	IX
Sîngerei	5.15	Calaraşi	17.71	Glodeni	64.91	X

Source: "Open data on general education" portal [8].

When analysing this issue, one should take into consideration the results of participation in national and international contests/olympiads. Thus, in 2014 Moldovan pupils were awarded 25 medals and 5 endorsements at international and regional competitions in various subjects – one gold medal, 2 silver medals and 22 bronze medals. The best results were achieved at **Mathematics**, pupils from our country gaining 11 medals in international and regional competitions. Outstanding results were achieved at Physics – 3 medals, Ecology – 3 medals, **Computer science – 4**, Chemistry – 3 and Sciences – 2.

Table 3

The results of Olympiads per districts, number of prizewinning pupils

Locality	Total	Computer Science	Mathematics
Nisporeni	8	7	1
Orhei	7	0	7
Criuleni	5	1	4
Bălţi	5	1	4
Anenii Noi, Varniţa	5	1	4
Drochia	4	4	0
Străşeni	4	4	0
UTA Găgăuzia	4	1	3
Ungheni	3	2	1
Hînceşti	2	0	2

Source: Results of republican Olympiads, Ministry of Education orders, 2013 and 2014 www.edu.gov.md

As mentioned above, the desktop research was followed by the survey regarding the establishment of the Network of Excellence Centers in ICT Look@IT. Up to **02.06.2015** were received and analyzed **614 questionnaires**, as shown in the table below, distributed by districts.

Table 4

Number of received questionnaires

Completed questionnaires					
Locality	**Local Public Authorities**	**Directors**	**Teachers**	**Pupils**	**TOTAL**
Drochia	0	0	1	1	2
Nisporeni	3	20	26	71	**120**
Orhei	1	1	2	1	5
Soroca	0	2	3	13	18
Străşeni	1	4	2	20	27
Ungheni	6	6	26	272	**310**
Cahul	1	2	19	80	**102**
Comrat	0	0	1	29	30
TOTAL	**12**	**35**	**80**	**487**	**614**

According to this data, Ungheni holds the first place in the number of completed questionnaires – the proportion of 50.49% of all completed questionnaires, followed by Nisporeni – 19.54%; Cahul –16.61%; Comrat – 4.89%; Străşeni – 4.40%; Soroca – 2.93%; Orhei – 0.81% and Drochia – 0.33%. The lack of completed questionnaires in some districts as Drochia, Soroca and Comrat is due to the fact that the meetings organized by ISDI team focused on about the same questions/ideas included in questionnaires, therefore not every participant filled in the questionnaire, but expressed the ideas during discussions. There is a higher degree of survey participation in the districts visited by ISDI team, where detailed discussions took place, and a lower degree in districts that weren't visited and were contacted only by phone and e-mail (e.g. Orhei).

As a conclusion for questionnaires filled in by LPA representatives, most officials (70%) have heard about the Training Centers/Centers of excellence in various areas, including ICT and welcome the establishment of such a center intheir locality (100%). During the discussions organized by ISDI team with district presidents and mayors or other LPA representatives (in the visited districts) the same answer was reinforced – openness and support for such IT centers. Thus, **90% of LPA respondents stated that the localities have available premises for the establishment of IT centers**. When asked if population would be interested in such a center and would order the development of ICT applications, all local government representatives reported affirmative answers. **40%** of LPA representatives stated the **problem of lack of IT specialists** and only **10% said they had a strategy for ICT development**.

When asked "Do you want to have an ICT training center in your locality?" **all (100%) high school principals and all (100%) teachers answered affirmatively**. When asked "Are there students interested in ICT in your high school?" the same answers were given by all surveyed principals and teachers. These responses confirm the desire, as well as the need to establish such centers.

As shown in Table 4 most questionnaires were completed by pupils. The pupils have an important role in the project being the main beneficiaries, as confirmed by the goal of Look@IT network (creating opportunities for young high school graduates (as well as other beneficiaries) to obtain e-skills, which could be applied through immediate projects). Thus, **487** questionnaires out of the total of 614 were completed by pupils from V-XIIth grades from 8 analyzed districts (6 of which were visited).

According to pupils responses, about 20% of pupils would embrace IT careers and about 80% would use technologies in other jobs. When asked "Do you want to know more about the opportunities offered by Information and Communication Technology?" the majority – 80.4% responded affirmatively. The question „Do you plan on making an ICT career after graduation?" received an **affrimative answer only from 34.89% of pupils**. Therefore pupils are well aware they will need ICT skills, no matter what careers they will embrace.

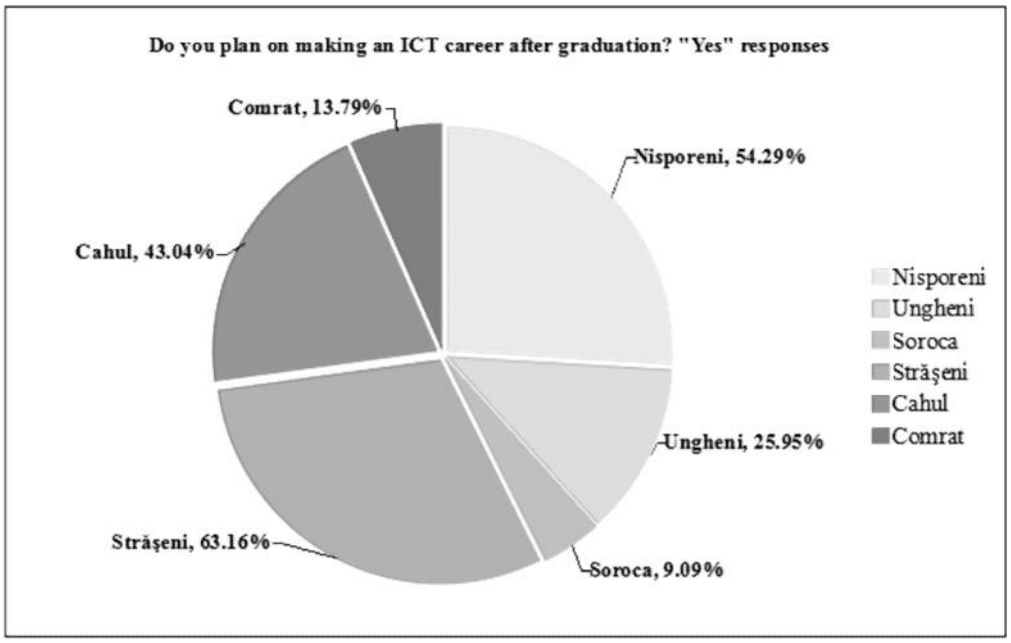


Fig. 1. Pupils responses to the question
„Do you plan on making an ICT career after graduation?"
Source: Elaborated by the authors.

The interest of pupils in ICT is confirmed by responses to the question " **Would you like to be in touch with the best ICT professionals? Learn from them**?". It received an affirmative answer from 90.49% of respondents (Fig. 2).

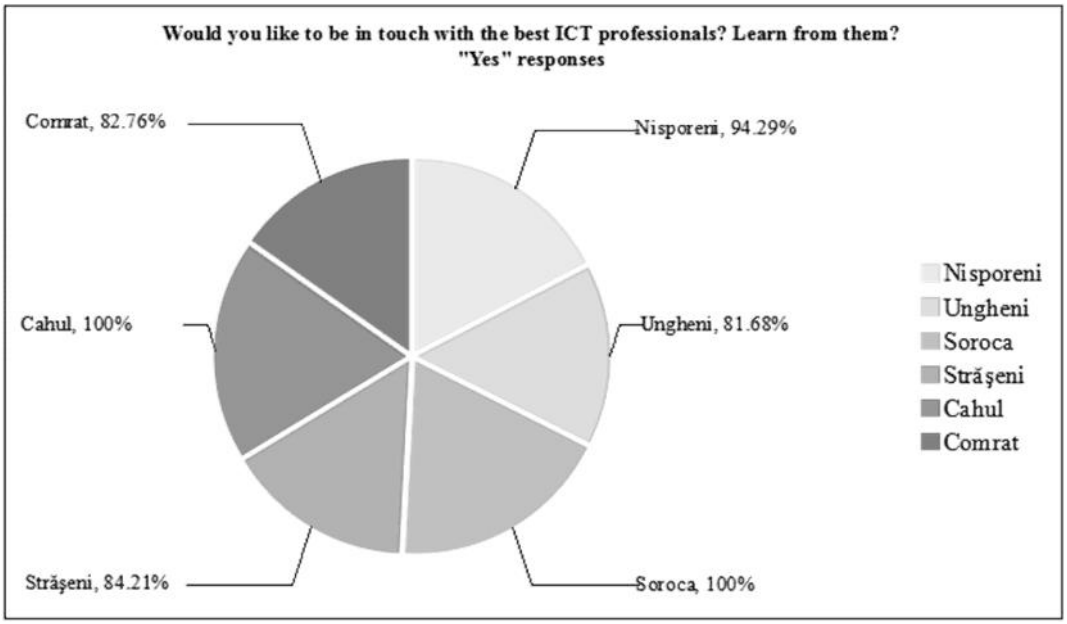


Fig. 2. Pupils responses to the question
"Would you like to be in touch with the best ICT professionals? Learn from them?"
Source: Elaborated by the authors.

Adolescence is a time of many changes at all levels: physical, psychological and emotional. This is a time when personality is defined. The fact that the question "What are you good/talented at?" was answered by 19.6% of respondents with a "don't know", shows a lack of ability to decide on a career as well as not knowing oneself and one's own skills/capabilities/talents. Certainly, many of these young people may be drawn into ICT training centers.

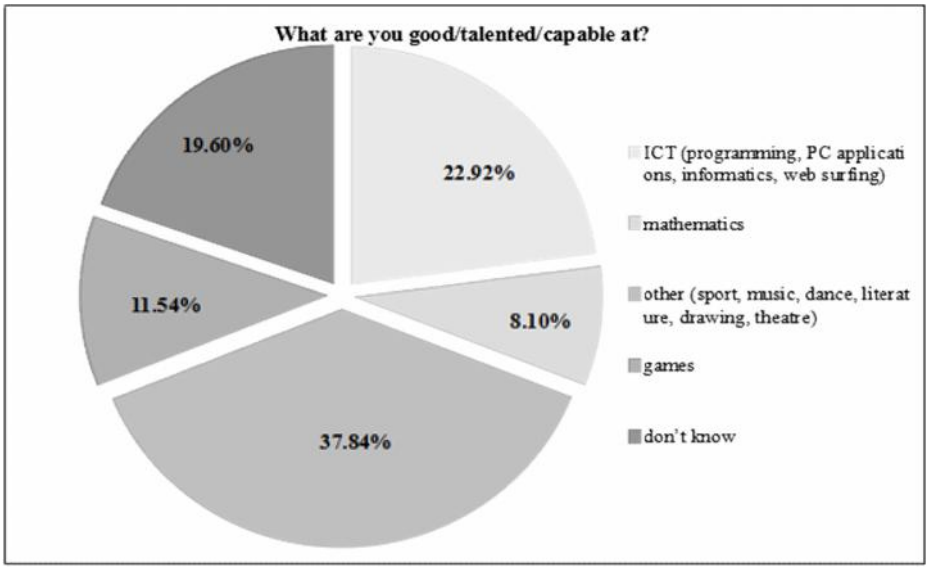


Fig. 3. Pupils responses to the question „What are you good/talented at?"
Source: Elaborated by the authors.

Conclusions

The idea of the project is supported by all participants in the meetings organized by ISDI team. All visited localities expressed political will to participate in the project with contributions in the form of premises, facilities, funding of the 2-3 units in the Center, orders of IT applications necessary for local public authorities. School principals, teachers of computer science are open to participate and contribute to the realization of the idea. According to questionnaire responses, there are virtually no software development companies in the visited districts (except the Deeplace initiative from Tvardiţa), therefore opening representatives of companies from Chisinau could be the solution to ensure the employability of Centers' graduates.

The pupils are interested in ICT careers, without knowing too many details and without a proper knowledge of the real situation on the ICT market. According to the pupils, the most attractive factor in ICT career is the high salary. Centers of Excellence in ICT could be an alternative to extracurricular activities for the pupils and high school students interested and passionate about technology.

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THE OVERVIEW OF THE MAIN GAS PIPELINES IN THE BLACK SEA REGION: POLITICAL AND ECONOMIC ASPECTS

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Topicality. The Black Sea region is very dynamic in terms of economic development, security problems and interstate relations. All of the countries in this region are heterogeneous but energy issue plays a pivotal role in their foreign policy priorities. It is the only one common denominator that can both foster cooperation and catalyze conflict in the Black Sea basin. The problem of transporting energy has an impact not only on the Black Sea countries, but also on the Southeastern Europe, Russia, the Caspian Sea, Middle East, and ultimately the European consuming markets. Thus, the issue of energy transition needs the experts' and scientists' attention fixed on the Black Sea region in order to come together facing the latter-day challenges. The energy challenge has a multi-dimensional nature. Aim. Thus, this paper aims to provide an overview of the energy transaction issues focusing on the economic effects of the most important gas pipelines within the Black Sea region. Particular attention is going to be paid to the problem of the energy routes' diversification and pipelines which connect the carbon-rich countries of the Middle East and Caspian region and Europe. Also, it is aimed to give a comprehensive analysis of the energy challenge within the Black sea region, focusing on energy efficiency of the gas pipelines which go through this extremely important energy hub. Methods - scientific methods of data analysis, historical and statistical overview, predictive analysis qualitative indicators, comparative method, method of description, case study. Results. The creation of a stable markets, interconnected and transparent natural gas supply would largely counteract the risks. The flexibility transport infrastructure, numerous and capable pipelines, underground storage capacities and their management may play an important role in the sector's ability to manage supply shocks.

Key words: *energy efficiency, gas pipelines, economic effects, sustainable development, Black Sea region*

Actualitatea. Regiunea Mării Negre este foarte dinamică în ceea ce priveşte dezvoltarea economică, problemele ce ţin de securitate şi relaţiile interstatale. Toate ţările din această regiune sunt eterogene, dar problema energetică joacă un rol esenţial în priorităţile de politică externă. Acesta este doar un numitor comun care poate atât promova cooperarea cât şi cataliza conflicte în bazinul Mării Negre. Problema transportării energiei are un impact nu numai asupra ţărilor din Marea Neagră, dar şi din Europa de Sud-Est, Rusia, Marea Caspică, Orientul Mijlociu, şi pieţele consumatoare europene. Astfel, problema tranzitării energiei necesită atenţia experţilor şi savanţilor "axate pe regiunea Mării Negre, în scopul prevenirii provocărilor viitoare. Problema energetică are un caracter multi-dimensional. Scop. Lucrarea îşi propune să ofere o imagine de ansamblu privind problemele de ţin de tranzitarea energiei concentrându-se pe efectele economice ale celor mai importante conducte de gaze din regiunea Mării Negre. O atenţie deosebită se va acorda problemei diversificării şi gazoductelor care conectează ţările din Orientul Mijlociu, regiunea Mării Caspice şi Europa. De asemenea se urmăreşte oferirea unei analize cuprinzătoare privind resursele energetice din regiunea Mării Negre, cu accent pe eficienţa energetică a gazoductelor care trec prin acest centru energetic extrem de important. Metode. Metoda ştiinţifică de analiză a datelor, metoda istorică şi statistică, indicatori calitativi, analiză predictivă, metoda comparativă, metoda de descriere şi studii de caz. Rezultate. Crearea unei pieţe stabile de alimentare cu gaze naturale interconectate şi transparente care ar contracara în mare măsură riscurile. Infrastructura de transport flexibilă, numeroase conducte, capacităţile de înmagazinare subterană şi

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managementul lor pot juca un rol important in capacitatea sectorului de a gestiona şocurile de aprovizionare.

Cuvinte cheie: *eficienţa energetică, conducte de gaze, efecte economice, dezvoltare durabilă, regiunea Mării Negre.*

Актуальность. Черноморский регион является очень динамичным в плане экономического развития, проблем безопасности и межгосударственных отношений. Все страны в этом регионе сильно отличаются друг от друга, но энергетический вопрос играет решающую роль в их внешнеполитических приоритетах. Это единственный общий знаменатель, который может, как стимулировать сотрудничество, так и активизировать конфликты в бассейне Черного моря.Проблема транспортировки газа оказывает влияние не только на черноморские страны, но также на Россию, страны Юго-Восточной Европы, Каспийского моря, Ближнего Востока, и в конечном счете, на потребляющие рынки Европы. Таким образом, энергетический вопрос требует внимания со стороны экспертов и ученых, обращая внимание на Черноморский регион для того, чтобы объединиться перед борьбой с вызовами нового века.

Цель.Энергетический вопрос имеет многогранный характер. Таким образом, эта статья призвана обеспечить обзор вопросов транспортировки газа с уклоном на экономические эффекты наиболее важных газопроводов в регионе Черного моря. Особое внимание будет уделено проблеме диверсификации и газопроводам, соединяющиестраны Ближнего Востока, Каспийского регионас Европой. Кроме того, данная статья направлена на всесторонний анализ энергетической проблемы в Черноморском регионе, уделяя особое внимание энергоэффективности газопроводов, которые идут через этот чрезвычайно важный энергетический центр. Методы: методы анализа данных, исторический и статистический обзор, интеллектуальный анализ качественных показателей, сравнительный метод, метод описания. Результаты: Создание стабильных взаимосвязанныхрынков, а также прозрачных условий поставки природного газа будет противодействовать нынешним рискам и угрозам безопасностиЧерноморья в значительной степени. Создание в рамках данного региона гибкой транспортной инфраструктуры многочисленных трубопроводов, подземные х емкостей для хранения и управления ими может играть важную роль в способности энергетического сектора противостоять разным проблемам.

Ключевые слова: *энергоэффективность, газопроводы, экономический эффект, устойчивое развитие, Черноморский регион.*

JEL Classification: F5; L95; O19; P48; Q01; Q4.

Introduction. Within the realities of the post-Cold War period the Black Sea region has become one of the new scopes of the international relations. It is widely defined as the area covered by the twelve states participating in the organization of the Black Sea Economic Cooperation (namely Albania, Armenia, Azerbaijan, Bulgaria, Georgia, Greece, Moldova, Romania, the Russian Federation, Republic of Serbia, Turkey and Ukraine) and the main states around the Caspian Sea, Kazakhstan and Turkmenistan.

Following the break-up of the USSR in 1991, almost all Black Sea countries were hit by crises due to dependency on the Soviet market and post-Soviet transition to the market economy. In addition, there were also prospects of asymmetries in economic growth in the region. The successor states of the former Soviet Union have only recently begun to make progress on their economic reforms. It should be mentioned that positive growth rates have been the result of economic programs primarily sponsored by the International Monetary Fund.

In general, there are many problems within the Black Sea region: the political crises in the Balkans, the Caucasus and the Caspian region, ethnic animosities, economic crises, refugees, environmental problems, disparities in military power and so on. On this background of complicated territorial and ethnic conflicts and competing interests the development of energy resources and their transportation take place.

Methodological overview. This article embraces a row of different scientific methods of data analysis, predictive analytics, historical and statistical overview, qualitative indicators, descriptive and comparative methods, case study etc.

The historical overview together with descriptive and comparative methods made it possible to trace back the history and reasons of the latter-day situation, to describe the present-day conditions and international position of the countries within the Black Sea area.

In the same time the statistical overview gave us necessary information concerning the main energy consumption indicators and others, and eventually, it let us shape the picture of current situation in this field. In addition, the predictive analysis focuses on application of statistical information for predictionand forecasting the Black Sea region's development in the nearest future.

Black Sea region: an overview

The Black Sea region is an important part of the East-West energy system. About 80 percent of Russian natural gas exports to Europe transit this region. Furthermore, the Caspian basin states, turned into independent hydrocarbon producers in the early 1990s, are striving to access Western markets through conduits which cross or which are designed to cross the region. However, the Central and Eastern European states exhibit a much higher degree of dependence on Moscow than do Western European ones. Whereas France, Italy, the Netherlands and Belgium depend on Gazprom's deliveries for about 20 percent of their needs, Finland, Slovakia, and Bulgaria all import over 90 percent of their gas from Russia, with several other EU members states' dependence exceeding 60 percent. Accordingly, the very meaning of energy security differs in these two cases: while Western Europe is primarily anxious about sufficient supplies of gas, Central and Eastern European states come to cherish the diversity of its supply sources. For Russia, instead, energy security primarily refers to unhindered access to markets and to its market share preservation.

It is worth mentioning, that conditions for a competitive geopolitical game of pipeline projects emerged after the end of the Cold War, when the Black Sea region states have seen their geography enhanced to a strategic level in light of the efforts of the Caspian and some Middle Eastern states to access the cash-rich European gas markets.

Energy politics in the Black Sea region

Nowadays, energy security is one of the main issues on the agenda of the EU foreign policy, and its geostrategic implications in the Black Sea region are the most apparent. Geographically, this strategic region connects Europe with Russia, the Caspian and the Middle Eastern countries that have a significant world's oil and gas reserves. Most transit routes from these regions transport oil and gas through the Black Sea region and adjacent states to Europe [24].

In spite of the fact that there are many factors which make the area prone to instability, the existence of large oil and gas reserves encourages cooperation, involving multinational consortia and external actors. Interestingly, in the framework of energy cooperation all partners are interdependent. On one hand, there is a flow which links the main regional energy producers (the Middle East, the Caspian Sea area and the Central Asia) with the energy consumer (the Euro-Atlantic community), and, on the other hand, the there is a flow between the security producer (the Euro-Atlantic community) and the security consumer (the Middle East and Central Asia) [9]. Consequently, instability and conflicting trends, the energy resources and economic prospects make the international community involve directly within this area.

The most problematic aspect of the energy question, however, is the choice of a route for the oil and gas main lines. It is common knowledge, that today control over the pipeline routes is almost as important as the control over the resources which are being transported through them. The increased oil and gas production over the past two decades requires new infrastructure capacities for the Caspian states isolated from the shipping lanes. This problem has become a serious concern for the EU and the U.S.The underlying geopolitical problem resides in the diplomatic and military inability to choose a trajectory for the oil and gas pipelines ensuring 100 percent direct and controlled access to international waters for benefit of multinational companies. Nowadays, access to energy is fundamental for every country, and energy security is vital in the current global setting, as it provides the necessary stability for economic development.

For example, Russia and the United States, NATO and the EU are all trying to influence the countries of the Caspian and Black Sea regions in order to attract them to their sides. The United States and the European Union actively cooperate with countries of the Caspian and Black Sea regions in economic and investment spheres. This in the first rate refers to the implementation by the American and European companies of joint projects on oil and gas production in Azerbaijan and Turkmenistan. Besides, the USA and the EU provide a consistent support to the efforts of Azerbaijan and Turkmenistan to find alternative ways to foreign energy markets. Thus, the US and the EU are the main lobbyists for the project of the "Trans-Caspian" gas pipeline and participants of the "*Nabucco" project*. At the same time, American and European companies participate in the development of offshore oil and gas resources on the Black Sea coast of Ukraine and Romania, as well as in the development of shale gas fields at the

Ukrainian and Romanian territories; and invest into energy projects in Georgia and Moldova [10].The Russian side opposes strengthening of regional positions of the USA, NATO and the EU, trying to convince these countries that construction of "Trans-Caspian" gas pipeline (on the bottom of the Caspian Sea) would be inappropriate.

Noteworthy, while there are several ways to transport oil from the Caspian region, the only way to transport Caspian gas to consumer markets runs through the pipelines only. There are several pipeline projects to supply Caspian gas to Western markets. Though, it should be noted, that the list of the Black Sea pipeline options and projects to bring gas and oil to Western markets extends much further, however, due to the economic efficiency and viability, the authors decided to concentrate on the most remarkable ones.

Main pipeline projects to supply Caspian Gas to western markets

It is common knowledge, that there is the Shah Deniz (SD) field located on the deep water shelf of the Caspian Sea, 70 km south-east of Baku, in water depths ranging from 50 to 500 m. It was discovered in 1999. It is one of the world's largest gas-condensate fields, with 40 trillion cubic feet – over 1 trillion cubic meters of gas in place [21]. This requires enhancement of some existing infrastructure and development of a chain of new pipelines. One of the most distinguished pipeline projects dealing with the Azeri gas is **the Southern Gas Corridor**. It is arguably the global oil and gas industry's most significant and ambitious undertaking yet. And it is a complex challenge involving many different stakeholders – including seven governments and 11 companies.

According to the decision of the Working Group of the Directorate General for the EU Commission several gas projects have been chosen as "crucial" for the overall energy security in Europe. This decision plays its role regarding the Southern Corridor developments, and the emerging architecture of natural gas infrastructure in Southeastern Europe [13]. The Southern Gas Corridor is launched to decrease the Russian monopolistic position as a gas supplier and it has the potential to meet 20% of the EU demand for gas in the future, with potential supply from the Caspian region, the Middle East and Eastern Mediterranean [8]. The official document on which the Southern Gas Corridor is rooted is thus represented by the Communication delivered in 2008 by the European Community (EC): the "Second Strategic Energy Review – an EU Energy Security and Solidarity Action Plan". The document recognized the Southern Gas Corridor as one of the EU's highest energy security priorities, outlying the need of a joint work between the EC, the EU Member States and the countries concerned (Azerbaijan and Turkmenistan, Iraq and Mashreq countries) [22].

It is worth mentioning that in 2002 the five-company consortium agreed to cooperate on the development of **Nabucco** as the main pipeline to transport gas from Azerbaijan, Turkmenistan, Iraq, Iran and Egypt to Southeast and Central Europe via Turkey [22]. However, notwithstanding the strong political commitment of the five transit countries and the unprecedented political support of the EU and the US, the Nabucco project has ultimately failed [12], mainly because of commercial and financial reasons: a very large scale pipeline project combined with a hugely uncertain demand outlook and the potential competition of the South Stream. In late June 2013, the consortium operating Azerbaijan's Shah Deniz gas field selected the Trans Adriatic Pipeline (TAP) as the preferred gas transportation route to the European markets, offering superior terms and conditions over the competing Nabucco-West Pipeline [19]. Hence, TAP became the critical link in the overall Southern Gas Corridor project, moving Azeri gas from the Turkish border through the Trans-Anatolian Pipeline (TANAP), to European markets.

Thus, today, the pipelines forming the Southern gas Corridor are known as: 1. the existing *South Caucasus Pipeline* (SCP) which will be expanded with a new parallel pipeline across Azerbaijan and Georgia; 2. the *Trans Anatolian Pipeline* (TANAP) which will transport Shah Deniz gas across Turkey; 3. the *Trans Adriatic Pipeline* (TAP) which will take gas through Greece and Albania to Italy [17].

