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## USE OF PRESUMPTIVE TAXATION IN FACILITATING SMALL BUSINESS TAX COMPLIANCE

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*The actuality of this article is determined by the necessity of implementing fiscal simplicity for increasing tax compliance through fiscal education of small business representatives. In many developing and transition countries, micro and small enterprises are the most rapidly growing business segment. Tax compliance attitude within this sector varies significantly because high conformation costs and difficult formalization procedures can determine many small enterprises to operate in the informal economy. Thus tax regulation of small enterprises is crucial in the process of small entrepreneurs fiscal education and tax simplification of SMEs in many countries becomes one of the most efficient instruments. The main research methods were systemic analysis and logic synthesis. The main results obtained in article, as a result of research, are identification, analysis and systematization of foreign countries' practices in implementing presumptive tax design and elaboration of some recommendations on fiscal simplicity.*

**Keywords:** Tax Card System, patent tax, the fixed-rate tax of low tax-bracket, small business tax, micro-entreprise tax, presumptive taxation, simplified tax regime, turnover, lump-sum patents.

*Actualitatea prezentului articol este determinat de necesitatea implementării simplificării fiscale, în scopul majorării conformării fiscale prin educarea reprezentanților micului business. În multe țări în curs de dezvoltare și tranziție întreprinderile mici și mijlocii constituie un sector cu un ritm cel mai rapid de creștere. Atitudinea fiscală de conformare a reprezentanților acestui segment al economiei variază enorm, deoarece costurile prea mari de conformare, precum și procedurile dificile de formalizare îi pot determina să activeze într-o economie neformală. Scopul acestui studiu este sistematizarea unor practici ale firmelor străine în implementarea regimurilor fiscale prezumtive (simplificate) și analiza abordărilor selectate de diferite autorități fiscale pentru reducerea poverii fiscale și costurilor de conformare pentru întreprinderile problematice. Metodele principale de cercetare au fost analiza sistemică și sinteza logică. Principalele rezultate obținute în articol, urmare a cercetării, sunt identificarea, analiza și sistematizarea practicilor firmelor străine în implementarea designului fiscal presumpțiv și elaborarea unor recomandări privind simplificarea fiscală.*

**Cuvinte cheie:** Sistemul "Card fiscal", taxa patentară, impozit KIVA, impozit pentru businessul mic, impozit pe veniturile microîntreprinderilor, impozitare prezumtivă, regim fiscal simplificat, sumă patentară fixă.

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„average” income instead of actual income. Presumptive taxation involves the usage of indirect instruments to estimate tax liability, which is realized in a different manner in comparison with the usual rules that are based on the taxpayer's accounts. The term „presumptive” indicates that there is a legal presumption that the taxpayer's income will be not lower than the amount resulting from application of the indirect method.

**JEL Classification: E62, H24, H25.**

**Introduction.** Presumptive Taxation is a concept according to which the income tax is based on „average” income instead of actual income. Presumptive taxation involves the usage of indirect instruments to estimate tax liability, which is realized in a different manner in comparison with the usual rules that are based on the taxpayer's accounts. The term „presumptive” indicates that there is a legal presumption that the taxpayer's income will be not lower than the amount resulting from application of the indirect method.

Developing an environment that would lead to SME growth and guarantee at the same time tax compliance by business operators is a challenge for all tax authorities and in this way, fiscal simplification becomes an efficient instrument in the process of small entrepreneurs tax education for their migration from informal to formal sector in near future.

#### **Presumptive systems of taxation: general concept and principles of implementation**

There are used a variety of approaches in international practice in applying presumptive (simplified) taxation for SMEs, but *the general idea is that the desired tax base is not measured itself, but is calculated based on some indicators like turnover, assets, location, etc., and not on the base of declared net income, which is more easily measured than the base itself.*

Motivation of using simplified system of taxation by tax authorities falls in two groups:

1. Simplified processing of tax returns and simple procedure of bookkeeping;
2. Improved tax compliance, reduced tax avoidance and a more correct taxation within the SMEs sector.

There is no exactly the same experience with the construction and implementation of presumptive systems, as there are no general approaches. Different types of presumptive methods can have several incentive effects, as well as revenue effects, levels of system's complexity and administrative implications. Nevertheless, there can be summarized some general principles in their functioning:

*First principle states that the application of presumptive systems should be limited to small business sector*, as business operators face difficulties in keeping own books and records. This way presumptive taxation becomes an efficient instrument for reducing the SMEs compliance burden with standard requirements of recordkeeping.

*The second principle lays in the general scope followed by the Government*, which should not consist in generation of additional budget revenues, but *familiarization of small companies or individual merchants with legal accounting requirements and bringing informal business into tax net in near future*. At the same time, *there should be excluded the possibilities of abusing the system by larger enterprises*. Combating tax avoidance or evasion will work only if the indicators on which the presumption is based are more difficult to hide than those forming the basis for accounting records.

*The third principle states that presumptive systems should not act as a disincentive for business growth and should be coordinated with the standard tax regime*. There could be chosen different approaches for segments of SME sector, nevertheless a detailed analysis to adequately estimate profit potential of business operators is required.

*The fourth principle states that presumptive methods can lead to a more equitable distribution of tax burden*, because normal accounting methods can be unreliable due to problems of taxpayer compliance and administrative corruption.

In a considerable way, these presumptive (simplified) regimes were recommended by international financial organizations, including the IMF and the World Bank in the process of policy recommendations within technical assistance programs in transition economies. The main motives lay in the fight against corruption and underground economy, as well as simplification of tax administration for the improvement

of business environment. Thus, USAID has supported an initiative proposed by the Federation of Business Circles of Kyrgyzstan to implement the patent system of taxation and expand it to a broader circle of business operators. Similarly, in Ukraine USAID considers presumptive taxation as an instrument to facilitate the transfers of revenues from the shadow economy [10]. In Republic of Moldova, according to the Letter of Intent of the Government of Moldova of November 30, 2000, in the context of the Government's request for financial support from the IMF, first premises of a simplified tax system are created, through the commitment to analyse the implementation of small business license fees (patents).

For transition countries aiming to adhere to European Union, the EU Commission recommends to improve and simplify the business environment for business start-ups through the elements of a presumptive system, for example, through introduction of some limits, reduced monitoring and reporting requirements in order to reduce the tax burden and compliance costs for SMEs.

On the other hand, several opinions pointed to the risks of presumptive systems. Thus, a fixed tax is considered too complicated, while for certain regions (for example, Ukraine) the design of a presumptive system of taxation is too generous, which is not justified for current economic situation.

The extent to which presumptive systems are used varies largely from country to country. Some countries do not use presumptive taxes (USA), while others use this type of taxation in an extensive way (France).

Presumptive methods can be rebuttable or irrebuttable in terms of legal characteristics. *Within rebuttable methods*, administrative approaches on taxpayer's income may not be included in the statute. If the taxpayer does not agree with the reached result, he can prove that his actual income that is calculated according to normal tax accounting rules is less than the one calculated within presumptive method. On the contrary, irrebuttable presumptive calculation should be specified in the company's statute and precisely specified.

The appropriate design of presumptive system will depend on the particular problems the Government desires to solve. That is why, it is necessary to estimate *what types of taxpayers form the source to problems under normal rules for determining the tax base and the nature of those problems*. In some cases, presumptive taxation may not be a good solution. For example, if a particular group of taxpayers is not able to comply with the actual tax system, it should be excluded from it. Generally, there are three groups of taxpayers who present the source of problems against which the presumptive methods are directed:

- Small business and professionals;
- Individuals who operate economic activity;
- Large companies.

Therefore, *before a certain presumptive method is recommended to be designed in a particular country, it is necessary to determine what types of taxpayers or business sector face problems or cannot comply with the existent legal standard tax policy*.

Presumptive systems can be divided into three large groups according to indicators used for calculation of tax burden:

1. Lump-sum taxes (patents);
2. Taxes based on indicators of income capacity (turnover or gross income indicators);
3. Taxes based on indicators.

Also, taxes can be based on agreement with the taxpayer, those that are rebuttable, and those that will allow the taxpayer to choose between the presumptive tax and the standard tax. At the same time, a presumptive tax can fix the minimum tax liability, or can provide a tax ceiling as a maximum tax. Different countries may opt for several schemes of taxation, by combining various elements of the above mentioned types of taxes. For example, lump-sum patents can be divided according to business sectors, products, or rendered services and can set multiple rates within the industry based on location of the activity, size of business or sales volume.

Further in this article, there will be examined the first two types of taxes used in practice of some selected countries.

#### **I. Lump-sum taxes (patents) and micro-enterprise tax regimes**

The lump-sum tax is the easiest form of presumptive taxation. It was widely implemented in transition countries like Hungary, Poland, the Czech Republic, Slovakia, Latvia, as well as former Soviet republics, including Republic of Moldova. Within this regime, groups are divided by economic activity or profession, and the tax liability is set according to the average income potential of the respective group.

Patent sums are determined by local governments, while national tax laws provide the basic structure for the regime and determine minimum and maximum patent rates.

The task of setting tax level by administration is not easy, as if not set at the proper level, it can discourage start-up entrepreneurs to go formal into standard taxation in future. Also, if designed incorrectly, there will be created the premises of over-taxing less profitable companies.

On the other hand, as potential advantages generated by patent systems, there can be mentioned [6]:

- Predictability and transparency of tax burden for business operator;
- Business growth stimulation;
- No estimation of potential business revenues is required.

The design of patent regimes varies considerably in international practice. In some countries, patent systems are simple, being limited just in fixing one single amount for all micro businesses, irrespective of business type and location. In other countries it is practiced the elaboration of a detailed list of micro business activities and the determination of individual patent fees for each activity. A typical example of such a regime is developed in Bulgaria, where there are specified 40 different categories of activity, with the specification of minimum and maximum sums for indicators [8]. Local governments determine the applicable amount for businesses in their territory, considering at the same time the precise location of the business, its economic importance, population density in the area in which the business has been established and the seasonal or permanent nature of the activity carried out [6].

The Bulgarian patent tax does not allow to choose between it and standard income taxation, being unconditionally listed the groups of taxpayers that are liable under legislation. The obligation refers to both legal persons and individuals who perform economic activity and whose activity is in the list of patent tax, and whose gross income is less than the specified threshold – 50000 BGN [6, 8]. Persons that are eligible of paying the patent tax are any individual, including sole traders<sup>1</sup>, providing that they are not registered under the VAT Act and are not levied under the procedure of the new Personal Income Tax Act.

Setting different rates impose a serious task for tax administration, as they should reflect current situation of business sector and should be constantly updated. Usually, in transition economies tax decentralization is not implemented and the Ministry of Finance doesn't possess enough tax specialists to control on local level business operators and the correctness of declared income.

Elaboration of detailed lists of activities that are covered by patent is also practiced in Poland through the Polish Tax Card system and Latvia. In the Kyrgyz Republic the patent list is too sophisticated, including more than 100 main categories of patent activity, with an extensive list of sub-categories [6].

*The "Tax Card" scheme in Poland (karta podatkowa)* is the simplest form of taxation available to taxable persons engaged in some forms of business activity, mainly small-scale craftsmen, or sole traders, or in the form of civil law partnerships. Another important limitation is that not all individuals are entitled to this tax solution. A taxable individual using this scheme receives from the head of a tax office a decision indicating a monthly amount of the tax, which depends primarily on the type of activity, the size of the locality in which the business is conducted, and the number of employees. The tax rates are expressed in the amount of money to be paid (not in %) and are increased every year. Also, taxable natural persons within the "tax card" scheme are exempt from the obligation of bookkeeping, filing tax returns and paying income tax advances.

This type of taxation is possible for taxpayers in conditions if they start economic activity and choose this method of settlement. If the taxpayers had already run such an activity in the previous year, the lump sum taxation will be still available for them with the condition that their revenue from that year does not exceed 150.000 EUR [6].

Thus, the given simplified method can be applied to six categories of business activity. Among them are:

- retail sale of food, drink, flowers and tobacco products – except for drinks with alcohol content of over 1,5%;
- retail sale of non-food products except for e.g. motor fuel;
- transportation services (with the use of one vehicle);

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<sup>1</sup>Annex 4 of the Local Taxes and Fees Act of Bulgaria specifies the types of licensed activities (patent activities) and the annual amount of tax paid

- catering services;
- entertainment;
- sole traders operating in to health or veterinary businesses.

The lump sum payment can also be chosen by taxpayers that perform a non-agricultural economic activity to a limited extent.

The lump sum tax rates on registered revenue can vary as following:

- 20% for revenue from freelance professions;
- 8.5% for revenue from services, including catering with the sale of beverages which has over 1.5% alcohol;
- 5.5% for revenue obtained from production and construction works;
- 3.0% for catering services, except for revenue obtained from the sale of beverages, which contains over 1.5% of alcohol.

The lump sum on registered income can't be applied for taxpayers that receive their whole or part of the revenues, for example in field of running pharmacies, trade of foreign currencies and trading of parts or additional accessories of motor vehicles.

Entrepreneurs that use the fixed amount tax method can opt for various accounting simplifications. They are exempted from bookkeeping, filing tax returns or making advance payments on personal income tax. They have the obligation to deduct their health insurance contributions. Also, they are obliged to issue invoices or bills, pay the tax according to established deadline and keep individual payroll sheets of their personnel.

The choice of the fixed amount tax should be made before starting the business activity. If the business activity is already operating it should be done until 20th of January of the given year – with the effect for the following years.

In Latvia, self-employed persons performing certain economic activities like beauty services, photography services, home care services have the option to pay a monthly patent fee, which varies from 43 to 100 EUR and comprises the personal income tax and the state mandatory social insurance payment [6].

The procedure of submitting for a physical person to register as a patent payer is simple, supposing the submission of application to the State Revenue Service, by indicating the group of professions, within which the economic activity would be performed and the period of time for which the physical person would like to make the patent payments. According to accounting rules, the payers of patent payment carry out only the bookkeeping of income, but cash register systems should be used when payment in cash is received. Also, the payers of patent have the responsibility to issue a registered receipt upon the request of partner.

According to Latvian legislation, the patent payment cannot be chosen, if the annual income from the physical person's economic activity exceeds 10000 LVL (nearly 14000 EUR) or the person has registered with the Register of VAT Payers [6, 9]. Also, the beneficiary of the patent must not employ other persons and perform any other economic activity at the same time.

According to accounting rules, the payers of patent payment carry out only the bookkeeping of income, but cash register systems should be used when payment in cash is received. Also, the payers of patent have the responsibility to issue a registered receipt upon the request of partner.

Tax payers who have registered as economic activities' performers and who do not employ staff, who are not engaged in provision of professional services may opt for paying fixed income tax at a 5% rate of the total income, if their total income does not exceed 14 229 EUR [9].

A good alternative to patent tax for micro-enterprises, or individuals that perform economic activity *is the option for the status of micro-enterprise tax payer*.

Introduction of the micro-enterprise tax in Latvia was the government's response to the deep economic crisis which affected the whole economy of Latvia in 2009. It was designed to create the necessary preconditions to start business activities and develop business environment.

Micro-enterprise tax regime means a transparent tax regime characterized by simplified accounting requirements to encourage small private business activity, self-employment and reduction of grey economy.

According to *Latvia's Micro-enterprise Tax Law*, any legal entity or self-employed person that corresponds to the criteria stipulated in the law may choose to become a payer of the micro-enterprise tax, instead of the regular enterprise income tax and all other taxes. The micro-enterprise tax rate until the end of 2014 was 9% of the company's annual revenue [11].



According to the law, the beneficiary of the micro-enterprise tax should meet the following criteria:

- Maximal number of employees – up to 5;
- The annual turnover does not exceed 100 000 EUR;
- All shareholders are natural persons and monthly salary of any employee does not exceed 720 EUR per month [6, 11].

Latvia has recently amended its micro-enterprise tax regime. Having evaluated the impact of tax reforms during four years, *the Government decided to narrow the sectors that may use the preferential tax regime and to rise the tax rate for enterprises with larger revenues*. There were identified several shortcomings in the micro-business sector.

First of all, it was observed that *employees of the micro-enterprises are not sufficiently socially protected, because the sum allocated to the social security budget from the micro-enterprise tax paid by the company is not sufficient to guarantee social security for employees*.

Another important reason for regime changes was an observation on behalf of specialists that *micro-enterprise tax regime is largely used by larger companies in order to optimize their tax liabilities. It is possible at the same time, to replace regular employment with “outsourcing” of services to micro-enterprises*.

With the purpose of minimizing the negative effects of the micro-enterprise tax regime, Latvian Government recently adopted some amendments to the Micro-enterprise Tax Law, and, thus, *narrowed the application of the micro-enterprise tax to certain industries*, for example legal, accounting and construction services.

Another important change was introduction of different tax rates depending on the turnover. Tax rate of 9% continues to be applied for revenues gained up to 7000 EUR, while for annual revenues of 7001 EUR to 100000 EUR, beginning with 2015 a 12% tax rate is applied<sup>1</sup>.

Another country with a well implemented simplified tax regime for micro-enterprises since 2013, is *Hungary, with two tax schemes fixed-rate tax of low tax-bracket enterprises (KATA) and the Small Company Tax (KIVA)*.

*In case of KATA*, the natural person engaged in full time pays a monthly amount of 50000 HUF (nearly 160 EUR) and if engaged in a non-full time – 25000 HUF (80 EUR). If the person desires to extend his amount of social insurance, there is an option to pay a higher monthly tax – 75000 HUF (241 EUR) [2].

Beneficiaries for this simplified tax scheme can be sole-traders, self-employed persons, limited or general partnerships with only individual members.

*In case of KIVA*, the tax rate is 16% applied on income of: sole traders, general/limited/limited liability partnerships, cooperatives, executive/law/notary/patent attorneys' office.

General condition for applying for these scheme is that during the previous year the total volume of revenue did not exceed 500 million HUF (1606 EUR), on the contrary the small company taxpayer status expires [2, 6].

One of KIVA's disadvantage is difficulties in preplanning cash flows, thus this method requires deep accounting and financial management knowledge.

Another example of implementing a simplified tax scheme for micro-business sector is *Albania*, where small business tax payers with annual turnover ranging between 2 million ALL and 8 million ALL (nearly 14290 EUR to 57150 EUR) are subjected to the *simplified income tax at a rate of 7,5% on the total volume of income*<sup>2</sup>. Beneficiaries should make advance payments on a quarterly basis and all this tax is administrated by the General State Directorate and no longer by the local government [5].

Another change within the new tax regime for small and medium businesses in Albania stipulates a flat tax in amount of 25000 ALL (180,51 EUR) for companies that gain profit up to 2 million ALL, payable within the first half of the fiscal year. Until 2016, small scale business activities were subject to a fixed tax obligation which varied according to the type of business activity and their location [5].

<sup>1</sup> Now, the Latvian government is discussing amendments to the social security legislation with the scope to increase the level of social security of employees engaged in micro-enterprises.

<sup>2</sup> Instead of 10% as personal income tax on profits



*Premises for simplified taxation in Romania*, were created through the new micro-enterprise income tax regime from February 1<sup>st</sup> 2013. Small companies can benefit from the micro-enterprise regime if the following conditions are satisfied at the end of the previous year:

- Their income is derived from activities other than banking, capital markets (except broker's activities in these areas), insurance and reinsurance, gambling, consultancy and management;
- Their annual turnover is lower than 100000 EUR;
- Their shares are not held by the State or local authorities;
- They are not undergoing liquidation, and are registered with the Trade Register or with the Court;
- Obtain more than 80% revenues from another sources, but not from management and consulting, in total volume of income [10].

The tax base for micro-enterprise tax is income obtained from any source, excepting certain income stipulated by the Romanian Fiscal Code. The applicable tax rate is [10]:

- 1% for micro-enterprises with more than 2 employees;
- 2% for micro-enterprises with one employee;
- 3% for micro-enterprises without employees.

Micro-enterprises cease to be subject to this regime from the fiscal year following the year in which they first fail to meet any of the conditions mentioned above, except where the turnover threshold is exceeded.

If during a fiscal year, a micro-enterprise exceeds 100000 EUR turnover threshold, it must pay profit tax under the ordinary rules on income and expenditure from the beginning of the fiscal year (in 2016 – 16% corporate tax).

It is important to mention that within the Romanian micro-enterprises bookkeeping is required and one accountant should be engaged in the company.

## II. Turnover taxes

Turnover tax systems are very popular within presumptive tax systems making it easier for micro-business to comply with their tax obligations. Usually, this tax replaces all other existent taxes in form of Income Tax, VAT, Dividends Tax, etc. Some countries allow, however, to choose to remain in the VAT system for micro-company that is registered for turnover tax (for example, South Africa).

Another advantage that makes this system attractive is simple bookkeeping and record requirements, and the tax burden is easy to calculate.

Usually turnover tax is available to sole proprietors, partnerships, close corporations, companies and co-operatives. *The tax depends on the level of the micro-business turnover and some countries apply progressive rate on turnover.* Thus, in *South Africa* turnover tax is applied to the taxable turnover as following:

- For turnover up till 335000 ZAR, the rate tax is 0%;
- For turnover within 335001 ZAR – 500000 ZAR, 1% is applied to each amount that is above 335000 ZAR;
- For turnover within 500001 ZAR – 750000 ZAR, it will be paid 1650 ZAR plus 2% of the amount above 500000 ZAR;
- For turnover above 750001, 6650 plus 3% of the amount above 750000 ZAR will be paid.

The following records should be kept by South African micro-companies: records of all amounts received, records of dividends declared and a list of each asset with a cost price of more than 10000 ZAR on hand at the end of the year of assessment as well as of liabilities that exceed 10000 ZAR.

*In Croatia*, the tax liability is also calculated on a progressive scale, depending on level of turnover:

- For turnover up till 85000 HRK – tax liability is 12750 HRK;
- For turnover within 85000 HRK – 115000 HRK – tax liability is 17250 HRK;
- In case of turnover within 115000 – 149000 HRK – the micro-enterprise will pay 22425 HRK.

*The progressive turnover-based tax is advantageous* in comparison to uniform turnover tax, as it reduces the difference in tax burden between the upper band of the presumptive system and the lower band of the standard system. Thus, *disincentives for business growth are reduced and transition from the presumptive system to standard one can be realized more easily* [4].

Another option within the design of turnover tax system is application of *a uniform tax rate on a*

*standard percentage of turnover for all SMEs* taxed under the presumptive regime. Within these option, different profit margins obtained in various business segments are not considered. Typical examples of such an approach is simplified tax system for MSEs in Ukraine and other Former Soviet Republics.

Turnover-based presumptive systems offer a number of important advantages. One reason to opt for these scheme is that the *tax burden becomes reduced for periods with low economic activity and poor economic performances*, thus representing a significant relief for business operators. In addition, *turnover is considered a good base for profit estimation*, in comparison to other indicators and rules for the calculation of tax burden are simple.

Another advantage is that *despite of the fact that there is an obligation of keeping some basic books and records, these requirements are not burdensome for entrepreneurs*.

### **Conclusions and recommendations**

1) Not so many countries implement presumptive methods of taxation, arguing that such methods indirectly are unfair, because they involve other ways of determining the tax base, and not the standard accounting methods. But simplification in tax system is important for economies where the majority of the population is comprised of hard-to-tax taxpayers and where the administrative resources are very scarce. Such tax payers are hard to assess because they earn low incomes, sell their goods and offer services largely for cash, very often do not keep books of accounts and conceal their incomes. Thus, calculation of potential income is practically impossible and extension of informal economy becomes a serious problem for tax authorities. In this regard, *implementation of simplified tax regime for micro-sector, especially in developing countries, is justified*.