In its turn, Russia supported the "**South Stream**" pipeline project which was aimed to transport partly Russian partly Caspian gas to Europe via the Black Sea. However, in the light of recent news, it became known that this project seized to develop and, instead, Russia in close cooperation with Turkey launched a new gas project – the "**Turkish Stream**". Facing objections from the European Union, Russia in December abandoned its $40 billion South Stream project which would have passed under the Black Sea to Bulgaria and carried up to 63 billion cubic meters (bcm) of gas annually to Europe. It has now pinned its hopes on Turkey, hoping to construct a "Turkish Stream" pipeline with the same capacity to an as-yet unbuilt hub on the Turkey-Greece border by the end of 2016 [20].

According to Daria Nochevnik, the EU Energy Regulatory Affairs and Strategic Analysis Specialist and Deputy Head of the Greek Energy Forum's Brussels Division: "Russian gas supplies will remain important for the countries in the Black Sea region. However, the geopolitics of energy relations with Russia is very different across the countries in the area. While Romania is the least dependent on Russian supplies, Bulgaria relies almost exclusively on those, while experiencing the lack of interconnection with the neighboring gas markets.

In the case of Turkey, current geopolitical developments definitely play in its favor, and gas supplies from Russia will not only help meeting the growing domestic demand, but also reinforce Turkey's strategic position in the region.

When it comes to Ukraine, the situation is dramatically different. Although the first reverse-flows have been established and Ukraine has already experienced getting the so-called second hand Russian gas from Slovakia, it could only supply some 20% of country's demand. At the same time, under the current circumstances in the country, and due to current fiscal and legal policy of the new government, companies have to put all the upstream activities on hold" [14].

The above mentioned gas pipeline projects play a pivotal role in shaping the current energy security environment in the Black Sea region. "The race for control over the south-eastern route of gas supply into Europe is truly one of the main drivers of change in the Black Sea security environment" [11]. Notwithstanding the strategic guidelines laid down by Brussels to increase the EU's overall energy security, the various interests and perceptions of the EU member states regarding the "pipeline game" have led to a "collectively dissociated" energy policy. We see the profit-maximizing behavior of a handful of European energy majors as the main driver of Europe's energy relations.

Energy efficiency for sustainable development of the eu and Black Sea region

Today, the cost of energy along with the model of sustainability and the difficult access to finance for companies represent the major issue for the Europe's competitiveness. All of this is likely to derail the fragile revival of the European economy in recent years.

According to the European report „*Regional Challenges in the perspective of 2020*" the energy challenge has a multi-dimensional nature. The globalization, climate change, demographic change and migration, energy risks and social polarization play a major role in the future of regional economic trends. Europe as a whole has high earnings in all categories of external income except energy exports. By contrast neighboring regions are strong exporters of energy and little else [23]. The Europe 2020 target for energy efficiency is measured by the indicators *"Primary energy consumption"*[1] and *"Final energy consumption*"[2].

In order to meet the Europe 2020 goal of moving towards a 20% increase in energy efficiency, this value will have to decline by further 6.4% in the coming eight years. Although the EU currently seems to be on track to achieve this target, recent reductions in *primary energy consumption* have mainly been attributed to the slowdown in economic activities following the crisis rather than to structural shifts in energy consumption. Regarding the *final energy consumption* indicator, in 2006 it was at its highest level with 1190 Mtoe, but the consumption has fallen by 7.3%. The EU seems to reach the Europe 2020 target of 1086 Mtoe, however, the reductions in energy consumption have been registered [15]. In the context of efficiency of the gas pipelines, it can be stated that gas case studies have shown that *energy efficiency* is considered by pipeline operators as a part of processes in the minimization of pipeline's cost. It was demonstrated that pipelines which have a short build-up of demand to reach a long-term plateau will reach higher levels of compression from the early stages of the pipeline's life reflecting those that are optimal in the long run, at the demand plateau. This makes the most of significant economies of scale associated with pipe diameter needed for ultimate demand, while capturing the benefits of flexibility and deferral of investment in compression [16].

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[1]*By "Primary energy consumption" indicator is meant the Gross Inland Consumption excluding all non-energy use of energy carriers and is used for measuring the true energy consumption and for comparing it to the Europe 2020 targets.*

[2]*By "Final energy consumption"indicator is meant all energy supplied to industry, transport, households, services and agriculture, it is used to measure the energy consumption at final place of energy use and for comparing it to the Europe 2020 targets.*

The European Union is overwhelmingly dependent on energy imports, being the largest energy importer in the world (more than 53%). In this context, the weight of imports varies depending on the type of imported resources. This is demonstrated by the fact of steady decline in domestic production of the EU Member States in the last 20 years.

The EU dependence on imports has remained relatively constant at 52-53% (starting from 2006), due to increased production of electricity from renewable resources and lower demand of energy caused by the economic crisis and poor energy efficiency improvements. In the same time, regarding EU's gas consumption, it's around 440 mld m^3 of natural gas.

In recent years, Europe's annual gas consumption (EU-28) has decreased and then stabilized, due to economic crisis, which led to reduced industrial consumption, but as well to the result of structural changes in the European economy (lower share of heavy industry), etc. Regarding the Central and Eastern Europe, the situation is quite vulnerable, because of high dependence of imports on Russia's natural gas that transits through Ukrainian territory. This implies higher prices for natural gas for the Central and Eastern Europe (about 30-40%), in comparison to the prices for the Western Europe.

Taking an overview through all important gas pipelines from the region, it can be mentioned that the *South Caucasus Pipeline* is based on the aim to supply Turkey and Georgia, and in a longer perspective the South Caucasus Pipeline will supply Europe with Caspian natural gas through the planned Southern Gas Corridor pipelines, such as Trans Adriatic Pipeline and Trans-Anatolian gas pipeline. It is worth mentioning, that Georgia has rights to take 5% of the annual gas flow through the pipeline in lieu of tariff and can purchase a further 0.5 billion cubic meters of gas a year at a discounted price.

The economic aspect of the *Nabucco pipeline* results in the diversification of the natural gas suppliers and delivery routes for Europe, thus reducing European dependence on Russian energy. Even if Nabucco pipeline supplies only a limited number of countries in South-East and Central Europe, the project has been criticized as uneconomic because there is no guarantee that there will be sufficient gas supplies to make it profitable and also because of the security aspect (the gas from Azerbaijan and Turkmenistan will have to pass near areas of instability in the South Caucasus).Also, this is confirmed by the fact that opening the Central Asia-China gas pipeline and the agreements to build the South Stream pipeline has been seen as the end of Nabucco project.

Regarding the *Trans-Anatolian Natural Gas Pipeline,* its construction is expected to be completed in 2018 and is considered as a central part of the Southern Gas Corridor that will connect the Shah Deniz gas field in Azerbaijan with Europe through the South Caucasus Pipeline, TANAP and the Trans Adriatic Pipeline. It is seen as an important and strategic project, both for Azerbaijan and Turkey, allowing Azerbaijan gas to be exported to Europe, through Turkey. *The Trans Adriatic Pipeline* - project to transport natural gas from the Caspian sea, starting from Greece via Albania and the Adriatic Sea to Italy and further to Western Europe. *The South Stream* is an abandoned pipeline project to transport natural gas of the Russian Federation through the Black Sea to Bulgaria and through Serbia, Slovenia, Hungary and Austria. The project created controversies due to non-compliance with the EU competition and energy legislation, such as the *Third Energy Package* which stipulates the separation of companies' generation and sale operations from their transmission networks. It was seen as a rival of the Nabucco pipeline project. The project was dropped by the Russian side in December 2014 following the numerous obstacles put by Bulgaria and the EU, the 2014 Crimean crisis and the imposition of European sanctions on Russia. Regarding Moldova's integration into our energy infrastructure is very important, namely, ensuring the connection in terms of energy between Moldova and Romania. Republic of Moldova has historically been 100% dependent upon supplies of natural gas from one source: Russia's Gazprom [18]. Starting from September 2014 Moldova and Romania inaugurated the *Iasi-Ungheni gas pipeline* in the Zagarancea village, western Ungheni district, confirming that Romanian gas will reach Moldova starting from 1 September. In this way, Chisinău is moving closer to the European energy market. Nonetheless, this project doesn't intend to suspend the import of gas supplies from the Russian Federation. It is aimed to ensure an alternative. The interconnection should be fully implemented by the end of 2016 [18].

Conventional natural gas potential of the countries of South East Europe region is reduced, while the shale gas is still unknown, and potential gas reserves in deep waters of the Black Sea could be about 2 billion BOE in the west, and about 5 billionBOE in the Eastern Black Sea basin.

Some analysts believe that the Black Sea could become for Southeast Europe the same as the North Sea for the Western Europe which is potentially the third largest natural gas production area [1]. Now, less

than 100 wells were drilled in the Black Sea and there is only one major discovery in *Neptun Block*, in the exclusive economic zone of Romania. Hydrocarbon potential of the Black Sea is considered high, being a drainage basin for the European rivers. Due to several explorations made here, the topography of the Black Sea is still little known. In recent years, however, major players in the sector have expressed their interest in the area and several countries in the Black Sea area (Bulgaria, Romania, Ukraine, Russia and Turkey) have already conducted auctions for concessions perimeters exploration of their exclusive economic zones [2].

Analysis regarding the impact of disruption of the Russian gas supply. Analyzing the EC's stress tests to assess the impact of disruption of gas supplies from Russia, were considered two scenarios: a) the interruption of gas supply from Russia; b) stopping the transit through pipelines from Ukraine. The scenarios evaluated the ability of alternative sources of supply and existing reserves of natural gas storage capacity, to overcome crisis, both in the summer, as in the case of peak consumption in January and February.

Following the results of the present analysis, it can be mentioned that Southeast Europe is the most vulnerable region, depending on both the imported Russian gas and transit through Ukraine. In case of transit disruption, natural gas demand of countries from the region could not be covered about 60% - 80%, going on the assumption of full solidarity between Member States of the EU. There are significant differences between countries in the region when it comes to vulnerability caused by interruption of transit through Ukraine, where Bulgaria and Macedonia would be the most affected; while Romania, Greece, Serbia, *Bosnia* and Herzegovina and Hungary would be less affected. The rest of Central and Eastern Europe would be affected only by a completely disconnect gas supply, because they can be supplied by pipeline that bypass the Ukrainian territory. In a scenario of a complete disruption of gas supplies from Russia during winter months, most European states would be affected (except the Iberian Peninsula countries and consumers in southern France).

Due to several factors, imports of natural gas will play an increasingly important role in the energy balance of the EU. We consider that best protection for Southeastern Europe is to develop gas fields in the region, to diversify the gas supplies, to settle the interconnection of national networks and to develop the underground storage capacity.

Main findings

The countries from the Southeast Europe are most vulnerable to potential shocks in supply. This will however require the interstate cooperation in the area with no tradition in this field. In the same time, countries like Turkey, Romania or Greece aspire to own the regional hub, which can lead to regional rivalries.With the help of the EU, countries in the region could learn to work together for the common benefit, since all are vulnerable in terms of energy security. We consider that Ukrainian crisis can act as a catalyst to encourage regional cooperation.

The creation of a stable markets, interconnected and transparent natural gas supply would largely counteract the risks. The flexibility transport infrastructure, numerous pipelines, underground storage capacities and their management may play an important role in the sector's ability to manage supply shocks.

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THE NEED FOR A WATER INFORMATION SYSTEM FOR THE REPUBLIC OF MOLDOVA

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Novelty. Insuficient information on water resources is an important issue at both national and global levels. This issue becomes even more important under the conditions of clmate change of the last decades. Aim. The aim is to analyze the existing situation in the field and to formulate a scientific argument by means of convincing examples, to argue the need to implement an information system of water cadastre, to arise social interest as a whole towards the problem whose solution determines success. Methods. The authors of the study have used many scientific methods and namely: the systematic analysis of ongoing processes (phenomena); the analysis of statistical data; the methods of trend graphic analysis; the method of analysis and synthesis of natural phenomena and processes. Results. Information of the society is both the purpose and the final result of the present study.

Key words: *climatic conditions, information system, water cadastre, water fund.*

Actualitatea. Insuficienţa informaţională privind resursele acvatice reprezintă o problemă actuală nu numai la nivel republican dar are un impact mondial. Această problemă devine şi mai actuală în condiţiile schimbărilor climaterice a ultimilor decenii. Scopul. Analiza situaţiei create în domeniu şi prin exemple convingătoare de a formula o argumentare ştiinţifică a actualităţii problemei, de a argumenta necesitatea implementării unui sistem informaţional al cadastrului apelor, de a trezi „interesul public" al societăţii în ansamblu faţă de problemă fără de care succesul nu poate fi aşteptat. Metode. În cadrul studiului, autorii au aplicat mai multe metode ştiinţifice de studiu şi anume: analiza sistemică a proceselor (fenomenelor) în desfăşurare; analiza datelor statistice; metoda analizei grafice a tendinţelor; metoda analizei şi sintezei fenomenelor şi proceselor în natură.Rezultate. Atît ca scop cît şi ca rezultat final al prezentului studiu este informatizarea societăţii.

Cuvinte cheie: *condiţii climaterice, fondul apelor, cadastrul apelor, sistem informaţional.*

Актуальность. Недостаточная информация о водных ресурсов является проблемой не только национальной но имеет глобальное содержание. Эта проблема становится еще более актуальной в условиях изменения климата за последние десятилетия.

Цель. Анализ созданной ситуации в области водных ресурсов при убедительных примеров направлен сформулировать научную аргументацию актуальности проблемы, аргументировать необходимость внедрения информационной системы водного кадастра, чтобы пробудить «общественный интерес» в целом, без которого успех невозможно ожидать.

Методы. В процессе исследования, авторы применяли следующие научные методы, и именно: системный анализ развития процессов (событий); анализ статистических данных; метод графического анализа тенденций; метод анализа и синтеза процессов и явлений в природе.

Результаты. Результатом исследования полностью исходит из поставленной цели – информатизация общества.

Ключевые слова: *климатические условия, водный фонд, водный кадастр, информационная система.*

JEL Classification: D8; L86; Q25; Q26; Q28.

Introduction. The Republic of Moldova is situated in the region where one needs to know about water resources and water fund as a whole from both social and economic points of view.

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The role of water is beyond price in agriculture. The water problem is of both social and economic importance in southern regions of the Republic of Moldova. Indeed, fresh water is a „source of life" in this area.

In the last decades the problem of fresh water has become relevant in central and nothern regions of the Republic too. Climate changes that are observed on the Earth in the last decades increase the risk of negative influence caused by high temperatures and irregular atmospheric precipitation.

High temperatures, unbalanced climatic conditions and unstable atmospheric precipitation increase the negative social and economic influence. This results in the need to analyze the existing situation, monitor the water fund and, consequently, to implement an information system of water cadastre.

1. Analysis of the situation in the field

The philosophical content of the sintagmas "water and life", "water is a source of life", etc. has been depreciated in Moldova recently and has transformed in cheap, formal expressions and claims that have no profound meaning.

This situation is the result of paying less attention to important social and economic problems in this field.

Problems become great and dangerous when they are unexpected and you are neither ready nor informed.

The topic of the present study is the informatization process in the field of water resources. The Republic of Moldova has no modern information system in this field. It is necessary to state that the Republic of Moldova does not have any water cadastre at all.

There is no concept of information system in the field of water cadastre and it happens when social, economic and ecologic impact of water becomes increasingly important, especially in the last years.

It would be wrong to deny important actions that take place in Moldova regarding the improvement of agricultural lands, fresh water supply, etc. The problem is actually that all these activities would be much more efficient under the conditions of a modern Information System of water cadastre.

1.1 The research subject

The subject of the present study is the water fund of the Republic of Moldova viewed in terms of the Information Cadastre System as a whole [1, p. 98-141]. It is obvious that in case of an information crisis like this one needs to know as much as possible about the water fund: who? what? when? where? and how? These questions are specific to a modern and vital cadastre.

These questions reflect the contents, the concept of "Cadastre – 2014" where the need for detailed understanding of the multifunctional role of water as a natural treasure, including of the Information system of water cadastre, is of the greatest importance [8].

The study field is much more wider and needs detailed knowledge of quantitative, qualitative, legal, social, economical and ecological aspects of the research subject (water cadastre), as well as theoretical peculiarities of the Water Cadastre System at the territory of the Republic of Moldova (principles, categories, etc.).

1.2 Research materials and methods

The problem of the Information Water Cadastre System implementation is considered in terms of social, economical and ecological impact of water under the global climate changes [3].

Therefore, we have used the following information materials: annual and periodic information of the National Bureau of Statistics of the Republic of Moldova and EU countries; annuals of the Agency for Land Relations and Cadastre as well as the Real Estate Register of the state enterprise "Cadastru"; annuals of the Agency "Apele Moldovei"; legal framework of the Republic of Moldova and EU countries related to water cadastre; scientific research of local and foreign authors; other data and scientific studies on the dynamics of the water fund, water quality of Moldovan water bodies, etc. [7].

2. The need for the implementation of water cadastre

The objective necessity of cadastre implementation, in our case it is water cadastre, is firstly manifested through social, economic, ecological, etc. impact on the topic and the subject of studies.

When answering the question "who and what", first of all, cadastre is going to answer the following questions:

- who is interested in cadastre implementation, who will represent the organizational part and be responsible for its implementation:
- who is water cadastre intended to, who will greatly influence the information content and quality aspect.

Any cadastre as an Information System differs from other information systems in terms of the answer on the following questions: when, where and how. These are the questions that characterize full deployment of processes (phenomena) in both nature and society.

Observing processes and phenomena in time and space, penetrating inside them to answer the question "how do these processes (phenomena) take place", subsequent computerization of the society – all these have a systemic multifunctional content.

It is evident that these questions arise only if the society (the corresponding field) has acknowledged objectivity of phenomena, processes and need for computerization. This segment is very important in the process of cadastre implementation, including the implementation of water cadastre. It is more rational if a society realizes the objective need for water cadastre implementation before the negative impact reveals (natural cataclysms, floods, droughts, etc.).

The analysis of cadastre development provides us with many examples when intentions to implement a cadastre failed because of the lacking acknowledgement of "objective need" for these processes. We have previously noted that they write and speak little about the role and impact of water in our society, the actions that are taken are occasional and without any complex content. The actual situation is much more complicated.

Importance of the issue.

Any issue can be studied in detail and correctly only if we know the boundaries of the studied subject. The detailed analysis and description of the given subject is too huge to cope with it within this study. At this stage we should state that the subject of both water cadastre and this study is the water fund.

We will try to prove the existence of some processes, phenomena and trends. We will show the need for a profound study within other articles.

2.1 The quantitative aspect of water cadastre.

The dynamics of the water fund surface (the quantitative aspect) is the most visible within this study and allows us to formulate some important conclusions.

The analysis of regional (spatial) changes which takes place within the water fund has a very large content. From a situation in a region (or a water body) to a global situation [8].

We are going to limit the quantitative aspect to two measure units within this study: surface and volume. We are going to consider the subject of cadastre (the water fund) in terms of surface and volume dynamics.

The authors of the study also realize that the surface of the water fund as the subject of this study is a derivative, the final result of many natural phenomena (atmospheric precipitation, drought period, landscape structure, etc.) as well as anthropogenic factors (drained meadows, lake construction – erosion ponds, etc.).

The authors consider that at the initial stage it is important to follow the final outcome compared to the surface of the water fund. It is the outcome that may worry or reassure us, ask us some questions or suggest answers.

Table 1 analyzes the water fund surface over the last 10 years and shows a significant increase. The water fund has been increased by 6.5 thousand ha (from 69.8 thousand ha to 76.3 thousand ha). The annual increase of surface varied depending on some objective (natural) factors, which caused these changes.

Table 1

The Dynamics of the Water Fund Surface in the Republic of Moldova

№	The study period (years, on January 1st)	The water fund surface (thousand ha)			
		The total	Including		
			The total of waters	Including	Moorlands
				Ponds	
1	*2*	*3*	*4*	*5*	*6*
1	2004	69.8	62.7	33.5	7.1
2	2005	71.2	64.1	33.5	7.1
3	2006	73.1	65.7	33.7	7.4
4	2007	72.8	65.4	32.6	7.4
5	2008	73.2	65.7	32.8	7.5
6	2009	73.7	66.2	33.4	7.5
7	2010	74.5	66.8	33.6	7.7

8	**2011**	**76.0**	**67.3**	**33.3**	**8.7**
9	**2012**	**76.3**	**67.6**	**33.6**	**8.7**
10	**2013**	**74.8**	**66.1**	**32.2**	**8.7**
11	**2014**	**74.0**	**65.2**	**31.7**	**8.8**
12	**2015**	**74.0**	**65.2**	**31.7**	**8.8**

Source: The annuals "Land cadastre of the Republic of Moldova".

Thus, the dynamics of the water fund surface shown in Figure 1 may be appreciated as a permanently growth trend. Further, it is of great interest to assess this trend and determine the factors (motives) that resulted in this trend. We have already stated that the surface of the water fund is influenced by many factors, both natural and anthropogenic ones.

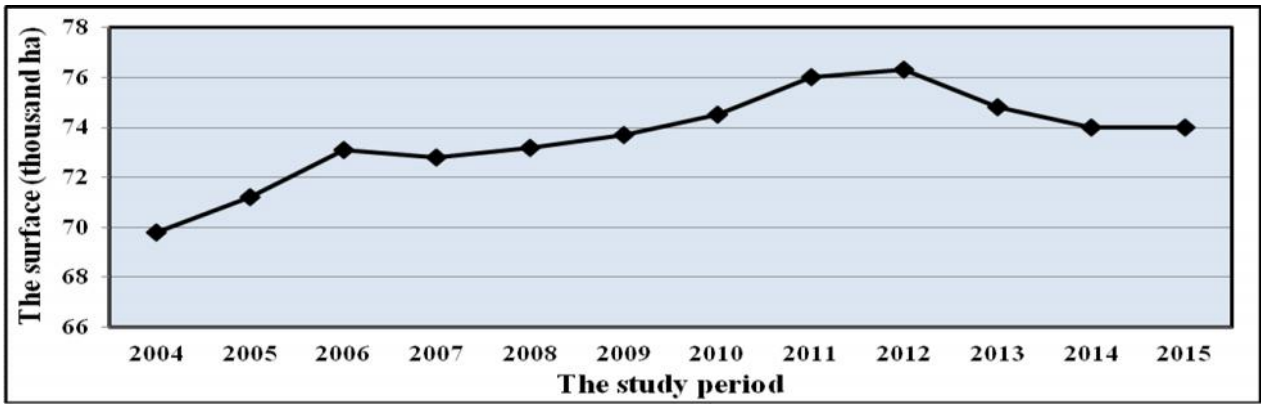


Fig. 1. The Dynamics of the water fund surface in the Republic of Moldova

Source: The Annuals "Land Cadastre of the Republic".

2.2 The dynamics of atmospheric precipitation

The authors also consider that atmospheric precipitation is one of the most important factors, which influences the water fund surface.

Table 2

The volume of atmospheric precipitation in the Republic of Moldova

The research subject	**The study period, years / the average volume of atmospheric precipitation (mm)**												
	1890	**1900**	**1910**	**1920**	**1930**	**1940**	**1950**	**1960**	**1970**	**1980**	**1990**	**2000**	**2010**
The volume of atmospheric precipitation	**470**	**480**	**490**	**500**	**510**	**520**	**535**	**540**	**550**	**560**	**565**	**570**	**580**

Source: Diminishing the impact of extreme pedo-climatic factors on crops.

Table 2 provides the dynamic information of atmospheric precipitation in the Republic of Moldova over the last 120 years. The multilateral impact of atmospheric precipitation is described in various scientific works. The problem becomes even worse due to unstable annual atmospheric precipitation and its growth trend in the long-term perspective [6, 7].

The information provided in Table 2 proves the fact that the volume of atmospheric precipitation has been increased by 110 mm over the last 120 years. The analysis of atmospheric precipitation over the last 4 years gives the evidence of the ongoing growth trend.

One needs to mention here that annual volumes of atmospheric precipitation differ a lot. If we assess the average line, which illustrates the dynamics of atmospheric precipitation at 100% (Figure 2), annual extremes, then, will be +55% (1966) – 40% (1980) etc.

This proves that we must be ready for significant deviations (both dangerous floods and drought periods) even under the conditions of atmospheric precipitation medium growth. That is, the situation makes us develop some specific activities necessary to face the consequences of atmospheric precipitation.

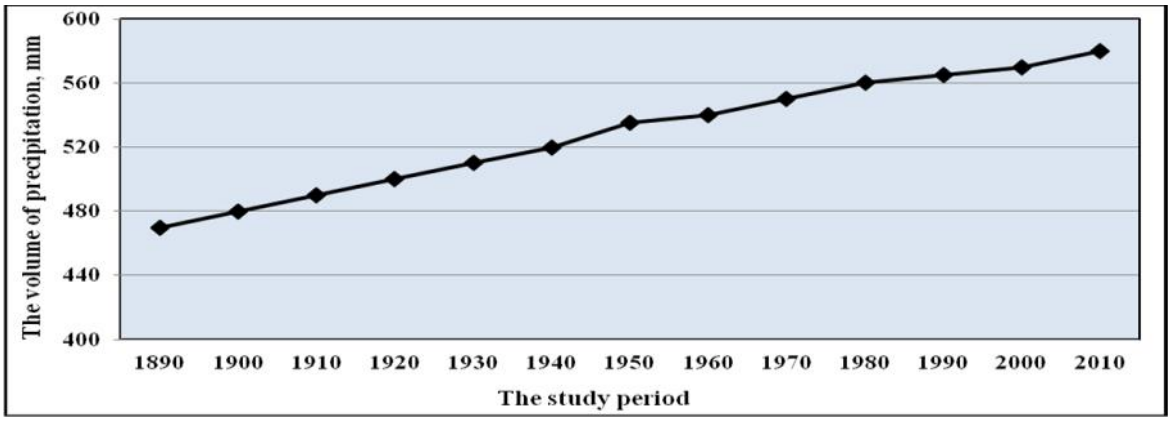


Fig. 2. The dynamics of atmospheric precipitation in the Republic of Moldova
Source: Diminishing the impact of extreme pedo-climatic factors on crops.

What does this volume increase of atmospheric precipitation by 110 mm over the last 110 years mean? The average level of 580 mm in the Republic proves the fact that this figure equals 680 mm or even more in northern regions.

The climate of the Republic of Moldova needs to be reviewed in terms of atmospheric precipitation. The economic activity in agriculture should be re-examined. The agricultural methodology should be re-considered. It is rather difficult to assess Moldova's climate as the arid one under the conditions of atmospheric precipitation permanent growth [6, 7].

It is contradictory, but drought periods in the Republic of Moldova are becoming more dangerous from year to year under the conditions of atmospheric precipitation annual increase. According to Table 2, one can see the dynamics of atmospheric precipitation in the Republic of Moldova over the last 130 years.

2.3 The qualitative aspect of water cadastre

Quality is the second important information aspect within any cadastre. We cannot evidently avoid this aspect in our study too. Moreover, the changes that take place within the water fund affect directly the quality of water.

Figure 3 shows the structure of surface waters at present. According to this figure, the level of clean surface water is very low.

The ratio between the volume of clean and polluted water is 1:16. Sixteen units of polluted water are allotted to one unit of clean water [6, 7].

The climatic situation in many European and non-European countries, related to the last period of time proves that the issue of water and atmospheric precipitation should be monitored at a high level. The state (by means of various programs and policies) plays an important role here.

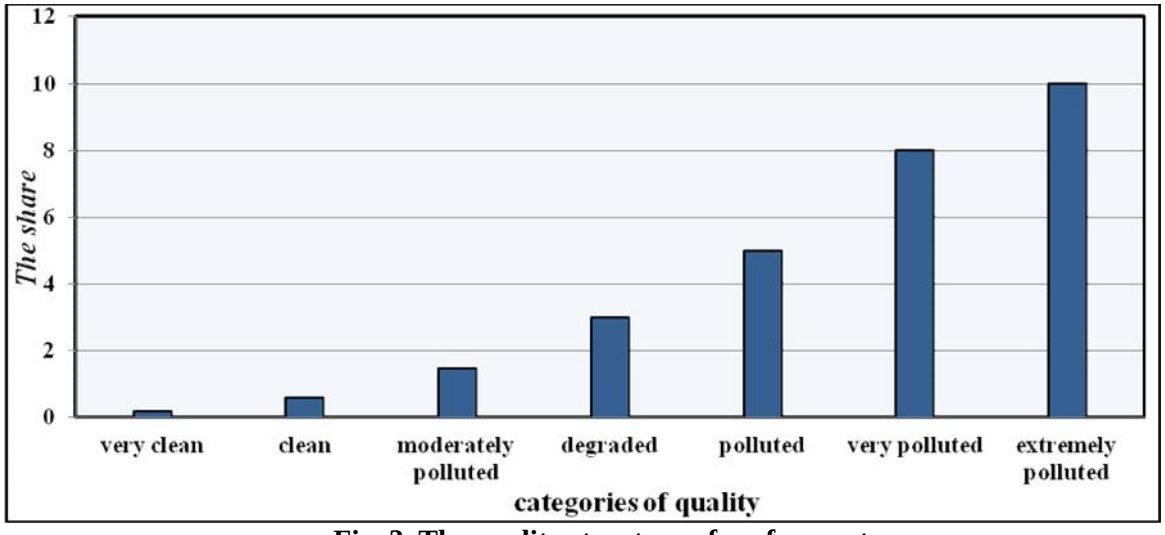


Fig. 3. The quality structure of surface waters
Source: State Water Cadastre of the Republic of Moldova

3. Conclusions

1. Over the last 130 years the volume of atmospheric precipitation has been constantly increasing in Moldova. The annual average increase is one millimeter. The increase is 110 m throughout the whole period.

2. The increased atmospheric precipitation is accompanied by the increased total surface of the water fund, which has been observed over the last 12 years and was increased from 69.8 thousand ha in 2004 to 76.3 thousand ha in 2012. Annual surface extremes are correlated with annual extremes of atmospheric precipitation. The distribution of precipitation by seasons also influences the average surface of the water fund.

3. Both natural and anthropogenic factors have a pronounced impact on the quality of water resources. Thus, the share of clean water in the total volume of the water fund does not exceed 1/10. The issue of water quality in the Republic is already turning into a social problem.

4. Because of the changes that take place in the last decades, water and the water fund as a whole become an objective necessity, the research subject. This fact should be considered important in order to develop a modern water cadastre in Moldova.

The diversity of content and forms of the water fund makes us correctly formulate the subject of water cadastre and study the objective factors that influence in both quantitative and qualitative ways.

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REGIONAL COOPERATION IN THE BLACK SEA BASIN

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Topicality. The Black Sea region is situated in a very important geopolitical manner. Consequently, a large-scale regional collaboration becomes possible within the Black Sea zone and countries get appropriate conditions to launch their activity in this context. Aim: The body of the article is going to analyze the BSEC as one of the most successful regional organizations in the Black Sea area. The paper aims to provide an overview of the regional players' activity in the framework of the BSEC which are involved in sustaining and strengthening of this organization and also in continuing the reform process in it, developing in the same time relations of cooperation with the EU and other regional initiatives. Methods. This article embraces a row of different scientific methods of data analysis, predictive analytics, historical and statistical overview, descriptive method, case study etc. Results. The countries from the Black Sea basin are the most vulnerable to potential risks and shocks due to the instability of the region. This requires the interstate cooperation in the Black Sea area with no tradition in this field several decades ago. In the same time, countries like Turkey, Romania or Russia aspire to play the role of the regional leader, which can cause regional rivalries. With the help of the regional cooperation and the BSEC in particular, regional countries could learn how to work together for the common benefit. The creation of stable markets, interconnected and transparent regional organizations and initiatives would largely contribute to the security and stability of the Black Sea region.

Key words: *The Black Sea region, Black Sea Economic Cooperation, regional cooperation, regional organization, the BSEC Declaration, the Black Sea countries, partnership, cooperation.*

Regiunea Mării Negre este situată într-o zonă geopolitică foarte importantă. Prin urmare, o cooperare regională de scară largă devine posibilă în regiunea Mării Negre, iar ţările obţin condiţii regionale corespunzătoare pentru începerea activităţilor în acest context. În articol se analizează OCEMN – una dintre cele mai de succes organizaţii regionale din regiunea Mării Negre. Articolul are drept scop asigurarea revizuirii jucătorilor regionali în cadrul OCEMN, care sunt implicaţi în menţinerea şi consolidarea organizaţiei, precum şi continuarea procesului de reformă, dezvoltarea relaţiilor de cooperare cu UE şi alte iniţiative. Metodologia utilizată cuprinde un complex de metode de cercetare: analiza datelor, analiză predictivă, revizuirea istorică şi statistică, metoda descriptivă şi studii de caz. Concluziile se rezumă la faptul, că ţările din bazinul Mării Negre sunt cele mai vulnerabile la riscurile potenţiale din cauza instabilităţii din regiune. Acest lucru necesită o cooperare internaţională în regiunea Mării Negre, care până nu demult nu aveau un istoric în acest domeniu. În acelaşi timp, ţări precum Turcia, România şi Rusia aspiră la rolul de lider regional, care ar putea conduce la rivalităţi regionale. Cu ajutorul cooperării regionale şi OCEMN, în special, ţările din regiunea Mării Negre ar putea coopera împreună pentru binele comun. Crearea pieţelor stabile, organizaţii şi iniţiative regionale interconectate precum şi transparenţa va contribui în mare măsură la securitatea şi stabilitatea din regiunea Mării Negre.

Cuvinte cheie: *regiunea Mării Negre, Organizaţia de Cooperare Economică la Marea Neagră (OCEMN), cooperarea regională, organizaţii regionale, declaraţia OCEMN, ţările din vecinătatea Mării Negre, Parteneriat şi Cooperare.*

Актуальность. Черноморский регион расположен в очень важном геополитическом порядке. Следовательно, масштабное региональное сотрудничество становится возможным в Черноморском регионе, а региональные государстваполучают соответствующие условия для начала их деятельности в этом контексте. Цель. Данная статья нацелена проанализировать ОЧЭС как одну из самых успешных региональных организаций в регионе Черного моря. Статья

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нацелена на обеспечение обзора деятельности региональных игроков в рамках ЧЭС, которые участвуют в поддержании и укреплении этой организации, а также в продолжении процесса реформ в ней, развития отношений сотрудничества с ЕС и другими региональными инициативами. Методы. Статья охватывает ряд различных научных методов: анализа данных, прогнозного анализа, исторического и статистического обзора, метода описательного анализа. Результаты. Страны бассейна Черного моря являются наиболее уязвимыми к потенциальным рискам из-за нестабильности в регионе. Это требует межгосударственного сотрудничества в регионе Черного моря, чего не было несколько десятилетий назад. В то же время, такие страны, как Турция, Румыния или Россия стремятся к роли регионального лидера, что может привести к региональному соперничеству. С помощью регионального сотрудничества и ОЧЭС, в частности, страны Черноморского региона могут научиться работать вместе на общее благо. Создание стабильных рынков, связанных между собой и прозрачных региональных организаций и инициатив во многом будет способствовать безопасности и стабильности в регионе Черного моря.

Ключевые слова: *Черноморский регион, Организация Черноморского Экономического Сотрудничества, региональное сотрудничество, региональная организация, Декларация ОЧЭС, черноморские государства, партнерство, сотрудничество.*

JEL Classification: F5; F53; F55; F63; F68; R1.

Introduction. It is common knowledge that the Black Sea region is a unique corner of the planet in terms of culture and civilization, and a meeting point of three great Abrahamic religions. It is the most complex mosaic of diverse ethno-national, confessional and linguistic groups – a true miniature of the Eurasian world.

Unfortunately, the diversity of the Black Sea region is more of a controversial issue rather than a uniting one, as it contributes to the contested nature of the interstate relations. That is why the Black Sea region has always been characterized by a great dynamism (which was, naturally, not always positive).

Therefore, when it comes to the issue of the Black Sea region it is important to mention its geopolitical sense and role in the system of international relations and in the ensembles of relations that appear in the result of fundamental historical transformations.

The analysis of recent events demonstrates why this region is evolving into a complex focal point for European foreign policy: unresolved frozen conflicts in Transnistria, Nagornyi Kharabah, Abkhazia and South Ossetia; Russian and European attempts to introduce new energy projects and pipelines and a shaky trajectory for democracy in Ukraine etc.

Basic content. The crucial importance of the Black Sea region and all incidents which take place in this area are determined by the fact that they are not isolated. Political stability and democratic consolidation in the region are threatened by a plethora of challenges which seriously affect European welfare and security too. That is why the EU is interested in maintaining peace and stability on its Eastern periphery, and following this objective, it has been lately actively pursuing what it calls its “European Neighborhood Policy”.

In 2014 the Black Sea region has grown not only in strategic importance but also came increasingly into the focus of public attention. The persistence and recently demonstrated volatility of unresolved frozen conflicts in Moldova’s separatist region of Transnistria and South Ossetia and Abkhazia in Georgia, and the recent military encounter between Georgia and Russia in 2008, and the rough annexation of the Crimea in 2014 have clearly demonstrated the risks that such “dynamism” poses.

The present-day international relations and world economy are more and more influenced by the processes of regional economic integration. These processes determine the main directions and priorities of economic life creating an environment of global competition and influencing the integration processes within different regions of the world. It is common knowledge that the Black Sea region is one of the key global crossroads where the most important international trade routes intersect (from Europe to Asia, from Central and Northern Europe to the Middle East, then further to the South and East Asia, from the CIS states to the Mediterranean).

The Black Sea region has always played a pivotal role in the Europe’s destiny and made a significant influence on the world’s politics. Throughout its history the Black Sea region developed in the alternately changing conditions of peace and protracted wars and conflicts. But, notwithstanding that fact, the Black Sea region has always been famous for its extensive network of trade relations and contacts. The

well-known Silk Road crossed this region and made an important contribution to the development and mutual enrichment of both continents. Thus, the geostrategic position of the Black Sea region let it become an important trade link, as well as a key energy transit route [3]. The combination of these factors caused the constant struggle of regional and global players for the world hegemony.

After the dissolution of the Soviet Union and the socialist bloc a special dynamics of international relations disappeared. The economic and political chaos which took place in that period caused the interruption of trade routesthat forced regional states to seek other ways of their involvement into the global economy. As the international experience shows, the level of economic development of any country depends on the degree of its integration into the world economic system and on its effective economic cooperation with other countries or groups of countries.

Besides, this period was crowned by the processes of the social and economic democratization in the Black Sea area and they were closely connected with the national states' formation in this region. By the mid-1990s the process of transition to market economy began to gain momentum among the Black Sea states. Such dramatic changes in the international political system affected not only the world order, but also the internal status of both regional states and ones close to them.Turkey, the Eastern Europe countries, the Balkans and the Mediterranean countries were amongst those which suffered the greatest impact. And there is no doubt that this dramatic and difficult time resulted in numerous conflicts and crises.

In addition, it is worth mentioning that after the Second World War the Black Sea states were united around two conflicting military and political blocs. It is known that after the formation of the North Atlantic Treaty Organization (NATO) in 1949 Greece and Turkey joined it in 1952. While the Soviet Union, Albania, Bulgaria, Hungary, East Germany, Poland, Romania and Czechoslovakia created the Warsaw Pact in 1955 [14, p.16-20]. Consequently, that kind of world order did not contribute to the regional cooperation in the Black Sea basin.

However, after the "Cold War" the Black Sea states had the task to use such favorable conditions as geographical proximity, shared history, cultural ties and interdependence of national economies in the most advantageous manner for mutual benefits in the period of economic globalization.Thus, there appeared appropriate conditions for a large-scale regional cooperation.

In this context the initiative of Turkish Prime Minister T. Ozalto create a "Black Sea zone of prosperity and cooperation" with the Soviet Union, Turkey, Romania and Bulgaria in 1990 was a real achievement. Turkey's main motivation was to create an atmosphere of cooperation that would be based on economic relations in order to prevent future conflicts in the Black Sea region [2, p. 31-32]. It is worth mentioning that after the failure of the EU membership in 1989, and after the fall of communism and the collapse of the USSR, the creation of such entity made it possible for Turkey to establish its regional leadership and, thus, to gain more important international role [10]. However, neither the USSR, nor Greece was willing to let Turkey receive regional hegemony [6, p. 380-400].

In 1992 the Heads of State and Government of eleven countries (Albania, Azerbaijan, Bulgaria, Georgia, Greece, Republic of Moldova, Romania, Russia, Turkey and Ukraine) gathered at a summit in Istanbul.This historical event culminated in a solemn signing of the first document on June 25 the Istanbul Declaration "On the Black Sea Economic Cooperation" (BSEC) [11].This document has secured the commitment of creating favorable conditions for cooperation in fields like: trade, energy, industry, transport, communication, agriculture, science, tourism and environment.Also, one of the tasks before the founder nations was to facilitate the exchange of information, business contacts, and projects. Therefore, signing of the Declaration turned the BSEC into a symbol of a new model of regional cooperation.

In June 1998 at the Yalta summit the BSEC Charter was signed, and in May 1999 it entered into force turning the BSEC into an official regional organization [4]. In most cases, when creating post-communist regional organizations, the main documents are based on the Helsinki Final Act and the principles of the CSCE/OSCE. So, the BSEC was established in accordance with these documents, and its main goals and objectives meet the UN Charter and correspond to generally accepted principles of international law.As indicated in the BSEC Charter, the basic idea of creating this organization is to unite all Black Sea states creating a new paradigm of economic cooperation to prevent future conflict in this volatile region [4]. Moreover, the official document states that "Member States and their peoples aspire to a constructive and fruitful cooperation in a wide range of economic activities" [4].

As we know, the BSEC Member States are not only the Black Sea littoral states but also those which have the direct interests in the Black Sea region. Because the latter is located on two continents

encompassing not only the territory of Black Sea coastal states, but also of the Balkans and the Caucasus [5, p. 126-136]. Therefore, the states which signed the Istanbul Declaration of BSEC in June 25 1992 together with Republic of Serbia which joined in 2004 became the member states [4]. Austria, Belarus, Egypt, Israel, Italy, Germany, Poland, Slovakia, Tunisia, France, Croatia, Czech Republic, the US and the EU, as well as such institutions as the Energy Charter Secretariat, Commission on the Protection of the Black Sea, the European Commission have obtained the observer status. In addition, a number of international non-governmental organizations and countries have gained the status of sectorial dialogue partners in the BSEC, namely Hungary and Montenegro [16]. Taking into considerationthis level of the international community's involvement in the cooperation with the BSEC we can assume that the relevance and importance of the organization is obvious.

It is also necessary to recognize the unprecedented nature of the BSEC's creation. It is the first time in the history of the Black Sea states when they decided to unite their efforts to face common challenges in a spirit of partnership and cooperation. As was nicely put by Neal Ascherson, a leading scholar on the Black Sea history, "it may be that the cause of the Black Sea itself, of its waters and its creatures, is at last beginning to achieve what so many millennia of human activity have failed to achieve: the union of the peoples who live around it" [1, p. 270].

Conclusions. Today, it can be assumed that the BSEC is the only full-fledged regional organization which provides regional cooperation activities at intergovernmental, inter-parliamentary, business, banking and academic levels among all states of the enlarged Black Sea region [8]. Moreover, the BSEC is open to cooperation with other countries, international organizations and financial institutions.The BSEC Member States share a common vision of their economic cooperation as part of the European integration process based on the principles of human rights and fundamental freedoms, prosperity through economic liberty, social justice and equal rights of security and stability [9, p. 5]. However, according to L. A. Ghica, despite the fact that the Istanbul Declaration reflects the need of member states in a joint approach to overcome socio-economic and environmental problems, in 1992 each of the parties set different goals [7, p. 174-204]. The former Soviet republics: Armenia, Azerbaijan, Georgia and Moldova took the BSEC as a good way to their integration into the global economy and as means of improving security and stability in the region. Russian Federation and Turkey expected that the organization will be an effective instrument ofa mutual containment in this area. Whereas for Romania and Bulgaria it was a real chance to get out of the buffer zone between the former Soviet space and more organized Central Europe from which they were still partially isolated [17].

One of the important aspects of the BSEC's institutional development is each member-state's relationship with the European Union. However, the Black Sea region is very heterogeneous in this context. For example, Greece has been an EU member since 1980, Bulgaria and Romania joined in 2007, while the rest of the countries are bound up with the EU through the set of trade and partnership agreements of different level and value. Being situated in the triangle between the Islamic world, Russia and Europe most of the Black Sea countries choose the European vector of their foreign policy, however, they still cannot completely get rid of the traditional "Eurasian" nature [15].

The 2007 round of the EU's enlargement turned the latter into an actor of the Black Sea region and raised the issue of further development of regional states' relations with the European Union. As reported by Russian media, in the result of the Black Sea Solitaire Moscow has got a powerful competitor unknown since the days of the Ottoman Empire [15].

In general, the current European policy towards the Black Sea region is developing in the framework of numerous programs and initiatives aimed at improve the regional political stability and economic prosperity by means of reforms and strengthening of regional security and solving conflicts through regional cooperation. In order to implement the joint projects and deepen the unity of the Black Sea region the EU cooperates with the existing regional organizations (the BSEC, GUAM, Community of democratic choice etc.) as well as through the regional initiatives and sectoral programs. The most important are:

- «INOGATE» (Interstate Oil and Gas Transport to Europe);
- «TRACECA» (Transport Corridor Europe-Caucasus-Asia);
- «Black Sea PETrA »(Pan-European Transport Area);
- «DANBLAS» (Danube-Black Sea Environmental Task Force Group) [12].

Moreover, the EU is involved in the implementation of priority programs within the Black Sea region due to the financial support of the EBRD, the European Investment Bank and private funds.

In addition, after Romania's and Bulgaria's EU accessions the cross-border cooperation gains a special importance and development, particularly within the newly formed "the Black Sea Euroregion". It is aimed to promote and strengthen democracy and security in the region, expanding cooperation within the BSEC and GUAM, and to deepen bilateral and multilateral cooperation in the region dealing with common energy policy, energy transit policy, and «frozen» conflicts' settlement etc. [13; p.: 45-48]. Incidentally, the issue of energy supply to Europe is another important aspect of cooperation that brings the Black Sea region and the EU closer to each other.

To crown all above mentioned, we can state that the BSEC founded in 1992 evolves as an effective instrument of stimulation of dialogue and mutual trust between Member States through its wide range of activities and structures. Also, the BSEC is a foundation for the future development of larger projects. Although the areas of the BSEC mainly concern the economic field and are discussed during the regular meetings of the Foreign Ministers of the Member States twice a year, still they have political significance. Such meetings often provide convenient opportunities for various participants to solve issues discussing them at the conferences and forums organized within the framework of the BSEC. Also, this form of cooperation has a positive effect on the political climate and stability in the Black Sea region.

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THE HARNESSING OF THE RENEWABLE ENERGY SOURCES POTENTIAL OF THE REPUBLIC OF MOLDOVA

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Ensuring energy needs has turned into a major topic of all socio-economic systems worldwide. Against this background, renewable energy sources become a powerful part of the national, regional and global security. Given the current global trends and the major dependence on imports of energy resources in Moldova, a new strategy must be adopted by upgrading existing energy infrastructure, internal energy market analysis, diversification of the existing renewable energy sources and permanent coordination of the decisions taken within national energy policies. In this article, the author examined the potential of the renewable energy sources available in the Republic of Moldova, presenting calculations on the effectiveness of these resources use.

Key words: *security, energy, renewable energy sources, economics, strategy, globalization, biomass.*

Asigurarea necesarului de energie s-a transformat într-un subiect major al tuturor sistemelor economico-sociale mondiale. Pe acest fundal, sursele de energie regenerabilă se afirmă puternic ca o latură aparte a securităţii naţionale, regionale şi globale. Având în vedere tendinţele actuale globale şi dependenţa majoră a Republicii Moldova faţă de importurile de resurse energetice, se impune adoptarea unei noi strategii prin modernizarea infrastructurii energetice actuale, analiza pieţei interne de energie, diversificarea surselor de energie regenerabilă existente şi coordonarea permanentă a deciziilor luate în cadrul politicilor energetice la nivel naţional. În prezentul articol, autorul a examinat potenţialul surselor de energie regenerabilă disponibile în RM, prezentând calcule referitoare la eficacitatea utilizării acestor resurse.

Cuvinte cheie: *securitate, energie, surse de energie regenerabilă, economie, strategie, globalizare, biomasă.*

Обеспечение потребности в энергии превратилась в одну из самых обсуждаемых тем социально-экономических систем во всем мире. На этом фоне, возобновляемые источники энергии выделяется в качестве отдельной категории национальной, региональной и глобальной безопасности. Учитывая текущие мировые тенденции, а также большую зависимость Молдовы в импорте энергоносителей, рекомендуется изменить национальную энергетическую стратегию путем модернизации существующей энергетической инфраструктуры, анализа внутреннего энергетического рынка, диверсификации существующих источников энергии и постоянной координации принимаемых решений национальной энергетической политики. В этой статье, автор рассмотрел потенциал возобновляемых источников энергии доступных в стране, представляя расчеты по эффективному использованию этих ресурсов.

Ключевые слова: *безопасность, энергетика, возобновляемые источники энергии, экономика, стратегия, глобализация, биомасса.*

JEL Classification: F52; F59; F62; O11; Q2; Q42.

Introduction. In recent decades, gradually diminishing of the natural resources, the worsening climate conditions and the demographic explosion justify seeking solutions to reduce dependence on the imports of primary energy resources, to improve the security of supply and to combat the climate change. Using an increasingly higher degree of the renewable energy sources and applying environmentally friendly technologies represent significant contributions to sustainable development. In addition, it may contribute to ensuring the welfare and for a better quality of life for the future generations.

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Harnessing the potential of the renewable energy sources gives real premises for achieving strategic objectives on increasing security of energy supply through diversification and decreasing the share of energy resources imports, respectively, for an environmental protection and sustainable development of the energy sector.

Renewable energy sources and energy efficiency are a relatively new area for Moldova, but with a huge potential for development. In order to promote energy efficiency projects and actions, a very important role is palyed by the existence of the legal framework, so the basic law in this area was adopted only in 2010. If the country is a net importer of energy resources, the renewable sources and energy efficiency is the sustainable solution for strengthening energy security and for reducing the economic effects caused by more expensive imported resources.

Table 1 shows the available technical potential of the main types of renewable energy resources in Moldova, which is estimated at 2709 thousand toe. This potential could fully satisfy the energy demand of the national economy and exclude imports overall energy bill.

The energy potential of biomass. The Moldovan government has committed to reform the energy sector by increasing energy security, diversification of energy sources and attracting investments in this sector. The authorities are opting for an increase of up to 20%, by 2020, the share of energy produced from renewable sources in the total structure of energy consumption in Moldova, objective contained in the country's energy strategy. The most abundant alternative energy source in Moldova is biomass. According to the definition contained in the European Directive 2003/30/EC: *Biomass means the biodegradable fraction of products, waste and residues from biological origin from agriculture, forestry, related industries and municipal waste [8, p. 7]*.

Table 1

Available technical potential of the main types of renewable energy resources

Type		Technical potential	
		PJ	**thou. t.o.e.**
Solar		50,4	1 204
Wind		29,4	702
Hydro		12,1	289
Biomass	Agricultural waste	7,5	179
	Firewood	4,3	103
	Waste from processing wood	4,7	112
	Biogas	2,9	69
	Biofuel	2,1	50
	Total biomass	21,5	514
Total potential renewable energy sources		**113,4**	**2 709**
The annual energy consumption of Moldova		**102,5**	**2 442**

Source: Adapted by author based on Moldovan Energy Strategy 2020 [11] and the Energy Balance of the Republic of Moldova [1].

As Moldova is an agrarian country, then obviously exploiting the potential of existing biomass is one of the great challenges of our country. The biomass can be used for producing of heating, cooling, electricity and biofuel used in transport. Plants do not require a particular space, they can be located outdoors not far from the building which is to be supplied with heat.

The use of biomass significantly reduces greenhouse gas emissions. The carbon dioxide which it releases during the combustion of biomass is offset by the amount absorbed until the plant cultivation.

The use of biomass is the most economically efficient way to diversify the consumed energy resources. Therefore, are welcomed the actions taken by the Government of Moldova in recent years on the launch of public – private partnerships, meant to harness the potential of biomass. In Table 2 were performed calculations on the cost of production of a Gcal of heat energy, using different energy sources. Compared to the tariff set by "Termocom" JSC (987 lei / Gcal), more economically efficient production costs of a Gcal is the using of the wood as energy resource (399 lei / Gcal), briquettes (417 lei / Gcal), coal (427 lei / Gcal) and natural gas (840 lei / Gcal). The use of gasoline, diesel and liquefied petroleum

gas is expensive and can be recommended only in cases where there is no access to other energy resources. "Termocom" JSC distributes heat produced by the CHP using natural gas. Based on calculations (Table 2) it is recorded a difference of about 147 lei / Gcal between the cost of producing a Gcal obtained from natural gas and the supply price of "Termocom" JSC. The difference can be explained by high transportation costs, high losses in the network caused by aging infrastructure and poor performance of the energy efficiency of buildings.