2) It is crucial that the administrative capacity of the tax authorities handles the particular presumptive method. *Attention must be paid to how a particular presumptive method will work in practice*. If taxpayers can still hide income under the new tax simplification, then the presumptive regime will not be efficient. Also, *abuse of the system on behalf of large companies should be avoided*.

3) Considering the fact that small business activities generally do not generate substantial levels of budgetary income, tax authorities devote their resources to large taxpayers. *The objective of simplifying tax system should not consist in increasing transfers from micro-business sector into state budget, but in influencing the company's decision to enter the formal sector*. Thus development goals of presumptive tax system should consist in:

- The creation of a “culture of taxation” among small entrepreneurs and individuals who operate business activity;
- Providing education and training for collaborators of ministry of finance on monitoring business activities;
- Increasing the size of the formal sector.

4) *The design of a presumptive tax system should be based on a solid data analysis*. Policy makers should consider the segmentation of business community and, thus, treat each sub-group with different proper policies. Basing tax system design on a reliable data analysis will increase the fairness of the system and promote the broad acceptance of the system among business community.

5) The design of simplified tax regime for micro-business is accompanied by a serious of implementation problems, as international experience shows. It is a major responsibility to set different rates and ensure that all of them are properly updated and reflect continuous changes in business environment. Usually, in transition countries, ministries of finance and tax administrations are not well equipped and don't possess the required personnel to perform this task adequately. In case of patent regimes, a serious problem appeared within the process of elaboration of patent lists that cover business activities, which in some countries was too voluminous and complicated, including an extensive list of sub-categories. On the one hand, such an approach better aligns the patent sum with the presumed income of the micro-business, but on the other hand, as, international experience shows, business community considers the process of rate setting non-transparent, while the patent amount that they have to pay as arbitrary and unfair. Also, the more detailed the activity list is, the higher the probability that the tax liability for micro-business is multiplied. Thus *it is recommended to simplify the patent list that covers micro-business activities and reduce its covering spectrum, as well as diminishing turnover threshold for some activities*.

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## BUSINESS RELATIONS HIP QUALITY PRODUCTS AND COMPETITIVE ENTERPRISE ISSUES OF INTERDEPENDENCE BETWEEN PRODUCT QUALITY AND COMPETITIVENESS OF PRODUCT

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*The article deals with questions related to the quality management of products based on the principles of marketing and competitiveness of the company. There was revealed that the quality of the products is adequately to the competitiveness, as the quality of products perceived by the consumer is made up of different indicators. Marketing solutions in the field of quality management provide for the establishment, provision and maintenance of consumer qualities at all stages of the product life cycle (services). The authors substantiate the necessity of a complex mechanism of marketing management of product quality. Novelty. Product quality management is one of the major problems, which is further exacerbated due to the constantly increasing demand for environmentally friendly products. At the same time, issues of product quality management (services) and increasing the competitiveness of the company is one of the main components of forecasting, strategy and policy of the company. The aim of the study is to examine the activity of economic agents to develop and implement competitiveness strategies for effective action on domestic and foreign markets. To achieve this purpose the methods of analysis, comparison, statistics, induction and deduction have been used.*

**Keywords:** marketing, product (services) quality, competitiveness.

*Articolul dat trateaz aspectele ce vizeaz managementul calit ții produselor pe baza principiilor de marketing i competitivitate a companiei. A fost fundamentat faptul c calitatea produselor este raportat adecvat la competitivitate, deoarece calitatea produselor perceput de c tre consumator este format din diferiți indicatori. Soluțiile de marketing în domeniul managementului calit ții prev d stabilirea, furnizarea și menținerea calit ților de consum la toate etapele ciclului de viaț al produsului (servicii). Autorii susțin necesitatea unui mecanism complex de management al marketingului calit ții produselor. Noutatea. Managementul calit ții produselor este una dintre problemele majore, care este exacerbata mai mult din cauza cererii în cre tere pentru produsele ecologice. În acela i timp, problemele managementului calit ții produselor (serviciilor), precum și creșterea competitivității companiei reprezint unele dintre principalele componente de prognoz , strategie i politic a companiei. Scopul studiului este de a examina activitatea agenților economici s elaboreze i s realizeze strategii de competitivitate pentru o activitate eficient pe piețele interne și externe. Pentru a atinge acest scop, au fost utilizate metodele de analiz , comparare, metoda statistic, inducția și deducția.*

**Cuvinte-cheie:** marketing, calitatea bunurilor (serviciilor), competitivitate.

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**JEL Classification: D21, E61, O11, O19.**

**Results and analysis.** Economic security represents a condition of any economic entity characterized by the presence of a stable income and other resources that make it possible to maintain the standard of living in the current moment and for the foreseeable future.

Economic security can be achieved if the degree of dependence on the dominant economy, as well as the degree of aggravation of the political, social and economic situation does not exceed the limit, which threatens the loss of national sovereignty, a significant weakening of the military power, a significant reduction in the level and quality of life, or frustrating the achievement of global strategic goals of the country.

The levels of economic security are determined by the following factors:

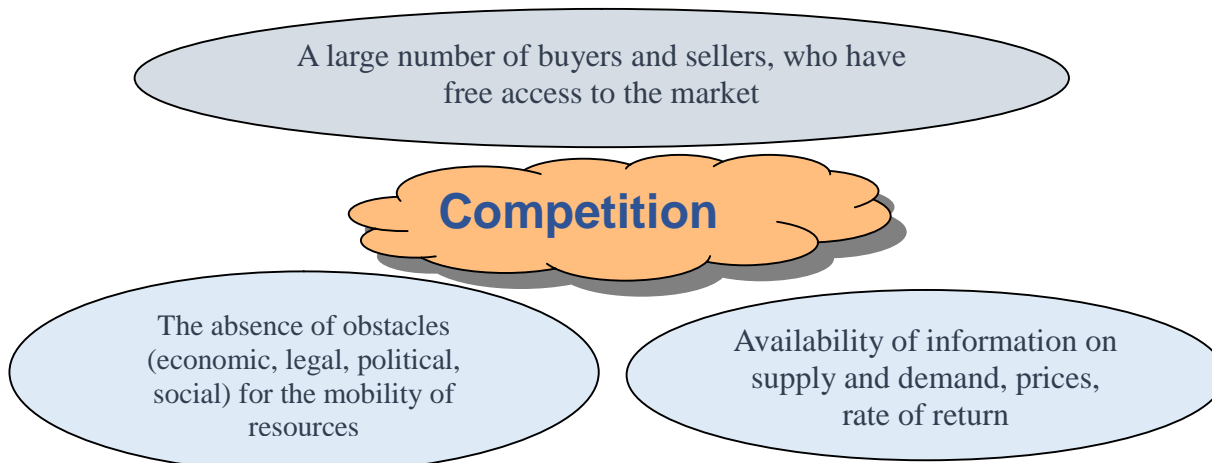
1. Geopolitical, economic and geographical situation of the country as well as access to domestic and foreign resources.
2. The economic, military and political power of the country and its competitive position in the global economic system on the strategically important areas of development.
3. The orientation of the institutional system of the country to support the industries of which depends the level of national security and competitiveness.
4. The priorities of the economic policy of the state in respect to branches that provide a competitive advantage.
5. Options of sectorial and regional structure of GDP, the strategic importance of economic sectors and regions of the country to ensure the national security.
6. Existence of the reserves of strategically important materials.

The national economic security is based on some basic principles such as:

- *the independence of the national economy*. Due to the increasing involvement of national economies in the world, this principle can be made only partially – there is necessary to achieve the state of relative independence of the national economy by increasing the competitiveness. The state's task is to create a level of development of the national economy, which allows it to take a competitive and equal position in the world economy;
- *stability of the national economy*. The state should create a sustainable growth of the national economy, excluding social turmoil, the strengthening the role of criminal organizations, and creates a security mode for each citizen;
- *steady growth of the national economy*. In modern conditions, the only permanent and sustainable growth can provide an acceptable level of economic security, including the improvement of production and professionalism of each person.

Economic security is based on independence, stability and growth of the national economy, which is a prerequisite for its normal functioning.

For the emergence of competition it is necessary to:

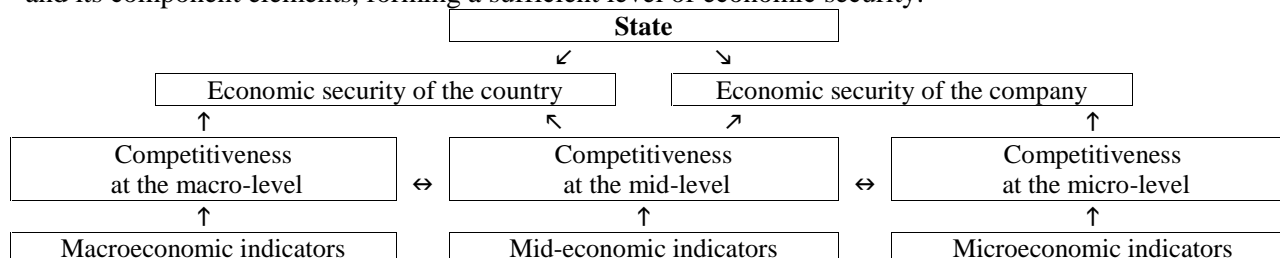


**Fig. 1. Content of competition**

Source: investigations of authors.

Economic security and competitiveness are in constant interaction. Economic security and competitiveness are both characteristics of the national-economic complex and its component parts. However, if the competitiveness is an objective and a mega-indicator of the degree of development of the national economic complex and its component parts, that economic security is a condition for its existence and development. In other words, a sufficient level of economic security can be achieved by using economic methods, but being a necessary condition for the existence of the national economic complex as a system, its achievement can be attributed to the use of non-economic methods – through direct state intervention.

The most acceptable situation is where macro and micro-level factors that are at the same time the criteria of competitiveness and economic security, create a highly competitive national economic complex and its component elements, forming a sufficient level of economic security.



**Fig. 2. The level of competitive relations**

Source: investigations of authors.

Competitiveness at the macro level refers to the country's ability to sustain high rates of economic growth in the medium and long term. In order to assess the competitiveness of the country, there are used three approaches: cost-price, rating and on the basis of the implemented competitive advantages.

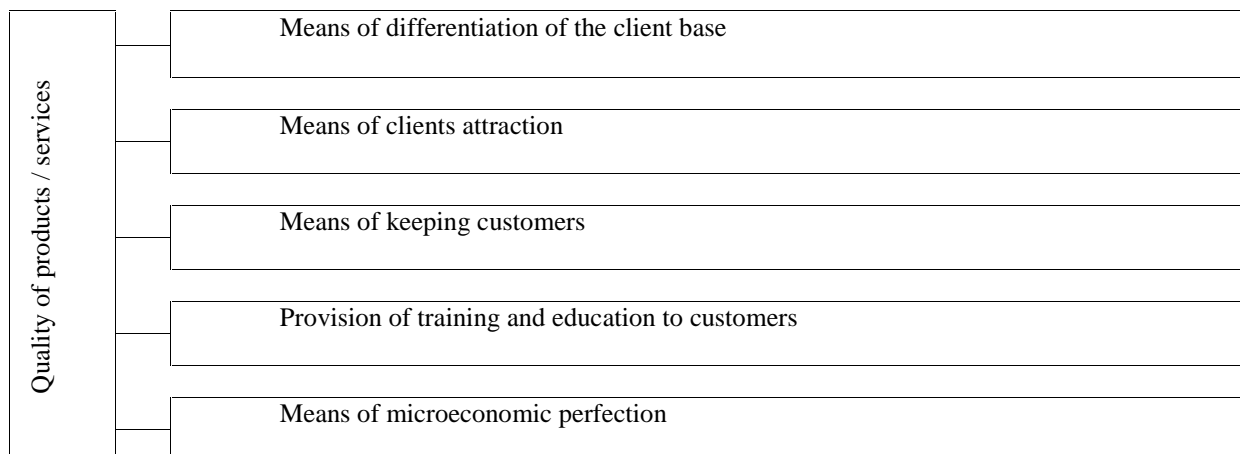
In order to timely establish priorities in its activities and to develop effective competitive strategies based on the strengths of activity, companies need to continuously implement marketing control and analysis of the quality and competitiveness of goods and services [1]. Marketing product quality assurance raises the possibility of the company to achieve business success in terms of increased competition and the uncertainty of the external environment.

In quality management on the basis of the marketing approach, there is necessary to address the following issues:

- Formation of quality level on the basis of established and prospective needs of target customers;
- Ensuring the competitiveness of products;
- Determination of the price based on the quality of goods, services, and market conditions;
- Conducting marketing analysis of the quality and competitiveness of goods and services.



According to some marketing researchers [2; 3], an increase of the quality of production is a part of socially responsible marketing. Providing a high quality adequately reflects the social and economic interests of both producers and consumers. For the manufacturer, it is the satisfaction of social labor, the strengthening of business reputation, improving the competitiveness of products, which has a primary quality. For the target consumer it is about the satisfaction of consumer demand and supply, increasing the value of the goods, an adequate sales price.



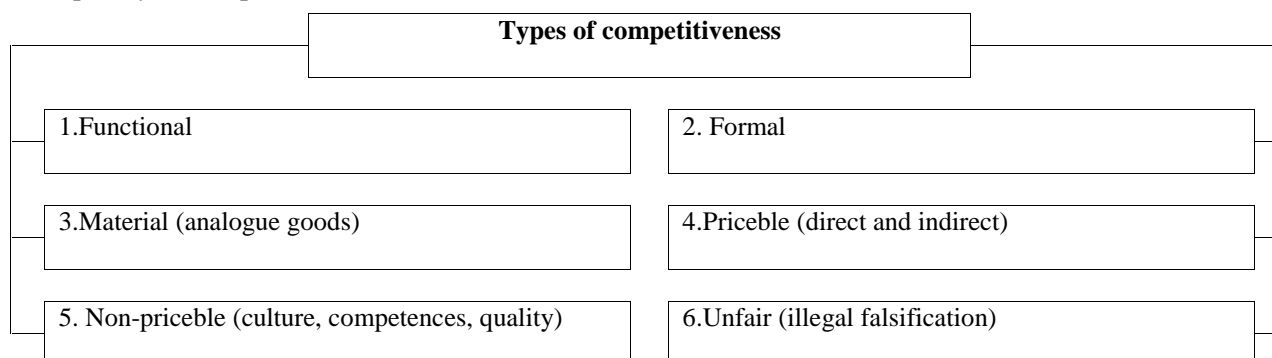
**Fig. 3. The means to achieve competitive quality products and services**

Source: investigations of authors.

It is also necessary to note that competitive opportunities of the company, the market success of its pricing, profit margins depend largely on the quality of products. In the formation of prices there must be taken into account not only economic, but also psychological factors of pricing. Consumers often perceive the more expensive items like having a better quality.

The price may have a positive impact on the assessment of the value of consumer goods: in some cases, with the growth rates of increased valuation. And if the growth of value exceeds the price rise, the demand may increase. A possible explanation for this phenomenon is that a higher price is associated with a high quality, which makes the product more attractive. Another possible explanation of this feature: if the consumer is not able to assess the quality of the product, the only guide is its price, and the price is acted as an indicator / gauge of quality. That is, many consumers look at the price as the quality index of goods and well-being of producers.

Since the quality and competitiveness are a prerequisite for market development, it is relevant to consider their relationship. The perceived quality of consumer products is made up of many indicators, it is about their technical and operational characteristics, appearance, packaging, consumer properties, the value for the consumer and others [4]. Achievements of firms to improve the quality of goods is now firmly linked to their innovation capacity. The concept of maximizing customer satisfaction is replaced by the concept of "effective use": "From more – to better". Products competing with each other, are checked against the buyer to meet consumer qualities. In this regard, we can say that the quality of the products is adequately to competitiveness, and should be considered in the same context.



**Fig. 4. Structure of the main types of competitiveness**

Source: investigations of authors.

The competition is an integral part of the market environment. It determines the position of the company in the commodity market on the basis of the competitiveness of its goods. The competitiveness term includes: quality, product uniqueness, security of supply, price, after-sales service, etc. In these conditions, a firm entering the market, first of all, must offer the customer high quality products and services that represent a certain value, and the buyer that is interested in its acquisition, has to pay its cost.

The company's success in the competition depends on the quality of products and the company's activities that have an impact on the results of the competition. Cumulative production of consumer qualities is essentially an index on the basis of which is determined its level of competitiveness. The higher the value is, the better the customer needs are met. There criterion is price, formed depending on the consumer qualities, the demand for products. The price must cover all costs of production, supply and sale of products, including the rate of return.

Demand for high-quality goods and services puts new demands on the quality management of products. This necessitates the creation at the enterprise of an integrated marketing quality control mechanism. Under the control of the quality we mean the establishment, maintenance and provision of consumer valuable properties as separate steps, and in general throughout the life cycle of goods, services.

Marketing solutions in the field of quality suggest a close relationship with the activities on preservation of consumer qualities of goods and services. Quality management on the basis of the marketing approach assumes that the planning, organization and control of the decisions is made in the interaction of all divisions of the company that are involved in the process of production and circulation of goods, services (transportation, storage and sales). In this regard, there is a need to work closely with marketing and logistics in order to maintain the required quality of the goods, the consumer value of properties when moving goods from producer to final consumer.

Marketing quality management is aimed at resolving a number of contradictions that are associated with the need to harmonize the requirements and demands of target customers with the capabilities to meet them from the enterprise [1]. For the decision to overcome the contradictions, there is a need to solve the following problems in integrated marketing management quality goods (services):

- Identification of market position and competitiveness of the goods (services);
- Determination of the range of indicators to assess the level of quality;
- Providing valuable consumer properties as separate stages, and throughout the product life cycle;
- Focus on the environmental requirements of products;
- Establishment of sales for the current and prospective periods;
- The formation of prices based on consumer properties of ecological purity of the product; calculus of costs, taking into account the duration of the product life cycle.

According to the strategic document (Roadmap for Increasing the Competitiveness of the Republic of Moldova, approved by the Moldovan government on 14.1.2014) [4], competitiveness is to be considered at both the macro as and at the enterprise level: making the Moldovan economy and its business more competitive, thus allowing local markets to withstand additional competitive pressures from EU producers and will enable local producers to find or expand new markets in the EU, exploiting the competitive advantages of Moldova. This may open higher economic opportunities for local businesses and households, help increase their income and boost the state's efforts to continue diversification of reforms.

Competitiveness is closely linked to the cost. The main direct and indirect costs, such as capital, labor, energy and other utilities, insurance and congestion costs, are critical to the competitiveness of Moldovan companies in foreign markets and the domestic market, which already has a fairly high level of openness. This concern is present in the Roadmap, and contains each of its components.

An important element of competitiveness is the size and structure of the markets in which companies operate, what determines their ability to specialize and exploit economies of scale, thus influencing its costs and productivity. In the case of Moldova, in particular because of DCFTA, there is expanded the access to foreign markets, with an enormous potential of purchase and represents an incentive and substitute for an internal market of small size. However, the size and structure of the internal market remains crucial and there is room for improvement: it is imperative to facilitate its expansion and increasing its effectiveness for promoting competitiveness.



While improving the market efficiency is the result of current reforms in the long term, in the field of competition policy, for example, the Roadmap aims to contribute through more specific measures to eliminate constraints to the proper functioning of the market.

**Thus, in the current market conditions, the formation of the company's competitiveness is impossible without marketing product quality management services. The marketing function plays a key role in determining the needs of target customers and in making decisions on quality management products.**

USA lost the title of world's most competitive economy. US was exceeded in the IMD World Competitiveness Center by China (Hong Kong) and Switzerland occupying the top two positions. Thus, it appears that the absolute economic power held by the US was not enough to maintain the top position of the most competitive economies in the world. US has led the top in three years. This year, the top opened by China Hong Kong, Switzerland and the USA, is complemented by Singapore, Sweden, Denmark, Ireland, the Netherlands, Norway and Canada. "The United States continues to boast the best economic performance in the world, but there are many other factors that we consider when evaluating competitiveness", is written in the report.

Table 1

**The IMD World competitiveness Scoreboard, GDP, GDP per capita, 2016**

WCY 2016		Countries with the biggest GDP			GDP per capita, USD
rating	Country	Country	GDP 2016 (pr) bln. USD	GDP 2015 bln. USD	
1	Hong Kong	1. USA	18 698	17 968	Qatar - 146.011
2	Switzerland	2. China	12 254	11 385	Luxemburg - 94.167
3	USA	3. Japan	4 171	4 116	Singapore - 84.821
4	Singapore	4. Germany	3 473	3 371	Brunei - 80.335
5	Sweden	5. Great Britain	3 055	2 865	Kuwait - 71.600
6	Denmark	6. France	2 488	2 423	Norway - 67.619
7	Ireland	7. India	2 385	2 183	EAU - 67.201
8	Netherlands	8. Italy	1 868	1 819	Hong Kong - 57.676
9	Norway	9. Brazil	1 673	1 800	USA - 57.045
10	Canada	10. Canada	1 592	1 573	Switzerland - 56.815
.....	...	...	....	....	....
59	Romania	50. Romania	181,944	177.954	20,787
76	Ukraine	65. Ukraine	83,550	90.615	7,519
....	.....	....	.....	.....	...
82	<b>R. Moldova</b>	<b>145. R. Moldova</b>	<b>6,084</b>	<b>7.962</b>	<b>5,006</b>

Source: [2; 3].

**Conclusions.** In the ranking of countries where you can make your holiday, Moldova ranks 111 of 141 countries included in top tourist destinations. At the macro level and at the enterprise level, Moldovan economy and its business become more competitive, thus allowing local markets to withstand competitive pressures additional from EU producers and will enable local producers to find or expand new markets in

the EU, exploiting the competitive advantages of Moldova. This may open higher economic opportunities for local businesses and households help increase their income and boost the state's efforts to continue and diversificate reforms. Competitiveness is closely linked to the cost.

Delay in economic recovery occurs in Moldova because, from the outset, it was hidden that we are affected by the crisis. We believe that we can not talk now about a total output of this recession, but about a revival of certain economic sectors such as foreign trade, agriculture, and industry in some subsectors.

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## GLOBALIZATION, CONTEMPORARY PROBLEMS AND TENDENCIES OF INTERNATIONAL BUSINESS DEVELOPMENT

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*Globalization phenomenon have a extremely actuality due to the fact that is a key factor on the increasing interdependence of national states as a result of the expansion and intensification of international relations. The paper aims at presenting and analyzing the main ways of economic development based on the pace of technological progress and expansion of globalization, using different research methods of economic science, especially comparative analysis and statistical method. As a result, data demonstrate that national economic development depends on the participating of the countries to globalization processes at regional and international levels.*

**Keywords:** globalization, global interdependence, technological progress, political instability, international relations, competitiveness, investment, innovation performance, international competitors.

*Fenomenul globalizării este extrem de actual datorită faptului că reprezintă un factor esențial referitor la creșterea interdependențelor dintre statele naționale, ca rezultat al expansiunii și intensificării relațiilor internaționale. Lucrarea își propune prezentarea și analiza principalelor modalități de dezvoltare economică bazate pe ritmul progresului tehnologic și a extinderii globalizării, folosind diferite metode de cercetare ale științei economice, în special analiza comparativă și metode statistice. Ca rezultat, datele au demonstrat că dezvoltarea economică la nivel național depinde de participarea țărilor la procesele globalizării atât la nivel regional, cât și internațional.*

**Cuvinte-cheie:** globalizare, interdependență globală, progres tehnologic, instabilitate politică, relații internaționale, competitivitate, investiții, performanță de inovare, competitori internaționali.