Table 2

Costs of the production of a Gcal of heat energy, using various energy sources (in current prices for 01.09.2014)

Energy Sources	Current tariff	Calorific value	The cost of production of a Gcal of heat energy
Wood (spruce)	700 lei/m^3	3 900 kcal/kg	399
Briquettes and pellets	**2000 lei/ ton**	**4 800 kcal/kg**	**417**
Coal	3200 lei/ ton	7 500 kcal/kg	427
Natural Gas	6718 lei/ 1000 m^3	8 000 kcal/m^3	840
Liquefied petroleum gas	9,97 lei/liter	6 070 kcal/liter	1 643
Diesel	17,37 lei/liter	8 774 kcal/liter	1 980
Gasoline	18,37 lei/liter	8 437 kcal/liter	2 177
Heat supplied by "Termocom" JSC	**987 lei/Gcal**	**–**	**987**

Source: Adapted by the author [13].

At the same time calculations demonstrate the effectiveness of the use of biomass heating installations, particularly in the rural areas, in the buildings with a large area (eg.: schools, kindergartens, administrative buildings, etc.).

Solar energy. Solar power systems don't produce noise or emissions and use free fuel – the sunlight. Because they don't contain moving parts, the maintenance of these systems does not require large expenditures. Photovoltaic systems use cells that are manufactured form semiconductor material to convert sunlight into electricity. When the light hits the cell, it produces a magnetic field, which creates a flow of electrons or electricity.

Solar energy resources in Moldova are higher in the south of the country and decrease constant towards the north. In Moldova the possible (theoretical) duration of the sunshine is 4445-4452 hours per year. The real duration of the sunshine represents 47-52% or 2 100-2 300 h of the possible [3, p. 508].

A system with installed capacity of 1 kW (continuous current peak capacity) with unclouded and fixed mount, that requires about 6.5 m^2 of modules, will produce between 1 050 and 1 200 kWh per year [12]. With the wear of modules, the production decreases at an annual average of 0.7% [5, p. 5]. In 2013 the installation costs of photovoltaic systems ranged between 2000 and 3000 Euro per kW, excluding the land price and network connection costs. After 2010, the price of solar electricity fell rapidly. Annual maintenance costs are about 0.01 Euro per kWh. The necessary land for photovoltaic plants is approximately 2.5 ha for 1 MW of installed capacity [9, p. 101].

By performing calculations on the opportunity of developing the solar energy industry in Moldova we can conclude that:

- The high cost of photovoltaic technology determines the production cost of 1 kwh to be the greatest of all generation sources (Table 2).
- At current tariffs established by NAER (1.92 lei / kWh), an investment in solar energy could be recovered for 23 years. Given the realities and economic conditions in Moldova, both local businesses and foreign investors are still not likely to make such long-term investments. Therefore all attempts to develop this sector are very limited from installed capacity and geographical perspective.
- Global trends of cheapening the technologies used in the production of photovoltaic modules

create prerequisites for the development of this industry in the national economy. Thus solar energy has great potential for development in Moldova in the near future.

Wind energy. A wind turbine is the opposite of a fan. Instead of using electricity to make wind, how does the fan, wind turbines use wind to make electricity. The blades of the wind turbine are rotating under the force of the wind by turning a gear box connected to an electric generator, thereby producing electricity. Wind energy is a function of the square of its speed. Thus, if the wind speed increases twice, then generated electricity grow quadruple.

The turbines are best placed in high places, in the open ground, with good access for vehicles and near transmission lines that have available capacity. The hub of the wind turbine should be located at 30 meters above the all objects within a radius of 300 meters.

Wind power plants have a relatively small impact on the environment; some people are concerned about the noise from the rotor blades, aesthetic impact (visual) and the impact on birds and bats which hit the blades. Most of these problems can be solved or considerably reduced through the proper placement of wind farms. The cost of wind turbines ranges between 300 Euro and 500 Euro per 1 kW of installed capacity. The maintenance costs are between 0.01 and 0.03 Euro per 1 kWh produced. Wind complexes need about 15 hectares per 1 MW of installed power [9, p. 97].

Moldova has a favorable wind potential for the efficient functioning of wind turbines. National statistics data describe that in the nineteenth century windmills were widely spread in Bessarabia [6, p. 12]. Respectively, Moldova has a technical wind potential of 1 GW, which could produce 2.2 TWh per year (assuming an average annual capacity factor of 0.25). The average annual wind speed in Moldova is from 3 to 4 meters per second, a wind resource quoted from moderate to weak.

As in the case of solar energy, the wind energy represents a new underdeveloped area, but with great exploration potential in the future. From the economic point of view, the use of wind turbines is more attractive than PV panels. Thus performing calculations on the opportunity of developing the wind energy sector of renewable energy in Moldova we can conclude:

- The cost of producing of 1 kWh through wind turbines is competitive with the electricity distribution companies tariffs (Table 2).
- At current tariffs established by NAER (1.24 lei / kWh), an investment in the wind energy could be recovered just for 5 years. Thus, economic premises and weather conditions in Moldova predisposing toward exploiting the wind potential (702,000 toe) [11], namely the development and strengthening this sector of the renewable energy.

Hydroelectric energy. The basic principle of hydraulic energy is that the water pressure can rotate an electric generator. The use of water energy is one of the most efficient in terms of cost and safety of applied technology, at the same time generating "clean" electricity.

Small hydropower plants, less than 100 kW, are often used because their costs are reduced, require small storage ponds and dams, are easily connected to the network, do not require great effort for maintenance, are relatively simple to install and are suitable for local implementation and management. Other benefits of small hydro power plants include:

- The conversion efficiency is between 70% and 90%, being the best of all energy production technologies.
- A high degree of predictability, which varies according to the annual rainfall regime, so the variability of the output power, is low.
- Robust technology with an operating period of 50 years.

The main disadvantage related to the construction of dams is causing the damage for rivers and lakes, as the water flow affects and destabilizes their ecosystems. The quantity (kW) of hydro energy (P) produced is determined by the volume of water flow (Q) in cubic meters per second, water fall (H) in meters (i.e., the distance between the surface and the turbine) and the power efficiency (e), taking into account the frictional losses in the dam and efficiency of the turbine and the generator (e.g., 85% efficiency = 0.85).

$$P = Q \times H \times e \times 9.81 \text{ kW} \quad (1)$$

The small hydropower plants have an installation cost from 200 000 to 5 million Euro per MW (on average of 1.3 mln. Euro per MW). The operating and maintenance costs are approximately 25 000 Euro per MW per year, which corresponds to the experience of some projects in the Balkan countries [9, p. 98].

The Republic of Moldova has a historical experience of use rivers energy, thus according to statistics, in 1901 in Bessarabia were recorded about 1,000 small capacity water mills [4, p. 8]. Although

Moldova has a large number of rivers, the potential for energy production is relatively small. Currently, there are only two major hydropower plants. One of the most feasible and profitable projects in Moldova would be the obtaining energy by using Nistru and Prut water through installation of small hydropower plants. For example, the waters of the Nistru river are quite stable (7 km/h), which avoids the instability of tension, respectively to achieving high quality energy, which demonstrates the profitability of such local projects. Also, due to the small thickness of the ice of Nistru and Prut rivers in the winter, as well as the short period of its presence, demonstrates that the functionality of these plants is possible all year around [2, p. 36]. Thus, a calculation of the return on investment in hydropower equipment (Table 3) demonstrates that such investments could be recovered just in 3-4 years. In the following calculations were ignored the costs of land location, construction and installation the equipment to produce electricity. In this way, the creation of public-private partnerships in the field of renewable energy production would strengthen this sector perspective, by minimizing the costs for equipment placement and ensuring the long-term investment recovery.

Finally, performing an analysis of the potential use of renewable energy in electricity production from economic point of view, were made the following findings:

- The high cost of photovoltaic technology determines the lowest competitiveness of the solar energy in the "green" energy market;
- The cheapest electric power is produced from hydraulic energy. However, the construction of accumulation lakes, beside great economic efforts involves some environmental risks.
- The best in terms of price and mobility can be considered the exploration of the wind energy.

Table 3

Production cost of a kWh of electricity, using various energy sources (connected in terms of return on investment into production equipment), lei / kwh

Energy sources	Tariffs established by NAER	5 years	10 years	15 years	20 years	25 years	30 years
Solar energy	**1,92**	8,20	4,19	2,86	2,19	1,79	1,52
Wind energy	**1,24**	1,23	0,89	0,78	0,72	0,69	0,67
Hydropower	**0,17**	0,75	0,41	0,29	0,24	0,20	0,18
RED Nord-Vest	**1,73**	-	-	-	-	-	-
RED-Nord	**1,71**	-	-	-	-	-	-
RED Union Fenosa	**1,58**	-	-	-	-	-	-
Imports from Ukraine	**1,00***	-	-	-	-	-	-

****- Imports of electricity are carried out at the price of 0.069 USD / kWh. The MDL conversion was made at the official exchange rate of the Moldavian National Bank of 14.53 lei / USD on 24.09.2014***
Source: Prepared by author [9].

For large-scale popularization and implementation of renewable energy technologies is needed to create a regulatory framework and favorable economic and financial conditions. In particular it requires the harmonization of national legislation with the European regarding the use of renewable energy. Many EU countries establish guaranteed prices (feed-in tariffs, FIT), through which companies operating electricity networks are compelled to purchase the entire quantity of electricity produced from renewable sources at a higher price than conventionally produced electricity. The Feed-in Tariffs differ depending on renewable energy technology, capacity and location. Currently, existing special tariffs for electricity produced from renewable energy sources in Moldova are established by NAER Decisions, based on the weighted average cost of capital (WACC) for each economic agent in part [10]. Thus, both existing tariffs and the way of their establishing do not stimulate "green" energy development in the country. The uncertainty of the medium and long-term investments recovery cannot be regarded as an incentive for the development of this industry. In addition, in the European practice there are extensive policies of subsidizing or at least facilities (incentives) for the import tax of the "green" energy production equipment [7, p. 21-23].

Conclusions. The developing of using the renewable energy resources is a priority for government policies and strategies of the Republic of Moldova. The enormous dependence on imported energy resources and the general trend of increasing energy prices create a favorable environment for the development of alternative energy sources. The "green" energy development would increase the resilience of the energy security of country to exogenous factors influence, would create new jobs, added value to the national economy and develop technology transfer.

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COMPARABLE ANALYSIS REGARDING KEY MACROECONOMIC INDICATORS ON MOLDOVA'S WAY TOWARDS EUROPEAN INTEGRATION

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As Moldova has the purpose to enter the European Union the actual situation in the country is analyzed in this article. The article gives the comparative analysis of the basic parameters of Moldova with the other European Union country-members to define the ways of development of the country in the given direction.

Since 1994 relations between Moldova and the European Union have developed on an upward trajectory. The dialogue between the two sides officially started that year with the signing of the Partnership and Cooperation Agreement (PCA), which entered into force in 1998 and provided the basis for cooperation with the EU in political, commercial, economic, legal, cultural fields. EU-Moldova relations have advanced to a higher level in 2009 when the country participated in the Eastern Partnership – an instrument of European policy that favored the signing on 29 May 2013 of the Association Agreement, the document which came to replace previous PCA and that is currently the most important element of the legal framework of Moldova-EU dialogue.

But beyond the respective treaties signed, individually, between EU and states that intend to join the European community, there are a number of fundamental requirements[3] (criteria), which condition the process of European integration of the state with declared intentions of accession. The aim of the research is to analyze to what extent Moldovan economy meet the requirements of economic alignment with EU standards, achieving a comparative analysis of the main relevant macroeconomic indicators. Research methodology. For analysis were used analysis-synthesis method, comparison method and others. Results of the analysis. Part of the criteria analyzed converge with EU requirements, while the most relevant indicators regarding standards of living show reserves show reserves for future improvement, such as the average wage, the lending rate, the exchange rate of the Moldovan Leu against the major international currencies. There are a number of other indicators such as transparency in the banking system administration, territorial conflicts (Transnistria), etc. which are points of incompatibility with the policy of the European Union.

Key words*: integration, criteria, convergence, Maastricht, prices, rate, debt, deficit, GDP, wages, unemployment.*

În prezentul studiu este analizată situaţia actuală a Republicii Moldova în contextul declarării oficiale a obiectivului strategic naţional de integrare europeană pe termen lung. Articolul cuprinde o analiză comparativă a indicatorilor social economici de bază ai Republicii Moldova cu diferite state membre UE, dar şi cu principalele forţe economice internaţionale ale momentului.

Începând cu anul 1994 relaţiile între Republica Moldova şi Uniunea Europeană s-au dezvoltat pe o traiectorie ascendentă. Dialogul între cele două părţi a debutat oficial cu semnarea în acel an a Acordului de Parteneriat şi Cooperare (APC), care a intrat în vigoare în 1998 şi asigura baza colaborării cu UE în domeniul politic, comercial, economic, juridic, cultural. Relaţiile UE-RM au avansat la o treaptă superioară în 2009 când RM participă la Parteneriatul Estic – un instrument de politică europeană ce a favorizat semnarea la 29 mai 2013 a Acordului de Asociere, document cea venit să

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[3] The requirements mentioned above are set out in the Treaty on European Union, also called the Maastricht Agreement signed on 7 January 1992 by the European Council and are prerequisites to adopt the euro as the single currency of the EU member states.

înlocuiască precedentul APC, şi care constituie la momentul actual cel mai important element al cadrului juridic al dialogului RM-UE.

Dar, dincolo de prevederile tratatelor bilaterale pe care le semnează UE individual cu statele ce intenţionează să adere la comunitatea europeană, există o serie de cerinţe (criterii) economice fundamentale[1], de implementarea cărora ţine durata procesului de integrare europeană a statului cu intenţii declarate de aderare. Scopul cercetării este de a analiza în ce măsură economia Republicii Moldova corespunde cerinţelor de aliniere economică la standardele UE, realizându-se o analiză comparativă a principalilor indicatori macroeconomici relevanţi. Metodologia cercetării. Pentru analiză au fost utilizate metoda analiză-sinteză, metoda comparaţiei şi altele. Rezultatele analizei. O parte din criteriile supuse analizei converg cerinţelor UE, în timp ce indicatorii cei mai relevanţi la aspectul nivel de trai prezintă rezerve de îmbunătăţire pe viitor, cum ar fi cazul salariului mediu pe economie, rata dobânzii la credite, rata de schimb a leului faţă de principalele valute internaţionale. Există şi o serie de alţi indicatori precum transparenţa administrării în sistemul bancar, prezenta conflictelor teritoriale (Transnistria), etc. care sunt impedimente în calea parcursului european al Republicii Moldova.

***Cuvinte cheie**: integrare, criterii, convergenţă, Maastricht, preţuri, rată, datorie, deficit, PIB, salariu, şomaj.*

В данной работе проанализирована актуальная ситуация для Молдовы в контексте официально принятой национальной стратегии о интеграции в европейское сообщество. В статье представлен сравнительный анализ основных социально экономических показателей Республики Молдова с различными странами членов UE, а также с основными развитыми странами интернациональной экономики на данный период.

Начиная с 1994 года, отношения между Республикой Молдова и Европейским Союзом развились по траектории вперед. Диалог между этими двумя сторонами вылился в официально подписанное Соглашение о Партнерстве и Сотрудничестве (СПС), которое вступило в силу в 1998 году и явилось основой сотрудничества с UE в области политики, торговли, экономики, культуры. Отношения UE-RM достигли нового уровня в 2009 году, когда RM участвовала в Восточном Партнерстве – один из инструментов европейской политики, который привел к подписанию 29 мая 2013г. Соглашения о Ассоциации, который следует после СПС, и который является на данный момент самым важным юридическим элементом в диалоге RM – UE.

Однако, помимо предвиденных условий, которые подписывает UE индивидуально с странами, которые стремятся войти в европейское сообщество, существует серия требований (критериев) экономически обоснованных, исполнение которых сдерживают процесс интегрирования в европейский союз стран стремящихся к ассоциации. Цель исследований состоит в анализе в какой степени экономика Республики Молдова отвечает требованиям к приведению экономики к стандартам UE, реализуя сравнительный анализ основных макроэкономических показателей. Методология исследований. Для анализа были использованы методы анализа-синтеза, метод сравнения и др. Результаты исследований. Часть критериев проанализированных отвечают требованиям UE, в то время как показатели, которые очень важны и характеризуют жизненный уровень, представляют резерв для улучшения в будущем, например средняя зарплата в экономике, процентная ставка на кредит, обменный курс лея по отношению к основным интернациональным валютам. Существует серия показателей, например, прозрачность администрирования банковской системы, присутствие территориальной конфликтности (Приднестровье), е.т.д., которые являются препятствием на пути движения в европейский союз Республики Молдова.

[1] Cerinţele sus menţionate sunt prevăzute în Tratatul privind Uniunea Europeană, numit şi Acordul de la Maastricht semnat la 7 ianuarie 1992 de către Consiliul European şi sunt condiţii obligatorii la adoptarea euro ca monedă unică de către statele membre UE.

***Ключевые слова**: интегрирование, критерии, конвергенция, Маастричт, цены, ставка, долг, дефицит, ВВП, зарплата, безработица.*

JEL Classification: E31; F15; J21; J31; E43; H63.

Introduction. The indicators examined below serve as "measurements" of the preparedness and harmonization of the Moldovan economic environment with the European one. Only the results of the indicators shall be able to justify the confidence Moldova has to become an EU member – which is an officially stated strategic objective of the RM's political agenda. All current indicators and those further developed will seek to reveal Moldova's position in the region, including the area of European integration.

Main economic requirements for EU membership, in addition to stable economic growth and standard of living near the European average are the four so-called "Maastricht convergence criteria":

1. Price stability
2. Sustainability of government financial position
3. Exchange rate stability
4. Long-term interest rates

Stable economic growth. The analysis of RM economic development shows that the growth rates of GDP during 2007-2014 are stable, exclusive of only two years in the period. They are as follows: y.2006 –4.8%, y.2007 – 3.1%, y.2008 – 7.8%, y.2009 – (-6%), y.2010 – 7.1%, y.2011 – 6.8%, y.2012 – (-0.5%), y.2013 – 9.4% and y.2014 – 4.6% (see Fig.1). In the years 2009 and 2012 decreasing of GDP was conditioned by the global crisis and unfavorable weather conditions.

Across EU countries in this period there was a moderation in the growth rate of GDP from 3.4% in 2006 to (-4.4%) in 2009 to 1.3% (2014). In 2010 GDP growth was about 2.1% over the previous year, 2011 (+1.7%), 2012 (-0.7%), in 2013 – economic stagnation, 2014 (+1.3%). Obviously, the EU economy has been influenced by the global crisis of these years.

Fig. 1 shows the annual growth of GDP of Moldova (yoy), which is higher than the same indicator for the EU-28. However, it is noted that unlike the EU-28, the dynamic fluctuations for Moldova are larger, which confirms the volatility of the national economy.

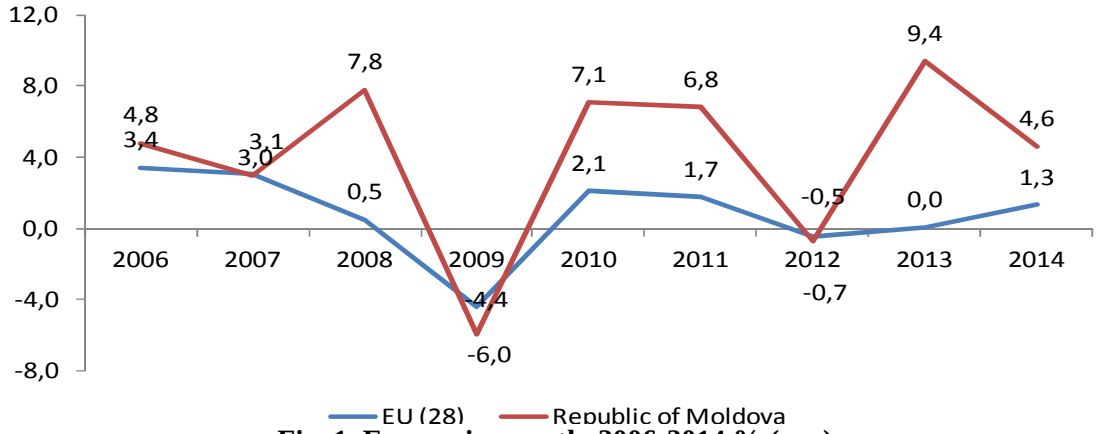


Fig. 1. Economic growth, 2006-2014,% (yoy)

Source: Eurostat, National Bureau of Statistics of the Republic of Moldova.

Analysis of the main economic blocs indicates the highest economic growth rates over time for emerging economies, which in 2014 recorded an increase of 4.6%. While the dynamics of growth for this bloc have been mostly downward in the last 7 years, economic growth for advanced countries had a slightly upward trend, marking a rate of 1.8% in 2014. The CIS block demonstrates over time increased volatility compared to other listed economic groups, marking a 1% growth in 2014. However, over the analyzed period Eurozone shows growth rates below the same indicators developed for the European Union. According to the IMF assessment, the economic development in 2014 of the main international economic forces is as follows: US (+2.4%), China (+7.4%), Russia (+0.6%), Germany (+1.6%), France (+0.4), Japan (-0.1%).

Price stability. The Protocol of the Treaty[1] stipulates that a member state shall have an average rate of inflation, observed over a period of one year before the examination, which does not exceed by more than 1.5 percentage points the reference value. The reference value is calculated as the unweighted average of the average rates of inflation of, at most, the three best-performing Member States in terms of price stability plus 1.5 percentage points. In such way, the reference value is floating and allows to take into account the effects of a common shock that affects inflation rates across all Member States.

Currently, the reference value is 1.7% and is based on the corresponding rates of Latvia, Portugal and Ireland. Thus, in order to meet this criteria, the countries' average annual rate of inflation should be below 3.2%.

To analyze this convergence criterion, the Protocol provides the calculation of average annual inflation rate according to a special methodology [1, p.32], which provides the Harmonized Index of Consumer Prices. The providers of official statistics in Republic of Moldova (National Bureau of statistics) use the methodology of Consumer Price Index which is an non-harmonized indicator with European standards. Still, for an estimative imagine of the situation and without claim for consistency between the two indicators, the authors consider it appropriate to compare inflation values available in the national statistical system.

Using NBS data, it gives an average rate of inflation during May 2014-May 2015 amounting to 2.8%. A value that, although without absolute compliance with HICP, falls within the range provided.

Sustainability of government financial position. Article 126 (1) of the Treaty refers to the criterion of the government budgetary position and the avoidance of excessive budget deficit. The convergence criterion of budgetary discipline implies the following two criteria:

- the ratio of the government deficit to gross domestic product must not exceed a reference value, specified in the Protocol on the EDP as 3 percent of GDP

In the last three years analyzed Moldova met the budget deficit criterion, with its 2014 level of -1.8% of GDP (Fig.2). EU-28 exceeded this limit, enciphering -4,2% and -3.2% in 2014 and 2013, rebounding in 2014 to a level of -2.9%.

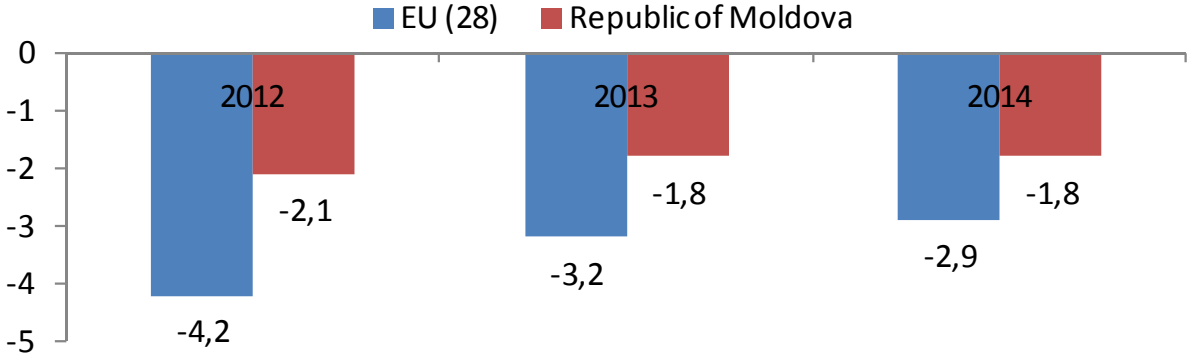


Fig. 2. Dynamics of average budget deficit to GDP, 2013-2014, %

Source: Eurostat, Ministry of Finance of Republic of Moldova.

- the ratio of government debt to gross domestic product must not exceed a reference value, specified in the Protocol on the EDP as 60 percent of GDP

Figure 3 notes that Moldovan government debt to GDP in the years 2013 and 2014 constituted 23.4% and 24.6%, which is far below the level of the Treaty. For comparison, in the EU-28 situation is critical, since the indicator exceeds the limit by 26.8 pp. This is due to high rates of countries such as Greece (177.1%), Italy (132.1%), Portugal (130.2%), Ireland (109.7%), Cyprus (107.5%), Belgium (106.5%) and a number of other states, which form more than half of European countries.

[1] Convergence Report 2014, European Economy 4/2014, European Commission, pg. 45 (http://ec.europa.eu/economy_finance/publications/european_economy/2014/pdf/ee4_en.pdf)

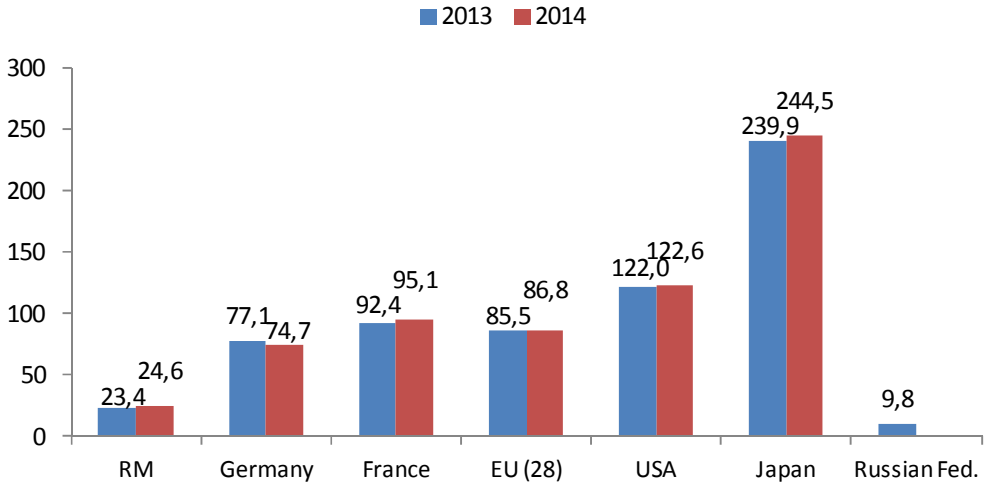


Fig. 3. Share of government debt in GDP, 2013-2014, %

Source: Eurostat, Ministry of Finance of Republic of Moldova.

Strong economies like the US (104.8%) and Japan (246.4%) have also high levels of debt to GDP. It is worth noting the very low rate of public debt to GDP to Russia, where most of the loans belong to private environment.

Exchange rate stability. The exchange rates of the national currency should remain lower the margins of the European Monetary System authorized fluctuations (+/- 15%), without devaluation, at least for a period of two years. Although Moldova is not a member of SME, below will be made an analysis of the average exchange rates for the main foreign currencies to illustrate the stability of the national currency. As the reference rate will be considered average exchange rates of Moldovan Leu against the euro and US dollar for 2013.

Exchange rate deviation was calculated for the largest deviation of the exchange rate recorded daily, according to National Bank of Moldova1, in the period May 2013 - May 2015. Figure 4 shows a moderate increase of the considered rate, with a steady pace throughout the period May 2013 May 2015, followed by strong increases for both currency exchange rate in the first months of 2015.

Figure 4. Exchange rates MDL / EUR and MDL / USD in May 2013-May 2015, the daily data (MDL)

Thus, in February were registered maximum values for the indicators, for which the deviation exceeded the permissible range – 2 times for European currency (30,9%) and 4 times (60,3%) for the US dollar.

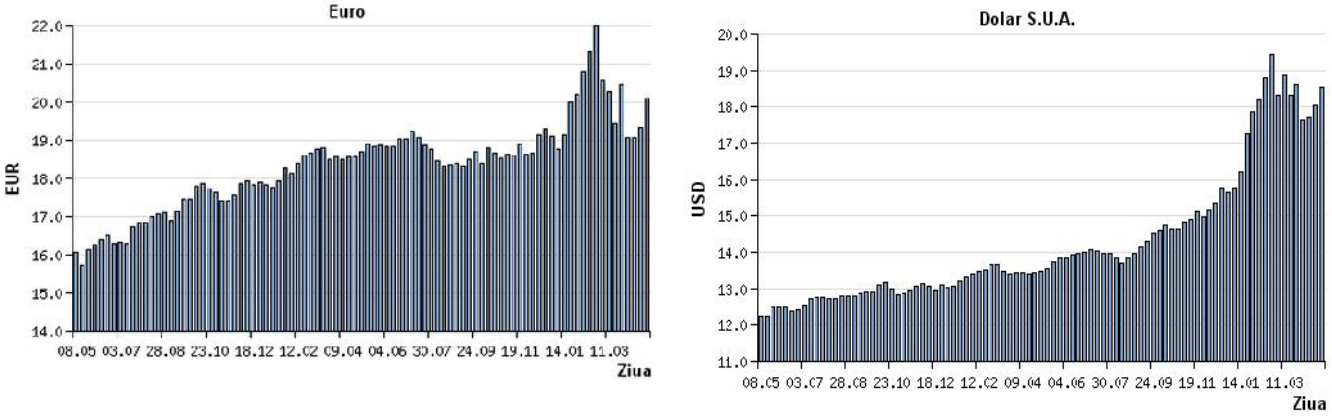


Fig. 4. Exchange rates MDL / EUR and MDL / USD in May 2013-May 2015

[1] The authors used the methodology presented in the report "Romania and the Eurozone", Mugur Isărescu, the International Conference ESPERA 2013.

Table 2

Dinamics of national currency exchange rates against the USD and EUR, 2013-2015,%

Official rate	Average official exchange rate in 2013 (reference vaue)	Average exchange rate in 2014	Average exchange rate in 2015*	Maximum registered, MDL	Deviation from reference value	Date when max. registered
MDL/EUR	18,34	19,76	20,09	24,0154	30,9%	18.02.2015
MDL/USD	12,59	18,06	17,99	20,1809	60,3%	20.02.2015

**first 5 months of 2015*

Source: National Bankof Moldova.

Thus, it is estimated that this indicator does not meet the requirements imposed by the EU.

Long – term interest rate. Article 140 of the Treaty stipulates that the sustainability of convergence must be reflected in the value of long-term interest rates. Protocol stipulates that the average nominal long-term interest rate, recorded over the last year, must not exceed by more than 2 p.p. the same indicator of the three best performing countries in terms of price stability. The reference value for 2014 was calculated as a simple average of the average long-term rates in Latvia (3.3%), Portugal (5.8%) and Ireland (3.5%), plus 2 p.p., thereby achieving reference value of 6.2%.

As stipulates in the Protocol1, interest rates will be calculated based on state securities or other securities, specific to the national banking system. According to the authors, more appropriate for the purpose of the analysis are the interest rates on government securities with terms of three years. Fig. 5 shows the ascending trend of the indicator, which averaged 9.3% during the period May 2014-May 2015. So, the long-term interest rate in moldovan economy exceeds the reference value of the Treaty.

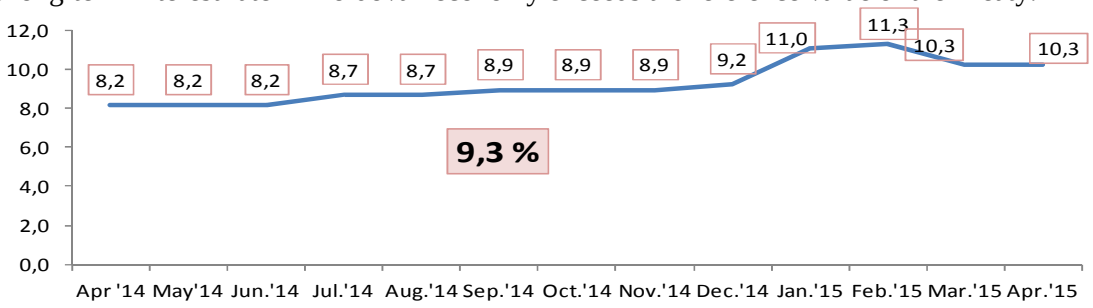


Fig. 5. The evolution of interest rates on government securities, with a term of 3 years (%)

Source: Authors' calculations based on data of the National Bank of Moldova.

For a more authentic reflection of the situation Table 2 presents the monthly average rates on loans over 5 years granted by commercial banks during the period May 2013 to May 2015. It can be seen that the monthly average interest rate was 9.68 % during apr.2013-apr.2014 and 9.84% in apr.2014-apr.2015.

Table 2

Average monthly interest rates for loans granted by commercial banks

Period	Average monthly interest rate,%
May 2013-Apr.2014	9,68
May 2014-Apr. 2015	9,84

Source: Authors' calculations based on NBM data.

Interest rates applied by commercial banks in the period under review proved to be higher than the margins allowed, proving once again the divergence toward the criterion.

Living standards of Moldova were assessed through two relevant indicators:

Unemployment rate. Unemployment in Moldova over the years has remained much lower than the EU average. For example, in 2014 the unemployment rate of the national economy amounts to 3.9% (Figure 6), which is about 3 times less than the European community (10.2%).

[1] Convergence Report 2014, European Economy 4/2014, European Commission, pg. 51 (http://ec.europa.eu/economy_finance/publications/european_economy/2014/pdf/ee4_en.pdf)

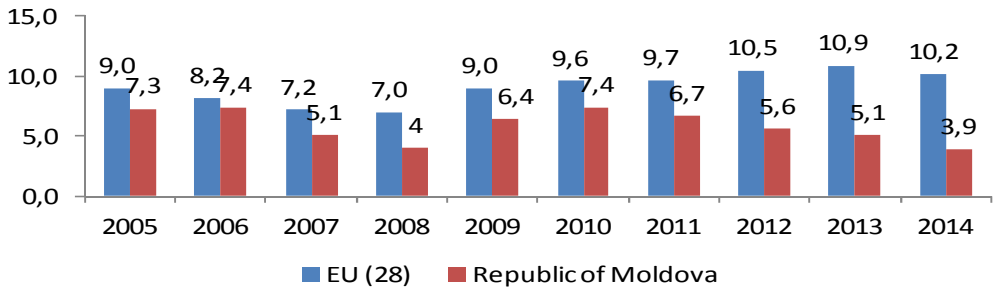


Fig. 6. The evolution of unemployment, 2005-2014, %

Source: Eurostat, National Bureau of Statistics of the Republic of Moldova.

The highest unemployment rates in 2014 were registered in Greece (26.5%), Spain (24.5%), Croatia (17.3%), Cyprus (16.1%), Portugal (14.2%), while the minimum values of the indicator were recorded in Germany (5.0%), Austria (5.6%). For comparison the USA recorded 6.2% and Japan 3.6% in 2014.

The average salary. In 2014, the average annual salary per economy in Moldova amounted to $ 3,566, well below other European countries (Figure 7). The highest wages are registered in the US ($ 56,340), Switzerland ($ 54,236 / year), Norway ($ 50,282 / year).

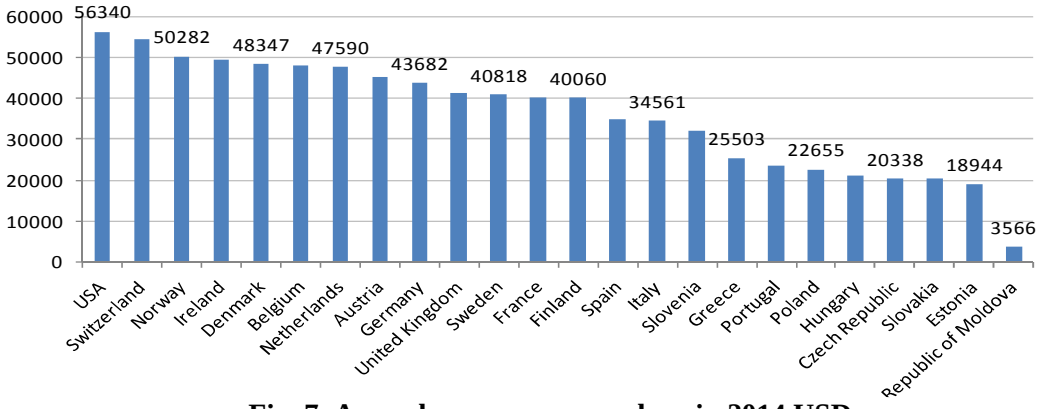


Fig. 7. Annual average gross salary in 2014 USD

Source: Organization for Economic Cooperation and Development

Conclusion. The review finds that Moldova has reserves regarding the banking system indicators: the interest rate and the exchange rate of the national currency. However, although the level of unemployment and GDP growth place Moldova advantageously compared to other states, the average wage shows the contrary and positions Moldova to the end of the states-list considered.

However, the criteria are only part of the general economic framework that Moldova must align to for acceding to EU -a goal impossible to realize without the implementation of the legal and social framework concurrently.

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GEOGRAPHICAL INDICATIONS AS OBJECT OF INTELLECTUAL PROPERTY RIGHT

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Geographical indications are one of the least valued objects of intellectual property. In recent decades, however, particularly after the conclusion in 1994 of the Agreement on issues of intellectual property related to trade (hereinafter TRIPS Agreement), we register an increase of interest in several States for the system of protection of geographical indications. This interest is due in large part to economic effects, the geographical indications have in trade with agricultural and manufactured products. Concomitantly, geographical indications also perform numerous social functions. Given the specificity of the Moldovan economy, and proceeding from the European vector of development of our country strengthening the system of geographical indications is extremely important.

Key words: *agricultural policy, geographical indication, intellectual property, products with determined origin, quality systems, regional products.*

Indicaţiile geografice reprezintă unul dintre cele mai puţin valorificate obiecte ale proprietăţii intelectuale. În ultimele decenii însă, în special după încheierea în 1994 a Acordului privind aspectele proprietăţii intelectuale legate de comerţ (în continuare Acordul TRIPS), se înregistrează o creştere a interesului mai multor state pentru sistemul de protecţie a indicaţiilor geografice. Acest interes se datorează în mare parte efectelor economice palpabile pe care le au indicaţiile geografice în comerţul cu produse agricole şi manufacturate. Concomitent indicaţiile geografice îndeplinesc şi numeroase funcţii sociale. Ţinând cont de specificul economiei Republicii Moldova, dar şi reieşind din vectorul european de dezvoltare a ţării noastre consolidarea sistemului indicaţiilor geografice se prezintă extrem de importantă.

Cuvinte cheie: *politica agricolă, indicaţie geografică, proprietate intelectuală, produse cu origine determinată, sisteme de calitate, produse regionale.*

Географические указания являются одним из наименее оцененных объектов интеллектуальной собственности. Однако, в последние десятилетия, особенно после заключения в 1994 году Соглашения по вопросам интеллектуальной собственности связанных с торговлей (далее Соглашение ТРИПС), регистрируется увеличение интереса некоторых государств к вопросу системы охраны географических указаний. Этот интерес объясняется в значительной степени экономическими последствиями которые географические указания имеют в торговле сельскохозяйственной и промышленной продукции. В то же время, географические указания выполняют и многочисленные социальные функции. Принимая во внимание особенности молдавской экономики, но и европейский вектор развития нашей страны продвижение системы географических указаний представляется чрезвычайно важным.

Ключевые слова: *сельскохозяйственная политика, географическое указание, права интеллектуальной собственности, продукция с определенным происхождением, системы качества, региональные товары.*

JEL Classification: O34; O130.

Introduction. In the era of globalization more and more consumers around the world appreciate agricultural products with determined origin. This follows from the fact that agricultural products bear a clear imprint of the territory and the conditions from which they come.Climate, soil and people influence

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the quality of an agricultural product to such an extent that it is clearly different from other products in the same category.

In the European Union this was acknowledged for more time alongside the fact that commercialization of typical products in no way distinguishable in the multitude of products of the same type cannot create the necessary prerequisites for sustainable development. In this context, taking the best national practices (France, Italy, Portugal) it was established at Community level the GI protection system. This system involves the protection of geographical names used to identify certain products whose quality is influenced by their geographical origin. At the same time, the geographical indications protection system is not limited to the simple registration of names, but embraces a whole philosophy focused on the exploitation of the potential of products with determined origin.

Backgrounds. The major interest in the development and promotion of geographical indications arises from the fact that geographical indications have an important economic role and are valuable tools of marketing in the global economy. However, as mentioned by some authors, major problems are also related to geographical indications, because no other intellectual property is as complex, as anchored and involved in the world economy and politics as they [6].

Speaking about the historical evolution of the concept of geographical indication we can say that although geographical indications were used since antiquity to differentiate products and to concomitantly indicate their source of origin legal shaping of the concept of geographical indication in its current sense began at the close of the nineteenth century in some European countries (Portugal, France, Italy) and was completed at the beginning of the twentieth century in France, and because the system of geographical indications has proved to be successful, very soon other European countries have oriented their policies, particularly the agricultural and food ones towards the exploitation of the given system.

The study of specialized literature attests that geographical indications have become, at present, an important economic tool that contributes to solving problems of economic growth and competitiveness of rural areas both in developed and developing countries [1].

Analyzing the economic dimension of geographical indications, it can be highlighted the fact that unlike other intellectual property objects that have at their basis the activity of creation and the exclusive right in a new idea/product/process, which are founded from the prism of conception of property, in the case of geographical indications one cannot talk of the same approach. This is mainly due to the following:

- Geographical indication is not a product of human creation in the classical sense because the rights in a geographical indication relate to existing geographical names

- Geographical indication is not the object of monopoly rights and not included de facto in the property of persons initiating the process of recognition and protection on it.

The reasoning of assigning geographical indications to the category of intellectual property objects, according to the author, lies, especially, in the fact that geographical indications are an effective tool for conservation of cultural heritage, including regional know-how, and protection of geographical indications is a symbiosis of industrial property rights (particularly trademarks), copyright and quality systems. Proceeding from the similarity of functions performed by geographical indications with those performed by trademarks, as well as from their intangible nature, their assignment to the category of intellectual property objects is manifested thoroughly substantiated.

The added value of products with protected geographical indication is founded through the prism of neoclassical theory of utility value, since these specific objects of intellectual property provides:

- Certainty of geographical origin, methods used and quality expected;

- Minimization of transaction costs due to the fact that the consumer is guided in the choice of products by the information transmitted by the geographical indication;

- Presence of the additional value caused by the membership of an elite group of consumers.

Due to these properties, geographical indications have, in consumer perception, a greater utility than other similar products intended to meet the same needs.

Economically geographical indications present a complex instrument of using products of guaranteed origin involving the training of several factors. According to (Food and Agriculture Organization of the United Nations (2010)), to which we subscribe, geographical indications can be seen in a complex context that can be rendered through a closed cycle, in which the main role lies with producers interested in the exploitation of the product with determined origin and special qualities, and the role of support for the entire system, including for each stage rests with the state.

The main stages in the origin-linked quality virtuous circle are:

1. Identification: growing local awareness and appreciation of the potential of the product.

2. Product qualification: establishment of rules for value creation and the preservation of local resources.

3. Product remuneration linked to its marketing and to management of the local system.

4. Reproduction of local resources, boosting the sustainability of the system.

5. Public policies providing an institutional framework and possible support for the various stages in the circle.



Fig. 1. The origin-linked quality virtuous circle [4]

Proceeding from the logic functioning of the system of geographical indications and relying on previously analyzed materials one can define the system of geographical indications as being the totality of constituent elements – product, manufacturer, market, society, state – which interact with each other on the basis of economic principles and rules forming an integrity in which the exploitation of products with determined origin and guaranteed quality is organized in an efficient manner.

Economic effects of the geographical indications system. Numerous studies carried out at Community level, but not only, showed that a product with protected geographical indication may have positive effects on the sustainable economic development of the territories, the regional socio-cultural development and the preservation of the environment.

In particular:

1) Geographical indications are effective tools for promoting rural development, because they:

- help producers to get a superprofit in exchange for the guarantee of quality (high prices are obtained from products bearing the appellation of origin Mozzarella di Bufala Campana compared to other kinds of cheese mozzarella, the appellation of origin Camembert de Normandie compared to other kinds of cheese Camember, the appellation of origin Brie de Meaux and Brie de Melun compared to other kinds of cheese Brie, etc. The prices of products bearing the above AO are 35-45% higher than the prices for similar products without AO. In the EU, the price difference between the products with AO and GI and similar products without such appellations of origin is on the average 10-15% [8];

- help to the correct and equitable distribution of income throughout the production chain beginning with raw material producers and ending with traders (producers of cheese with appellation of origin will be willing to pay 15-20% more for milk harvested in accordance with the specifications for that appellation of origin) [7];

- exploit the place of origin of the product, create jobs, prevent rural exodus (one of the basic requirements for a geographical indication to be protected is that harvest or production, or processing must take place in the defined geographical area, which is usually a rural area. Thus, new jobs are created, and by this fact is prevented the rural exodus).

2) GIs are effective marketing tools, because they:

- promote the diversification of products (products bearing a geographical indication differ significantly from other products of the same kind, both through their specific qualities that are due to the geographical origin and the physical appearance which is usually different from that of other products. For

example the cheese with the appellation of origin Camembert de Normandie is sold in a container of poplar wood);

- allow producers to market obviously differentiated products that are quite easy to identify (due to the fact that the physical appearance of products with geographical indication is different from other products in the same category, manufacturers can easily differentiate products).

3) GIs are effective tools for preserving local traditions and natural resources, because they:

- encourage preservation of natural resources (most often products with geographical indication are traditional products, which are manufactured using natural resources characteristic of the geographic region, without using any chemical substitutes and without using production methods that adversely affect the environment);

- prevent uniformization of foodstuffs (geographical indications allow of preserving traditional recipes avoiding certain obligations that manufacturers should normally follow. For example, in the European Union, as in the Republic of Moldova, is forbidden to produce cheese in rooms that are not covered with tile using other than stainless steel surfaces, however, where to obtain a cheese with geographical indication is required that the entire process shall take place in a cave whose walls are covered with mold, this is possible).

4) GIs are a component part of our culture:

- contribute to the cooperation of local producers with a view to solve common problems (the whole concept of geographical indication assumes that producers in a defined geographic area will exert a collective effort to exploit the geographical indication, and as is generally known where there are more than one producer there are more chances of gain);

- play a positive role in building national identity, making the producers proud of their traditional unique products (as a rule products with geographical indication are traditional products manufactured according to recipes inherited from ancestors. They being promoted new generations of consumers can learn something new about themselves, about the nation to which they belong);

- positively influence tourism (products with geographical indication are true ambassadors of our culture, moreover, for foreigners may be of interest to know the tradition of making cheese or weave carpets for example. Thus, lately increasingly popular around the world become the tours, in which participants are given the opportunity to meet some local traditions. For example in Germany, France, Italy and Romania are popular the so-called wine roads, in Italy and France cheese roads are also popular. Moreover, very often for the purpose of promotion local producers organize festivals, outdoor exhibitions of products with geographical indication, which also attracts tourists).

Being aware of these facts at Community level has been continuously developed and perfected a system of protection and promotion of geographical indications. Thus, according to the study *Value of production of agricultural products and foodstuffs, wines, aromatized wines and spirits protected by a geographical indication* in 2010 the total exports of goods with protected geographical indication constituted €11.5 billion, which constituted 15% of the total EU exports in the agro-food field [3].

At the same time, exquisite attention began to be paid to exploitation of products with geographical indication also protected by countries other than European. Thus, geographical indications system is currently widely promoted in India, China, Mexico, Colombia, Peru, Georgia, etc. Although several countries have realized the economic importance and the potential of geographical indications and take full advantage of this system, in the Republic of Moldova geographical indications system has not yet become a reality, in spite of the huge potential of our country in this field.

Table 1

Appellations of origin/geographical indications registered in the Republic of Moldova (by years)

Years	**1993-2000**	**2001-2010**	**2011**	**2012**	**2013**	**2014**	**Total**
National applicants	2	0	0	0	4	0	6
Foreign applicants including:	5	811	6	8	5	19	854
- national procedure	5	0	0	2	0	0	7
- Lisbon Agreement	0	811	6	6	5	19	847
- Bilateral Agreement RM-UE	0	0	0	3136	0	357	3493
Total	7	811	6	3144	9	376	4353

Source: Elaborated by the author based on IP statistics [9].

Development of geographical indications system in the Republic of Moldova. We affirm that the Republic of Moldova has a great potential in the area of geographical indications because, according to data of the National Bureau of Statistics of the Republic of Moldova the exports of goods to the EU countries (EU-28) in 2014 totaled $1246.0 mln. (9.6% more than in 2013), holding a share of 53.3% in the total exports (46.8% in 2013). The weight of agricultural products and foodstuffs in the total exports of the Republic of Moldova for 2014 is 38.8% [10]. The major problem of Moldovan agriculture lies, however, in the fact that the products are sold in bulk and consumer market is not diversified.

It should be noted that according to (Biroul Regional al FAO pentru Europa şi Asia Centrală (REU), 2012) the Republic of Moldova has a well-developed wine industry. Vineyard area covers 148,500 ha, of which 107,800 ha are used for commercial production. The remaining 40,700 ha are planted around the village houses, the grapes being used to make domestic wine. According to the same source the Republic of Moldova also ranked fourth among the world exporters of unshelled walnuts, behind the United States, Mexico and China. Moldova is the largest European exporter of unshelled walnuts, with a volume of 9163 tons, worth 29.8 million euros. Throughout the country, there are plantations as field curtains, small orchards attached to households and commercial orchards [2].

The development of geographical indications system would address many problems facing Moldovan agro-food products:

- export in bulk (anonymity);
- lack of traceability of products;
- diversification of markets.

To have a more realistic approach of the prospects which geographical indications system has in the Republic of Moldova, the author conducted a survey among consumers. The method used was sociological inquiry. Survey results showed that products with protected geographical indication have in the Republic of Moldova an advanced potential, because of the 94% of persons who have indicated that geographical origin influences the quality of an agricultural product or foodstuff, 57% have attributed a great importance to it, in some cases even decisive. The results achieved in this chapter are comparable with the results achieved as a result of a survey conducted in 2005 among US consumers, in which it was established that for 72% of respondents geographical characteristics, such as soil, climate, influence the taste and quality of foodstuffs [4]. Moreover, the results achieved in Moldova are even more favorable for the establishment of the geographical indications system compared to the results achieved in the USA, because Moldovan consumers put more value on the geographical origin of the product (94% vs. 72%). This is attributable mainly to the fact that the Republic of Moldova is a predominantly agrarian state, and the average consumer is either from the rural environment or has ties of relationship with people from the rural environment thus being pretty well acquainted with the process of cultivation and production of agricultural products and foodstuffs.

Concomitantly, 88% of respondents prefer Moldovan products to imported ones where the price does not differ.

Furthermore, most of the respondents responded that they would choose a Moldovan product even if it will be more expensive, provided that the price difference would be reasonable. Unfortunately, according to the survey results, the notion of geographical indication is practically unknown. However, after respondents have been explained the essence of the notion of product with geographical indication it proved to place on products a potential added value. Of the 77% of people who answered affirmatively to the question whether they would be ready to pay more for a product with protected geographical indication 47.3% declared themselves ready to pay up to 10% extra, 43.58 % 10-20% more and 9.12% said they were prepared to pay even more than 20%. We recall in this connection that according to a poll conducted in 1999 in the Community space over 20,000 people, 51% of respondents said they were prepared to pay 10-20% more for a product with protected geographical indication to an equivalent product without protected geographical indication [5]. According other two studies conducted in 1996 and 1999 over 16,000 people in the Community space, 43% of the Community consumers are willing to pay extra 10% for products with protected geographical indication; 8% would pay extra 20%; and 3% would be ready to pay up to 30% more for products with protected geographical indication compared to a similar product which shows no signs of quality and origin [5].

Table 2

The degree of confidence given by respondents to Moldovan products

If the price of an agricultural product or foodstuff is the same will you?							
		prefer a Moldovan product		**prefer an imported product**		**make no difference by the criterion of geographical origin**	
Total		**337**	**88%**	**9**	**2%**	**39**	**10%**
Medium	**Rural**	162	48%	4	44%	17	44%
	Urban	175	52%	5	56%	22	56%
Sex	**Feminine**	179	53%	6	67%	21	54%
	Masculine	158	47%	3	33%	18	46%
Age	**15-24**	31	9%	4	44%	12	31%
	25-34	99	29%	1	11%	12	31%
	35-49	131	39%	2	22%	11	28%
	50 and more	76	23%	2	22%	4	10%
Education	**Incomplete secondary**	14	4%	3	33%	7	18%
	Secondary	106	31%	3	33%	17	44%
	Incomplete higher	79	23%	2	22%	6	15%
	Higher	138	41%	1	11%	9	23%
Level of income	**Low (less than 1650 *MDL per person)**	114	34%	1	11%	15	38%
	Average (1650 – 3050 MDL per person)	147	44%	7	78%	15	38%
	High (more than 3050 MDL per person)	76	23%	1	11%	9	23%

**1 MDL ~ 0,05 EUR*

Source: [11].