**JEL Classification:** F23, F44, F53, M16.

**Introduction.** By the end of 1980s, the majority of dictatorships known worldwide, had yielded to democratic and free market ideals spread by radio and television. Since then, in addition to undermining the Berlin Wall and shredding the Iron Curtain, the powerful technological forces of the Information Age have helped to stitch together the economic, political, and cultural lives of nations, making border more permeable to the movement of people, services, products, and capital [17, p.198; 18].

In recent decades the world has witnessed enormous economic development, but the generation of wealth and prosperity has been very uneven – so uneven that economic imbalances are seen to exacerbate social problems and political instability in virtually every region of the world. The end of cold war and the accelerating integration and globalization of the global economy have not solved persistent problems of

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extreme poverty, indebtedness, underdevelopment and trade imbalance [10, p.152; 23].

**Globalization.** For many millions of people, globalization has meant greater freedom and prosperity, but for millions of others, the same process has brought economic disadvantage and social disruption. From the perspective of the world's poorest countries, undemocratic global governance has allowed the economic dimension of globalization to dance to the tune of big business. Globalization not only distributes its favors' too unevenly, but also accelerates patterns of unsustainable consumption. Recent financial chaos may prompt world leaders to be more conscious of the complex social and environmental consequences of unrestrained markets [17, p.198].

In current years technology and the internet has revolutionized our capacity for knowledge and interaction. At the same time the global supply chains of international trade deliver exotic year-round affordable foods, over 900 million people in the developing world experience hunger. The extension of globalization is understood as a process of increasing the inequality worldwide. The search of effective development model for developing countries that which did not implement globalization process reflects the anxiety of the winners.

Interdependence between countries and globalization has become known worldwide as a consequence of its rapid acceleration. The diffusion and free circulation of people, commerce, knowledge and culture across the world has spread since the extension of globalization.

In recent years is only the most population that, driven by the wonders of advanced technology and the efficiency of new technology of transportation, the intensity of interdependence has led to controversial results.

The challenges and the rhythm of change is most apparent in high and middle-income countries. We must recognize that most everyday household goods and clothing are imported from a companies produced in several countries and most of them from China; international banking and insurance services are provided by a special centres from India; a international tourism can support the family's privacy by implementing some social media interaction.

Global interdependence is affecting the way virtually all governments think about international relations and practice diplomacy. The more engaged in and affected the process, the more they must change. For the all governments, therefore, the imperative for change is especially powerful, and it is felt most acutely in the building institutions for diplomacy [18, p.70].

Paradoxically, while globalization induces international cohesion and empowers international enterprises, it also accentuates the limitations of national power. Governments are often too cumbersome to respond effectively to transnational threats – including when those threats are manifest within their borders. Partly as a result, political authority is devolving from the top down and from center outward, to local and regional governments, and to community organizations working at the grassroots [18, p.75].

We agree that the important source of divergence is in the national economic development, what was emphasized by the authors Fukuyama [5, p.388], Olson [9, p.297] and DeLong [3, p.198] has arisen because of political system, which has influenced the choice of economic development and policies. The countries that attempted to “develop” behind the “Iron Curtain” have much lower income per capita than countries which had a comparable income per capita in 1950 and followed the capitalist path participated in the process of globalization [12, p.638].

**Technology Facilitates Globalization.** The most obvious examples involve the comparative development experiences of East and West Germany, North and South Korea. At the same time, a comparison between other neighboring countries seems reasonable, for example, comparisons between Russia and Finland, Hungary and Austria reveal significant differences in living standards. *The renaissance of economic growth research* of the examples mentioned above, the most dramatic ‘natural experiment’ has occurred in the Korean peninsula during the second half of the twentieth century [12, p.601]. Following the surrender of Japan in August 1945, Korea was divided at the 38th parallel into two zones of occupation, with armed forces from the Soviet Union occupying the ‘North’ and American armed forces occupying the South. In the summer of 1948, following the May elections, the American zone of occupation became the Republic of Korea, and in September 1948 the northern zone became formally known as the Democratic People’s Republic of North Korea. Both ‘Koreas’ claimed full political jurisdiction over the entire Korean peninsula and this disagreement led to the Korean War, which lasted from June 1950 until the armistice of July 1953. Since then the 38th parallel has remained the dividing line between the two Koreas, with the ‘communist North’ adopting a centrally planned economic strategy and the ‘capitalist South’ putting its faith in a capitalist mixed economy. As the data in Tables 1 and 2

make clear, the impact of these choices on living standards in the two Koreas, made some 50 years ago, could not have been more dramatic. As Acemoglu [1, p.277] notes, a distinguishing feature of Korea before separation was its ethnic, linguistic and economic homogeneity. The north and south are inhabited by essentially the same people with the same culture, and there were only minor differences between the two areas. Therefore, this natural experiment, of dividing the Korean peninsula into two countries, each distinguished by very different policies and institutions, gives a clear example of how, despite the very similar economic conditions, political leaders often chose very different policies with very different outcomes [12, p.638].

Angus Maddison's [8, p.214] data indicate, per capita GDP in two Koreas in 1950 was \$770 (at 1990 international prices). By 1998 in North Korea had only risen to \$1183. In sharp contrast in South Korea it had risen to \$12 152. Data from 2015 indicate, that GDP per capita in North Korea reached 1800 in comparison with South Korea where GDP per capita was \$27 222.

Table 1

## A tale of two Koreas

Indicator	Population ('000)	GDP PPP \$ millions	GDP per Capita PPP \$	Population ('000)	GDP PPP \$ millions	GDP per Capita PPP \$
Year	North Korea	North Korea	North Korea	South Korea	South Korea	South Korea
1950	9 471	7 293	770	20 843	16 045	7 70
1955	8 839	9 361	1 054	21 552	22 708	1 054
1960	10 392	11 483	1 105	24 784	27 398	1 105
1965	11 869	15 370	1 295	28 705	37 166	1 295
1970	13 912	27 184	1 954	32 241	62 988	1 954
1975	15 801	44 891	2 841	35 281	111 548	3 162
1980	17 114	48 621	2 841	38 124	156 846	4 114
1985	18 481	52 505	2 841	40 806	231 386	5 670
1990	20 019	56 874	2 841	42 869	373 150	8 704
1995	21 553	32 758	1 520	45 081	534 517	11 873
1998	21 234	25 131	1 183	46 430	564 211	12 152
2008	23 790	25 960	1 114	49 044	969 871	20 015
2012	23 746	15 907	1115	50 062	1,129,598	25 097
2013	24 346	16 565	1200	50 219	1,304,468	28 430
2014	24 662	16 570	1800	50 230	1,410,383	28 166
2015	25 030	17 400	1800	50 293	1,377,873	27 222

Source: Calculated by the author based on the data of Maddison [8, 12, p.639].

The World Bank Group (2016) data, Table Life expectancy at birth, total (years), indicate that the 50,3 million people living in the South had a life expectancy of 82 whereas for the 25.03 million people living in the North, life expectancy was 76 and in recent years North Korea has been experiencing a famine.

As the data in Tables 1 and 2 make clear, the impact of these choices on living standards in the two Koreas, made some 65 years ago, could not have been more dramatic. Distinguishing feature of Korea before separation was its ethnic, linguistic and economic homogeneity [1, p.107]. The north and south are inhabited by essentially the same people with the same culture, and there were only minor differences between the two areas. Therefore, this natural experiment, of dividing the Korean peninsula into two countries, each distinguished by very different policies and institutions, gives a clear example of how, despite the very similar economic conditions, political leaders often chose very different policies with very different outcomes.



Table 2

**Growth rates of per capita GDP (%): the two Koreas**

	1950-75	1975-98	1998-2015
North Korea	5,84	-3,44	3,86
South Korea	5,84	5,99	2,62

Source: Calculated by the author based on the data of Maddison [8; 12, p.640].

The data in the tables above demonstrate that economic development on the national level depends on the involvement of the countries in the regionally and internationally globalization processes. Which will be interdependence from the democracy, the quality of governance and growth? Does growth promote democracy or does democracy promote growth? Recent research into the link between democracy, dictatorship and growth has produced support for both of the above linkages. Barro [2, p.335] provides evidence in support of the Lipset [7, p.499] hypothesis, which suggests that prosperity promotes democracy. Research provided by Barro confirms this hypothesis as a 'strong empirical regularity'. Since the empirical evidence also supports the hypothesis that economic freedom promotes prosperity, Barro concludes that policies that promote economic freedom will also promote greater democracy through the Lipset prosperity effect. It is certainly indisputable that there has never been a liberal democracy (free and regular competitive elections) where there is an absence of economic freedom (see Friedman [4, p.315], Kornai [6, p.395] Snowden [12, p.640-641].

**Innovation performance and trends.** Globalization of innovation grows of the countries knowledge economy, it enhances competitiveness and it creates a prosperous future for state. This is why innovation features prominently in the ten priorities of the development of the economy of the country.

The *European Innovation Scoreboard 2016* [15] gives an assessment of the EU and Member States' innovation performance, as well as that of key international competitors. Its 25 indicators give a detailed analysis of the strengths and weaknesses of Member States on the basis of important innovation drivers – from research systems and public and private investment, to the economic effects of innovation. The EU has a lead in innovation performance over many other countries, while China is making swift progress. In addition, the EU is catching up with Japan and the United States, but is still losing ground to South Korea [15].

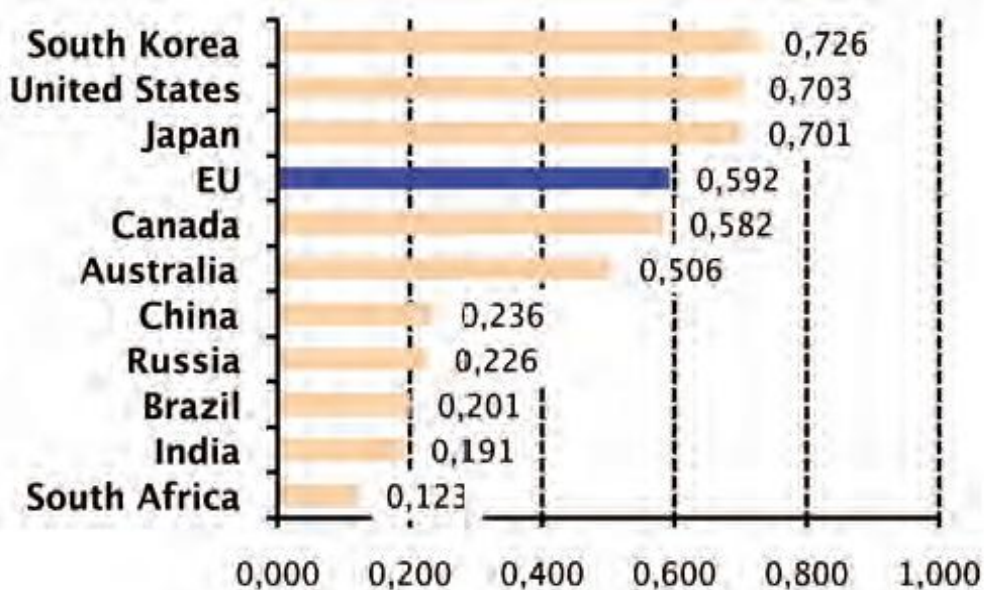


Fig. 1. Global innovation performance

Source: European Innovation Scoreboard 2016 [14, p.30].

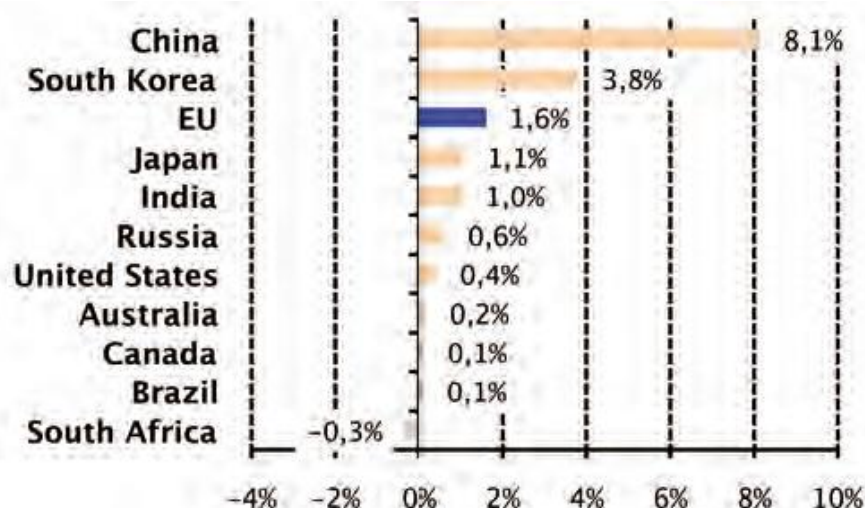


Fig. 2. Global innovation growth rates

Source: European Innovation Scoreboard 2016 [14, p.30].

*Average performance is measured using a composite indicator – the innovation index – building on data for 12 indicators ranging from a lowest possible performance of 0 to a maximum possible performance of 1.*

South Korea, the US, and Japan have a performance lead over the EU (Figure 1). The performance lead has been increasing for South Korea as its growth rate has been more than twice that of the EU (Figure 2). Innovation performance for the EU, however, has been improving at a higher rate than that for the US and Japan. As a consequence, the EU has been able to close part of its performance gap with the US and Japan over the last eight years.

**Average annual growth rates of the innovation index have been calculated over an eight-year period.** But, most of the low income countries have been less fortunate and there is rising concern that the global poor have been left behind in the slipstream. Many of the developing countries are a world apart from globalization [15, p.30]. Global trade and investment flows largely pass them by, despite the often considerable progress they have achieved in liberalizing and deregulating their economies and opening their borders to international trade and investment [20]. In the past decade, for example, net foreign direct investment (FDI) from OECD countries to the developing world increased by 270% – but the lion's share of it was attracted by a handful of Asian and Latin American countries. Developing countries similarly have a growing share in trade currently accounting for a quarter of world exports – but Africa's share is a meager 1.8% of the total, and has been falling steadily [21].

These imbalances give cause for broad concern. Evidence from recent World Bank studies show that integration in global markets through FDI and trade flows creates economic growth and employment. Trade and investment are the principal mechanisms for the transmission of innovative ideas, marketing networks, more effective management practices, new production and packaging techniques, and consumer-friendly design – all prerequisites for competing in global markets [21].

I agree with the author Joseph E. Stiglitz mentioning that the advanced industrialized countries, through international organizations such as the International Monetary Fund, World Trade Organization and World Bank, not only do everything possible to help those countries, but sometimes they made difficult situation for them [14, p.9].

The successful integration of the developing countries into a globalizing world economy is logically a direct concern for the development co-operation efforts of developed countries. Donor's countries are recognizing that they have a stake in helping the less-advanced countries and their populations find their place in the global economy. Poverty, misery and marginalization in large parts of the world threaten the prospects of rich and poor alike.

In the poorest developing countries human, institutional and industrial capacities are not adequate to produce on the demanding terms required by the global market-place. Trade and investment flows – essential for stimulating the growth necessary to absorb burgeoning labor forces – have considerable scope

for expansion across the developing world. Yet many of them may find integration very difficult unless there are strong catalysts in the form of international support and co-operation. Developed countries donors are committed to work with their partners to reduce by half the number of people living in poverty in the developing world – currently 1.3 billion – by 2015 [21; 22, p.36]. Strengthening the trade capacity and investment appeal of these countries is an important means to this end. Donors are increasingly turning their attention to how development co-operation can spread the benefits of globalization to a larger proportion of the world's population, by, for example, promoting joint ventures, stimulating technology acquisition and building trade capacity [21; 22, p.37].

Recently, researchers have claimed that the growth effects of globalization depend on the economic structure of the countries during the process of globalization. The impact of globalization on economic growth of countries also could be changed by the set of complementary policies such as improvement in human capital and financial system. In fact, globalization by itself does not increase or decrease economic growth. The effect of complementary policies is very important as it helps countries to be successful in globalization process [19]. Is interesting that according to some authors, the concept of "internationalization" is an evolutionary process in which national productive systems tend to turn into a unique production system concluding that globalization is a precondition of globalization [11, p.93].

The obstacles are substantial. Many poorer developing countries are characterized by an undiversified export base limited to commodities. Countries have limited or inefficient industrial capacity. Their infrastructure (transport, telecommunications and energy) is inadequate or dysfunctional. Their entrepreneurial forces are nascent or weak. They have a shortage of managers, engineers and technicians. Their institutions are weak, and human capital is poorly developed [19]. Many of them also still face high prevailing tariffs and non-tariff barriers from developed countries for their agricultural, textile and metal exports – the very sectors wherein their comparative advantage lies. Yet the current context for drawing poorer countries into the global system is nonetheless extremely propitious:

- most developing countries are well-advanced in implementing structural adjustment and economic reforms geared to strengthening market forces through liberalization and deregulation;
- the basic conditions for good governance are receiving more attention from their governments, often under popular pressure for democratic reform;
- the Ministerial Conferences of WTO trade discussions has created new export opportunities, especially in agricultural, textile and metal products;
- information and other technologies are spawning new services and products with lower barriers to entry;
- strengthened regional integration/co-operation efforts among developing countries will help lock in reforms, create larger markets that allow economies of scale, and provide an intermediate step to the highly competitive global market-place [21].

#### **Conclusions:**

1. This research demonstrated that national economic development depends on the participating of the countries to globalization processes at regional and international levels.
2. To achieve its promise of Globalization, countries would have to maximize the constructive interdependence among all nations – industrialized, developing and poorer alike.
3. International system that govern the globalization is not correct, being elaborate for the benefit of developed countries.
4. Free economy, democratization, interdependence are the main factors that give countries the possibility to participate in the processes of globalization for economic development.
5. Marginalization will impose avoid-able costs, in human suffering, reduced choices and opportunities, excessive migratory pressures, damage to the global ecosystem or the spread of conflict.
6. There are the actions of people in the developing countries themselves that will determine in large part the pace at which they can benefit from globalization, but the policies and tools of the industrialized countries, including development co-operation, have their contribution to make [21].



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## FEATURES OF PRICING OF THE MORTGAGE MARKET IN THE RUSSIAN FEDERATION AND THE REPUBLIC OF MOLDOVA (Part 1)

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*The relevance of the study is determined by the importance of the market of mortgage loans as the main instrument of social policy. The aim of the article is to identify the relationship between the volume of mortgage loans and the value of residential real estate on both the primary and secondary markets. The article consists of two parts. The main objective of the first part of this article is to clarify the concepts and features of mortgage loans, and identification of peculiarities of mortgage loans in the Russian Federation and the Republic of Moldova. The methodological basis of the work is made up of methods of analysis and synthesis, the combination of logical and historical approaches, methods of economic comparison and statistical analysis. The result of the study of the first part of the article is to identify the stages of development of mortgage loans in the Russian Federation, an analysis of prices in the primary and secondary markets of residential property on the basis of aggregate statistical indicators that reflect the status and characteristics of the housing market. The Russian experience is correlated with the peculiarities of the development of the mortgage market in the Republic of Moldova.*

**Keywords:** mortgage, mortgage loans, residential mortgage loans (ML), residential real estate market (primary and secondary).

*Actualitatea cercet rii este determinat de importanța pieței de creditare ipotecar ca principal instrument al politicii sociale. Scopul acestui articol este de a identifica relația dintre volumul de creditare ipotecar și valoarea de bunuri imobiliare rezidențiale, atât pe piețele primare, cât și cele secundare. Articolul este format din două părți. Obiectivul principal al primei părți a acestui articol este de a clarifica conceptele și funcțiile credit rii ipotecare, identificarea particularităților credit rii ipotecare în Federația Rusă și Republica Moldova. Baza metodologică a lucrării este compusă din metodele de analiză și sinteză, combinația de abordări logice și istorice, metode de comparare economică și analiză statistică. Rezultatul cercetării din cadrul primei părți a studiului constă în identificarea etapelor de dezvoltare a credit rii ipotecare în Federația Rusă, o analiză a prețurilor pe piețele primare și secundare ale proprietății rezidențiale pe baza unor indicatori statistici agregați care reflectă starea și caracteristicile pieței locuințelor. Experiența rusă este corelată cu particularitățile de dezvoltare a pieței ipotecare din Republica Moldova.*

**Cuvinte-cheie:** ipotecă, credite imobiliare, credite ipotecare rezidențiale (CIR), piața imobiliar rezidențial (primar și secundar).

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**JEL Classification: F34, E51, L85, R3.**

**Introduction.** The development of a market economy is not possible without the development of the real estate market, as real estate is involved in a large number of sales transactions, making decisions about investing in real estate and its Development. State real estate market is one of the main factors that have a significant impact on the dynamics of the level of demographic indicators.

The problem of providing citizens with affordable housing in Russia's social policy for a long time is one of the most pressing issues. Thus, the importance of the mortgage market as the main instrument of social policy and its versatility determine the relevance of a study aimed at identifying the relationship between the volume of mortgage lending and the value of residential real estate, both in primary and secondary markets.

Information basis of the research were published in the periodical of domestic and foreign publications, legislative and normative documents of the Russian Federation and the Republic of Moldova, involving issues of mortgage lending.

### **1. The concept of „mortgage” and mortgage lending function**

The term "mortgage" has Greek origin, was first used in the legal sense at the beginning of the VI. BC. Mortgage called pillar, which is installed on the border balk debtor with an inscription that the property serves as collateral claims by a certain amount. This term was used in ancient Rome with the purpose of identifying civil law institution providing land mortgage credit. Mortgage was one of the three most advanced forms of collateral that meet the needs of economic life of Ancient Rome [7].

In modern conditions this concept has been widely interpreted.

**Mortgage**, under the current legislation (Art. 334 of the Civil Code, as well as [1]), is defined as secured by real estate (land, businesses, apartments, buildings, structures, etc.), In which the formed relationship, to ensure fulfillment the principal obligation by means of the mortgagee in case of default or improper performance by the debtor of the principal obligation of the preemptive right to satisfy their demands at the expense of the collateral.

In economic theory, a mortgage is seen not only in the individual loan level, but also as a subsystem of the financial market. In the modern sense of the mortgage market is a market of mortgage loan capital, on which the sale and purchase of mortgage bonds issued by commercial and industrial corporations and used to provide loan secured by real estate. From this perspective, the mortgage covers a wide range of participants and describes the reproduction of the mortgage business system.

In our view, it is logical to allocate economic and legal aspects of the concept of a mortgage. From the point of view of the economic aspect, the mortgage – this is a stock turnover of property rights to immovable property in cases where the form of the sale, exchange legally and commercially impractical, and allows to raise additional funds in order to implement the economic interests of the property owner. The legal aspect is reflected in the encumbrance of its ownership of the property with its pledge.

The mortgage market is divided into two types: primary and secondary [7]. In the primary market transactions take place between the parties, in other words, issued loans secured by real estate. The participants in this market are on the one hand the physical and legal entities, and on the other hand – this is commercial, mortgage and other financial and credit institutions. In the secondary market mortgage sale is carried out directly on the already granted mortgages. The subjects in this market are mortgage banks and large emission-financial corporations buying up the primary mortgage banks and to issue securities on the bought up mortgages, as well as individuals, commercial banks, insurance companies, pension funds, in other words, investors who buy securities paper for real money.

Mortgage lending as a special form of credit has its own application framework, which is reflected in certain functions [7], such as:

- creation of a system of mortgage markets segments (housing, land, etc.);
- formation of long-term credit facilities. As part of this function, formed a special debt (mortgages), traded on the financial market;

- control function – provides a proper analysis and control of the financial condition of the borrower in order to prevent non-compliance imposed obligations;
- redistributive function. In mortgage lending occurs concentration of available funds of the state, as well as legal and natural persons, their redistribution via Credit Facility for temporary disposal of the public and other business entities;
- stimulating function. The mechanism stimulates mortgage real estate turnover when other ways of economically inexpedient.

In summary, it can be noted that the mortgage – this is a way to ensure commitment in the form of real estate collateral to raise funds at the expense of long-term loan.

## **2. Stages of development of mortgage lending in the post-tuning Russia**

Septuagenarian absence of private ownership of real estate and the mortgage institution in Soviet Russia led to negative consequences. The loss of almost two hundred pre-revolutionary experience of mortgage lending organizations, both at the state level and at the level of credit institutions<sup>1</sup>.

The need for mortgage market development in Russia has ripened in the early 90s. Despite the fact that the implementation of mortgage lending at a socio-economic conditions in the 1990 year did not inspire serious prospects, had already formed understanding of the role of the housing mortgage market as a tool to resolve the housing problems of the population. The state has adopted the Federal Law "On Banks and Banking Activity" December 2, 1990, in which the role of one of the types of repayment of the loan is a pledge of movable and immovable property. Thus it was legally approved this type of lending as mortgage lending, which is the main condition for granting a loan secured by real estate.

The development of mortgage lending in the post-tuning Russia can be divided into two main stages [2; 7]:

- The first stage involves the 1990s.-2000 is the stage of inception of the mortgage in Russia;
- The second stage – from early 2000 to the present time – the stage of formation of mortgage lending.

Each stage has its own characteristics and features. Considering the origin of the first stage of the mortgage, you can select a number of conditions that are "stumbling blocks" that hinder its rapid development. It:

- The absence of a basis in law and legal support of mortgage lending;
- Political, socio-economic and financial situation in the society in the 1990s, which was characterized by the instability of the national currency, as well as a large amount of external debt.
- Financial instability borrowers, generating high risks of non-repayment of long-term mortgage loans, which affected negatively on their development.

The development of mortgage lending in Russia not only interfere with the problems existing in banks and potential borrowers, but also the problem of the state of the housing construction industry.

So by 2000, the state strategy has been developed in the development of long-term mortgage lending, which regulate the activities of all entities of the mortgage market such as banks, insurance, real

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<sup>1</sup> The first type of lending in Russia was mortgage lending. Along with the right to private ownership of land still in the XIII-XIV centuries. It originated mortgage, but over time it has existed without legal registration. The starting point for the birth of mortgage lending in Russia can be considered in 1754. This year, the first credit institutions were established: for the nobility – Saint-Petersburg and Moscow offices of the State Bank of the Senate, and Senate offices, for the merchants – in the port of St. Petersburg and Commerce College. The Bank conducts preferential loans nobility secured gold and silver, as well as the security of residential estates and the security of the stone houses. The main operations of the Bank has been issuing loans secured by movable and immovable property, and the articles of association requires the mandatory sale of ensuring security of property in order to compensate the bank's expenses. In 1786 these banks were reorganized into the State Loan Bank, which started its activities in November 1787. Thus, the State Loan Bank became the first financial institution in the long-term credit in Russia, which issued mortgages. Its charter has canceled the sale of the pledged property, as well as identified as a means to ensure that the interests of depositors and borrowers to take just under supervision with a view to further return of the pledgor after the repayment of arrears. After the October Revolution in Russia were fully discontinued mortgage lending institutions, which led to the elimination of successfully operated mortgage lending. Reset it at the time it was impossible.

estate and appraisal companies, and determined the basis of the legislative and regulatory framework that takes into account the macroeconomic conditions of transitive economy [2; 4].

At the second stage – the stage of development of mortgage lending, which began in 2000, it was important to solve a number of the following main objectives:

- Adapted to form a legislative and regulatory framework in the Russian legal framework, since the formation of the existing legislative framework was carried out by international institutions with a focus on international experience;
- Create a secondary market of mortgage-backed securities;
- Establish and implement a mechanism that would facilitate the inflow of long-term extra-budgetary funds into the market of housing mortgage loans.

One of the serious and still pressing problems hindering the development of the Russian mortgage market, is the problem of lack of commercial bank creditor "long" raised funds, which in turn, together with its own capital are the basis of long-term mortgage financing [3; 6].

### 3. Modern Russian mortgage lending scheme

Russian mortgage market has demonstrated stability and relevance to the crisis of 2008. The global financial crisis has led to changes in the development of the mortgage market in Russia, which experienced a rather complicated period of its development. The situation was so serious that the question was raised of life throughout the mortgage lending system in Russia [5; 8]. As a result, the volume of lending in 2009 has decreased by 4.3 times compared to 2008 and equaled 152.5 billion rubles, while in 2008 the volume of lending amounted to 655.8 billion rubles (Table 1). The number of loans granted has decreased by 62.8% [9].

Starting from the second half of 2009, with the help of public support, expressed as a development aid schemes for banks and borrowers, the situation in the mortgage market has quickened. State program to help mortgage borrowers who are in financial difficulties has been launched and the ability to repay the mortgage loan funds to the parent capital. In turn, these measures contributed to reducing the volume of the social consequences, in particular, the volume of overdue mortgage loans.

2013 Statistics shows the mortgage rate market development, advancing the overall development of the economy. In 2013 it was issued 825 thousand residential mortgage loans totaling \$ 1354 billion rubles, which is 1.2 times the level of 2012 in quantity and 1.3 times. In terms of money, as reflected in the table 1.

**Table 1**

**The number of mortgage loans in Russia for the period 2006-2014**

Indicator / Period	2006	2007	2008	2009	2010	2011	2012	2013	2014
The volume of mortgage housing loans, billions rubles	264	556	656	153	376	717	1 032	1 354	1 764
The number of mortgage housing loans, thous. units	204,1	214,2	349,5	130,1	301,4	523,6	691,7	825,0	1012,3

**Source: official website of the Central Bank of the Russian Federation [11].**

Since the beginning of 2014 the demand for mortgages has grown at a significant pace. Thus, according to the Central Bank of Russia (Table 1), the volume of loans granted increase in 2014 compared with the previous year was 30% and the number of loans growth – 22.7%. Thus, based on these data can track the dynamics of the residential mortgage market in Russia during this period.

One of the factors that contributed to the growth of the mortgage market in 2013, is to reduce mortgage interest rates. After reaching its peak in March (12.9%), monthly rates have started to decline gradually – from the second quarter they decreased almost all the leading players of the mortgage market.

Balancing housing market had a positive impact on prices, which grew almost on a par with inflation: the increase in housing prices, according to Rosstat, in 2013 relative to 2012 was 7.2% on average, in terms of annual inflation at 6,8% said that the real increase in prices for housing in Russia on average did not exceed 0.5 points.

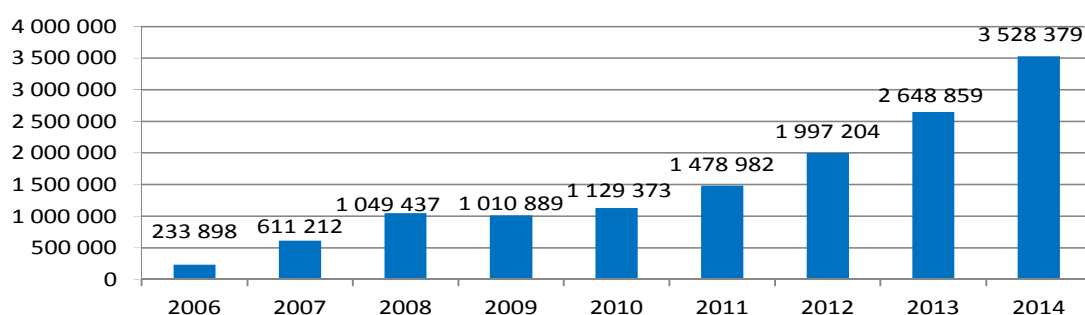
Experts' opinions about the pace of development of the credit market as a whole coincide with the assessment of the regulator. Rusty unabated Russian banking sector will not be able. If the main reason for slowing down credit growth in 2013 was to tighten the regulatory requirements of the Bank Russia, and then add to it the effect of the anti-Russian sanctions, as well as the general deterioration of the economy.

Indeed, since mid-2014 the economic situation in Russia became more and more negative, and in



August, some Western countries have introduced prohibitive sanctions against Russian systemically important banks. In conditions of economic instability in the country, a sharp weakening of the ruble exchange rate and mortgage rates increase household purchasing two waves of activity was observed in the housing market and rising prices of proposals in April and October. Fearing the depreciation of their savings, households actively invested in housing, which has led to an increase in the number of sales transactions, including, and with the help of a mortgage. However, mortgage lending boom that began in Russia in the spring of 2014, against the background of deteriorating economic situation in the country has led to an increase in arrears.

Since the beginning of 2014 the amount of "bad" debts in mortgage lending increased by 6% in fact. The trend towards sustainable growth of "bad" debt began in August, October 1, they amounted to 42 billion rubles. Thus until 2014 the delay in mortgages declined. Thus, on January 1, 2012 "bad" debt decreased by 10%. The dynamics of the stock of debt on mortgage housing loans (ML) is shown in Fig. 1.



**Fig. 1. Dynamics of the volume for mortgages arrears for the period 2006-2014**

Source: Central Bank of Russia website [11].

Forecasts say that if further easing will be the national currency and excessive inflation, and if the interest rate on the mortgage exceeds the critical level of 15%, the mortgage lending in 2015 will dramatically reduce the rate of development, and the number of those wishing to improve their living conditions markedly reduced. Because of the decline in real incomes of the population and with the tightening of mortgage lending conditions for most of the population will become inaccessible. To improve the situation in the credit market, May 5, 2015 the central bank lowered its key rate by 1.5 percentage points to 12.5% per annum.

#### **4. Comparative analysis of the dynamics of the housing market prices**

It is obvious that the mortgage should be considered as one of the key drivers of demand in the housing market, and the situation where the mortgage for the majority of households can not afford to become, can lead to a decrease in demand for housing, particularly at the initial stage of construction objects (primary market). Comparison of data on the volume of mortgage loans and the average price in the primary and secondary residential real estate market may help to identify the relationship between these two indicators (Table 2).

**Table 2**

#### **Dynamics of the volume of mortgage lending and housing prices, %**

Year	2007	2008	2009	2010	2011	2012	2013	2014
The average price on the primary housing market	131,2	110,5	90,9	100,8	90,9	110,3	104,1	103,0
Average price on the secondary housing market	129,0	119,7	93,6	113,4	80,3	117,0	100,2	102,8
The volume of housing mortgage	243,9	128,0	25,5	255,0	191,3	145,9	131,6	131,0

Source: Central Bank of Russia website [11], the author's calculations.

It should be noted that along with the revival of the real estate market, housing prices in the Russian Federation since 2012 began to grow. Based on the data presented in Table 2, it can be noted that in 2012 there was an increase in prices in the primary market by 19.4% and 44.7% in the secondary market. At the same time there was decrease in the volume of mortgage loans in Russia by 44.7%.

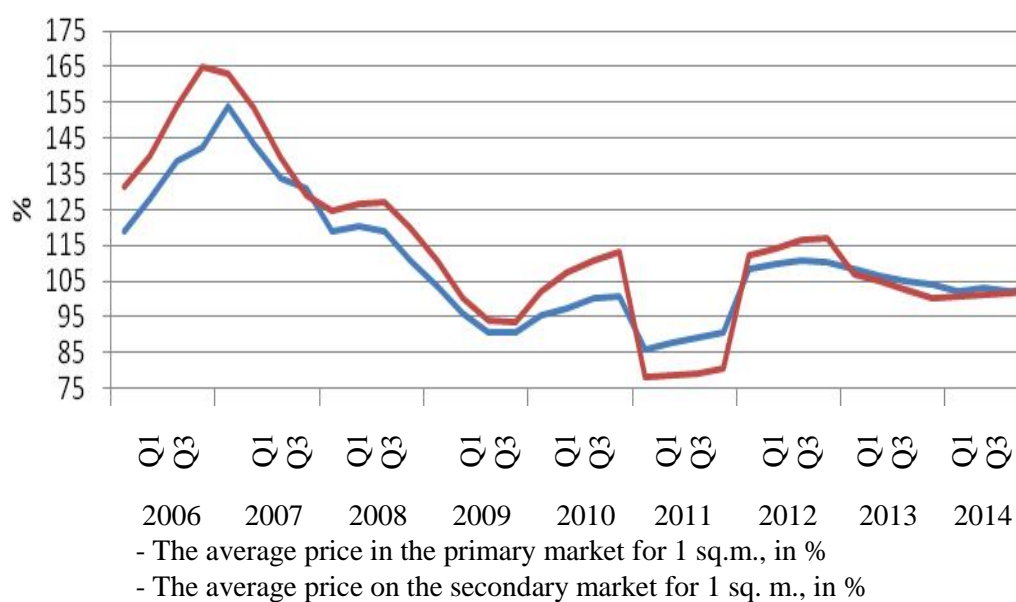
In 2013 there was a decrease in the primary market prices by 6.2% and in the secondary – 16.8%. In turn, the total amount of mortgage loans decreased by 12.8%.

In 2014, with a decrease in prices for primary market at 1.1% there is a direct relationship with the volume of loans granted (1.8% decrease), and an inverse relationship with (an increase of 1.8%), prices of the secondary market.

To establish the relationship between the primary and secondary markets for residential real estate in Russia, it is necessary to consider the quarterly data in average prices on these markets, housing and correlate with the volume of mortgage housing loans.

Analysis of the data shows that the average price on the primary housing market in 2011 fell by 9.2% and amounted to 43,686 rubles for 1 square meter. In 2012, it has grown significantly – by 10.3% compared to 2011 and amounted to 48,163 rubles for 1 square meter. In this case, 2014 is characterized by positive dynamics – increase in prices per square meter of housing was 3%.

In the secondary housing market in 2011, the price dropped by 19.7% and amounted to 48,243 rubles. for 1 square meter. In 2012, the price has increased significantly – by 17% compared to 2011 and amounted to 56,370 rubles, but in 2013 it actually remained at the same level – 56 478 rubles for 1 square meter. In 2014 a square meter price increased by 2.8% in relation to 2013. Fig. 2 shows the quarterly dynamics of average prices in the primary and secondary markets.



**Fig. 2. Dynamics of average prices in the primary and secondary markets for 2006-2014 years, by quarters, %**

**Source: Central Bank of Russia website [11], the author's calculations.**

Thus, during the analyzed period there was a decline in prices in the housing market in 2011 compared with 2010, and their growth in 2012. However, if the primary housing market prices exceeded the level of 2010, the secondary market, they barely reached the 2010 level.

Note that average prices rose further, both in the primary housing market in the I quarter of 2015, and in the secondary. The average price for 1 square meter amounted to 52 596 rubles and 58 734 rubles, which is 5.3% and 5.0% higher compared with the previous quarter. Overall, however, in 2015 because of the crisis the number of mortgage loans by banks in comparison with 2014 year fell by almost 1/3 (31%) and amounted to 700 thousand. In January-April 2016, banks issued loans 261 000 citizens for housing, which is 40% above the level of mortgage lending for the same period in 2015-th. According to the Ministry of Construction, this result was mainly achieved due to the mortgage for the citizens of the primary market of the government program of subsidizing interest rates. It is expected that during the entire 2016 the Russians have about 900 thousand mortgage loans. In the future, in connection with the

termination of subsidy programs, mortgage market growth will slow down – predicts Russian Ministry of Construction<sup>1</sup>. Noting the non-market (protectionist) the nature of the mortgage market development in Russia in the period for which data can not be used for the study of market dependency, research relationships housing markets and mortgage limit the period of 2006-2014.

### 5. Problems of development of the mortgage market in the Republic of Moldova

In Moldova, the main principles and rules governing the primary mortgage market, as well as creating the necessary conditions for the formation of the secondary mortgage market, established by the Law on mortgage [14]. Mortgage regarded as property law, under which the creditor is entitled, if the debtor fails to comply with the obligations secured by the mortgage, have the satisfaction of their claims out of the value of the transferred in mortgage of immovable property prior to other creditors, including the state. The subject of the mortgage can be one or more existing or future objects of immovable property, referred to individual cadastral number.

Currently, in the Republic of Moldova is mainly used truncated open mortgage lending model of residential property purchase. The basis of the functioning of such a model is put customer application for mortgage loans, provided at the expense of mortgage borrower's own capital of commercial banks, funds of their clients who are in deposits, interbank loans and capital of foreign investors coming into the country through the banking system.

As practice shows, during the last decade such loans of commercial banks of Moldova enjoys no more than 10% of the highest paid of the country's population (most commonly the family of migrant workers). At the same time 60% of the population have incomes that do not meet the criteria of a bank credit, and 30% of Moldova's population incomes are below the poverty line. Consequently, about 90% of the population [15] to meet their own investment needs are simply unable to.

The current situation in the construction market, the real estate market and, as a consequence, in the area of mortgage lending is aggravated. The real estate market is in the downturn, real estate offer far exceeds the demand. The banking crisis of 2014, when the banking system of the 1 billion lei was removed, and painful effect on the mortgage market. An analysis of the dynamics of the volume of construction, the prices in the primary and secondary housing markets, as well as the level of development of the mortgage in the Republic of Moldova will be presented in the second part of this article.

In order to further increase the volume of funds investing in real estate for various purposes there is an urgent need for the creation and organization of parallel operation in Moldova, along with the truncated open mortgage system, savings and borrowing real estate investing system that will be available to most of the population.

**Conclusions.** The study describes the features of mortgage lending, its basic elements, identified a tendency towards the Russian credit for mortgage scheme; A comparative analysis of the average prices in the primary and secondary housing markets in Russia.

Analysis of the graphic material (Fig. 2) shows that the primary and secondary markets are correlated, ie, they depend on each other. For example, the price of the secondary market are a kind of guideline that shows how profitable new construction costs at the current level.

The experience of studying the features of formation and development of the Russian mortgage market is correlated with the realities of the mortgage market of the Republic of Moldova. Research of the main trends of development of residential mortgages in the modern Moldova show an insufficient level of its development, the existence of a crisis in the construction industry and the real estate market and the credit and financial sector.

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## THE ACTIVE AGEING POTENCIAL IN THE REPUBLIC OF MOLDOVA

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*The actuality of the study consists in estimation of the Active Ageing Index (AAI) for the Republic of Moldova and assessment of the situation of elderly population based on this index. The aim of the paper – to highlight the challenges facing the Republic of Moldova to ensure active and healthy aging of the population aged 55 and over. The calculation of the AAI and its components are based on methodology developed by UNECE, the demographic statistic and results of the national empirical studies on population. The AAI allowed to delimitate the position of Moldova compared to EU countries and to establish social, economic and institutional barriers for active ageing and harnessing the potential of old people in Moldova.*

**Keywords:** *active ageing, elderly, quality of life.*

*Actualitatea studiului const în estimarea Indicelui de Îmb trânire Activ (ÎÎA) pentru Republica Moldova, precum și evaluarea în baza acestui indice a situației populației în vârst . Scopul const în evidențierea provoc rilor ce stau în fața Republicii Moldova privind asigurarea îmb trânirii active i s n toase a populației de 55 ani și peste. Calcularea ÎÎA și a componentelor sale are la baz metodologia elaborat de UNECE, statistica demografic și rezultatele studiilor empirice asupra populației. ÎÎA au permis de a determina poziția preluat de Moldova comparativ cu ț rile UE, precum și a evidenția barierele sociale, economice, instituționale pentru îmb trânirea activ și valorificarea potențialului vârstnicilor în Republica Moldova.*

**Cuvinte-cheie:** *îmb trânire activ , vârstnici, calitatea vieții.*

**JEL Classification: I19, I31, J14.**

**Introduction.** The challenges on ageing process of population have an important actuality almost in all countries. The ageing of population is often seen as a negative phenomenon with wide negative implications both for society and for economy. The concept of "active ageing" was proposed to change these expectations and bring changes in elderly's life. Used by World Health Organization (WHO) and UNECE, "active ageing" includes different age trajectories and different categories of elderly people.

*Active ageing* means ageing in optimal health conditions, having an active role in society feeling professionally fulfilled, having the autonomy in daily life, and being involved in civic activities. The challenge for the society consists of the maximum use of the elderly potential.

The wide demographic ageing, which records in the last decades in Republic of Moldova (the share of the population aged 60 and over was in 2015 over 16% compared to 1998 when registered 13,6%), the alignment to the policies of active ageing and harnessing the potential of older people becomes a mandatory requirement of the future sustainability of the country. According to international

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studies, Moldova remains behind at many components reported to older potential of the country. Thus, being on the last position among Eastern Europe countries both after *Global Age watch Index* and *Human Capital Index* (Table 1), the ageing process in Republic of Moldova imposes the biggest challenges for policies compared to the situation from Europe and Central Asia countries.

Table 1

**Moldova's position according to international indicators regarding elderly potential and life quality**

	Global Age Watch Index, 2015 (from 96 countries)		Human Capital Index, 2016 (from 130 countries)					
			Total		55-64 age		65 age +	
	Rank	Points	Rank	Points	Rank	Points	Rank	Points
<b>Moldova</b>	77	35.1	63	69,7	47	73.5	59	58.7
<b>Ukraine</b>	73	37,0	26	78,4	21	79,14	10	72,21
<b>Russia</b>	65	41,8	28	77,86	18	80,46	15	71,14
<b>Romania</b>	45	50,8	38	74.99	31	77,47	25	68,18
<b>Latvia</b>	35	55,2	27	78,13	17	80,58	11	72,10
<b>Lithuania</b>	63	43,2	21	79,34	12	81,24	24	68,30

**Source: The Human Capital Report 2015. World Economic Forum, 2015; Global Age Watch Index 2015: Insight report.**

**Active Ageing Index (AAI) tool of monitoring ageing process**

In 2012, in the European Year for Active Ageing and Solidarity between generations, the European Commission and the United Nations Economic Commission for Europe (UNECE) developed the concept of the Active Ageing Index (AAI)<sup>1</sup>, which aims was to follow, on long-term, the progress of initiative policies in ageing area. Vienna Ministerial Declaration (September, 2012) established four goals which should be attained till 2017 (the third round) by UNECE countries: (1) encouragement of an active life on labour market and the maintenance of work skills; (2) employment promotion, non-discrimination and social inclusion of elderly; (3) dignity promotion and protection, health and independence in advanced years; (4) solidarity maintaining and strengthening among generations. AAI comes as a holder for social investments centred on the idea that active ageing and population potential use can generate economic increase and social reward (Zaidi and others 2013).