In terms of results obtained in the Republic of Moldova, we draw the attention on the fact that the level of income influences not only the willingness to pay more but also the amount that the local consumer is ready to pay, thus, the higher the income is the readily the consumer will be to pay more in order to have the guarantee of origin and quality of an agricultural product or foodstuff.

Table 3

Distribution of respondents prepared to pay more for a product with geographical indication by categories of income

Are ready to pay more for a product with geographical indication						
	Income up to 1650 *MDL/person		**Income from 1650 to 3050 MDL/person**		**Income greater than 3050 MDL/person**	
	No. of respond.	%	No. of respond.	%	No. of respond.	%
Up to 10%	61	62%	57	45%	22	31%
10-20%	32	32%	62	49%	35	50%
More than 20%	6	6%	8	6%	13	19%
Total	**99**	**100%**	**127**	**100%**	**70**	**100%**

**1 MDL ~ 0,05 EUR*

Source: [11].

Conclusions. Geographical indications system is a new system for the Republic of Moldova and is not yet used and appreciated at its true value. The results obtained by the Republic of Moldova in the field of the protection of geographical indications so far are modest and do not correspond to the real potential of our country in this area.

In the economic sense, geographical indications represent an advanced tool to exploit products with guaranteed origin and we firmly believe that this tool may be successfully implemented in our economy.

In conclusion, we should assert that the harmonious development of geographical indications system in the Republic of Moldova is in the interests of all economic actors:

- Producers get an effective mechanism for product differentiation and concomitantly for loyalty of customers;
- Consumers get access to a quality system reliably guaranteed by the manufacturer and the State;
- State benefit from the increased quantity and value of the consumption of local products.

Thus why, we believe that the agricultural policy of the Republic of Moldova shall be revised in the view of implementing the system of geographical indications.

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INVESTMENT PORTFOLIO MANAGEMENT PECULIARITIES OF NON-STATE PENSION FUNDS

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Non-state pension fund is a institution of social security, the primary purpose of which is the payment of pensions to members of the system of private pension provision. The insurance and pension funds in Republic of Moldova is just beginning. In this regard, a study was conducted in different countries on experience with non-state pension insurance. The results, being generalized, can be used in Republic of Moldova. Non-state pension fund has a multiple core: financial institution, fund, social institution, insurer and institutional investor. Non-governmental pension funds were highly integrated in public policy in most countries around the world aimed at expanding the supplementary pension insurance. Therefore, it becomes very important to solve the issue of formation and investment portfolio management in these financial institutions.

Key words: *non-state pension fund, non-state pension insurance, investment portfolio.*

Fondul nestatal de pensii este o instituţie de securitate socială, scopul principal al căreia este plata pensiilor participanţilor sistemului de pensii private. Activitatea de asigurare a pensiilor private în Republica Moldova este doar la început de cale. În acest sens, a fost efectuat studiul experienţei diferitor ţări în domeniul de asigurări cu pensii nestatale. Rezultatele, fiind generalizate, pot fi utilizate în Republica Moldova. Fondul nestatal de pensii are esenţă multiplă: instituţie financiară, fond, instituţie socială, asigurator şi investitor instituţional. În multe ţări fondurile nestatale de pensii au fost extrem de integrate în politicile publice, care vizează extinderea asigurărilor cu pensii suplimentare. De aceea, devine foarte importantă soluţionarea problematicii formării şi gestiunii portofoliului de investiţii în cadrul acestor instituţii financiare.

Cuvinte cheie*: fond nestatal de pensii, asigurare nestatală cu pensii, portofoliu de investiţii.*

Негосударственный пенсионный фонд – это учреждение социальной защиты, основной целью которого является выплата пенсий членам системы негосударственного пенсионного страхования. Деятельность по обеспечению частных пенсий в Республике Молдова находится в начале пути. В данном контексте, было проведено исследование опыта разных стран в сфере негосударственных пенсий. Результаты, после обобщения, могут быть использованы в Республике Молдова. Негосударственный пенсионный фонд имеет несколько значений: финансового учреждения, фонда, социального учреждения, страховщика и институционального инвестора. В большинстве стран негосударственные пенсионные фонды высоко интегрированы в государственную политику, направленную на расширение дополнительного пенсионного страхования. Таким образом, приобретает большое значение решение проблем создания и управления инвестиционным портфелем в этих финансовых учреждениях.

Ключевые слова*: негосударственный пенсионный фонд, негосударственное пенсионное страхование, инвестиционный фонд.*

JEL Classification: G23; G28.

Introduction. In many countries non-state pension funds have become important elements in the system of voluntary and non-government pension obligation of citizens. Being specific financial institutions, they tend not only to make profits, which distributes them among the founders (owners), but to provide over distribution of revenues from customer accounts after deduct amounts running costs.

The activity of non-state pension funds becomes particularly important, taking into account demographic processes in some countries. For example, the European Union takes place gradually reducing the number of people aged 15 to 64 years and the drastic increase of the population aged over 65 years [4].

Also, non-state pension funds are particularly important in countries where the level and rhythms of economic development do not allow the massive systems maintenance of public welfare and pension insurance, and ensure pensioners a decent living.

All this requires studying experience of industrialized countries in the concerned field, which may be useful for countries where reforms are undertaken to water obsolete retirement systems and radical economic, demographic and socio-demographic changes.

2. Basic characteristics of non-governmental pension funds. Pension funds are funds that pools employees' pension benefits and hold them so that they can be paid at retirement [1].

They can be open and closed. Open pension funds support at least one pension plan with no restriction on membership while closed pension funds support only pension plans that are limited to certain employees [3].

The literature distinguishes public and non-state (private) pension funds.

A *public pension fund* is one that is regulated under public sector law while a private pension fund is regulated under private sector law [3].

Non-state (non-governmental or private) pension fund (hereinafter – NSPF) is a organization, which deals with the collection and recording of financial contributions made voluntarily by individuals or legal entities or on their behalf, and provide means for increasing these additional pension payments.

Depending on domestic legislation, NSPF can be non-commercial organization or pension company in the form of joint stock companies and limited liability companies.

NSPF is intended to bring together contributions relating to pension plans established by employers, unions or other organizations to provide pensions to employees or members. In many countries pension funds are some of the biggest investors and dominate stock markets in which they invest. If are managed by professional fund managers, they are considered institutional investors with insurance companies and investment funds. Usually, pension funds are exempt from capital gains tax and profits from investment portfolios or are taxed deferred, or tax free [2].

The literature demonstrates multilateral aspects of functioning of NSPF:

❖ NSPF is a *separate legal entity*, operating from their own means (a part of the proceeds from the placement of reserves and accruals and heritage to ensure statutory activity), means depositors or account founders, which finances its statutory activity [12, p. 70].

❖ NSPF is a *specialized fund* created to perform the non-state pension insurance. The particularity of his work lies in the fact that in many countries it does not distribute profits among the founders, even if they are available. NSPF founders are interested exclusively in increasing the volume of attracted funds as long-term investment resources [11].

❖ NSPF is a *social institution* that assumes certain commitments to participants and insured individuals. To this end they are formed in the structure of assets and reserves retirement pension accumulations [12, p. 70].

❖ NSPF is a *special institution of social insurance*; its exclusive activities have the following basic forms [7], [8]:

- Non-state pension insurance with voluntary contractual basis;
- Activity as an insurer under the compulsory retirement insurance;
- Activity as an insurer in professional retirement insurance.

❖ NSPF is a *specialized institutional investor*, which is different from other financial market intermediaries that assume the commitments of payment of income on invested funds [5, p. 64].

Proceeding from the above, it can make a certain generalization of the essence NSPF:

1. The accumulation of deposits under voluntary retirement of insured persons;
2. Investing and bookkeeping of individual retirement accumulation means;
3. Establishing and non-state pension payments to beneficiaries;
4. The accumulation of funds on a contractual basis with the individual: the accumulation of funds in the system of compulsory pension and payments to those insured;
5. Making additional professional retirement insurance of individuals.

International experience indicates the existence of several types of NSPF [9], [13]:

- *Captive funds* – which primarily develops corporate retirement programs of founding companies and affiliated individuals. In their portfolios of assets under management, typically, the amount of reserves accumulation is higher than retirement.

- *Corporate and sector funds*, which provide additional insurance and voluntary professional retirement to workers of large corporations or branches with special working conditions and greater economic dynamics.
- *Collective or public pension funds*, which are created by the type of mutual investment funds and similarly operating on financial markets.
- *Private pension funds* that are created similarly to other private companies working with the same purpose as any other enterprise: to provide the owners or management of a profit at a level not lower than the market average.
- *Territorial funds*, which mainly operates within a specific region or territory. In most cases the funds are created at the initiative of the local government.
- *Trusts (universal funds)* – in most cases are independent of large financial and industrial groups and operates on the basis of serving a wide maximum number of individuals and businesses. In their current retirement accumulations predominate.

International experience shows that private pension funds are not in the top positions. In most countries primary role have collective or public pension funds, and the second are corporate and sector funds [10]. At the same time a great popularity in many countries enjoy NSPF created by patrons of large enterprises [11].

3. Investment portfolio management particularities of non-governmental pension funds

Financial mechanisms NSPF are apparently simple.

In accordance with pension agreement depositors undertake to pay NSPF retirement contributions, which fund invest and get additional income, which increases the amount accrued in the accounts of the fund participants (beneficiaries of pension). The payment of pensions under pension contracts can be performed during certain periods of life or existence of the pension base. If the participant's death until early all-state pension funds in the account will belong to the heirs. Usually, NSPF depositor is entitled to terminate the pension during the accumulation and receive the redemption amount or to transfer to another fund.

The size of this amount in any case is not less than the total amount of deposits made and guaranteed calculated investment income. Therefore, termination may not cause noticeable essential loss for customers.

To reduce the economic rationality of unbundling contracts by depositors of pension funds usually stipulates that in case they lose this additional investment income. And some funds even impose harsher captive sanctions, by providing that certain penalties.

If the participant receives a pension over a certain period of time, the proceeds from the individual pension account also are included in the inheritance. If non-state pension payment for life after early retirement payments, proceeds from the participant's account cannot be withdrawn from the fund and are not included in the amount of inheritance, but remain in the special reserve fund.

Analyzing literary sources, it should be noted that in the world there are two basic kinds of regulation of investment activity: direct quantitative restrictions on the structure of the investment portfolio and the rules "prudent management", or "reasonable (sensible)" control. The first type is a placing restriction on certain categories of assets, mainly in instruments with significant volatility of their market prices and low liquidity. In the case of pension funds also is limited the volume of investment in the assets of the employer in order to prevent the risk of insolvency, as well as avoidance of conflict of interest. The second type of regulation of investment activity is a definite requirement for "reasonable" management of assets, it is only such an attitude to transactions with trusted asset that could be relatively own property interests [6].

Known models of quantitative restrictions clearly tested investment category, the class of assets and investment yields, especially relating to the part of the composition of the portfolio, which is placed in instruments with relatively unstable in the nominal yield, low liquidity, significant credit risk (stocks, venture capital or non-quoted stocks and real estate) even under the conditions that the average yield on them is considered to be relatively high.

The placement of retirement reserves usually is strictly regulated. For example, the following restrictions are set in Russia [8]:

- The amount of pension reserves placed in one object of investment does not exceed 15% of the total retirement reserves;

- The amount of pension reserves placed in securities that have not recognized quotation does not exceed 20% of the total retirement reserves;
- The amount of pension reserves placed securities, which were issued by the founders and fund depositors, does not exceed 30% of the total retirement reserves, except when these securities are included in the first level Listing on the stock exchange;
- The amount of pension reserves placed in State securities does not exceed 50% of the total retirement reserves.
- The amount of pension reserves placed in securities of local public bodies does not exceed 50% of the total retirement reserves.
- The amount of pension reserves placed in shares and corporate bonds does not exceed 70% of the total retirement reserves.
- The amount of pension reserves placed in bank deposits and real estate does not exceed 80% of the total retirement reserves.

To prevent conflicts of interest between members and founders of pension funds legislation of all countries with developed economies necessarily contain restrictions on investment by pension funds in the assets of their founders, in particular employers. An important way is also limited in most of the investment activities of pension funds in the unorganized market. At the same time, almost all countries have restrictions on investing in securities issued by national government; on the contrary, in some countries the law set the minimum level of investment. For example, in the Austrian pension funds are required to invest at least 35% of its total assets in mortgage bonds, government bonds and debt securities denominated in Euros. In France, pension funds must invest at least 50% of assets in debt securities of government [6].

In most countries, restrictions on the use of pension funds of foreign instruments through direct asset allocation limits or rules of currency alignment. For example, in Denmark, Germany, Portugal and Finland for at least 80% of pension obligations must be provided of assets denominated in the domestic currency.

The proportion of stocks and bonds – the two main asset classes – gives an idea of the quality characteristics of the investment management process in each country.

According to international statistics, shares are among the most profitable financial market instruments, arithmetic average and geometric average of the total yield of ordinary shares in some sectors of the market exceeds the corresponding figures of bonds in three or four times. But in terms of variability of yield stocks are much more risky financial market instruments, as three to four times higher than bonds in terms of the standard deviation. [6]

4. Conclusions. NSPF in most countries is a multilateral activity institution, which consists of the accumulation of funds from the population for their subsequent placement in various sectors of the economy further use for beneficiaries of pension payments. An important factor in the normal functioning of the system based on NSPF is prudent management of the investment portfolios of those institutions. Study and implementation of the best international experience in this area can contribute to improving NSPF activity in Republic of Moldova.

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KEY TRENDS IN CO-PUBLICATION ACTIVITIES OF UKRAINIAN AND THE EU SCIENTISTS IN 2003-2013

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The Ukrainian research community needs more active involvement into processes of international production of knowledge, and co-publication analysis opens the way for quantitative assessment of the level of internationalization. The aim of the article is to analyze level and dynamics of joint publication activity of Ukrainian scientists and scholars from the EU countries in 2003-2013. The method of this article is based on analysis of the key international databases of scientific publications and corresponding Ukrainian national data. The main result is the identification of the key sectors and dynamics of scientific co-operation in joint publications between the EU and Ukraine. Thus, the reasons for the decline in number of publications of Ukrainian scientists at the international level in the first two decades of independence are considered. We analyzed the disciplinary aspects of joint publications, trends and prospects of further cooperation between scientists of Ukraine and the EU in this area.

*The paper is prepared within EU-sponsored project of the FP7 Programme 'Enhancing the Bilateral S&T Partnership with Ukraine*Advanced Innovative Approach'.*

Key words: *EU, Ukraine, publications, citations, international co-operation.*

Comunitatea ştiinţifică din Ucraina ar trebui să fie implicată mai activ în procesul de internaţionalizare a cunoştinţelor realizate, iar analiza lucrărilor ştiinţifice comune permite cuantificarea nivelului de internaţionalizare. Scopul articolului este analiza nivelului şi evoluţiei activităţii de co-editare a lucrărilor ştiinţifice a savanţilor ucraineni şi a celor din Uniunea Europeană în 2003-2013. Metoda de cercetare utilizată se bazează pe analiza principalelor baze de date internaţionale şi a datelor relevante pentru Ucraina. Rezultatul principal constă în identificarea sectoarelor cheie şi a dinamicii cooperării ştiinţifice în activitatea de co-editare a lucrărilor ştiinţifice dintre UE şi Ucraina. Sunt examinate cauzele reducerii ponderii lucrărilor savanţilor ucraineni la nivel internaţional în primele două decenii de independenţă. Sunt analizate aspectele disciplinare ale lucrărilor ştiinţifice comune, identificate tendinţele şi perspectivele de cooperare în continuare a savanţilor din Ucraina şi UE în acest domeniu.

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Cuvinte cheie*: UE, Ucraina, lucrări ştiinţifice, citări, cooperare internaţională.*

Украинское исследовательское сообщество должно активнее вовлекаться в процесс интернационализации производимых знаний, и анализ совместных публикаций позволяет количественно оценить уровень интернационализаци. Целью статьи является анализ уровня и динамики совместной публикационной активности украинских ученых и ученых из стран ЕС в 2003-2013 г. Использованный метод базируется на анализе ключевых международных баз данных и соответствующих данных по Украине. Основной результат состоит в выявлении ключевых секторов и динамики научного сотрудничества в сфере совместных публикаций между ЕС и Украиной. Были рассмотрены причины снижения доли публикаций украинских ученых на международном уровне в первые два десятилетия независимости. Проанализированы дисциплинарные аспекты совместных публикаций, определены тенденции и перспективы дальнейшего взаимодействия в этой сфере ученых Украины и ЕС.

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Ключевые слова: *ЕС, Украина, публикации, цитирование, международное сотрудничество.*

JEL Classification: O3; O34; O19; O39.

Introduction. Scientific publications play important role in the evaluation of scientific productivity. Co-publications, in turn, reflect the level of co-operation between the countries in different scientific disciplines.

Ukraine has chosen its pro-European vector of development, and it is useful to understand, how fast the process of its integration into European R&D structures is going. Analysis of co-publications does not answer this question completely, but it indicates important trends and it helps to understand better dynamics of the process.

The paper consists of three parts. First one contains information about specific features of publication and co-publication activities in Ukraine in recent years, the second is devoted to the quantitative parameters of co-publications, and the third are related to some conclusions and recommendations.

Factors, which determine publication activity in Ukraine in 1990s and 2000s. It is worth to mention that there are different aspects, which have to be taken into account, when you consider Ukrainian case. They are related to cultural and organizational aspects of functioning of scientific community of the country. That is why it is important to make some preliminary remarks on the role of publication activities in Ukraine in the years of independence. Key factors, which determined the number of publications in Ukraine in this period:

- Decline of a number of researchers in the country. It is difficult to provide correct figure of decline, because Ukrainian statistics does not use FTE (full time equivalent) according to the international standards. However, it is possible to say that the number of researchers dropped at least by 3 times since the early 1990s.

- 'Internal' incentives for publications abroad were not strong enough in 1990s-2000s (till mid-2012). In contrary, system of academic promotion was based on the calculation of number of publications in national journals from the specially established list (so-called *spisok VAK*), not international journals. Rules for obtaining scientific degrees and positions at the universities and the institutes of the state-sponsored academies of sciences. As a result, the number of publications in foreign journals stagnated in 1990s-2000s at the level of 4000-5000 per year according to Thomson-Reuters data.

Minor (secondary) factors:

- 'Inertia' of publications in Russian or Ukrainian journals. Post-Soviet 'space' has a number of places for publications. It is not Estonia or other relatively small states from the CEE, which have limited number of scientific journals. National research systems in the largest post-Soviet states, including Ukraine, are relatively isolated and not oriented on international standards of meritocracy.

- Poor knowledge of foreign languages, especially English for preparation of publications in international journals.

- Some problems are related to the publications of Ukrainian authors, who are working temporary as visiting scholars in foreign research centers. Every year approximately 1000 of Ukrainian scientist spend more than 3 months in long-term visits in foreign research organizations. They usually publish articles as representatives of these centers.

- Domination of Ukrainian language (the only state language of the country) in scientific journals. Historically, this language had lower level of utilization in Ukrainian scientific community, as almost all large Ukrainian centers of science, excluding only western city of Lviv, were predominantly Russian-speaking cities. This has created certain problems, especially for foreign readers, including Russian-speaking scholars from post-Soviet countries, who do not know Ukrainian. Number of Ukrainian scientific journals in the international databases had tendency to decline (from 13 in early 1990s to 5 in 2007, and the number has raised in recent years only due to the changes, which will be discussed later).

Productivity of Ukrainian authors was more or less stable and it even had tendency to decline in the years of independence, if relative indicators (Ukrainian share in the world publications) will be taken into account. Meanings of relative indicators are already substantially lower, than in the neighboring CEE countries.

As it was mentioned above, Ukrainian authorities have established special regulations for promotion of scholars, when the candidates for scientific degrees have to publish their articles (not less than twenty for doctors of sciences!) in Ukrainian journals, specifically mentioned in the List of the Highest State Certification Commission. This forced researchers to send articles, first of all to Ukrainian journals, which had no high international profile.

Such practice has stimulated 'strange' situation, when the 'internal' data on research productivity demonstrated positive dynamics, while the number of international publications has stagnated.

Following the Soviet practice, Ukrainian statistics operated with the information on publications, which was collected directly from research institutes and universities (see Figure 1). These figures differ substantially from the figures, which could be found in the international databases.

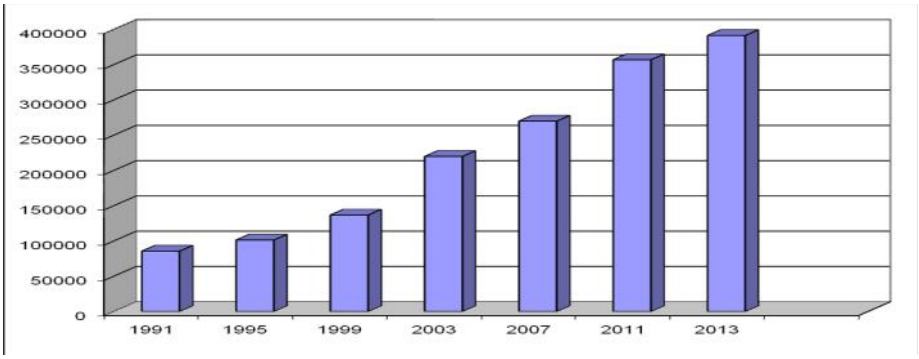


Fig. 1. Number of scientific publications according to official Ukrainian statistics, 1991-2013, thous

Source: Data from the Yearbook 'Scientific and Innovation Activities in Ukraine', different issues for 1992-2014 – State Service (Committee) of Statistics, Kyiv (in Ukrainian).

More than 60% of these publications are 'articles'. The growth of the number of articles was substantial, despite the decline in the number of scientists.

The universities are responsible for almost all growth of publications (by 15-20 thousand per year in 2003-2013). At the same time, universities have very few research projects and almost no modern equipment for applied research. In any case, approximately 2% of the printed results of Ukrainian authors are recognized internationally, if the level of internationally visible publications could be considered as a level of recognition.

The practice of taking into account 'internal' Ukrainian publications, first of all, was changed in 2011, when new rules for obtaining scientific degrees were introduced. Now, it is obligatory to have at least one publication, mentioned in the international databases for candidate of sciences and five publications for doctor of sciences. This had already positive impact on the number of Ukrainian publications abroad in recent years (since 2012).

The country still preserves positions in some areas of physics and technical sciences. But these 'islands of advancement' are relatively rare. So, approximately 10% of all internationally visible publications were written by the specialists from only one research institute in 2000s [1].

As to the international co-publications, their number is, of course, lower than the number of 'simply' international publications. Their dynamics is analyzed in second section of the paper.

Dynamics of co-publications and citations. Our analysis elaborates dimensions of the bi-regional S&T cooperation between EU Member States and Associated Countries to the Framework Programme 7 (EU+AC) and Ukraine, bringing one specific dimension of bi-regional cooperation into focus: co-publications between at least one author affiliated in EU or AC and one author affiliated in the Ukraine. Co-publications present a possible indicator for measuring RTD cooperation and are used as one – of many – proxies for the assessment of the current state of research cooperation.

For analysis of the co-publications special software tools were used, first of all BibTeX. BibTeX, on the one hand, is a software package for creating literature references and indices in TeX or LaTeX documents (TeX is a typesetting system with integrated macro language, LaTeX is a variant of TeX). On the other hand, we use the term in context of BibTeX exports from our data sources. In this case we refer to the BibTeX format which makes literature database entries available, coded in a particular way. The BibTeX

format was the common denominator present to receive data from both different source databases with the same format, though slightly different in detail features.

Two scientific literature databases used in this study assign the recorded books or periodicals to one or more thematic key words based on a classification system. In Elsevier's Scopus we have 334 of these thematic keywords and 249 in the case of Thomson Reuter's Web of Science (as listed in the annex). Only a small percentage of the scientific works is classified independently of the general classification of the periodical. To remove potential ambiguities, this study has used the Science Metrix Ontology that classifies journals on three levels of granularity: the domain, the field, and the sub-field.

Thus, the analysis of EU-Ukrainian co-publications serves to monitor and to assess the impact of joint EU and Ukrainian RTD cooperation. It further aims at showing recent developments of academic cooperation between EU and Ukraine as well as pointing to emerging topics in RTDI cooperation. This deliverable supports the overall BILAT-UKR*AINA objective to support and provide analytical input to the institutional dialogue on STI policy between the European Commission, the EU (incl. MS, CC, and AC) and Ukraine (and the dialogue at the JSTCC) and the BILAT-UKR*AINA objective to monitor and analyse research cooperation in terms of co-publications [2].

Out of **94,135 Ukrainian publications** published between 2003 and 2013, 33.46% (31,695) publications involve at least one author from Ukraine and one from another country and are therefore international co-publications. **22.6% (**21,378) **of Ukraine's overall publications or 67,45% of all of Ukraine's international co-publications involve at least one author affiliated in an EU28/AC country**.

The annual output of Ukrainian publications, co-publications, and co-publications involving EU28/AC authors has been increasing steadily over the 11 years under examination (2003-2013), with minor drops in some years. However, comparing Ukraine's annual output of co-publications of 2013 and of 2003, international co-publications have been growing slightly faster – around 55% more international co-publications versus around 53% more Ukraine-EU28/AC co-publications, which have been in turn growing faster than the annual output of Ukraine's overall publications (around 44% more publications in 2013 than in 2003).

The partner countries most involved in Ukrainian co-publications are **Germany, Russia, USA, Poland, France, Great Britain, Italy, Spain, Japan, and Switzerland**. Out of the 20 most involved partner countries, 13 are countries from EU28/AC. Using the *Salton's Measure*[1] to assess the cooperation density between Ukraine and the most involved EU28/AC countries, it is apparent that the **relations between Ukraine and Poland, Germany, France, and the Czech Republic are comparatively strong** (each with a *Salton's Measure* of over 1%), followed by relations between Ukraine and Austria, Italy, and Great Britain (each with a *Salton's Measure* over 0.8%).

Ukraine has a strong **thematic focus on Physics & Astronomy** – 28.6% of all Ukrainian publications are published in this field. This thematic focus is even stronger for both Ukrainian overall co-publications and Ukrainian-EU28/AC co-publications: 42.03% of all Ukrainian co-publications and 44.43% of all Ukrainian EU28/AC co-publications are published in Physics & Astronomy. **Chemistry** and **Mathematics & Statistics** are research fields that are slightly more **relevant for Ukrainian EU28/AC co-publications**: 10.47% of all Ukrainian-EU28/AC co-publications are published in Chemistry and 6.48% are published in Mathematics & Statistics (compared to Ukrainian overall publications, which have a share of 9.58% in Chemistry and 6.11% in Mathematics & Statistics, respectively).

The annual output of UA-EU28/AC co-publications in **Information & Communication Technologies** is growing particularly strong: the output in 2013 is more than five times as high as in 2003. Growth in Economics & Business was even higher than that, i.e. the output grew tenfold in the same time span.