As it reflects a multidimensional approach of the population ageing process, the Active Ageing Index (AAI) aims to measure the current situation in four areas related to active and healthy ageing. The first three domains are related to current experiences regarding active ageing and assess the measure in which the elderly can realise the full potential concerning employment, participation to social, cultural and independent life, and the fourth domain determines the capacity to actively ageing, assessing if life environment allows to elderly to have an active and healthy life. Each domain integrates a number of individual indicators, forming twenty-two composite indicators of AAI<sup>2</sup>. For European Union member countries, composite indicators of the AAI are calculated based on four European studies of households realised systematically: EU Labour Force Survey (EU-LFS); EU Survey on Income and Living Conditions (EU-SILC); European Quality of Life Surveys (EQLS); European Social Survey (ESS).

Currently, Republic of Moldova as well as most countries outside the EU, do not participate to international studies mentioned above as a methodological base for calculating the AAI. That is why, by lack of reliable and continuous statistical evidences in this domain, the reference to original methodology of the AAI establishing faces barriers. Therewith, the non-EU countries are encouraged to adjust the

<sup>1</sup> AAI is the result of a common project done in 2012 by DG Employment, Social Affairs and Inclusion European Commission, together with the Population Unit of the UNECE and the European Centre for Social Welfare Policy and Research in Vienna.

<sup>2</sup> All indicators focus on current generation of elderly, especially to population aged 55 and over, and by gender. Each indicator can be interpreted positively, and as the indicator's value is higher as much the results (benefits) of active ageing are better.

methodology to its statistical possibilities, and by time to adopt the required methodological tools. Republic of Moldova does not have statistical and empirical data necessary for elaborating all composite indicators of the AAI according to methodological requirements. Based on demographic statistics and of two important studies realised by NBS, Labour Force Survey (LFS) and Household Budget Survey (HBS), were calculated nine indicators from those 22. The remaining composite indicators (13 indicators) considered proxy indicators were established and calculated based on alternative variables (more or less near original methodology) extracted from national empirical studies realized between 2011-2014<sup>1</sup>: *Time Use Survey, 2012* (NBS); *Discrimination, abuse and violence against elders, 2014* (Demographic Research Centre, HelpAge International, UNFPA Moldova); *Public Opinion Barometer, 2011* (Institute for Public Policy).

### The Active Ageing in the Republic of Moldova

The methodological shortcomings impose important limits regarding the data reliability of the AAI, its composite indicators and their comparability with other countries. However, these one become a national guide if we report them at average values attained by EU countries and more at proposed values as common goals (targets) for countries to be attained.

The AAI score of 27,1, estimated for the Republic of Moldova, shows the measure in which the aged population potential is harnessed, even the measure in which is powered to participate in economy and society. Thus, from the total of population aged 55 and over, more than 70% constitutes undeveloped potential for active and healthy ageing<sup>2</sup>.

Country	1st Domain: <i>Employment</i>	2nd Domain: <i>Participation in society</i>	3rd Domain: <i>Independent, healthy and secure living</i>	4th Domain: <i>Capacity and enabling environment for active ageing</i>	Overall Active Ageing Index (AAI)
Germany	34,4	13,6	74,4	55,8	35,4
Czech Republic	28,0	18,8	71,2	54,3	34,4
Latvia	32,0	13,8	58,7	48,2	31,5
Lithuania	30,5	14,7	66,2	45,3	31,5
Bulgaria	25,1	12,5	62,7	52,2	29,9
Romania	31,0	12,7	61,7	40,9	29,6
Hungary	19,3	15,4	68,0	46,9	28,3
Poland	22,4	12,1	64,9	47,9	28,2
<b>Moldova</b>	<b>24,2</b>	<b>10,4</b>	<b>54,0</b>	<b>48,1</b>	<b>27,1</b>
EU-28 (Min)	19,1	12,1	58,7	40,9	27,6
<b>EU-28 (Average)</b>	<b>27,9</b>	<b>17,7</b>	<b>70,6</b>	<b>54,4</b>	<b>33,9</b>
EU-28 (Max)	43,4	24,1	79	69,2	44,9
<b>The goalpost</b>	<b>54,2</b>	<b>40,6</b>	<b>87,7</b>	<b>77,7</b>	<b>57,5</b>

Fig. 1. The Active Ageing Index (AAI)

estimated for Moldova compared to some EU countries\* (pointes)

Source: Republic of Moldova calculations made by the author based on current statistics and empirical studies; \*[2].

The top current performance are Sweden and Denmark with a score a little higher than 40. Republic of Moldova does not attain even the minimum value of AAI registered across EU countries, namely Greece – 27,6 (Figure 1). Therewith, the AAI estimated for Moldova is twice smaller in relation to

<sup>1</sup> Preliminary results for Moldova regarding the 22 individual indicators and adapting the original calculation methodology presented in the workshop “Addressing data gaps for Active Ageing Indicators” organized by UNECE (Geneva, November 17, 2015) for Eastern Europe, Caucasus and Central Asia. All recommendations provided by the UNECE experts (regarding the calculation of the proxies indicators based on national empirical studies) have been considered.

<sup>2</sup> A theoretical maximum is supposed to be 100 points, a ceiling set consciously to ensure that every country, from the less developed to more developed can be integrated within the maximum and minimum scale.

target-goal of 57,5 toward the countries should tend to, and in relation to proposed targets for each domain that forms the AAI.

Referring to the successes achieved separated by domains, Republic of Moldova takes a modest score at all components (Figure 1). Only at domain *Employment* and *Capacity and favourable environment for active ageing*, with a score of 24,2 and 48,1 respectively, Moldova exceeds the minimum values (19,1 and 40,9) recorded across EU member countries (Slovenia and Romania).

The intensity of the populations aged 55 and over on local labour market decreases significantly with ageing. Currently, statistical data show that 28% from those aged 55 and over are active in the labour market. According to composite indicators of the first domain (Table 2), in Moldova employment rate for age groups 65-69 (13,4%) and for 70-74 (6,6%) is higher than in Poland (9,5 and 4,7%) and Hungary (5,3 and 1,8%), and even than EU average (11,6% and 6,1% respectively).

Table 2

**Composite indicators on 1<sup>st</sup> Domain: Employment of population aged 55-74 years, in Moldova compared to other countries\*, %**

Employment rate by age group:	Moldova	Romania	Bulgaria	Poland	Hungary	EU-28
<b>55-59</b>	49	51,8	62,5	52,6	56,1	62,2
<b>60-64</b>	27,6	29,3	29,2	22,6	13,9	31,5
<b>65-69</b>	13,4	22,4	6,6	9,5	5,3	11,6
<b>70-74</b>	6,6	20,4	2,2	4,7	1,8	6,1

Source: calculations for Moldova made by author based on current statistics and Labour Force Survey, NBS, 2013; \*[2].

Moldova's position is better on *Employment* domain, due to employment rate of aged cohorts (65-69 / 70-74 years), that is rather a result of the statistical definition used that as employed people are included landowners of self-employed or are employed in private household with agricultural production for own consumption (household), income is in nature.

More studies in the domain attest that the participation of elders in social life promotes their physical and psychological well-being. In Republic of Moldova the social participation of elders is less developed, demonstrated by ours calculations, where this domain has just 10,4 points and suppose that only one from ten persons aged 55 and over involves in social life. Contribution of those four dimensions components of *Participation in society* (Table 3) in the AAI estimate is modest, and recorded values are smaller than average for EU countries.

Table 3

**Composite indicators on 2<sup>nd</sup> Domain: Participation in society of population aged 55 and more, in Moldova and some countries\*, %**

Participation in society	Moldova	Romania	Bulgaria	Poland	Hungary	EU-28
Voluntary activities	4,4	2,6	1,2	2,7	2,4	8,9
Care to grandchildren (children)	31	28,7	27,4	22,5	38,9	32,5
Care to older adults	3,8	11,3	11,8	13,3	13,3	12,9
Political participation	1,9	7,3	8,9	9,3	5,3	17,2

Source: calculations for Moldova made by author based on current statistics and empirical researches: Time Use Survey (TUS), 2012, NBS; Survey Discrimination, abuse and violence against older people, 2014 (Centre for Demographic Research, Help Age International, UNFPA Moldova), \*[2].

Elderly are involved mainly in the individual forms of participation, prevalent in the family and the near or known environment. It attests that 31% from aged people are widely involved in caring and education of grandchildren as grandparents. Notice that in conditions of labour migration of adult children, the important contribution made by elderly for their family is more obvious, especially in rural areas. In Republic of Moldova, the share of those who *participate in care of grandchildren* is higher than in

Germany (17,9%), Poland (22,5%), Bulgaria (27,5%) and Romania (28,7%).

A reality less reflected is elder's *participation in care of an aged adult*. According to existing national studies, just 3,8% from elders are involved in such activities, Moldova being with the smallest value across compared countries.

The involvement of the elderly population in various activities outside home is not widespread in our country. Such activities as volunteering provided by elderly (4,4%) has a low level, even if related to reference countries, the value of this indicator is relatively high than in Bulgaria (1,2%), Latvia (1,4%), Hungary (2,4%), Lithuania (2,6%), Romania and Poland (2,6% and 2,7%).

The smallest values, Moldova records at *political participation* of old people<sup>1</sup> (about 2%). Currently, among elderly the volunteering and political participation (according to the definition done by AAI), there is not strong developed in the Moldovan society. Financial difficulties, low level of education, poor health, lack of community centres, their diversity for the local population (especially in rural area), underdevelopment and immature coverage of voluntary movement etc. are explained this reality.

Active ageing suppose the insurance of means needed to remain as long as possible powerful and independent on his own life: accessibility of medical services, material conditions and the quality of life of elderly, personal physical security, physical mobility, lifelong learning. At this domain Moldova accumulated 54,0 points, that means that practically, each second aged person is limited in ageing process to live independently, healthy and in security in our country.

Firstly, it attests the high level of material weakness and financial inequity (Table 4): outside material degradation are just 57,4% from elderly, and median relative income of those aged 65 and over (about 1912 lei in 2013) it is practically twice smaller compared to the income of those aged 65 (3500 lei), or just 57,4% from the last one. Even in the last years, statistics show that poverty rate among elderly decrease (from about 39% in 2009, to about 17% in 2013), however this indicator exceeds country's average (about 13% in 2013). According to the results, just 84,1% from elderly are outside the risk of poverty. Secondly, the elder's vulnerability increases more due to the insecurity of the environment where they live in. In Republic of Moldova just fourth aged person (or 39,6%) feels safe during the night in the neighbouring where lives, while in EU countries each seven person feels protected and in physical safe).

**Table 4**

**Composite indicators on 3<sup>rd</sup> Domain: Independent living of people aged 55 and more, in Moldova compared to other countries\*, %**

<b>Independent living</b>	<b>Moldova</b>	<b>Romania</b>	<b>Bulgaria</b>	<b>Poland</b>	<b>Hungary</b>	<b>EU-28</b>
Physical exercise	14	1,3	0,7	7,0	5,6	15,6
No unmet needs of health and dental care	72,6	70,1	79,6	77,0	87,5	88,2
Independent living arrangements	72,6	74,4	71,9	68,8	77,6	84,2
Relative median income	54,6	100,0	73,7	94,9	97,4	86,3
No poverty risk	84,1	91,3	82,6	93,5	97,7	93,0
No material deprivation	57,4	71,4	46,8	85,2	82,6	90,0
Physical safety	39,6	63,6	57,8	76,7	66,2	69,3
Lifelong learning	0,3	0,4	-	0,6	0,4	4,5

**Source: calculations for Moldova made by author based on current statistics and empirical researches: Time Use Survey (TUS), 2012, NBS; Survey Discrimination, abuse and violence against older people, 2014 (Centre for Demographic Research, Help Age International, UNFPA Moldova); HBS 2013 (NBS), \*[2].**

<sup>1</sup> According to methodological requirements, political participation refers to participation in various meetings elderly union, meeting of political parties or political action group, and completing various petitions, including online



Moldova's performance in *insurance of health access* of elderly (just for 72,6%) is smaller than the average result score of EU (88,2%). The health system deficiency are confirmed by empirical studies [4; 7, p.144-146] which demonstrate that even elders by their status of pensioner benefit of free compulsory medical insurance, however the accessibility of medical services is reduced, and the discrimination by age is a phenomenon widespread in treatment access, diagnosis and long-term care.

A precondition of active ageing that ensure the independence at old ages is lifelong learning, through which the persons are encouraged to develop permanently the skills and necessary knowledge including for active presence in the labour market, for a healthy way of living, for social involvement and for personal accomplishment. In contrast to EU countries (Denmark, Sweden, Finland), which have a long-term experience in the development and promotion of lifelong learning (thus 5% of those aged 55-74 are involved in such an activity), in the Republic of Moldova this indicator is totally insignificant (0.3%).

The only indicator exceling in the third domain, in Moldova's case, is *practicing physical exercises* by the elders. According to Time Use Survey (NBS, 2012), attests that 14% from the population aged 55 and over daily are practicing different activities reported to sport (jogging and walking, running, gymnastics, fitness and other physical exercises). Mention that from all activities, jogging and walking are mostly indicated, and this refers to a voluntary sporting activity as a daily necessity to reach various destinations such as work, shop, medical centre, pharmacy and others, under poor infrastructure, especially in rural areas.

The fourth domain follows the measurement of the active ageing potential of a country. According to estimations, the Republic of Moldova accumulates at this chapter 48,1 points, being at a distance of 6,3 points from EU average countries. Across compared countries, even with small differences, Moldova's position, seems to be superior than Poland (47,9 points), Lithuania (46,9), Hungary (45,3) and Romania (40,9). By assessing composite indicators of the domain (Table 5), we attest that the bigger contribution has share of healthy life expectancy at age 55 estimated to be 66,4% in Republic of Moldova. Only this indicator is higher, related to the majority of compared countries, exceeding including the average for EU countries (53.2%). The gap that facilitates Moldova's position is assigned rather to the methodological possibilities limited in calculation healthy life expectancy, according to European standards.

Table 5

**Composite indicators on 4<sup>th</sup> Domain: Capacity for active ageing,  
in Moldova compared to other countries\*, %**

<b>Capacity for active ageing</b>	<b>Moldova</b>	<b>Romania</b>	<b>Bulgaria</b>	<b>Poland</b>	<b>Hungary</b>	<b>EU-28</b>
RLE achievement of 50 years at age 55	43,2	47,5	46,7	51,0	47,4	53,8
Share of healthy life years in the RLE at age 55	66,4	43,5	65,7	52,0	48,1	53,2
Mental well-being	62,1	44,3	55,3	51,8	61,5	64,5
Use of ICT	2,9	13,0	18,0	24,0	37,0	40,8
Social connectedness	32,2	24,0	48,2	27,1	21,1	49,0
Educational attainment	51,1	51,8	66,6	74,3	65,2	59,7

**Source: calculations for Moldova made by author based on current statistics and empirical researches: Time Use Survey (TUS), 2012, NBS; Survey Discrimination, abuse and violence against older people, 2014 (Centre for Demographic Research, Help Age International, UNFPA Moldova); LFS 2013 (NBS), \*[2].**

A higher value, unlike presented countries, Moldova has for mental well-being of people aged 55 and over (62,1%), a reality explained by empirical constraints and the use of an alternative variable (proxy) in indicator's calculation, but and positive attitude of population in assessing the mood and emotions.

Other factors, which increase the capacity of an active ageing- ICT use, social connectedness and educational attainment, Republic of Moldova is at a significant distance compared to other countries. Moldova needs investments in lifelong learning to increase the quality of human potential, creation of a favourable environment for elders' needs, and the increase of solidarity among generations.

**Conclusions.** Current policies should ensure that while people getting older, they can contribute to economy and society, and can remain able to take care of themselves as much as possible (a longer period of time). Studies show that, as elder's level of integration in society is prevalent, that much Active Ageing Index is higher for the country, increase the policy perception about ageing and decrease intergenerational tensions. In case of Moldova, according to results of the AAI, it is very important to develop and implement coherent action at sectorial level, which should improve the quality of life of elders and facilitate active aging. In the context of current demographic trends, mobilizing all available human resources, including age population, which becomes an important growing segment, it is crucial to maintaining policy continuity objectives prosperity and social cohesion.

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## TRAINING OF INNOVATIVE ENTREPRENEURSHIP – A KEY TO CREATION OF STARTUPS

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*Innovative startup companies that emerged in the late 1990s are now widely supported by countries with developed innovation systems. The aim of this article is to analyse the experience of creation innovative programs in entrepreneurship, with a further perspective for introducing similar programmes into Ukrainian universities. For this, the authors presented their own developed program of monitoring the Ukrainian universities on availability of courses of innovative entrepreneurship. The results of this survey will be analytical prerequisite for decision-making of establishment special curriculum of innovative entrepreneurship in technical and natural Sciences universities for the development of startup-ecosystem in Ukraine.*

**Key words:** startup, courses in innovative entrepreneurship, United Kingdom, Germany, program of monitoring.

*Companiile inovatoare startup, care au apărut la sfârșitul anilor 1990, în prezent, sunt sprijinite pe scară larg de către țările cu sisteme de inovare dezvoltate. Scopul acestui articol este de a studia experiența de creare a programelor inovatoare în domeniul antreprenoriatului, cu perspectiva introducerii unor programe similare în universitățile ucrainene. Pentru aceasta, autorii au prezentat propriul program de monitorizare a universităților ucrainene cu privire la disponibilitatea cursurilor de inovare a antreprenoriatului. Rezultatele acestui studiu vor fi drept bază analitic pentru luarea deciziilor cu privire la crearea programelor speciale educaționale de antreprenoriat inovativ în universitățile tehnice și în științele naturale pentru dezvoltarea ecosistemelor startup în Ucraina.*

**Cuvinte-cheie:** startup, cursuri de antreprenoriat inovativ, antreprenoriat, Marea Britanie, Germania, program de monitorizare.

1990- ,

**JEL Classification:** O25, L53, M15.

**Introduction.** The support of innovative startups in the USA, Israel, South Korea, and European countries is growing: Governments have started state programs of startup support are due to their positive effects on the development of economy:

- creation of new jobs and the reduction of unemployment;
- increased competition;

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- enhanced innovation and new technology and accelerated structural change in the economy;
- is a way of eliminating regional economic disadvantages [2, p. 8-9].

New OECD evidence indicates that most of the net job creation originates in young and fast-growing firms. Young firms less than five years old have represented about 20% of non-financial business sector employment over the last decade but have generated nearly half of all new jobs [4, p. 177]. Evidence for various countries suggests that 4-6% of high-growth firms may create half to three-quarters of all new jobs (OECD, 2013) [4, p. 72].

National support measures of innovative startups in the leading countries, as a rule, are implemented in parallel with furtherance programs of venture capital, innovation management, advisory services, and programs of direct support of business R&D in form of grants and loans [5, p. 582].

However, the declared strategic guidelines of innovation development of Ukraine, which should be based mainly on new knowledge, information, and production of high-tech goods and services, have not been systematically supported with relevant programs and activities of Government.

There are no such tools of state support of innovative startups in Ukraine still, formalized definition in the normative-legislative field of the term «startup company». Also there is not carried out monitoring of activities of Ukrainian innovative startups. In accordance with European Methodology State statistics of Ukraine every two years is conducted a survey of innovation activities of enterprises, with the aim of obtaining information about implemented innovations at enterprises. But this study does not consider the features of innovative startups. O. Kurchenko and O. Salikhova have developed the program of monitoring of innovative activity of Ukrainian startup companies as the most dynamic agents of the national innovative system. This program consists of general information about startup, business practices, staff, financial providing, innovation activity and public policy [6]. Based on this statistical form of monitoring of innovative startups, in May-June 2016 a pilot study of Ukrainian startups was held by Institute for Economics and Forecasting, NAS of Ukraine.

**Results.** The study showed, that programs of startup support consists of: direct (including: grants, subsidies, venture financing, credit/loan guarantees and indirect support (tax benefits) [4, p. 175].

But, given the fact that, startup is a small company and consists of 2-10 employees (human capital), considering founder of company – success of company entirely depends on quality and level of education, which received or receives each of employees. Carriers of core startup competencies (are CEO (General Director), CTO (Technical Director) and CMO (Director of marketing)) complement each of other in different competencies, education and skills. In this way, development and support of intellectual capital is gets particular importance.

**Foreign experience of creation innovative programs in entrepreneurship.** According to the final report of the Expert Group for the European Commission “Entrepreneurship in Higher Education Especially within Non-business Studies”, in the 2000s entrepreneurial education and training programs on entrepreneurship was insufficient or did not set up, the engineering and science faculties often lacked qualified personnel and as a rule did not set up in many EU countries, in particular, in the new member States of the European Union [1, p. 78].

Recently, many countries in the UNECE (the European and North America countries, Central Asia and Western Asia) region have seen an increase in the number, scope and level of higher education that focus on commercialization and entrepreneurship. Inter alia, these programs aim at facilitating communication between researchers and business managers. The curricula include cross-disciplinary issues related to technology, intellectual property rights, business management, entrepreneurship and IT, and emphasize practical know-how through established links with private business or university-based commercial operations [1, p. 58]. The final objective of training is encouraging students to set up their own ventures. To achieve this, in programs use such tools as mentoring and coaching, and business plan competition [1, p. 45-46].

One of such example of successful functioning of program is the United Kingdom. In 2000, the Government of the United Kingdom initiated a programme of cooperation between Cambridge University and the Massachusetts Institute of Technology (CMI or Institute) providing a budget of USD 100 million. The objective of the programme is to promote lasting cooperation between British industry and university educational and research activities. The programme focuses on sectors that traditionally have not had active interaction with universities, such as ground transportation and construction and also to strengthen the cooperation of research institutions with high-technology companies in aviation, biology,

communications, etc. and intends to broaden its outreach into retail trade, leisure and travel, distribution and the food chain.

Projects of the Institute primarily target the following areas:

- education for innovation, i.e. promoting the entrepreneurial culture at degree level of education in ways that enhance the propensity of students to be more innovative as entrepreneurs;
- integration of new technologies in the economies of communities;
- deeper involvement of industry into the knowledge exchange, enabling universities to reach far further into the industrial sector.

In the process of Program implementation, has been created several networks, one of the largest of them being the Cambridge University Entrepreneurs: having launched 31 startups in 2005-2007, it has become the United Kingdom's most successful student-led undertaking of this kind. In 2009, as many as 20 of the established companies were operational, and their estimated market value exceeded GBP 22 million [1, p. 45-46].

A central government organization in Ireland - Enterprise Ireland, that helps Irish firms to develop and grow, gives a *CORD Grant*, which includes one-year startup courses offered by the Irish Institutes of Technology that include formal business education, entrepreneurship training, personal development, business mentoring, and business guidance. The grant equates to 50% of the candidate's salary in the previous year, up to a maximum of EUR 30 000 [2, p. 25].

In 1997 in Germany was launched program EXIST, created for solving problems of:

- increasing the number of university graduates, dare to make the transition into professional self-employment or start up their own companies;
- adding in curricula matters relating to entrepreneurship, culture of entrepreneurship, which were lacking on that time;
- increasing number of innovative business startups, because a great potential for startups at universities was rarely exploited.

In 1998 there were created 5 regional networks to increase motivation for students and academic employees in universities and research institutions to enter into self-employment [3, p. 1, 4].

**Program of monitoring of Ukrainian universities on availability of courses of innovative entrepreneurship.** There are no such initiatives of creation of courses of innovative entrepreneurship in Ukrainian universities. But, the beginning of any measures requires a preliminary assessment of presence of innovative entrepreneurship courses of technical and natural Sciences in universities.

As showed the conclusions of research, now in Ukraine for the budgetary funds, prepare specialists in the field of Economics and Law annually in three times more, than experts in natural and physical and mathematical Sciences, able to generate new knowledge, produce, adapt and use advanced technology, providing innovative development of the economy. This, in turn, will contribute to the creation of a new generation of engineers, mechanics, communications technicians, designers, and energy experts, i.e., experts in STEM-education, which will be at the forefront of the development of the national startup-ecosystem and create new high-tech companies.

That's why, authors created a statistical form of monitoring about the existence and content of courses of innovative entrepreneurship in Ukrainian universities. The content of statistical form of monitoring of innovative startups in the original edition is presented below.

### 1. The structure of program of monitoring of innovative startups

**Section 1** is concerned on questions on availability and content of courses of technological entrepreneurship.

1.1. Specify, branches of knowledge (this list was compiled on the basis of STEM Disciplines) and total number of students in university on 01.09.2016 including all forms of learning (if there is no, put "0" or "-")? (table 1).

1.2. In which the above mentioned branches of knowledge (except Business and Management, Economics, Accounting), is taught students the *course of innovation management*, which gives practical skills to students on how to transform ideas into real products, services and processes; to assess the potential of innovative ideas as the basis for innovative projects; create business plan for new innovative enterprises; to build a successful enterprise strategy and implement it; to find funding sources (including learning the basics of venture investing), and to build an effective team?

2.3. If «Yes», please specify: numbers of directions, in accordance with question 1.1, and number of hours for each direction (for example: 1. - 100 hours; 2. - 50 hours; 21. - 10 hours, etc.).



2.4. In which the above mentioned branches of knowledge (except Business and Management, Economics, Accounting) is taught students other courses, which provided skills on how to transform ideas into real products, services and processes; to assess the potential of innovative ideas as the basis for innovative projects; create business plan for new innovative enterprises; to build a successful enterprise strategy and implement it; to find funding sources (including learning the basics of venture investing) and to build an effective team?

Table 1

Total number of students in Ukrainian University on 01.09.2016

	Branch of knowledge	Total number of students
1.	Accounting	
2.	Agriculture	
3.	Architecture	
4.	Aviation	
5.	Biomedical	
6.	Business and management	
7.	Communications	
8.	Computing and Information Technology	
9.	Economics	
10.	Engineering	
11.	Environmental Science/Development	
12.	Forestry	
13.	Geology	
14.	Health Services and Wellness	
15.	Mathematics	
16.	Medical, Dental, Nursing	
17.	Mining Engineering	
18.	Pharmacy	
19.	Physical Science	
20.	Technology	
21.	Veterinary Science	

Source: developed by authors.

2.5. If «Yes», please specify: numbers of directions, in accordance with question 1.1; the names of courses and the number of hours for each; (example: 7. – 75 hour. – Communications; 20. – 100 hours. – Technology, etc.).

2.6. What, disciplines, on your opinion, should be introduced to help students and graduates to create their own innovative companies?

- Innovative management.
- Startup (start-up own business).
- Business management.
- Another variant.

**Section 2** includes questions on encouraging students/graduates of the University's to start up their own companies as well as their participation in meetings with representatives of businesses and venture capital organizations.

2.1. Are there any contests on best projects of innovative startups for students, graduates and scientists in the University?

2.2. Is there a necessity for beginning any contests on best projects of innovative startups in University and provide financial support in form of grants, vouchers?

2.3. Is there a necessity for creation a state support program of innovative startups for the development of innovative entrepreneurship in Ukraine and improving the interaction between universities, research institutes and industry?

2.4. On what stage, in your opinion, state program is the most important?



- During the study (for students).
- After graduation (for graduates).

2.5. Does occur meetings with representatives of companies from private sector, owners of venture capital, and innovative startups in University and invite students/graduates of technical specialties to attend them?

A survey of Ukrainian universities is critical to the adoption of effective legislative and normative-legal documents, science-based management decisions related to the strengthening of entrepreneurial thinking and entrepreneurship, particularly for technical disciplines, as well as implementation of the state program of support of innovative startups.

**Conclusions.** The introduction of courses of modern technological entrepreneurship in universities of Ukraine becomes particularly important. The Ministry of education and science of Ukraine should provide training of innovation managers and experts able to conduct a professional feasibility study and the implementation of innovative projects. Because STEM-specialists are able to create, to multiply, to spread new knowledge and use them efficiently in their activities, and this will provide an opportunity to build a national startup-ecosystem and create new high-tech companies.

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## ECONOMIC GROWTH IN THE REPUBLIC OF MOLDOVA – TODAY'S CHALLENGES AND OPPORTUNITES

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*This article is interesting for businesses, including entrepreneurs and potential investors, as well as for the governmental organizations and public authorities. It provides both an evaluation of Moldova's position on the international socio-economic arena in context of globalization, and suggests action-points and recommendations potentially supporting the growth of the private sector, at the same time fighting poverty and enforcing sustainable economic growth. The purpose of the article is to investigate the influences and challenges of globalization, which, on the one hand, is a positive enabler of global economic development, yet on the other, is a proxy of growing inequality gap between developed and developing economies. Globalization limits the opportunities for qualitative economic growth for a number of developing countries, such as Republic of Moldova, that consequentially are trapped into the 'vicious circle' of poverty. Developing economies must find a way to survive, to restructure towards growth and to remain competitive. To do so they must innovate (technologically and otherwise), since they lack some of the key resources available to the developed industrial economies. One of the main conclusions of the paper suggests that in light of the forthcoming Fourth Industrial Revolution Moldova will have the possibility to 'leapfrog' through several stages of the structural ladder at a time entering the path towards qualitative economic growth. Thus, such nations as Moldova do have the potential to break out of the poverty circle and towards qualitative economic development. This particular study is based on the results of the analysis of both quantitative and qualitative indicators of growth of national and international relevance, allowing to track and interpret changes in the economic structure overtime.*

**Keywords:** globalization, inequality, economic growth with the development, developing countries, "vicious circle of poverty", "structural ladder", investment, infrastructure, high-technology, technology, innovation.

*Articol prezintă interes pentru antreprenori, investitori, funcționarii publici, deoarece conține evaluarea poziției Republicii Moldova în economia mondială în fața noilor provocări ale globalizării, recomandările referitoare la posibilele direcții de dezvoltare a afacerilor și de reducere a sărăciei în țară și de asigurare a creșterii economiei durabile. Scopul acestui articol – investigarea influenței noilor provocări ale globalizării, care, pe de o parte, este un factor pozitiv, dar, pe de altă parte, sporește decalajul dintre țările dezvoltate și cele în curs de dezvoltare. Globalizarea limitează posibilitatea creșterii economiei reale în unele țări în curs de dezvoltare, inclusiv în Republica Moldova, care, prin urmare, se încadrează în a-numitul „cerc vicios al sărăciei”. Aceste țări trebuie să găsească modalități de a supraviețui și de a fi competitive, să fie creative și inovatoare, deoarece ele nu dispun de multe resurse și posibilități ale țărilor industrial-dezvoltate. Articolul concluzionează că, în condițiile celei de-a 4-a Revoluții Industriale, Moldova are posibilitatea de a trece simultan câteva trepte ale „scării structurale” și a se urca la un nivel mai înalt de dezvoltare economică și de a asigura creșterea economică calitativă. Astfel, țările, precum Republica Moldova, au o șansă bună de a scăpa din cercul de sărăcie și a se îndrepta spre prosperitate. Articolul se bazează pe rezultatele analizei, cu ajutorul unor indicatori cantitativi și calitativi ai clasamentelor naționale și internaționale, care permit, în mod unic, a interpreta modificările ce au loc.*

**Cuvinte-cheie:** globalizare, inegalitate, creștere economică, țări în curs de dezvoltare, „cerc vicios al sărăciei”, „scară structurală”, investiții, infrastructură, tehnologie înaltă, inovare.

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**JEL Classification:** 011, 012, 038.

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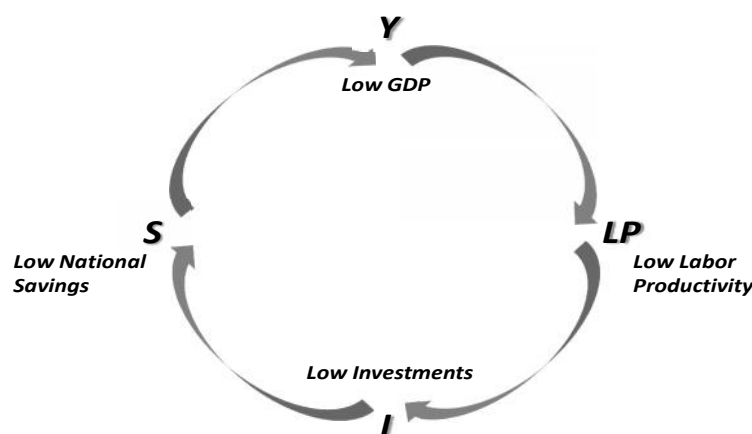
austerity, and bear negative consequences to the labour market in the long-term. Yet, now is the time to act, and now is the time to fix some of world's most pressing economic problems, such as problems of inequality. Today, global inequality is growing inevitably and progressively, threatening to impose serious limitations to economic health, especially of the developing nations, which are the focus of this article.

Observing inequality growth one may note the following dynamics. In the 1990s, the gap in average income of the 20% richest and 20% poorest parts of the global population was at 30:1, whereas in 2000 that same gap was already at 78:1 levels [1].

In addition, according to World Bank (2014), there were over two thirds of the global GNP (gross national product) per capita generated per high-income economies in 2015, about one third per share of medium-income nations, and only about half a per cent of global income per share of the low-income economies [5]. This means that high-income countries generate proportionately more and more GNP, whereas low-income countries trend negatively, pointing to the growing gap in the share of possible contribution into the global GNP between the nations with high and low income. It is obvious that the growth of inequality in the past decades is becoming a serious hinder to global economic development, affecting economies and societies.

The asymmetry in the development of the global economies causes differentiation within various nations, diving them onto 'winners and losers' of the world's globalization game. The losers are obviously the developing economies, as well as a number of those lacking the sources of capital accumulation. As the result, those economies end up in the vicious circle of poverty.

### Poverty's Vicious Circle



**Fig.1 Poverty's Vicious Circle**

Source: Compiled by author.

The problem of the "Circle of poverty" is that low income does not allow for savings, and, consequently, the investment on the scale needed to achieve acceptable growth rate. As a result, these countries could not break the "vicious circle of poverty", and try to "catch up" to the level of more developed countries. That is, they are "doomed" to be poor. Thus, poverty produces poverty.

What makes that poverty circle truly vicious is the relationship between low income and any growth potential. Low income ceases the opportunities of the population to save, thus, prevents any flow of internal investments from the population into the economy, or at least to the extent that makes growth possible. As the result, low-income economies find it very difficult to break through the poverty threshold. In other words, poverty creates more poverty.

Moldova, along with a number of other developing economies, is one of those economies that arguably lost in the globalization game finding itself in the vicious circle of poverty. So, is it possible for the country to break out of this vicious circle, and how? In order to answer this question, the following considers some of the main aspects of Moldova's position within the global economy, as well as some of the key aspects in its economic growth.

According to the classification of the World Bank, the increase of well-being and growth of an economy takes place through three consecutive stages, from the first factor-driven to the second efficiency-driven, to the third innovation-driven stage of economic development [14].

This process of climbing the ‘structural ladder’ serves as a certain indicator of a nation’s economic state, as well as the quality of its economic growth [8]. Moldova, according to World Bank’s classification, is somewhere between the first (Factor-driven) and the second (Efficiency-driven) stage of economic growth.

**Table 1**

**The Share of Moldovan GDP in the world economy,  
in the European economy, in the Eastern European economy, %**

Share of Moldovan GDP in the	1990	2013	deviation
world economy	0,017	0,011	- 0,006
European economy	0,046	0,037	-0,009
Eastern European economy	0,44	0,22	-0, 22

**Source: Compiled by author based on data from [12].**

Are there any positive dynamics in the development of Moldova’s economy? There are several statistical facts to consider. Firstly, the share of Moldova’s GDP (Gross Domestic Product) is about 0,01% of the global. During 1990-2013 that share decreased by 0,006% falling from 0,017% to 0,011% of the global economy. Consequently, this share fell by 009% lading from the level of 0,046% to 0,037% within the European economies, and by 0,22% among Eastern-European economies ending up at the level on 0,22% from 0,44%.

In 2015, Moldova’s GDP was valued at \$6,2billion (121851 million MDL), decreasing in real terms by 0,5% compared to 2014 (\$6,4 billion) [7] and [1].

According to the ranking of Human Development Index [10] Moldova is a country at medium levels of economic development. Notably, in 2015, Moldova was ranked at 114 out of 187 economies by the Index. In 2008, however, it was at 113th place out of 179 [18]. This uncovers some of the deeper challenges and highlights that something must be done to increase the share of welfare-generating share of growth in the economy. For instance, today, Moldova is one of the leading (top 8 to 10) nations when it comes to healthcare and education spending landing at about 12% and 8-10% of GDP, respectively.

This is a rather high level only affordable to a limited number of economies. However, average longevity in Moldova is 70 years, throwing it to the 142<sup>nd</sup> place in the world, and 120<sup>th</sup> 130<sup>th</sup> places respectively in maternal and child death [16]. Thus, there is obviously a challenge in terms of social services that Moldova is able to offer to its citizens. Moldova is in desperate need of an increase in high technology share in its infrastructure and its economy.

To be able to evaluate the dynamics and determine the direction of Moldova’s economy a comparison may be drawn to the year of 1990. At that time, Moldova was ranked 64th by the abovementioned Index, having the status of industrial-agrarian economy and in general being way ahead of its today’s position on the so-called global structural ladder. In practice, Moldova was at its second Efficiency-driven stage of economic development (for more detailed analysis see [8], [10], [18]).

In 2015, Moldova’s nominal GDP (Gross Domestic Product) per capita landed at mere \$1740 a year. That is the 140th position out of 186 list of countries of the Global Monetary Fund. In 2013, Moldova’s nominal GDP per capita was at \$2214 a year, meaning a considerable decrease of \$474. The World Bank statistics (2013) shows similar dynamics. In 2013, Moldova’s GDP per capita was at \$2038, which means by \$298 higher than in 2015 (World Bank statistics). United Nations, in its turn, placed Moldova at \$2285 GDP per capita in 2013, meaning by \$545(!) higher than 2015 [16].

Negative dynamics in the evolution of nominal GDP per capita in Moldova is tightly connected to economic and a bunch of other factors. Among economic factors, however, we highlight an absolute decrease in the key production factors – labour, capital, technologies as well as the erosion of the structure of the economy with the following decrease in the potential production volume. In is unlikely that an economy would develop positively and grow its labour productivity and its competitiveness within a structural environment where scientific and technological research and development accounts for less than 0,35% of GDP. For comparison, European Union spends on average 2 to 3% of GDP on similar activities, which facilitates high rates of technological development.

In the GDP structure of Moldova the share of consumption accounts for about 87% of the total GDP. Such levels of consumption are considered to be exceptionally high, even for USA and other developed economies. At the same time, there is only 15% of own investments, which is rather low and inadequate.



It remains to be seen how long it will take Moldova to return to the pre-crisis levels of 1990, the level of which is yet to be reached by the country's economy.

The dynamics of the GDP structure is presented in the Table 2 below. Table 2 shows that Moldova's GDP structure changes in context of global economic tendencies. In this way, the main share of value added of the economy, 59,4%, is comprised of the Services sector, 14,1% generated by industry, and 12,8% through agriculture. The share of net taxes on products is 15,7%. It seems at first sight as if Moldova's structure of the economy is rather progressive as it seemingly reflects global development trends. For instance, the high share of the Services sector (compared to the global share of GDP of 64%) with simultaneous decrease of the share of industry and agriculture. Yet, importantly, since 2000s, the share of agriculture started to pick up again within the global GDP landing at approximately 32%.

**Table 2****The Dynamics of the Structure of GDP of Moldova**

<b>GDP Structure, %</b>	<b>2000</b>	<b>2001</b>	<b>2002</b>	<b>2003</b>	<b>2004</b>	<b>2014</b>
<b>Gross value added</b>	87,5	88,0	87,3	85,6	85,0	84,3
<b>Agriculture</b>	25,4	22,4	21,0	19,3	17,1	12,8
<b>Industry</b>	16,3	18,7	17,3	17,8	18,2	14,1
<b>Services</b>	48,2	49,2	51,0	50,8	52,2	59,4
<b>Financial intermediation services measured indirectly</b>	-2,4	-2,3	-2,1	-2,3	-2,5	-2,0
<b>Net taxes on products (taxes less subsidies)</b>	12,5	12,0	12,7	14,4	15,0	15,7

**Source:** Compiled by author based on data from [7], [11].

Thus, it is important to highlight the fact that even though the Services sector is prevailing in Moldova's economic value added, digging deeper into the Services sector itself allows to caution that the main contribution in this sector – through finance and trade – is merely a 'formal' value added, in contrast to real.

This means that its increase, in fact, reflects only a wage increase of individuals engaged in relevant business dimensions, and not of the economy as a whole. Moreover, the development of one of the key services – trade – is mostly dependent on import. In this way, for instance, Moldova's GDP in 2013 was at \$7,453 billion. Import was at \$5,492 billion, or at 73,7%. In 2015, imports amounted to \$5,3 billion. The export share, at the same time, was about two times smaller and landed at \$2,4 billion [7, 17].

This correlation could be considered as a tendency in Moldova's external trade, since the share of import versus export has been prevailing now for many years and reflects some of the pitfalls in the structure of Moldova's economy.

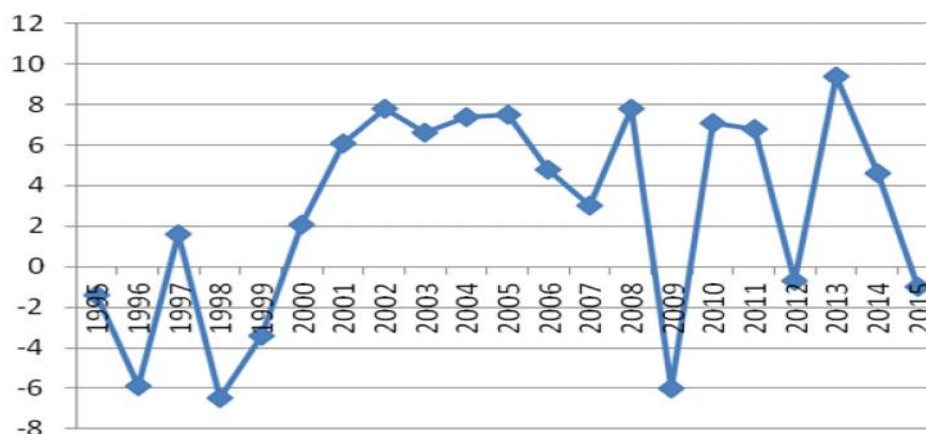
Such high import-dependency obviously bears high risks for an economy, including the risk of being indefinitely in debt. Indeed, external debt of Moldova equals to \$6,218 billion (in 2013), which means more than 83% of GDP. Since 2008, European Union emerged as one of the major trading partners of Moldova, absorbing somewhere around half of its external trade (46,4%). Naturally, the evolution of economic ties to the EU has considerable impact and consequences to the structure of Moldova's economy, including health in Moldova's balance of payments. In 2015, Moldova's export to the EU shrunk by approximately 2,3% (to \$1,1 billion). Compared to the previous year, import also decreased by about a quarter, to \$3,6 billion. The demand on imported products, however, is mainly covered by Moldovans working abroad. They contribute by about \$1,5 billion yearly. This is considerably higher than the contributions of the foreign investors.

According to the World Bank, the value added per worker in agriculture, which is the main source for Moldova's export, is approximately \$2,5 thousand. While, for example, in Spain the corresponding value is \$45-50 thousand. In Norway, that indicator goes up to \$70 thousand. On average, in European Union countries the corresponding value is approximately 20 times higher than in Moldova. Given this low level of labor productivity, and hence the competitiveness, one of the leading sectors of the Moldovan economy, it can be argued that the industry is unlikely to be the basis of high economic growth.

The above mentioned negative dynamics in the development of the real indicators of economic



development of Moldova allows to conclude that price factor is the key origin of growth of the country's economy. Graph 1 below shows the rates and the dynamics of GDP growth from 2005 to 2015:



**Graph 1. Rate of GDP Growth of Moldova, %**

Source: compiled by author based on [7].

The so-called 'quality index', or the coefficient of the quality of growth, is applied to measure quality of the growth of Moldova's economy. This is, in short, a known index which measures the ratio of the difference of GDP growth index and GDP deflator to the growth rates of the GDP in absolute terms. According to this indicator, Moldova's economy cannot be characterized in positive terms, and has not been characterized as such for the past several decades.

In this way, being one of the poorest European countries with median monthly income of \$250 and with the GDP per capita level being about 18 times lower than European Union average, the Republic of Moldova today finds itself in the vicious circle of poverty.

## **2. The Window of Opportunities – Can Moldova Get Out of the Poverty Circle?**

Returning to the argument stated at the beginning of this paper, globalization is one of the major contributors to growing inequality among global economies. Globalization reformed the structure of many national economies through the introduction of a system of international division of labour in favour of the developed economies.

Notably, the structure of an economy is one of the key factors in economic growth as well as behind the well-being of a population. In the 1960s and 1970s, the countries with the fastest rates of GDP growth (about 3,5% annually) were those with the largest share of machinery within their industry. Those with larger shares of natural and mineral resources grew by about 2%, finally, agrarian, or agricultural economies, grew by about 1,5%. However, most obvious winners were those that emphasized the development of high-technologies within their economies.

As the result, most or all of today's developed economies find themselves at post-industrial, information and high-technology stage of development, whilst peripheral economies have either not been able to fully complete the industrialization stage, or were thrown back, just as Moldova, to the lower development stage. In addition, the interest of the developed economies to import finished industrial products from their less developed counterparts has decreased considerably. This evolution obviously triggered the asymmetry in foreign trade negatively affecting the rates and quality of economic growth in the peripheral economies. Thus, the gap between the 'post-industrial world' and other economies has now acquired qualitative character and is growing inevitably in its proportions. As the result, the possibilities to catch up in economic growth are currently very slim for the majority of the less developed and developing countries, having them more or less stuck in the "vicious circle of poverty".

So, is there a way out of that Circle for Moldova?

The answer is yes. However, to break out of the negative trend there is a need for internal or external sources of investments into the economy. Investments and their qualitative share – which are innovations – comprise the true, or material, base of economic growth. Innovations impact the change in the sources, types and quality of economic growth.

High quality of economic growth has the ability to positively affect well-being of the population, to induce innovations in production methods, into goods and services, as well as into governance and management, and literally into all spheres of economic activity. Qualitative economic growth reflects

positive and forward-looking dynamics of an economy, and its transition to the higher stages of economic development. Even though, presently, prerequisites for the number of the developing countries, including Moldova, to enter the innovative stage of development, and especially the stage driven by wealth of the economy, are not sufficient (see, for instance, EIU), it is absolutely necessary to start building various separate elements of innovations-driven growth into the structural ladder of the national economy.

In conditions of globalization, considering its tight relationships to integration, localisation and regionalization, many developing countries, Moldova including, demonstrate potential areas for growth climbing several steps of the structural ladder simultaneously. In this way, for instance, the activities of international corporations disseminate global competitiveness into national markets and economic structures, regardless of the structural stage of that given economy. To be able to introduce such growth areas, some of the key building blocks of the economy have to be 'repaired' after years of unfortunate economic downward slope.