In Clinical Medicine, Biology, Engineering, and Mathematics & Statistics, the annual output roughly doubles from 2003 to 2013. For most of the other research fields, the annual growth of UA-EU28/AC co-publications is steady but rather low with yearly deviations and might be too low to be measured on a yearly basis.

[1] Salton's Measure is an indicator for the relevance of the co-publication relationship of Ukraine and partner countries

Out of the ten most involved EU28/AC partner countries, Germany has the highest share of co-publications in Chemistry (11.67%); Poland the highest share in Enabling & Strategic Technologies (10.87%) and Engineering (5.04%); Great Britain in Information & Communication Technologies (3.09%); Spain in Mathematics & Statistics (6.74%); Switzerland in Physics & Astronomy (67.71%); the Czech Republic in Biology (3.58%); and Sweden in Clinical Medicine (11.4%), Biomedical Research (8.01%), and Earth & Environmental Sciences (4.72%).

Ukrainian co-publications in the four priority areas in the observed years (2003-2013):

- **Aerospace & Aeronautics:** out of the 451 Ukrainian publications, 111 publications are international co-publications and nearly half of them, **46 co-publications, do involve authors affiliated in EU28/AC countries**. **Russia** and the **USA** are the main partner countries in this research area, **Italy**, **Great Britain**, **Germany**, **France**, **Denmark** and **Norway** are the EU28/AC countries most involved in Aerospace & Aeronautics co-publications with Ukraine with 10 or less co-publications. On the Ukrainian side, the National Academy of Science is the institution most involved in Aerospace & Aeronautics Ukraine-EU28/AC co-publications, followed by the National Taras Shevchenko University, the National Technical University of Ukraine, and the Yuzhonye State Design Office; on the EU28/AC side, the most involved organisations are the Technical University of Denmark, the University of Bergen, the Norwegian Mohn Sverdrup Center, and the Nansen Environmental & Remote Sensing Centre, both located in Bergen as well. Unmanned aerial vehicle, acoustic emission, mathematical model, fracture, and composite material are the most used keywords in Ukrainian Aerospace & Aeronautics publications; the Ukraine-EU28/AC co-publications in this field mention each keyword only once, which is why an analysis does not yield any usable results.
- **Biotechnology:** out of the 176 Ukrainian publications, 109 publications are international co-publications and three quarter of them (**82 co-publications**) **involve authors affiliated in the EU28/AC**. Compared to Aerospace & Aeronautics, the level of internationalisation in Biotechnology is much higher. **Poland** and **Israel** are the partner countries most involved in Ukraine's Biotechnology co-publications, followed by the **USA**, **Russia**, **Germany,** and **Great Britain**. The National Academy of Science is, once again, the Ukrainian institution most involved in Ukraine-EU28/AC Biotechnology co-publications, followed by the Ivan Franko National University in Lviv, the National Agricultural University in Kiev, the National University Mohyla Academy in Kiev, and the National Forestry University Ukraine in Lviv. On the EU28/AC side, the most involved institutions are the University of Haifa in Israel, the Rzeszow University in Poland, the University of Technology in Compiegne in France; and UCL in Great Britain. Medicinal Mushrooms, hansenula polymorpha, polysaccharides, and yeast are the most frequent entries of keywords both in Ukrainian Biotechnology publications and in Ukrainian-EU28/AC co-publications.
- **Nanoscience & Nanotechnology:** out of the 938 Ukrainian publications, 418 publications are international co-publications and nearly two thirds of them, **256 co-publications, are co-authored by authors affiliated in EU28/AC**. The **USA** and **Germany** are the most involved partner countries in Ukraine's Nanoscience & Nanotechnology co-publications, followed by **France**, **Russia**, **Great Britain,** and **Poland**. The National Academy of Science is, once more, the most involved Ukrainian Institution, followed by the Taras Shevchenko National University Kiev, the National Technical University in Kiev and Charkiw and the Chuiko Institute for Surface Chemistry in Kiev. On the EU28/AC side, CNRS in France is the most involved institution, followed by the German Technical University Ilmenau, the French University of Lyon, the British University of Brighton, and the Polish Academy of Sciences. Whereas carbon nanotubes, photoluminescence, fullerene, crystal structure, grapheme, magnetic field, activated carbon, and adsorption are the most frequently used author keywords for Ukraine's Nanoscience & Nanotechnology publications, the most frequently used author keywords for Ukraine's EU28/AC co-publications are slightly different, namely activated carbon, carbon nanotubes, photoluminescence, adsorption, magnetic nanoparticles, nanoparticles, raman spectroscopy, and laser radiation.
- **Information & Communication Technologies:** out of the 9,312 Ukrainian publications, 1,121 publications are international co-publications and more than half of them (**641 co-publications**) **involve authors affiliated in EU28/AC countries**. **Russia** and **Germany** are the partner countries most involved in Ukraine's ICT co-publications, followed by **France**, **USA**, **Great Britain**, and **Poland**. Not surprisingly, the National Academy of Science is the most involved Ukrainian Institution, followed by the National Aerospace University (KhAI), the Lviv National Polytechnical Institute, and the National Taras Shevchenko University in Kiev. On the EU28/AC side, the most involved institutions are the Finnish Tampere University of Technology, the French joint Institute IETR (University of Rennes I and CNRS), the German Technical

University Hamburg, the Dutch Delft University of Technology, and the Israeli Jerusalem College of Technology. The most frequently mentioned keywords of Ukraine's ICT publications are diffraction, neural networks, radar, mathematical model, antenna array, remote sensing and simulation, those of Ukraine's ICT co-publications with EU28/AC countries are rather different: neural networks, periodically correlated random processes, decomposition, support vector machines, genetic algorithm, electromagnetic fields, diffraction, optimisation, traveling salesman problem, combinatorial optimisation, and remote sensing.

Within the analysed time span of 2003 to 2013, the average citation of a publication involving at least one author from the Ukraine amounts to 3.7. Considering publications that were solely authored by authors from the Ukraine, this number is quite low: 1.39 times. It follows that works co-authored with at least one author from a foreign country are cited more often: **8.24 is the number of average citations for internationally co-authored works. Works co-authored with at least one author from EU28/AC are cited 9.48 times on average**, i.e. 15% more often than all international co-publications (again, on average).

Compared to the average citations of the overall Ukrainian co-publications in the research fields with the most co-publication output, the following countries show especially high average citation counts:

- Ukrainian co-publications in Clinical Medicine have an average citation of 16.1, Ukrainian-**Spanish** co-publications are cited 61.57 times on average, Ukrainian-**Italian** co-publications 55.81 times, Ukrainian-**Dutch** co-publications 48.93 times, Ukrainian-**Russian** co-publications 44.15 times and Ukrainian-**Belgian** co-publications 44.87 times.
- Ukrainian co-publications in Physics & Astronomy are cited 9.18 times on average, Ukrainian-**Finish** co-publications are cited 22.93 times on average, Ukrainian-**Canadian** co-publications 22.17 times, Ukrainian-**Swiss** co-publications 21.61 times and Ukrainian-**Belgian** co-publications 19.04 times.
- Ukrainian co-publications in Biomedical Research are cited 11.6 times on average, Ukrainian-**Swedish** co-publications are cited 33.74 times on average, Ukrainian-**French** co-publications 30.57 times, Ukrainian-**German** co-publications 25.9 times and Ukrainian-**Russian** co-publications 20.68 times.
- Ukrainian co-publications in Biology are cited 7.7 times on average, Ukrainian-**British** co-publications are cited 17.5 times on average and Ukainian-**German** 13.93 times.
- Ukrainian co-publications in Chemistry are cited 8.82 times on average, Ukrainian-**Italian** co-publications are cited 16.82 times on average and Ukrainian-**British** co-publications 16.31 times.
- Ukrainian co-publications in Enabling & Strategic Technologies are cited 6.2 times on average, Ukrainian-**British** co-publications are cited 12.52 times on average, Ukrainian-**Spanish** 10.71 times and Ukrainian-**Italian** 9.25 times.

Conclusions. Our analysis shows that Ukrainian scientific community still has not involved in the processes of internationalization to the degree, which corresponds to the size of the research potential of the country. The relatively low international visibility of Ukrainian science comes from several factors. One such factor is the high degree of separation of the Ukrainian research system from the international research community. Ukrainian researchers are not very active in international co-operation and in publishing in international journals, and the incentives for increasing the international visibility were poor in 1990s and 2000s. Situation has started to change in recent years. It is evident that in some areas Ukraine could contribute substantially into knowledge production processes and this contribution could be useful for the development of the European and the world science.

The country needs more active co-operation within the international R&D programs and more efforts from the side of the national state to stimulate participation of the Ukrainian scientists in such programs.

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REFORMING ACTIONS OF THE CENTRAL AND LOCAL PUBLIC ADMINISTRATION IN THE REPUBLIC OF MOLDOVA

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The present theme is conditioned by the directions of public finance reform in Moldova. The aim of the research is focused on assessing the fiscal decentralization in the Republic of Moldova, aimed at: analyzing financial decentralization conceptual approaches and examining amendments to the administrative and legislative level to strengthen the level of fiscal decentralization in the country. Research methodology is based on processes and of legislative analysis, as well as on literature. As a result, it appears that in Moldova was first adopted a policy document that clearly dimensioned an action plan to achieve a qualitative decentralization in all areas and village structures. Therefore, the author conducted a comprehensive analysis of the process of reforming the central and local public administration in Moldova, presenting argumentative scientific conclusions and formulating own recommendations which would contribute to the continuity of the reform and strengthening budgetary fiscal capacity.

Key words: *fiscal decentralization, public sector management, local public authorities, responsibilities and public services, local financial autonomy.*

Actualitatea temei este condiţionată de direcţiile de reformare a sistemului de finanţe publice din Republica Moldova. Scopul cercetării este concentrat pe aprecierea nivelului descentralizării financiare în Republica Moldova, având ca obiective: analiza abordărilor conceptuale privind descentralizarea financiară, precum şi examinarea modificărilor operate la nivel administrativ şi legislativ în vederea consolidării nivelului descentralizării financiare în Republica Moldova. Metodologia cercetării este bazată pe procedee de studiu şi analiză legislativă, precum şi literatură de specialitate. Ca rezultat, se constată că în Republica Moldova a fost adoptat pentru prima dată un document de politici care dimensionează clar un plan de acţiuni pentru realizarea unei descentralizări calitative în toate domeniile şi structurile satului. Prin urmare, autorul a realizat o analiză complexă a procesului de reformare a administraţiei publice centrale şi locale în Republica Moldova, prezentând concluzii argumentate ştiinţific şi formulând recomandări proprii, care ar contribui la continuitatea reformei, precum şi la consolidarea capacităţii fiscale bugetare.

Cuvinte cheie*: descentralizare financiară, managementul în sectorul public, autorităţi publice locale, responsabilităţi şi servicii publice, autonomie financiară locală.*

Актуальность данной темы обусловлена направлением реформы государственных финансов в Республике Молдова. Цель исследования сосредоточена на оценке фискальной децентрализации в Республике Молдова, направленной на: анализ концептуальных подходов финансовой децентрализации и изучение изменений на административно-законодательном уровне с целью усилить уровень фискальной децентрализации в стране. Методология исследования основана на процессуальном и законодательном анализе, а также на литературе. В результате выявлено, что в Молдове был впервые принят программный документ, в котором четко прописан план действий по достижению качественной децентрализации во всех областях и сельских районах. Таким образом, автор провел всесторонний анализ процесса реформирования центрального и местного публичного управления в Республике Молдова, представляя научно обоснованные выводы и сформулировал собственные рекомендации, которые будут способствовать непрерывности реформы и укреплению бюджетно-налоговой политики.

Ключевые слова*: фискальная децентрализация, управление государственным сектором, местные органами государственной власти, обязанности и общественные услуги, местная финансовая автономия.*

JEL Classification: H70.

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Introduction. Financial decentralization is emerging as a process of transfer and insurance with adequate financial resources and capabilities subjects which are transmitted certain responsibilities (competencies) and public services, thus making financial decisions and financial capacity of a community the responsibility of its local administration. The aim of the work in this respect, is to study the size of decentralization practices implemented in Moldova and finding the accountability of public authorities, both the deliberative and of the executive one, regarding training, administration, use and control of administrative and financial resources-territorial, public institutions and services of local interest.

Practices of Moldova to implement mechanisms to eliminate interlocking relationships and the establishment of local financial autonomy through decentralization in certain forms and implications have emerged with the adoption on 29 July 1994 by the Parliament of the supreme law – the Constitution Republic of Moldova. It first established relations of concrete administrative-territorial organization of the Republic of Moldova in accordance with Article 110 of the Constitution of the Republic of Moldova *"Moldovan territory is organized administratively into villages, cities, districts and the Autonomous Territorial Unit of Gagauzia. Under the law, some towns may be declared municipalities"* [1, art.110]. According to the findings above, it is clear that in each administrative-territorial unit is established an administration, for which the fundamental principles of organization and activity are also stipulated in the articles of the Constitution, namely Article 109 which states that: *"Public Administration in the administrative-territorial units is based on the principles of local autonomy, decentralization of public services, eligibility of local public administration authorities and of consulting the citizens on local problems of special interest"* [1, art.109].

Ratification by the Parliament, by Decision nr.1253-XIII of 16 July 1997, of the European Charter of Local Autonomy was an important moment for the process of decentralization in which Moldova has been engaged. The Charter entered into force on 1 February 1998 obliging signatory, in our case the Republic of Moldova, to apply the basic rules guaranteeing the independence of public, administrative and financial management of local authorities. When ratifying The Charter, Moldova has not submitted any derogation, which means taking responsibility to fulfil its provisions in full volume, making it part of the legal framework of the country.

Basics decentralization process was not limited to the two laws mentioned above, moreover it knowing continuity. It should be notes that decentralization is seen as a right of administrative-territorial units to meet their own interests without implication of the central authorities, seen as a system involving autonomy. In the Republic of Moldova a first implication in the decentralization process wore an obvious administrative-territorial aspect. We cannot talk about a transfer of powers from higher levels without the final recipient to have a defined basic administrative and territorial aspect. So far Moldova experienced two reforms of local public administration system. The first was conducted in 1998 when with the new law on local public administration (being repealed previous version of the law approved on 7 December 1994) was first adopted Law on territorial administrative organization (on 12 November 1998). They have established new criteria for the organization and functioning of local government in terms of territorial-administrative system with two levels: one county and another local (cities, villages, communes). According to the law on administrative-territorial organization in 1999, Moldova was systematized in 10 counties, Chisinau and Gagauzia, and UAT left bank. They were assigned specific tasks, usually in collaboration with central government and some exclusive ones. The new law on local government was fully connected to European traditions and constitutional principles stipulated in Article 109 of the Constitution. However prefectural institutions were created, which were treated as government representative in the territory. The prefect made real administrative decentralization because it was he who was endowed with specific powers to manage the county public services without interfering in the purview of local representative authorities. Thus the establishment of the prefect exempted the government to intervene in the work of local representative and county public authorities, given that the Government was provided decentralization mechanism [8, pag.11].

A second reform was done in 2003 being subject to parliamentary elections in March 2001, following which the political balance of forces in Parliament has changed. So it was established a new law on territorial organization of the Republic of Moldova, adopted on 27 December 2001. According to it the district system was returned to the territorial organization until 1999. In its composition became 32 districts, Balti and Chisinau, ATU Gagauzia, being a link in the system, and the other including administrative units – cities and villages. Also this year has been approved a new version of the Law on Local Public Administration (No. 123-XV of 18 March 2003) according to which were established

relations between central government and local authorities and between those of level II and I; there were outlined tasks and operating principles of executive and deliberative public authorities; demarcated the competences delegated for authorities of level II and I, also conducted liquidation of the prefect, sending its functions and duties to the Chairman of District Executive Committee [7, pag.34]. Later Constitutional Court declared unconstitutional a number of other provisions which were released to the Chairman of the district prefect duties; so under law no. 123-XV were established eight regional offices of the State Chancellery residing in the former county centres. They were empowered to check the legality of acts issued by local authorities, so only administrative guardianship functions, not leading with decentralized public services. They have not worked much, in early November 2004 they were reorganized into territorial offices of the Government, holding the same powers and territorial branches.

Today, according to recent statistics, Moldova, knows an administrative organization of the territory which is carried out in accordance with Law no. 764 of 27 December 2001 on territorial organization. It is divided into 32 levels of administration with the status of districts and 5 units with the status of municipalities: Chisinau, Balti, Gagauzia autonomous territorial unit and administrative and territorial unit of the left bank, which in total are represented by 1682 places (cities, communes, and villages) [11].

Although Law no. 764 on territorial organization of the Republic of Moldova, adopted on 27 December 2001, was not substituted by other legislation, but only some changes have been made, we cannot say the same about The Law on Local Government no. 123-XV of 18 March 2003, which in 2007 is repealed. Finally, in late 2006, it instituted a new law that establishes and regulates the organization and functioning of public administration in territorial administrative units – Law no. 436 of 28.12.2006 on local public administration, which entered into force once it has been published on 09.03.2007 in the Official Gazette no. 32-35 art. no: 116. This is the fourth correcting organic law on public administration established in Moldova. It is functional and at the moment, meeting the regulatory year course with some changes and additions to the original version, due to the ongoing process of modernizing and reforming the system of government.

This law stipulates the basic principles of local public administration, and relations between public authorities "*Between central and local authorities, between public authorities of the first level and second level there is a relationship of subordination, except provided by law"* [3, art.6, al. (3)]. According to this law local authorities have autonomy on decisional, organizational, financial management, they are entitled to all initiatives in the administration of local public affairs, exercising, under the law, authority within the territory administered.

The government defined the types and forms thereof. Thus local government administrative-territorial units of level I are elected local councils, as deliberative authorities, and mayors as executive authorities [6, pag.9]. In turn, local public authorities of administrative and territorial units of level II district councils, as deliberative authorities and district chairman as executive authority is thus confirmed the decision-making power at local level. In this context, all the powers stipulated in the law mentioned local public authorities of level I and II, are bounded on the types of local public authorities: deliberative and executive. Not remain without attention the financial basis of public authorities. Thus *local government authorities develop, approve and manage the budgets of administrative-territorial autonomous, having the right to enforce local taxes and determine their value under the law* [3, art.9].

A major achievement in the field of decentralization was reached in 2006, December 28, when it was approved Law Nr. 435 of the administrative decentralization which came into force on 01.01.2007. This bill is a breakthrough in the decentralization process in which the Republic of Moldova committed. It establishes the general regulatory framework based on the principles of administrative decentralization specific division of powers between public authorities [4, art.2]. It is operational until present, the most recent changes being made in 2013.

According to art.5 of the Law on Administrative Decentralization Nr. 435-XVI from 28.12.2006, the local authorities first and second levels and the central may *cooperate*, under the law, to ensure the implementation of projects or public services requiring joint efforts of these authorities. The text of the law does not stipulate that local authorities may have specific areas of shared competence enabling a wide range of activities [4, art.5]. However, based on cooperation activities will be carried out based on agreements between the parties' mutual rights and obligations in strict accordance with the budgetary resources and responsibilities assigned to them.

Powers related to central public authorities may be *delegated* to local authorities first and second levels, respecting the criteria of efficiency and economic rationality. However, as with cooperation skills,

the legislature has not set the local areas may have delegated powers. Terms and conditions for delegation of public services are limited to the following reasoning: the delegation of power shall be made by the Parliament, the Government's proposal and necessarily accompanied by sufficient financial resources needed to ensure their achievement [4].

With the decentralization of administrative-territorial system, public authorities have taken steps to supply powers transferred to the appropriate resources. As a first action it served approval by the Parliament of the legal framework regulating public finances. The first efforts were made in 1990 when it was established Law no. 381-XII of 29 November 1990 on budgetary system and Law no. 250-XIII of 2 November 1994 on the examination and approval of the state budget. In 1996, they were replaced by Law no. 847 of 24.05.1996 on budgetary system and budgetary process which marks matters much clearer within budgetary processes and tasks in fulfilling their authorities. According to it, public authorities are provided with financial resources for achieving political, economic, social and cultural population and territorial development of the state.

For the local level of administration, on 9 July 1999, for the first time it is Law no. 491-XIV on local public finances, which formed the legal basis regulating the administrative-territorial resources, thus fulfilling the most of the principles of the European Charter on Local Self-Government. By this law:

- were distributed between revenues and expenditure budgets delimited territorial administrative units on both levels;
- were established limits of breakdowns percentage of state revenues to local budgets;
- inter-relationships were substantiated, transfer mechanism and method of execution of budgets through the Treasury, and other provisions in the field [7, pag. 34-35].

Later this law was revised, and on 16 October 2003 under Law no. 123-XV on municipalities approved in 2001, was approved a new law on local public finances. Changes made especially aimed dimensions of financial autonomy and improving the system of control. Subsequent adjustments of Law no. 397-XV of 16 October 2003 on public finances were subject to approval of the new version of the law on local public administration (28 December 2006), which in addition to its administrative demarcation was made financial outline of local autonomy as well.

Another milestone is recorded in 2005-2006, when there is a major concern for financial decentralization actions of Moldovan authorities which externalizes by systematizing the objectives of this nature in the strategic documents state. Thus the Strategy for growth and poverty reduction policy framework for the period concerned State Government has strengthened some actions to improve public sector management and promoting decentralization.

In order to achieve *an efficient and sustainable financial management, based on tools and models of analysis and macroeconomic forecasting community standards,* the Government committed to strengthen the policy / fiscal procedures and ensure a more thorough and credible development budget resource allocation. [2] In this regard, the Central Public Administration Reform was initiated (CPAR), and the project "Public Finance Management" (PFMP).

The actions of the central public administration reform were implemented by the World Bank and the Public Finance Management project received co-funding from the Government of the Netherlands and the Swedish International Development Agency in the form of grants. A contribution both financial and methodological had the Government of Moldova together with resort ministries.

The period of reforms started in 2006 with an end in 2009 but failed because of several indicators of progress, extended until 2011, then until 31.12.2012. Reform does not know an end only through two operations completed: moreover, the actions taken during the period concerned have initiated a process of continuous development of public finance management which is conducted today.

In the central public administration, public financial management was proposed to be enhanced by actions aimed at creating an efficient and sustainable interaction policymaking process with the budgetary process, including creating Directions analysis, monitoring and evaluation of policies to sector policy coordination, and the Ministry of Finance – by modernizing budget classification and introducing unique plan for public sector accounts, perfecting the methodology for the design and execution of the budget and the implementation of an Integrated Financial Management Information System [2].

A manifest achievement of public finance management reform is considered to be the development and approval of the **Law on public finances and budgetary-fiscal**. By implementing the above mentioned law was proposed the following objectives [5, pag. 3]:

1. Strengthening global budgetary and fiscal discipline by establishing principles and rules of budgetary and fiscal single components to the national public budget;
2. Comprehensive regulation of the budget process and improving procedures on the development, approval and administration of budgets of all levels;
3. Efficient management of budgetary resources by establishing new rules on training and management of revenues collected by authorities/budgetary institutions, including foreign-financed projects, and reviewing the role and composition of budgetary reserves;
4. The delimitation of competences and broadening mandates participants in the budget process, while raising their responsibility.

The law was approved on 25 July 2014 onwards to replace the Law no. 847-XIII of 24 May 1996 on budgetary system and budgetary process, while being adjusted and other laws and laws governing specific areas and separate elements of the budget system. This law came into force on 1 January 2015 but not the complete structure, except some elements defined in art. 82 of this law, as from 1 January 2016 will receive full legislative authority, the law on budget system and budget process being repealed.

It is important to note that the *Law on public finances and budgetary-fiscal* no. 181 of July 25, 2014 represents basic organic law of public finances which establishes general principles and rules common to all national public budget components. However, taking into account the principles of local autonomy and financial decentralization initiatives, specific regulations on local budgets and inter-budgetary relations between local budgets for first and second level will continue to be provided under the law on local public finance with the appropriate adjustments [10].

Restructuring brought about by the new system of training of local government budgets were the result of important compromises of the problem makers because proving the impossibility to improve the financial situation of all levels of ATU. The new implemented system aims actually, improvements in public services offered to citizens, which can be achieved by empowering and efficient local government, local officials receiving authority and resources with which to make decisions concerning the provision of public services.

It may be noted that Moldova is strongly committed to achieving amendments to strengthen local financial autonomy. The performances achieved are still minor because only changes required have their beginning in 2014, and to substantiate results a period of time is requested. Then, following a strengthening of local government and having a new mechanism, practical and efficient local tax collection will be able to develop and implement a new phase of reform concentrated more on issues of fairness.

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THE MODERNIZATION OF THE BUDGET PROCESS OF ROMANIA: GAPS AND THE NEED OF THE EFFICIENT MANAGEMENT OF THE BUDGET

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Romania's budgetary policy has as one of its objectives to maintain a particular level of aggregate demand in the economy through public expenditures and tax rates. The increase of the Romanian government debt in the latest period was driven mainly by engaging the debt to finance the budget deficit, refinancing of the public debt, enhancing the financial reserve in currency etc. For an economy that seeks to be in a permanent rise, it becomes appropriate a well-founded budget policy that will take into account the concrete circumstances of the economic and social life, needs of the present and the imperatives of the future. It may prove beneficial to progress, but if they are not mattered or disregarded it can brake the growth, can lead to social tensions and involution.

Key words: *budget, public expenditures, efficient management, budgetary policy.*

Politica bugetară a României are drept unul din obiectivele sale menţinerea unui nivel anume al cererii agregate în economie prin intermediul cheltuielilor publice şi ratelor de impozitare. Creşterea de datorie guvernamentală a României, din ultima perioadă, a fost determinată în principal de angajarea datoriei pentru finanţarea deficitului bugetar, refinanţarea datoriei publice, consolidarea rezervei financiare în valută etc. Or, pentru o economie care se doreşte a fi într-o permanentă ascendenţă, devine oportună o politică bugetară bine fundamentată, care va ţine seama de condiţiile concrete ale vieţii economice şi sociale, de exigenţele prezentului şi de imperativele viitorului. Aceasta se poate dovedi benefică pentru progres, dar dacă nu le sesizează sau nu ţine seama de ele, ea poate frâna dezvoltarea, poate duce la involuţie şi la tensiuni sociale.

Cuvinte cheie: *buget, cheltuieli publice, gestionare eficientă, politică bugetară.*

Бюджетная политика Румынии имеет в качестве одной из его задач – подержание определенного уровня совокупного спроса в экономике через государственные расходы и налоговые ставки. Увеличение государственного долга Румынии, в последние годы, было обусловлено, главным образом, долговым обязательством для финансирования дефицита бюджета, рефинансирования государственного долга, консолидации финансовой резервной валюты и т.д. Или, для экономики, которая стремиться быть в постоянном приросте, целесообразно обоснованная бюджетная политика, которая будет учитывать конкретные актуальные условия экономические и социальние тревония и будущих императивов. Это может оказаться полезным для прогресса, но если их игнорировать, это может препятствовать развитию и привести к социальных напряжений.