Investments into infrastructure, especially for such economies as the one of Moldova, are among more effective resources of qualitative economic growth. Infrastructure deficit, especially in low-income countries, is an obstacle of long-term economic growth. Infrastructure investments may also serve as a source of growth in aggregate demand. They are among the few instruments available in economic policy toolbox for sustaining growth in real terms, especially in condition of a weak, and not always adequate credit and monetary policies.

Investments into infrastructure secure growth in production capacity of various sectors of the economy. They are usually massive investment projects and have an ability to produce multiple external effects with positive long-term social impact. Judging by the global experience the biggest effect can be reached in interplay of the government and private sector based on partnerships uniting large corporations and business with smaller firms, venture capital funds and 'angel' investors through direct government support of basic innovations and venture capital investments from the first stages through commercialization of innovations. The inclusion of innovation factor into the process of investment in infrastructure can thus be viewed as a factor for the development of innovation-based economy.

Innovation-based type of economic growth is a type of economic growth adopted by most, if not all, of the developed economies. It is based not on the production and consumption of material goods as such, but on creation and consumption of information-technology goods and services, in other words, high-technology products. Therefore, structural component of the investments is specifically important in this context.

There are at least two ways of approaching the formation of innovation-based economy proven through international practice (the problem was thoroughly described in [8, pp.128-163]).

The first one assumes orientation towards own innovations. As a rule, it is applicable to the highly-developed economies. This particular approach was predominantly executed in the American economy. The second approach is based on 'borrowing' and importing of innovations. Its effectiveness is proven by a number of global economies, including, for instance, Japan and even more so China. In order to form the necessary elements of innovations into its economy, Moldova can very well use the second approach, which is based on the concept of imitation and adaptation of the new technologies.

This is similar to the concept of technological leapfrogging [3], [6]. An obvious example is the implementation of mobile networks and the spread of mobile telephones. By buying and using existing technology, late-industrializing countries are able to 'leapfrog', or jump over various inferior or more costly and less efficient technologies (that the first movers had to go through in the stages of development of those new technologies).

As the result, the 'leapfroggers' may get latest technologies cheaper and faster than the economy where this technology originates. Thus, it is valid to assume that if the mechanisms of innovative growth are in use, those growth areas where already existing innovations are actively used have a potential to increase competitiveness of the national economies and increase the quality of economic development.

This approach, however, should not be associated merely with consumption of already existing methods and technologies taking advantage of inventions of others. Moldova, in contrast to other examples of nations with comparatively lower levels of economic development, is a country with a lot of own potential in terms of research and development, as well as testing and implementation of the new technologies. Moldova preserved some of its highly skilled labour force and is capable to offer specialists and laboratories to receive but also to drive further innovation and new technologies in virtually all spheres from economy to physics and chemistry.

In this context, there is certainly a window of opportunities for Moldova which is opening at the moment. Recent convention in Davos in January 2016 marked the birth of the so-called Fourth Industrial Revolution, which would last from five to ten years and will inevitably and radically change all the economic, social and other structures. Akin the Revolution ignited by Microelectronics, this revolution will end up into goods and services previously unimagined, in the sphere of connected world and connected devices, from robotics to home appliances.

This revolution, in its turn, will open up new opportunities for smaller developing economies, such as Moldova, from being the testing ground to the economy for outsourcing the production of new technologies. Thus, Moldova could, in conditions of globalization, become a centre for outsourcing of the new products and therefore one of the economies that would be first to implement those innovations.

Global economy becomes less and less resource-intensive in the traditional sense of the term, shifting from production to the intangible resources represented by the people, as well as to the more capital-intensive and less dependent on raw materials. In this context, reorientation towards qualitative services in the sphere of high technologies is absolutely crucial. Moldova's IT specialists are considered to be among the better once in Eastern Europe, meaning that the country has the potential and the prerequisites for the creation of knowledge-based, innovation-driven economy based on the adoption and integration of innovations into its core structures. This is certainly a niche worth investing into.

### **Conclusions: From Vicious to Virtuous Circle**

1. Quality of economic growth is determined by the investment resources, and, in the first place, by their qualitative component – innovations, as well as the possibility for their adaptations into the economy. Therefore, for any country, including Moldova, it is important to create favourable conditions for activation of investment resources and capabilities.

2. One of the sources for qualitative economic growth are the investments into infrastructure. They have an ability to induce multiple and long term positive outcomes, to stimulate aggregate demand and positive socio-economic impact. We believe that the Republic of Moldova must create an infrastructure with higher qualitative share of innovations able to justify higher investments. Today, this justification comes mostly from relatively cheaper land and labour force. Moldova must be able to offer and promote what actually makes it qualitatively different from its neighbours: safety and stability, high connectivity, high-quality education and healthcare.

3. So far, Moldova managed to attract \$3,5 billion in investments. That is a relatively large amount – more than half of the GDP (with capital rate at 15-16%). Building on its potential, in the next five years, the country must be able to accumulate about 1,5 to twice as much capital in foreign investments. Thus, it is important to create necessary conditions to attract direct foreign investments.

4. Moldova's economy could act as an economy for outsourcing of production of high-technologies and high-tech products. Why is this possible? Moldova's sector of information technologies in an export sector with truly high potential. The products of the IT companies operating in Moldova are highly competitive not only due to lower costs of the labour force, but also due to the fact that the quality of the end product is competitive with the global standards suggesting that there is a large amount of highly qualified labour force in this area.

5. It is important to increase the interplay between businesses and the government based on shared understanding of common needs. The biggest effect could be reached if that crucial partnership is in place and if large and smaller businesses, individual investors, investment funds, venture capitalists, as well as the government and other educational and research institutions work in interplay, through the direct support by the government from the first stages through the commercialization phase of investments and innovations.

6. As shown in practice, the more globalization and the more stakeholders, the bigger the need for a clear strategy for the development of the country, including challenges of import substitution regarding goods and services, which would increase the added value and would provide an opportunity to increase the budget and to provide new work places for Moldova's population. It is, of course necessary to create adequate fiscal, administrative and regulatory conditions for businesses to solve the problems related by consolidation and modernization of Moldova's business, as well as to increase competitiveness and capital intensity in its economy.

7. Moldova is left, among many, with one of the most challenging issues, to integrate effectively into the global structures at the same time preserving own national interests. There is a need for a more thought-through and weighted integration policy into the global division of labour when export markets

are limited for smaller and less developed economies. It is important to build effective horizontal touch-points with other regions, with the nations of EU and other strategic neighbours such as Russia.

This, in essence, should allow Moldova to break through the vicious circle of poverty into the virtuous circle of prosperity, which would help to secure stable and profitable levels of economic development in the long term.

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## JUSTIFICATION OF MINIMAL QUANTUM OF WAGE IN THE REPUBLIC OF MOLDOVA

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*The relevance of the article is conditioned by the fact, that in the Republic of Moldova there are several levels of the minimal wage, but only one of them – a guaranteed minimal quantum of wage in the real sector – reached the subsistence minimum of the work-apt person. The aim of the article is to justify the minimal quantum of the wage. There were used the following research methods: statistical, comparing, analogy, monographic. There were made conclusion on the need for a step-by-step approach of the quantum of the minimal wage that is used for the payment of workers in the budgetary sphere to a quantum of the subsistence minimum of the work-apt person. It is proposed to make amendments in some legislative acts.*

**Key words:** *the minimal wages, the tariff rate for the I qualifying category of the wages, the guaranteed minimal quantum of wages in real sector, an average wages, the subsistence minimum of the work-apt person, the consumer price index, the labor productivity.*

*Actualitatea articolului este determinat de existența în Republica Moldova a mai multor niveluri ale salariului minim, însă numai unul din ele – cuantumul minim garantat al salariului în sectorul real – a atins valoarea minimului de existență a persoanei în vârstă aptă de muncă. Scopul articolului este de a justifica mărimea minimă a salariului. Au fost utilizate următoarele metode de cercetare – statistică, comparație, analogie, monografică. S-a ajuns la concluzia despre nevoia de o apropiere treptată a mărimei salariului, care este utilizat la remunerarea salariaților a sferei publice, la valoarea minimului de existență a persoanei apte de muncă. Se propune de a face modificări în unele acte legislative.*

**Cuvinte cheie:** *salariul minim, salariul tarifar pentru categoria I de calificare, cuantumul minim garantat al salariului în sectorul real, salariul mediu, minimul de existență a persoanei în vârstă aptă de muncă, indicele prețurilor de consum, productivitatea muncii.*

**JEL Clasification:** E24, J24, J31.

**Introduction.** The minimal wage plays an important role in state regulation of wages. The minimal wage occupies the central places in the system of state minimum social standards, and is used in the formation of the mechanism of regulation of wages in the Republic of Moldova [4]. The minimal wage provides an opportunity to:

- determine and guarantee a minimum volume of consumption of material goods and services necessary for the worker simply labour, sufficient for the reproduction of the labour force;

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- lead such a volume of consumption into accord with the current economic potential of a society;
- serve (at the given volume of material benefits and services made in the country) as an important factor in real differentiation of wages (there is means the establishment of a interrelation between minimal and average wages, the minimal and maximal wages, both in the economy as a whole, and for the basic qualifying groups);
- influence on the structure of wages, on a proportion in it between a fixed and a variable parts, and through this on the organization of wages at the enterprise;
- focus a society on a minimum level of performance (productivity) of work which it has the right to require from the employee.

In the Republic of Moldova is kept the low **quantum of the minimal wage**. The problem is aggravated by the existence of several levels of minimal wage.

) *The minimal wage of the general application*. It has an extremely limited scope of application and is used only for the payment of some categories of workers. For example, it is used in establishing the monthly salary to representatives of the state in administration of the state enterprises and joint stock companies, as well as the enterprises with predominantly of the state capital.

Per 2001-2015 the size of the minimal wages has increased from 100 up to 1000 lei per month. Thus for this period the change of the quantum of the minimal wages was carried out four times: since April, 1<sup>st</sup> 2001; since January, 1<sup>st</sup>, 2005; since April, 1<sup>st</sup>, 2007; since January, 1<sup>st</sup>, 2009. Since October, 1<sup>st</sup>, 2014 by the Government Decree of the Republic of Moldova no. 550 from July, 09<sup>th</sup>, 2014 approves the new quantum of the minimal wages for the country – 1 thousand lei.

The ratio of minimal wages with the subsistence minimum of the work-apt person testifies that during 2001-2015 the quantum of the minimal wages covered the quantum of the subsistence minimum only on 14-58%. Thus the best ratio between these two values (57.9%) took place in 2014, in which the quantum of the minimal wage has increased from 600 to 1000 lei per month. The worst ratio (13.9%) was in 2004, when at growth of the quantum of the subsistence minimum of work-apt person, minimal wage (100 lei) has remained unchanged within four years.

A similar trend is characteristic and for the ratio between the quantum of minimal and average wages. The value of this ratio, which in the scientific literature is identified as Kaitz index, varies from 9.1% in 2004 to 24.0% in 2014 (table 1). Somewhat better is the ratio between the minimum and average wages in the budgetary sphere it ranges from 12.1% to 27.2% (the budgetary sphere is the ensemble of enterprises financed from the state budget, state social insurance budget and the administrative-territorial units budgets).

Table 1

The ratio of the minimal wages with subsistence minimum and average wages

Years	The minimal wage quantum, lei	The subsistence minimum of work-apt person	The average wage for the country, lei	The average wage in the budgetary sphere, lei	The ratio of the minimal wages (%) with:		
					subsistence minimum	average wages for the country	average wages in the budgetary sphere
2001	100	496,3	543,7	407,8	20,2	18,4	24,5
2002	100	571,2	691,5	555,8	17,5	14,5	18,0
2003	100	664,8	890,8	685,5	15,0	11,2	14,6
2004	100	718,9	1103,1	827,5	13,9	9,1	12,1
2005	200	809,3	1318,7	992,4	24,7	15,2	20,1
2006	200	986,7	1697,1	1450,1	20,3	11,8	13,8
2007	400	1159,5	2065,0	1624,5	34,5	19,4	24,6
2008	400	1446,5	2529,7	1954,3	27,6	15,8	20,5
2009	600	1251,1	2747,6	2405,5	47,9	21,8	24,9
2010	600	1453,1	2971,7	2552,5	41,2	20,2	23,5
2011	600	1582,8	3193,9	2860,2	37,9	18,8	21,0
2012	600	1585,9	3477,7	3210,2	37,8	17,2	18,7
2013	600	1710,0	3765,1	3317,2	35,1	15,9	18,1
2014	1000	1726,8	4172,0	3673,9	57,9	24,0	27,2
2015	1000	1842,2	4610,9	4125,3	54,3	21,7	24,2

Source: Calculated by author according to Government Decision on establishing the minimal quantum of wages for the country for a.a.2001-2015.



The Republic of Moldova on the minimal wages quantum seriously concedes not only to developed countries, but also many CIS countries. In 2015, the minimal wages quantum in a dollar equivalent in Moldova amounted 51 USD, while in Belarus is 124 USD (at 2.4 times more), in Armenia is 114 USD (at 2.2 times more), in Russia is 86 USD (at 1.7 times more) [8]. Only in Tajikistan (36 USD) and Kyrgyzstan (13 USD) the minimal wages quantum was less than in Moldova.

b) *The tariff rate for the 1 category of the wages of the Uniform tariff network of budgetary sphere employees*, which, in accordance with article 14 of the Law on salaries No. 847-XV from February, 14<sup>th</sup>, 2002 „is established at a quantum equal or greater than the minimal wage quantum in the country” [3]. Since October, 1<sup>st</sup>, 2014 tariff rate for the 1 category of wages in budgetary sphere was equalized with a quantum of minimal wages on the country and constituted 1,000 lei per month.

) *Guaranteed minimal quantum of wage in real sector*, which, according to art. 2 of the Law on salaries no. 847-XV from February, 14<sup>th</sup>, 2002 represents „the minimal mandatory quantum of wages guaranteed by the state, for work done by an employee in the real sector (totality of self-supporting enterprises). This quantum is established by the Government after consultation with the social partners and is reviewed annually, depending on the annual overall growth of the consumer price index and the growth in productivity at the national level” [3]. Since May, 1<sup>st</sup>, 2016, the guaranteed minimal quantum of wage in real sector constituted 2100 lei per month.

Increasing the guaranteed minimal quantum of wage in real sector to the level of 2100 lei is justified as follows: 1) since May 1<sup>st</sup>, 2015 the guaranteed minimal quantum of wage constituted 1,900 lei; 2) the consumer price index in 2015 compared to 2014, constituted 109.7%; 3) in 2015 increasing the gross value added compared to 2014, constituted 99.6%; 4) in 2015 the number of employees compared to 2014, constituted 98.7%; 5) growth of labor productivity, calculated as the ratio of change in the gross value added (99.6%) to change the number of employees (98.7%) constituted 100.9%; 6) the total growth of consumer price index and labor productivity constituted:  $9.7\% + 0.9\% = 10.6\%$ ; 7) the amount of the guaranteed minimal quantum of wage in the real sector constituted  $1,900 \times 1.106 = 2,101.4$  lei, or rounded – 2,100 lei per month.

In addition to minimal wage levels, which have national coverage, each branch of the real sector has the right to negotiate and establish collective agreements at a branch level, the levels of the minimal wage in the quantum equal or greater than the guaranteed minimal wage in the real sector.

The main reason for using of different minimal levels of remuneration consists, first of all, in the way of financing of the budgetary sphere and the real sector. So, the state budget has very little opportunities to provide the level of remuneration equal to a level of the real sector. At the same time, the level of remuneration in the real sector, in large extent depends from the cost of the labour force on a labour market.

For 2000-2015 years the quantum of the tariff rate for the I qualifying category has increased from 115 lei up to 2100 lei, or more than in 18 times. Thus if by Government Decree no.455 from May, 16<sup>th</sup>, 2000 the tariff rate for I the qualifying category was established identical for all types of activities (115 lei per month), then later the differentiated approach to an establishment of this quantum has been entered.

The ratio between the tariff rate for the I qualifying category of a wages at the self-supporting enterprises/guaranteed minimal quantum of the wages in real sector with subsistence minimum of the work-aft person has the extremely adverse character. In the beginning of 2000<sup>th</sup> years it was 30-40% (table 2). In recent years the situation in this area has changed to the best. In 2014 there has been a significant convergence of the guaranteed minimal quantum of wages in the real sector (1,650 lei) and cost value of subsistence minimum of the work-aft person, therefore the ratio between these indicators constituted 95.5%. For agricultural workers this ratio amounted to 90.3%. After an establishment on May, 1st 2015 of the guaranteed minimal quantum of a wages in real sector in 1,900 lei its level for the first time exceeded the size of subsistence minimum of the work-aft person. This trend continued in 2016. After an establishment on May, 1st 2016 of the guaranteed minimal quantum of a wages in real sector in 2100 lei its level constituted 114% of the subsistence minimum of the work-aft person.

Table 2

**Ratio of the guaranteed minimal quantum of wages in the real sector / quantum of the tariff rate for the I qualifying category to the subsistence minimum of work-apt person**

Years	Guaranteed minimal quantum of wages, lei		The subsistence minimum, lei	Ratio with subsistence minimum of the work-apt person, %	
	industries of economy	agriculture and forestry		industries of economy	agriculture and forestry
17.01.2001*	150	150	481.5	31.2	31.2
1.09.2001*	169	169	498.8	33.9	33.9
1.07.2002*	250	250	571.2	43.8	43.8
1.04.2003*	300	300	698.6	42.9	42.9
1.07.2003*	340	340	571.4	59.5	59.5
1.02.2004*	440	340	718.9	61.2	47.3
1.08.2005*	550	550	809.3	54.4	42.0
1.07.2006*	700	550	986.7	44.6	34.5
1.07.2007*	900	700	1159.5	77.6	60.4
1.02.2010	1100	900	1453.1	75.7	61.9
1.05.2012	1300	900	1585.9	82.0	56.7
1.05.2013	1400	900	1710.0	81.9	52.6
1.05.2014	1650	1560	1726.8	95.5	90.3
1.05.2015	1900	1900	1842.2	103.1	103.1
1.05.2016	2100	2100	1842.2**	114.0	114.0

\* tariff wage for the I qualifying category

\*\* the subsistence minimum 2015

Source: Calculated by author according to Government Decision on establishing the minimal quantum of wages for the country and Government Decision on the guaranteed minimal quantum of wages in real sector for a.a.2001-2015.

However these positive shifts are obviously insufficient. According to the European Social Charter the quantum of the minimal size of a wages should be established by the state at a level, not less than in 2.5 times exceeding a subsistence minimum. Thus, for achievement of a recommended European level it is necessary substantial growth of the minimal quantum of a wage.

Regulation of the minimal wage in most of the developed world is based on the documents, adopted by the ILO. The first legislative acts in this area were the Convention no.26 (1928) and Recommendation no.30 (1928) „On the establishment and application of procedures for the determination of minimal wages”. However, these documents contained only „a call for Governments of the countries to establish a minimal wages” [6, 9]. Therefore, for many years the representatives of the trade unions in the ILO persistently raised the question on acceptance of the general mandatory international document concerning the minimal wages.

As a result, in 1970 had been accepted the Convention no.131 and Recommendation no.135 „On minimal wage fixing, with special reference to developing countries”. In these documents it is underlined, that „the minimal wage has force of the law, is not a subject of reduction and that non-using of this provision entails criminal or other sanctions” [7, 10].

In Recommendation no.135 criteria for determining of the level of minimal wages are established:

- „ ) the needs of workers and their families;
- b) the general level of wages in the country;
- c) the cost of living and changes in it;
- d) the quqntum of social security;
- e) a comparative level of life of other social groups;
- f) the economic factors, including the requirements of economic development, a labour productivity level and the desirability of achieving and maintaining of a high occupation level” [10].

In 2010, the Republic of Moldova had ratified Convention no.131 and Recommendation no.135. The main provisions of these documents have found the reflection in the Law of the Republic of Moldova no. 1432-XIV from December, 28<sup>th</sup>, 2000 „About the order of establishing and revising of the minimal wage”. In the Law (item 1, art.2) provides the definition of minimal wage: „The minimal wages is represents the quantum of wages established by the state in lei for a simple, unqualified labor, below which the employer is not entitled to pay for the norm of work performed by an employee monthly or hourly” [2].

Thus it is underlined, that „a monthly wages for labor of the employee, who has fulfilled the installed norm of time for the certain period and who has executed the duties assigned to it or norm of work, may not be less than the established quantum of minimal wages. Compliance of the minimal wages quantum is mandatory for all economic actors regardless of a type of the ownership and the organizational-legal form. This quantum may not be reduced neither by the collective agreement, nor the individual labour contract” [2].

An important feature of the Law no. 1432-XIV is fixing in it of the norm, which had put an end to existing for a long time in Moldova a practices in the use of minimal wages in other spheres. Item 5 art.2 of the Law read: „With the minimal wage connected only payments corresponded only to work. All other social payments (pensions, scholarships, compensation, allowances, etc.), as well as the state duties, taxes, tariffs, penalties and other payments, which not related to work, are established in the quantum’s not commensurate with the minimal wage” [2].

In the Labour Code of the Republic of Moldova in article 131 „The Minimal wages” are indicated: „(1) Each employee has the right to the guaranteed minimal wages. (2) The minimal wages are the minimal quantum of a payment established by the state in national currency for the simple, not qualified work, less of which level the employer have not the right to pay for the performed monthly or hourly norm of work. (3) The minimal wage does not include surcharges, allowances, incentives and compensatory payments” [1].

In the Republic of Moldova, the minimal wage are established by the Government Decree in consultation with employers and unions (art. 132 (1) of the Labour Code). It is underlined that „consultations concerning the quantum of minimal wage is carried out within the framework of the National Commission for collective negotiations and consultations, which represent the social partnership at national level” [1].

In Republic Moldova there are no legislatively fixed criteria for the establishment of the minimal wages. There is only legislatively fixed criterion of review of the quantum of the minimal wages.

In it.4 art.3 the Law 1432-XIV from December, 28<sup>th</sup>, 2000 it is underlined, that „the review of the quantum of the minimal wages is carried out by the Government after preliminary consultations of patronages and trade unions taking into account changes in the consumer price index and dynamics of average wages on national economy for the relevant period, volume of an gross domestic product, labor productivity, as well as a subsistence minimum in its cost expression” [2]. Thus, the change of the subsistence minimum is considered only at review of the quantum of the minimal wages. Herewith, it takes into account other factors among which the change of cost value of subsistence minimum is finalizing the list of these factors.

Meanwhile, in the CIS countries the subsistence minimum is a criterion for *establishing* the minimal wage. The labour legislation of Belarus, Kazakhstan, Kyrgyzstan, Russia, and Ukraine it is directly fixed that „the monthly minimal wage may not be lower than the subsistence minimum. And while in the most of the CIS countries this ratio is not complied, however, this legal rule serves as a justification of the need for convergence between the minimal wage and the cost value of the subsistence minimum” [5].

In this context we consider that it is advisable to:

- to initiate changes in several legislative acts. In particular to supplement article 2 of the Law No. 1432-XIV from December, 28<sup>th</sup>, 2000 „About the order of an establishing and revising of the minimal wage” [2] with the following item: „The minimal wage must approach stage by stage to the cost value of the minimum subsistence of work-aft person”;

- to justify and develop the order of the stage-by-stage approach of the minimal wage quantum to the cost value of the subsistence minimum of work-aft person.