Ключевые слова: *бюджет, государственные расходы, эффективное управление, бюджетная политика.*

JEL Classification: H50, H5, H20, G39.

Introduction. Through budgetary policy, the Government is trying to influence the aggregate demand in the economy through government spending and tax rates. This policy is more flexible because the Government does not need to maintain the "budgetary balance"-he may have a budget surplus, spending less than it receives from taxes, or they may be faced with a budget deficit, spending more than the amount derived from taxes. In the last case, the budget deficit, the extra expense can be financed either by loan or through the issuance of currency. However, there must not be omitted the fact that an extremely high budget deficit is dangerous-especially if the financing of the deficit mostly by increasing the offer of money that has a clearly inflationary trend.

Basic content. In accordance with the strategy for managing the public Government's debt for the period 2013-2015, budget deficit financing will be achieved in a balanced proportion from internal sources and from external sources, mainly by issuing Government securities on the domestic and international

capital markets and the Government's debt refinancing will ensure from the market on which it was originally issued [1].

Gross government's debt according to EU methodology accounted for 37.9% of GDP by the end of 2012, hovering below the 60% ceiling set by the Treaty on European Union. If it is envisaged the financial reserve located at the disposal of the State Treasury, the government's net debt in late 2012 was 35.3%. The increase in government's debt was mainly determined by the hiring of debt to finance the budget deficit, refinancing the public debt and consolidation of the financial reserve at the disposal of the State Treasury, both on the domestic market, through issuing state securities and on the foreign market, through securities, and drawdown from loans intended for the funding of projects.

At the level of the Member Countries of the European Union, at the end of the second quarter of 2013, Romania was the fourth through EU Member States with lowest level of indebtedness after Estonia (9.8%), Bulgaria (18.0%) and Luxembourg (23,1%). As well, at the end of the second quarter of 2013, EU Member States with the highest level of indebtedness were: Greece (169,1%), Italy (133,3%), Portugal (131,3%) and Ireland (125,7%) [2].

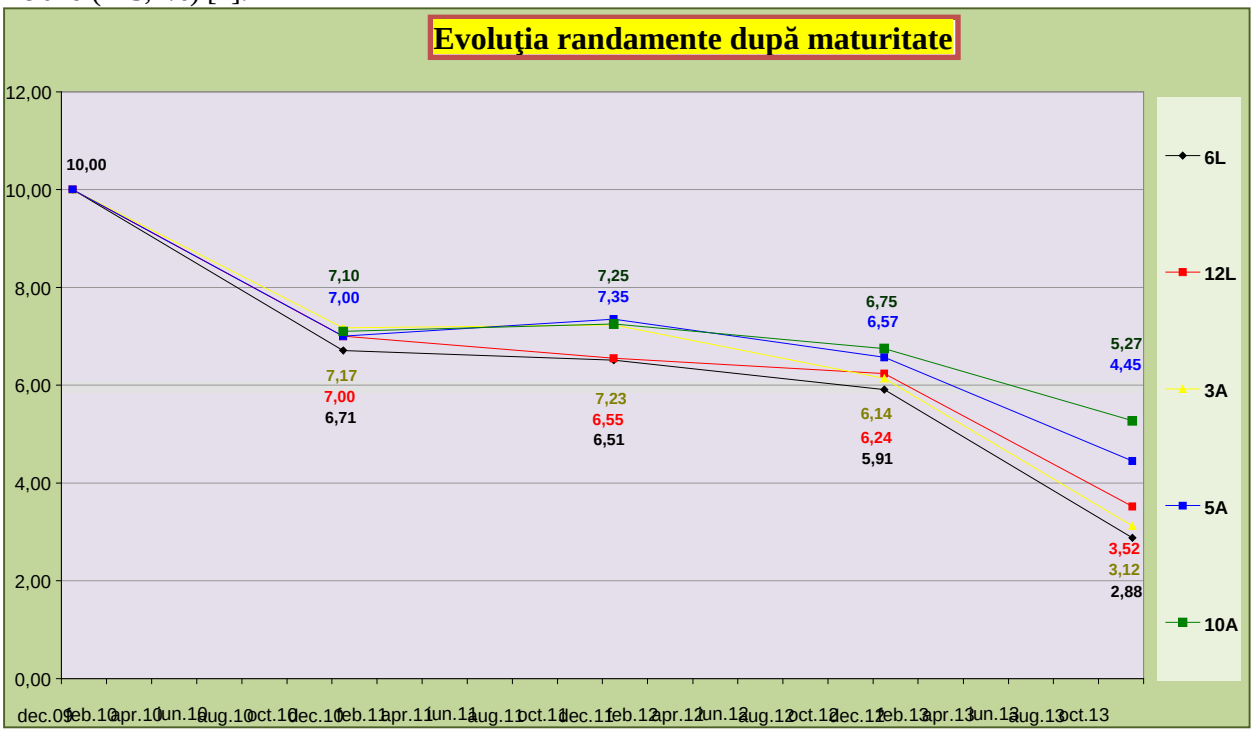


Fig. 1. Comparison of Romania with UE (% Gouvernment's debt in GDP)

Note: Eurostat calculates the share of debt in GDP taking into account GDP achieved during the last 4 quarters.

Source: Eurostat newsrelease euroindicators October 23, 2013 (published data as a result of related data of the second quarter of 2013).

In this context, for the finance from the domestic market MPF will act to extend the issue of State securities, broadening and diversifying the investor base as well as for strengthening and extending the yield curve of State securities, so the State securities to represent a reference for the financing in lei of internal capital market. Moreover, the development of the internal market for government securities is a strategic objective of the MPF on long term, considering that a liquid and developed internal market of Government securities helps to mitigate external shocks to the economy and provide financing solutions from the domestic market when financing from external markets becomes difficult and costly. It is worth noting also the diversification of the investment base of State securities issued on the domestic market, the share of non-residents in total securities increasing to a level of 24% at the end of September.

As regards external financing, this will ensure mainly by issuing Eurobonds on foreign markets, MPF acting to maintain a yield curve for the issues denominated in Euro, in particular for those existing on the market for 5 and 10 years, and to strengthen the position held on international capital markets. Securities issues on external markets denominated in DOLLARS or in other currencies will have an occasional character, considering the advantages offered by these markets. Loans from international financial institutions represent another source of foreign financing, very advantageous in terms of costs and of the

repayment term, apart from the benefit of technical assistance offered by these institutions on the structural reforms the Government has undertaken or projects supported by these financing.

Rule defined by articles 6 d) of fiscal responsibility Law, no. 69/2010 according to which "for each of the three years covered by the budget fiscal strategy, the annual rate of growth in the overall expenditure of the consolidated budget will be kept at below the annual rate of nominal growth of the gross domestic product forecasted for the budgetary year concerned until the preliminary balance of the consolidated budget recorded surplus in the year before the year for which the budget was drafted" is respected considering the fact that share in GDP of these is reduced from 35.1% in 2014 at 34,6% of GDP in the year 2016 [3].

In 2014 the budgetary costs have a share in the GDP of 35.1%, the share that begins to decline starting in 2015, reaching 34,6% of GDP in the year 2016. Consolidated budgetary position 2014-2016 reflects a share of budgetary revenues of 32.9-33.1% of GDP compared to the corresponding period 2011-2013 of 32,6-32.9% of GDP, in the light of developments in economic activity.

It is distinguished the efforts on the line of strengthening, whereas the targets of deficit and cash basis of ESA 95 for the period 2014-2016 is between 2,2-1,4% of GDP due to the actions supported by the collection of taxes and fees and limit of spending, but also by the need to achieve some structural deficits smaller than the actual ones. The year 2016 has been added to the refrence horizont, but the cash deficit target and ESA is 1.4% [4].

Risks: Non realization of income at the presented level may determine, during the period 2014-2016, changes in the allocation of expenditures in order to meet the deficit target.

At the level of the member countries of the European Union, Romania at the end of 2012 was on the fourth place among EU countries with the lowest level of indebtedness after Estonia (10.1%), Bulgaria (18.5%) and Luxembourg (20.8%), and accordingly we estimate that the level of debt on the medium term will continue to be among the lowest of the EU Member States.

Analysis of the influence of the decrease of economic growth below the expectations on the level of the Government debt. For the analysis of the influence of a reduction in growth rate on the stock of government debt, were used two scenarios:

- the basic scenario, based on the forecasts presented in the macroeconomic on medium term, and
- the second scenario (alternative scenario) was built on the basis of the hypothesis of a lower economic growth with 1% from the basic scenario.

In the basic scenario the share of the gross government debt to GDP will increase by 0.2% of GDP at the end of the year 2016 compared to debt level estimated for the end of 2013 (from 38,4% in 2013 to 38.6% in the year 2016) and in the alternative scenario the share of the gross government debt to GDP rise by 0.5% (from 38.4% in 2013 to 38.9% in the year 2016).

Analysis of the influence of the national currency depreciation in relation to the EURO on the level of interest payments from the State budget. For this analysis were used:

- the basic scenario, based on macroeconomic forecasts presented in the medium term, and
- alternative scenario, based on the hypothesis of the depreciation by 5% of the national currency in relation to the EURO in the medium term.

If in the basic scenario the share of interest payments in the GDP paid from the State budget will fall from 1.67%, estimated level for the year 2014, to 1.56% in the year 2016, in the alternative scenario the share of interest payments in the GDP will decrease to 1.59% by the year 2016.

Analysis of the influence of interest rate increase with 1% on the interest payments from the State budget.

For this analysis, was also used the basic scenario and an alternative scenario based on the hypothesis of an increase in interest rates to government securities and to variable (EURIBOR and LIBOR) with 1% relative to the base scenario. In the basic scenario, the share of interest payments in GDP payed from the State budget will fall from 1.67%, estimated level for 2013 to 1.56% in the year 2016, while in the alternative scenario the share of interest payments in GDP payed from the State budget will increase up to 1.73% in the year 2016.

During the period covered by the strategy, the financing of the budget deficit will be relatively balanced in both internal and external sources with the framing in objectives set out in the strategy of management of the Government's public debt over the medium term, namely:

- ensuring the government's financing needs and payment obligations against the background of minimizing the costs on medium and long term;
- limiting the financial risks associated with government debt portfolio;
- the development of the internal market for government securities.

The strategy of funding from internal sources of budget deficit and public governmental debt

refinancing during the analysed period will be carried out, mainly by State securities issues from the domestic market, namely Treasury certificates and benchmark bonds denominated in lei and in foreign currency with the date on the medium and long term on the basis of existing opportunities and requirements on the market In this regard, the Ministry of public finance will launch issues of Treasury certificates with term up to 1 year and State bonds of benchmark type in lei with a term of up to 15 years and even bigger according to the demand of investors, and debt securities denominated in Euros with a term of 3 and 4 years.

Regarding the external sources of financing, they will be provided primarily by issuing Eurobonds on the external capital markets within Programme „Medium Term Notes", and in addition will contract loans from official creditors (international financial institutions, and Government agencies) and other creditors. The program of medium-term issues became the main instrument through which was insured the access to external financing for medium and long term, both in euros and in dollars, it will be developed further in view of the Government's intention to increase its value. Accessing international capital markets in dollars or other foreign currencies will be realized when financial conditions will prove to be attractive in comparison with the instruments denominated in euros [5].

Taking advantage of the opportunity which appeared on the external capital market in mid-February 2013, the Ministry of Public Finance has launched an issue of Eurobonds in USD.

Sources needed for the Government public debt refinancing will ensure from the markets where were issued these debts and from financial reserve in foreign currency available to the Ministry of Public Finance. To improve the management of public debt and to avoid the seasonal pressures for ensuring the sources of financing of the budget deficit and Government public debt refinancing, starting in 2010, the Ministry of Public Finance has set up a financial reserve (buffer) in currency in the amount equivalent to cover the needs for financing the budget deficit and for public debt refinancing for about 4 months.

Conclusion. The process of fiscal consolidation and achieve the objective on medium-term regarding the structural deficit (1.0% from GDP) corresponding to the Treaty regarding stability, coordination and governance in the context of EU, signed by Romania in March 2012, will determine a decreasing trend of needs for financing the budget deficit in terms of cash.

In view of the decreasing stock of State guarantees issued in the past for loans contracted by companies and the very low level of payments made by the MPF as a Guarantor in the account of the guarantees issued under Government's programs, the estimates for payments that will be made from the State budget in the account of these guarantees are at a level of about 0.1% from GDP in the period 2014-2016. The assumptions of this scenario are considering also the tote guarantees issued within governmental program "Prima casa", the programme of support for those projects' beneficiaries in in priority domains for the Romanian economy, financed from the structural instruments of the European Union allocated to Romania, the programme for the thermal rehabilitation of assemblies of housing, the program Kogalniceanu in support of SME-s and the Government programme concerning the measures for the architectural and environmental requirements improvement of housing assemblies.

Considering the evolution of the economic growth potential for the period 2014-2016 is expected that the Romanian economy will resume the growth more sustained, being possible an increase of the gross domestic product with 2.6% per year.

Therefore, a well-founded budgetary policy that takes into account the conditions of economic and social life, the requirements of the present and future needs, it may prove beneficial for progress; Instead, if not to take into account them it can stop the development and can lead to social tensions and to the involution.

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THE ASSESSMENT OF THE DEVELOPMENT PHASES OF TRANSNATIONAL CORPORATIONS

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The present study is focused on the analysis of the particularities of the development of the transnational corporations starting with their appearance, which from the historical point of view has passed through several phases. Generalizing the scientific literature study that has been done, was identified the consecutiveness development of the transnational corporations in five major phases. Thus, all large companies are treated as international companies, because by increasing the liberalization of international economic relations is triggered the process of opening the global market and international division of labour. Along with financial capital and technology, TNC transfer through the entrepreneurial capital of the receiver economy and managerial-organizational skills, influencing the competitiveness of firms and the economic performance of host countries.

Key words: *transnationalization, international companies, transnational corporations, development phases.*

Prezentul studiu este axat pe analiza particularităţilor de dezvoltare a corporaţiilor transnaţionale începând cu apariţia acestora, care din punct de vedere istoric, a trecut prin mai multe faze. Generalizând studiul literaturii de specialitate efectuate, a fost identificată consecutivitatea dezvoltării corporaţiilor transnaţionale în cinci mari faze. Astăzi, toate companiile mari sunt tratate ca şi companii internaţionale, deoarece prin creşterea liberalizării relaţiilor economice internaţionale, se declanşează procesul deschiderii pieţei globale şi a diviziunii internaţionale a muncii. Alături de capitalul financiar şi tehnologie, corporaţiile transnaţionale transferă economiei receptoare prin intermediul capitalului antreprenorial şi competenţele sale managerial-organizaţionale, astfel influenţând hotărâtor competitivitatea firmelor şi performanţa economică a ţărilor-gazdă.

Cuvinte cheie: *transnaţionalizare, companii internaţionale, corporaţii transnaţionale, faze de dezvoltare.*

Это исследование базируется на анализе особенностей развития транснациональных корпораций, начиная с их появления - с исторической точки зрения и прошедших через несколько этапов. При обобщении литературного анализа, была определена последовательность пяти основных этапах развития транснациональных корпораций. В настоящий момент все крупные компании рассматриваются и как международные компании, так как при дальнейшей либерализации международных экономических отношений срабатывает процесс открытия глобального рынка и международного разделения труда. Наряду с финансовым и технологическим капиталом, транснациональные корпорации переводят приемной экономике и предпринимательский капитал, тем самым влияя на конкурентоспособность фирм и экономический показателей стран пребывания.

Ключевые слова: *транснационализация, этапы развития, международные компании, транснациональные корпорации.*

JEL Classification: D2; D40; D45; F14; F30; F5; F6.

Introduction. Transnationalization as a part of the contemporary economy shows a heightened interest from the national economies, the scientific community and practitioners. The tendency of penetration the territory of neighbouring States by large companies, favours the transferring of the capital of transnational corporations (TNC) to countries which have a high potential of production factors (labour, land, minerals). However, for the world economy the transnationalization process implications are ambiguous. On the one hand, this favours the rationalisation of global reproductive processes and equalization of the economic conditions from different countries. On the other hand, transnationalization is beneficial to the countries of origin, where corporations make direct investments and for the countries in which they invest.

Another quality of transnational corporations consists in preventing the protectionist policy of the Governments of the countries of origin, through the implementation of protection measures, of investments and minimizing the risks. Therefore, on the position of the countries of origin the transnationalisation process can often be perceived as the export of capital from the country of expansion of TNC and reducing its national economic opportunities.

Basic content. Thus, the activity of transnational corporations, in spite of the favourable influence on the economy of the host countries and of the countries of origin is often influenced by the economic, social and political specific of the host countries. The scientific literature treats this as a fundamental contradiction of the modern period between the interests of transnational capital and host states. However, perhaps in this battle of interests is a contradictory dialectical unity which becomes the main force of the world economy.

Along with financial capital and technology, TNC transfer through the entrepreneurial capital of the receiver economy and managerial-organizational skills, influencing the competitiveness of firms and the economic performance of these countries.

As a key productive resource, managerial and organizational practices represents the multiplicity and diversity of strategies, methods and techniques, retrieved at the level of the various coordinates of the company activity as economic structure in the following areas [1]:

- In the field of internationalisation strategies, which have a tendency to increase the degree of integration of the parent company's activities with those of the subsidiaries. From the subsidiary's strategy with functional autonomy, companies pass into an ever-growing measure to simple and functional integration strategies. In the case of the latter is produced a decentralization of the activities of transnational complexes, subsidiaries abroad being able to locate the most important functions within it, from financial management to the juridical function, if they prove to be able to conduct them optimum. Accordingly, the degree of integration deepens and acquires a new dimension, being achieved not at the level of some segments of the production process itself, but at the level of functional compartments, including the strategic ones:

- In the field of production process itself, flexible production transformations at the expense of techniques and specific methods of mass production;

- In the field of labour relations and human resources is practiced various formulas: payroll direct proportional to the work result, payroll based on the duration of the presence in the same place of work and the characteristics of the post, not of the person, teamwork, job rotation etc.;

- As regards the decision-making process, made all the more space the idea of decentralization of the decision, of adopting it at the functional level directly targeted, no matter how down this is in the hierarchical plan;

- In the sphere of relations with suppliers tend to retrieve both: the classic reports determined by mass production system, in which the selection of suppliers is done primarily by price and the network type relationships that are in full development.

Thus, all large companies are treated as international companies, because by increasing the liberalization of international economic relations is triggered the process of opening the global market and international division of labour. At present, the share of TN C in international trade according to the estimates of the specialists in the field, represents more than half, while in some developed countries is up to 80%. Thus, almost all modern international corporations are presented in the form of transnational corporations [2].

From historical point of view, the development of the TNC has gone through several phases or stages of development. Since the first attestation of appearance of TNC (late 19th century) they have registered a growing trend. Generalizing the scientific literature study made by author, I maintain that the development of the transnational corporations till now can be phased in five major phases.

The first phase of the occurrence and development of the TNC (beginning of the 19th century - the beginning of World War I, 1914-1918) was mainly engaged in the development and production of raw materials from colonial countries in Asia, Africa and Latin America, as well as their processing in proprietary countries of these colonies. At the core of the early forms of TNC were cartels and syndicates.

The second phase is determined by the fact that TNC were developing in the period between the two world wars (1918-1939) and have largely produced arms and military equipment to meet the military needs of the leading countries in Europe, America and Japan.

The third stage in the development of the TNC has started to take shape after the Second World War and especially after the collapse of Empires and colonial system (1950-1960). The third generation of the TNC are considered generators and distributors of innovations (nuclear energy, electronics, aerospace, tools, etc.). This generation has contributed to the spread of techno-scientific achievements in outlying areas of the world economy and most importantly, they created economic conditions to emergence the single capital market and workforce with information space. Due to the fierce fight for sales markets TNC lodged effort to obtain benefits in price competition, with emphasis on economic competitiveness [3].

The fourth generation of TNC (phase IV) began to be formed gradually in the 1970s-1980s, in the conditions of intensive development of the techno-scientific progress, under the influence of an increasingly competitive global market. Namely in this period was given the start of an accelerated process of mergers and corporate takeovers, which has contributed to a concentration of capital and the development of the production of the most successful TNC. Distinctive features of this period are:

1. Definition of competitiveness as part of the global market;
2. Sectioning the world market according to existing global TNC;
3. Coordination of the network of enterprises-daughter of TNC according to the informational network by flexible organization of each separate production units, the adaptability and flexibility of the entire organizational structure of the corporation, the uniform organization of the accounting and auditing, etc.
4. Integration of subsidiaries, factories and enterprises in a single international management network which in turn is integrated with other networks of the TNC.
5. TNC have tendency to influence on economic and political level the State where they develop their businessc.

The TNC of the fourth generation are prevailing by an upsurge of innovational activity, continuous improvement of internal corporate structure, determination and selection of new directions and fields of activity. The renowned American scientist M. Porter characterizes transnational corporations as follows: "TNC are capable of implementing in practice a truly global strategy: they sell products worldwide; they are searching for raw material or its components across the globe; distributes its own production in most countries; form unions and associations with similar companies in other countries" [4].

During the boom of the fourth phase in the economic activity were extensively requested the strategic alliances and were held multiple mergers and corporate takeovers. This process was triggered in large part by the emergence and development of new financial instruments on the international market.

Transnational corporations accept and are guided in the managerial activity by certain principles and general economic concepts. I support the vision of the great American economist Philip Kotler, referring to the fact that the formation of such big companies is conditioned by the following factors:

- ✓ Consumers from all over the planet at the time of the choice of certain kinds of products are guided by the common criteria;
- ✓ Consumers appreciate the high level of products and services;
- ✓ Indifferent to the type of the market, competition is based on competitiveness;
- ✓ Mass production based on competitiveness and quality ensures reduction of costs and visible savings.

When elaborating their own strategies, TNC rely on advanced technologies in launching the production processes and getting finished production. Thus, are created unique global systems of communications and transport [5].

As a result of the related, it is possible the emergence of a new economic entity- the global company, which conceives the world economy as a whole. For each new enlargement it chooses the optimal place of business, making a series of entrepreneurial capital investments. New organizational structures of production sowed the seed of a new industrial era, to which multinational enterprises have had to adapt. The TNC tendency to form global companies is explained by the fact that it relies on optimizing the expenditure on account of the volume of production at the vast scale and by using the advantages of the different regional areas.

The need of presence on global markets of great importance, favours fast-growing cost compensation for the research-innovation activity of the companies. In most cases, the internationalization of firms and production was a strategic necessity, dictated or by the objectives they proposed regarding the development, either by remaining competitive with other companies situated in different countries. Thus, it is well known that the implantation of production abroad is carried out with the aim to weaken the competition and increase the competitiveness. Multinational enterprises are very strong at home.

Therefore, in order to weaken a dangerous competitor it is needed to trigger an offensive on its territory, to reduce the margin of action. Consequently, it is possible the formation of international production systems managed by means of the most advanced information technologies [6].

The fifth stage in the development of the TNC is noted at the beginning of the 21st century, starting with the second half of the 1990s and continues till the present day. It is characterized by accelerating the process of regional economic integration. Trends of global integration and the emergence of common economic zones in some regions, offers great opportunities for international business. This phase of development of the TNC differs from previous through the increased economic strength and the affirmation in the global economy as an entity independent of States where it take birth.

Global companies increasingly clearly express the tendency for the formation of conglomerates, groups and holdings that include commercial industrial and financial companies. Consequence of global strategies-the mergers and corporate takeovers leads to the formation of an integrated international industrial system, in comparison with which the national territories and States express themselves as secondary values.

The permanent development of trade, financial-currency, scientific-innovative and production relations within the contemporary TNC, make us to conclude over the global character of the activity of transnational corporations. For the current generation of TNC it is identified the safe confidence that they show towards the techno-scientific activity and innovational business. In this context, I maintain that the contemporary TNC are generators of ideas, concepts and innovative elaborations.

The evolutionary development of the TNC phases can be systematized according to the table:

Phases of the development of transnational corporations and their competitive advantages

Stage of development of the TNC	Characteristics of TNC phase	The field of activity of the TNC (forms of organisation of the economic activity)	Competitiveness in advantage
1. beginning of the 19th century - the beginning of World War I, 1914-1918	The formation and development of the TNC activity began from zero, this required large investments which often was detrimental to the national interests of many countries	The creation of colonies that were supplying raw material (Cartels, syndicates, trusts)	The availability of the enlarged possibilities for production and outlets
2. the period between the years 1918-1939	TNC were respecting the priority of the national interests and were cooperating with the Governments of countries of origin	Ensuring the military industry (trusts, strategic alliances)	The availability of the enlarged possibilities for production and outlets
3. the period between the years 1950-1960	Creating the assembly-lines of TNC in the host countries	Fostering widely the implement of innovations in the economic activity (concerns, conglomerates)	The support of the price competition through intense development of the assembly-lines of the TNC in host countries
4. the period between the years 1970-1980	TNC puts the basis of the modern global economy and of the economic processes through domination of important economic sectors	The merger of all production departments (beginning with the elaboration of innovations and ending with the commercialization of finished goods) within TNC (strategic alliances, mergers)	Widely use of global strategy
5. starting with the second half of the 1990s and continues till the present day	TNC are recognized as basic economic entities that have the power of influence on decisions of the world States.	The TNC activity spreads in all areas of the economic activity (conglomerate, holdings, financial and industrial groups, etc.)	Widely use of the opportunities offered by the financial and the informational market

Source: Elaborated by the author.

At the beginning of the 21st century transnationalization of production and of capital becomes the primary condition for functioning and development of big companies. Also, TNC are private as the factor that determines to a large extent the pace and proportions of the global economic system, because the scope of the activities of the TNC has increased significantly as a result of the opening of the European economic area and the post-Soviet and reducing the commercial barriers by the World Trade Organization.

Conclusion. Summarizing, we note that currently for TNC national identity, from the economic point of view is considered a conventional category because it sells its production outside the country of origin. However, the financial resources they invest in countries that are juridical, financial-fiscal and political favourable. TNC also benefit from certain exemptions much more favourable that State creates for its regions development, than those of national companies.

In conclusion, I can mention that the development of transnational corporations is a natural process of evolutionary change of the global economy. The main threat in the development of TNC is global monopolisation of certain market segments. At the same time, we must recognize that most of the concerns related to the risks of globalization are often exaggerated and contradictory. However, State Governments where follows to take place the expansion of transnational corporations must be aware that the TNC activity brings a surplus value to national economies.

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