**Conclusions:** Minimal wage is an essential starting point for workers and employers in their contacts on the labour market in occasion of an establishment of the price of labour force. The absence in Moldova of a reasonable quantum of minimal wage deprives both sides of labour relations an essential guide in establishing their partnership and does not provide the possibility to organize properly industrial and labour activity at the enterprises. Increase of the minimal wage took a central part in the system of measures to ensure a decent wages for work, thus strengthening the social protection of workers in area of remuneration.

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## SYNTHESIS OF ECONOMIC ENVIRONMENT AND CLASSIFICATION LEVELS OF DEVELOPMENT

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*Economic environment is actual and influences business activities significantly. Economic environment includes microeconomic and macroeconomic factors. These factors assist in encouraging business and promote trade and investment activities. This work aims to illustrate those factors, their characteristics and how do they support international business activities. This paper also is intended to reveal the indicators used to classify countries' development for instance BOP, GNI, GDP and GNP. As a result, it also demonstrates the indicators' characteristics and how these indexes work.*

**Keywords:** *microeconomic, distribution channels, Macroeconomic, income levels, cost of living, standard of living, poverty, unemployment, customs duty, balance of payments, gross national income, gross national product and gross domestic product.*

*Mediul economic este actual și influențează în mod semnificativ domeniul afacerilor. El include în sine factori microeconomici și macroeconomici. Acești factori asistă la încurajarea afacerilor și la promovarea activităților comerciale și de investiții. Lucrarea dată îmi propune să ilustreze acești factori, caracteristicile lor și modul în care susțin activitățile de afaceri internaționale. De asemenea, această lucrare are drept scop evidențierea indicatorilor utilizați în clasificarea țărilor în curs de dezvoltare, de exemplu: BOP, VNB, PIB și PNB. Ca rezultat acesta demonstrează caracteristicile indicatorilor și modul în care acești indici funcționează.*

**Cuvinte-cheie:** *microeconomic, canale de distribuție, macroeconomic, nivelul veniturilor, costul de trai, nivelul de trai, șomaj, taxe vamale, balanța de plăți, venitul național brut, produsul național brut, produsul intern brut.*

**JEL Classification:** C81, D01, E24, F61, J64.

**Introduction.** Economic environment plays a major role in business success and/ or failure. Countries strive to monitor and improve this environment because of its importance.

This work tackles the central components of the business economic environment, their characteristics and how these factors influence business operations. This paper also illustrates the common indicators used to look into the development of countries' economies. It similarly reveals the main features of these indicators and clarifies how these indicators work.

The economic environment of business refers to some factors which influence business operations. These factors affect business operation and production. Business therefore depends heavily on

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the economic environment as it has significant influences on business activities. The economic environment is one of the major determinants of market potential and opportunity. Consequently, understanding the economic environments of foreign markets and countries certainly assist in predicting how trends and tendencies in those environments might affect firms' current and future performance. Similarly, a careful analysis of the economic environment is essential as economic environment plays an important role in mobilizing the business corporates towards the correct directions.

**Economic Environment.** The economic environment is one of the important components of business external environment [1, p.23]. It denotes economic forces which exert some effects on the functioning of a business. These forces affect for instance consumer buying power and spending patterns. The economic environment in which a business operates has a great impact on business activities; it plays an essential role in business success and/or failure. These factors can also influence each other and work together consequently affecting the business. Economic environment is divided into microeconomic and macroeconomic environments. Microeconomic environment includes forces such as market size, demand, supply, producers, suppliers, consumers and distribution channels. Macroeconomic environment embraces economic systems and policies as well as economic conditions.

Market size is one of the essential constituents of economic environment. It refers to the number of individuals and corporates in a certain market who are potential buyers and/or sellers of a certain product or service. Businesses usually conduct market scan to measure the market size before setting up plans to introduce a product or service in a specific area. Big markets generally create stimulating business environment, so encourage corporates to bring varieties of products and services. The stimulating environment simultaneously assists in generating competitiveness between different firms. Needless to say that all corporates want to offer good products and services to have a good share in the market and earn profits. Therefore, market size encourages competitiveness between firms and consequently profitability for them in addition to good prices for consumers [2, p.295].

Determining the market size allow businesses to consider the value and volume of goods and services to be presented in a specific market. The demand for certain products in a particular market defines the suitable amount to be supplied in that market. Thus demand and supply are chief business economic environment forces as they play together a significant role in business operations. Increasing the demand for certain commodity or service in a market reflects the desire for that product, consequently encourages businesses to raise the volume to be supplied to that market to gain profits. The increase of product's volume in the market motivates consumers to look for good prices, accordingly forcing firms to reconsider pricing and quality strategies. Competitiveness between firms to offer good prices stimulates the microeconomic environment. Demand and supply integration help in understanding market and customer needs [3, p.15].

As previously shown, market size influences the business economic environment. Whenever, market size is greater, it encourages corporates to conduct business operations and consequently it promotes competition. Similarly, demand and supply have an impact on the business economic environment. Increase of demand leads to increase in supply. Thus, they also motivate businesses to compete to rise the volume of business activities in order to increase their market share and profit. The stimulating economic environment based on market size and the volumes of demand and supply influence similarly producers and suppliers. Producers tend to observe quality and price as demand is influenced mainly by the quality and cost of a product. Similarly suppliers lean towards offering good quality and prices. The rivalry between competitors trying to offer competitive products, influence positively the microeconomic environment.

Distribution channel is a key component in business economic environment. It is a series of businesses through which goods and/or services are delivered to a consumer. A distribution channel is the channel through which goods and services pass to reach a purchaser. It may take short or long forms depending on the number of intermediaries. Generally, the cost of distribution channel determines the required length of the channel. In the same way, other factors influence the choice of a distribution channel. Businesses need to consider aspects related to good or service quality and value. The type, volume and price of the product available in a market and consumer's number limit the channel [4, p.110]. Economic environment of business similarly relies similarly on macroeconomic forces. Macroeconomic environment constituents include economic systems policies and conditions as well as other forces revealed below.



Economic system is considered as a chief factor in the macroeconomic environment. It refers to the institutional and legal frameworks within which several economic activities are conducted. At the present time, there are three economic systems in the world. These are capitalism, socialism and mixed economy. The primary distinction between these economic systems is the degree to which the government takes part in the economy. Economic activities like production, distribution, consumption and economic growth are directed by a certain institutional framework. This framework consists of laws, customs and social institutions of a country. Economic systems generally aim to achieve goals like economic growth, economic development, full employment and price stability. The economic system in a country prescribes the suitable economic policies that governments have to adopt.

As revealed above, regimes aim to achieve certain economic goals; however, attaining these goals requires implementing specific economic policies. A country's economic policies are leading indicators of government's objectives. The economic policy in a country relies heavily on the available resources, hence governments tend to make maximum use of these resources to improve and support the economic conditions. Economic policies consist of components such as fiscal and monetary policies. Fiscal policy is a means by which governments adjust their tax rates and government spending levels to monitor and promote national economy. Monetary policy refers to the actions of a country's central bank to determine the money supply in that country. Production, employment and wages are all influenced by fiscal and monetary policies [5, p.16]. Through specific elements, fiscal and monetary policies influence the economic environment.

Fiscal policy is a strategy that governments use to adjust their spending levels and tax rates to monitor and influence national economy. It refers to the change in government's spending and tax rates to influence the level of aggregate demand. It can be divided into expansionary and deflationary policy. Expansionary policy aims at increasing aggregate demand and involves higher government spending and lower taxes rates. This policy helps in increasing employment rates but it may similarly cause a budget deficit. Deflationary policy includes lower government spending and higher tax rates aimed to reduce aggregate demand. This policy is devised to reduce a budget deficit. Choosing the proper time to apply the accurate fiscal policy is important for promoting a stable economic environment. Changing a fiscal policy at a wrong time may be a source of economic instability [6, p.224].

Monetary policy encompasses actions taken to manage money supply. It aims at setting interest rates, controlling inflation and recession, reducing unemployment rates and ensuring price stability. It may be divided into expansionary and contractionary policy. Expansionary policy increases the money supply so as to lower unemployment, consumers' spending, increase private-sector borrowing and consequently encourage economic growth hence avoid recession. Contractionary policy decreases money supply. It may increase unemployment rates, reduce consumers' spending and businesses' borrowing therefore slow economic growth and reduce inflation. When choosing expansionary or contractionary monetary policy, it is very essential to consider the country's economic characteristics [7, p.127]. Such a choice may reinforce or undermine business activities thus influences the economic environment

Governments attempt to stimulate economic environment through adopting certain economic policies. Both fiscal and monetary policies are considered as efforts to reduce economic fluctuations. They aim at creating a more stable economy characterized by low inflation and positive economic growth. They are devised to maintain price stability and full employment to promote the economic prosperity and welfare of the people. In order to implement the economic systems and policies regimes must enact economic legislations. Economic legislations refer to a set of laws and regulations legislated by governments' legislative bodies to control and regulate the economic operations and activities. Economic legislations can take different forms such as states' intervention in foreign exchange markets which is considered also as a mechanism to support and promote the stability of economic environment.

Exchange rate is a significant component of the economic environment. It is one of the major economic policies. It can be referred to as the price for which a currency of a country can be exchanged for another state's currency. Accordingly, an exchange rate has two components, a national currency and a foreign currency. Exchange rates are either fixed or floating. Fixed exchange rates are generally governed by a country's central bank. Floating exchange rates are determined by the market forces of demand and supply. Many factors influence the exchange rates such as trade balance, general state of economy and political stability. Constant exchange rate encourages firms to initiate investment activities hence supporting economic environment. Therefore, some countries occasionally intervene in the foreign exchange markets in an attempt to stabilize the exchange rate [8, p.13].

Customs duty and taxes are significant sources of revenue for states. Customs duty is a charge imposed on imported merchandises. It aims to protect a country's economy, people and environment through controlling the flow of commodities, particularly restrictive and prohibited goods into the country. Some countries may allow importing certain amount or percentage of a specific goods to protect the local production, while barring importation of others based on cultural differences for instance. Tax is another charge imposed by a government institution on individuals and corporations to finance government activities. There are several types of taxes such as income tax, sales tax and property tax, thus tax percentage depends on its type. Customs duty structure and taxes percentages constitute crucial aspects in encouraging investors. Some countries may exempt investors from tax and customs duty to attract them [9, p.100].

Before choosing specific economic policies, governments must consider the economic conditions in the country. Regimes conduct economic planning according to available natural resources for instance mineral and agricultural resources. They consider the best means to make maximum use of these resources and to promote investment activities. Investors themselves take into account the availability and quality of natural resources but also laborers. Human resources constitute a significant factor in the economic environment. Business always seeks to find skilled but cheap laborers. A short time ago, many international firms for instance Sony and Dell erected plants in China and India. In Southeast Asian countries, in addition to skilled labor force, salaries of laborers are not high [10, p.167]. Economic conditions encompass income level, distribution of income, cost and standard of living as well as poverty and unemployment rates.

As revealed above, income is a substantial part in the economic conditions in a country. The levels of income reveal the level of education and the professions in a society thus reflect the economic conditions and the classes to which society's members belong. Level of income determines the amount and quality of products and services demanded by peoples in certain areas. It reveals the marketing strategies, solutions and promotions that businesses have to take on. Distribution of income and wealth fundamentally affects peoples' purchasing behavior and consequently the market size. Consumer discretionary income, income per capita and consumer savings rate influence the value and volume of commodities and services they buy. Studies demonstrate that income influences purchasing power and decisions as it raises consumers' awareness to be more price-sensitive for hedonic purchases [11, p.208].

Cost of living plays a substantial role in the economic environment. It refers to the amount of money necessary to sustain a certain level of living, including but not limited to basic expenses such as accommodation, nutrition and health care. Cost of living is regularly used to determine the living expenses in one place in comparison to another one. It is also used to compare the expenses at two periods of time within the same place. Salary levels in a particular geographical area depend heavily on expenses indispensable to maintain a basic standard of living in that area, thus salaries are closely related to the cost of living. Hence wages, cost of living and standard of living are closely interrelated and influence each other significantly. Needless to say that an increase of income, may lead to a similar growth in the purchasing power, thus affecting the cost of living and consequently the standard of living.

The standard of living constitutes a significant component in the economic environment. It refers to the level of luxury and wealth available for certain classes within a society. It is frequently used to compare geographical regions and may similarly be used to compare different periods of time. The standard of living includes factors for instance economic growth and constancy as well as political freedom and stability. It can be measured using a variety of tools such as gross domestic product (GDP) per capita and gross national product per person (GNP). Standard of living is closely related to quality of life; they are components of well-being. It is a measure of material aspects but also other characteristics for instance health and education. The UN formulated a human development index that merges factors such as life expectancy, education and income in order to measure the standard of living [12, p.470].

Poverty is a phenomenon that reflects the economic condition of a person or a society. It refers to a condition in which a person or a society lacks financial resources and necessities to enjoy a minimum standard of living that is considered adequate in a certain society. Poverty level and rates are used as standard to determine the proportion of a population living in poverty. They are important indexes for both governments and investors as they influence the national economic development and investment activities. Thus, governments are required to initiate researches to study causes of poverty and its

impact on society then to introduce and implement necessary strategies and policies to fight against poverty and promote the well-being of their nations. Investors also need to conduct a market scan to recognize the characteristics of the potential market so as to determine the value and volume of goods and services desired.

Unemployment is a significant phenomenon that affects economic environment. It is a situation where people at the age of work who are seeking employment are unable to get a job. While unemployment rate is used to measure the unemployment, unemployment as a phenomenon is used to measure the health of economy. Unemployment rates are substantial indicators of societies' economic conditions and significant signs of the economic environment. They impact economic growth strategies and plans, thus governments can reduce unemployment rates through adopting certain encouraging employment schemes and policies. Unemployment rates may also challenge investment plans as corporates would not risk to initiate investment activities in countries where unemployment rates are high. Researches demonstrate that foreign investors may be less attracted to regions where employment rates are high [13, p.139].

Researchers devised certain criteria to assess the impact of economic system and policies as well as to determine their impact in the economic conditions. Balance of payments (BOP) is an economic indicator that reflects the economic situations in countries of the world. It is a statement which summarizes economic transactions with the rest of the world for a quarter of a year or one year. Transactions included in the BOP statement are divided into three accounts: current account, capital account and financial account. BOP assists in economic planning and formulation of economic strategies and policies since it is a vital guide to states' economic conditions. It has a crucial role in promoting investment activities in a specific country because it reveals various aspects of countries' international economic position. It demonstrates the foreign investment profits in a country and the country's profits abroad [14, p.238].

Gross National Income (GNI) is the sum of incomes generated by both total domestic production in addition to the international production activities of national firms in a given period. It measures all income of a country's people and businesses, regardless of production location. It does not include the earnings of foreigners living in the country, even if they spend it within the country. As such, the GNI may be considered as an economic indicator because it reflects the amount of production in a country in addition to the size of investments abroad as well as the profits that these investments earned. Similarly, GNI information may reveal the characteristics of economic environment in each country. More precisely, this information can demonstrate the size of overseas investments and why these investments exist overseas. Thus GNI may be a key indicator that businesses need to evaluate before initiating any activity.

Gross National Product (GNP) is the total value of all final goods and services produced within a country in a certain year, plus the income earned by its citizens comprising income of those located abroad, minus the income earned by foreigners within the domestic economy. It is one of the economic indicators used to measure the national economic conditions of a country. Since national economies gained an increasing importance globally, GNP assists in revealing essential information about the economic environment in a specific country. It may also determine people's purchasing power and hence the value and volume of goods and/or services that firms need to bring into a particular market. It also demonstrates the size of revenues earned by national corporates from overseas investments, thus it illustrates national investors' trends and tendencies. GNP reveals the production of national firms even those working abroad [15, p.12].

Gross domestic product (GDP) denotes the total monetary value of all final goods and services produced within a country in a precise year. It can be calculated on a quarterly basis as well. GDP can be calculated by adding personal consumption expenditures plus government spending plus the sum of all the country's business investment plus the country's total net exports. It is a quantitative measure of a state's total economic activity and is an important indicator of a country's economic performance. The information provided in the GDP data is vital for both governments and investors. Personal consumption reflects the purchasing power plus the commodities and services desired in a specific market. Government expenditure reveals the size of government intervention in a national economy through fiscal policies implemented. Research shows that GDP has constructive and strong influence on investors [16, p.66].

**Conclusion.** The economic environment of business refers to the economic factors that influence business operations. It is divided to micro and macro factors. Microeconomic environment include forces as market size, demand, supply, producers, suppliers, consumers and distribution channels. Determining the market size allow businesses to consider the value and volume of goods and services to be presented in a specific market. The demand for certain products in a particular market determines the amount to be supplied on that market. Producers and suppliers compete to observe quality and price as demand and supply are influenced mainly by the quality and cost of a product. Product's type, volume and price and number of consumers as well as channel's cost determine the distribution channel's length.

Macroeconomic environment similarly impacts the business environment. It includes factors such as economic system and policies as well as other forces. States' ideologies determine their economic system. The economic system figures which economic policies governments have to be considered. Economic policies include fiscal, monetary and other policies. Fiscal policy is a strategy that governments use to adjust their spending levels and tax rates to monitor and influence national economy. It is devised to reduce a budget deficit. Monetary policy encompasses actions taken to manage money supply. It aims at setting interest rates, controlling inflation and recession, reducing unemployment rates and ensuring price stability. Before choosing specific economic policies, governments must consider the economic conditions in the country.

Economic conditions in a country can be assessed and evaluated through various criteria. Level of income determines the amount and quality of products and services demanded by peoples in certain areas. Cost of living is regularly used to determine the living expenses in one place in comparison to another one. Standard of living is a significant economic environment indicator. It refers to the level of luxury and wealth available for certain classes within a society. Poverty and unemployment rates also significant economic environment indicators. Poverty rates determine the proportion of a population living in poverty, thus reveals demand and supply potential volumes. Unemployment rates measure unemployment and the unemployment measures the health of economy. Economic policies take the form of legislations. Customs duty and taxes in addition to exchange rate are among the common economic legislations which impact on business.

Economic environment indicators are used to assess the economic health. They include (BOP), (GNI), (GNP) and (GDP). They have a crucial role in promoting investment activities in a specific country as they reveal various aspects of a country's international economic position. BOP is an economic indicator that reflects the economic situations in countries of the world. It assists in economic planning and formulation of economic strategies and policies. GNI measures all income of a country's people and businesses, irrespective of production location. It demonstrates the size of investments overseas and why these investments exist overseas. GNP determines people's purchasing power and hence the value and volume of goods or services desired in a particular market. GDP is a quantitative measure of states' total economic activity. It reveals countries' economic performance.

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## ACHIEVING RIGHTS OF CHILDREN WITH DIVORCED PARENTS TO AN ADEQUATE STANDARD OF LIVING

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*The article presents the results of the study "Providing children with alimony with divorced parents". This research revealed that more than a third of debtors do not pay alimony, saying that they are unable to pay, created new families and have the unwillingness to participate in the financial support of the child. The main difficulties identified in determining alimony were the evidence of real incomes of parents and ridiculous amount of subsistence with which operate to establish the maintenance of child. Most of sanctions of debtors (sanction, impossibility to perfect passport, prohibition to go abroad), are not appreciated by experts as effective because of difficult mechanisms implemented.*

**Keywords:** child, family, alimony, divorce, sociological research.

*Articolul prezintă rezultatele studiului "Asigurarea cu pensie de întreținere a copiilor cu părinți divorțați". Investigația realizată a relevat că mai mult de o treime din debitori nu achită pensie de întreținere, invocându-se drept cauze imposibilitatea de a achita, crearea unei noi familii și lipsa dorinței de a participa la asigurarea financiară a copilului. Demonstrarea veniturilor reale ale părinților și suma derizorie a minimului de existență cu care se operează la stabilirea pensiei de întreținere sunt principalele dificultăți identificate în procesul de stabilire a pensiei de întreținere a copilului. Majoritatea sancțiunilor de penalizare a debitorilor (sancțiune contravențională, imposibilitatea de a perfecta pașaportul, interdicție de a trece hotarele țării) nu sunt apreciate de către experți drept efective din cauza mecanismelor dificile de implementare.*

**Cuvinte-cheie:** copil, familie, pensie alimentară, divorț, cercetare sociologică.

**JEL Classification:** C15, J21, J61, J62, J69, O15.

**Introduction.** Current Moldovan family stability is compromised significantly by profound transformations incurred by the institution of the family and society: economic and financial crisis, diminishing moral values and family, lack of adequate training on marriage and fatherhood etc. In accordance with the Universal Declaration of Human Rights, the Convention on the Rights of the Child, the Family Code and the Law on the Rights of the Child: every child has the right to an adequate standard of living, and to a standard of living adequate for health and well-being, including food, clothing, housing and medical care and necessary social services. National law compels parents to bear responsibility for the physical, intellectual and spiritual development of their children and to support their minor and adult children unable to work that require support. Achieving these rights is particularly important in cases where one parent (sometimes both parents) live separately from the child/children after divorce/separation of parents.

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Recent studies in this area highlight the need to adjust policy to encourage the population to a higher family quality, for reproduction of generations, who would enhance human potential [2]. In the current conditions of family reorganization and socio-economic context, particular emphasis will be placed on children's welfare, this has implications on health, development and affirmation of young people [4]. Thus, socio-economic security of children should not be affected, in the case of separation/ divorce of parents or other adverse events.

**Research methods.** In the Republic of Moldova some studies that were intended to research the family life have reached some aspects highlighting the determinants of divorce, the impact of the phenomenon on their spouses and children, but sociological research regarding the research of peculiarities of child support after divorce does not exist. This article is developed, based on sociological studies "Providing children with alimony with divorced parents" realized in 2016. The purpose of this study was to determine the main difficulties in ensuring children after their parents' divorce with alimony. A qualitative research sample was established by 30 legal professionals (judges, lawyers, legal executors, legal experts, mediators) and 15 divorced parents (5 fathers and 10 mothers). The sample quantitative research was established by 300 divorced parents' creditors, who were in the custody of minor children according to the court's decision. The research method applied was based on standardized questionnaire survey, by the procedure face to face.

**Results.** The current population problem of reproduction is extremely important. Future mothers should be sure that in case of divorce or other unpredictable events (redundancy, illness etc.), they can get material support from the spouse who lives separately. New trends in marriage relationships and family (high divorce rate, living together without marriage registration, husbands' separation because of migration) and difficult socio-economic situation in the country, reduced flexibility of the legal framework on the family and the lack of effective mechanisms to execute it, have significantly affected the practice of paying alimony of child.

Current reality offers us a multitude of situations of neglect of children after divorce of parents, who, beside effective deficiencies, also face a lack of sufficient financial support for a decent living. The parent, who remains the custodian of the child, although undertaking multiple efforts to ensure financial stability, does not always succeed. For this reason, it is necessary that both parents continue to participate in the growth and education of the child after divorce.

Table 1

The attitude of respondents regarding divorce

	Agree	Partially agree	Do not agree	DPOI
There should be no divorce, not in any case, it is necessary to keep marriage at any cost.	22	37	41	-11,97
It is possible to divorce when the family does not exist	49,5	29,5	21	20,09
It is possible to divorce in any case, worse will not be	22,5	41	36,5	-8,26
Regarding divorce of a couple, it all depends on each case	66	24	10	42,56

Source: investigations of author.

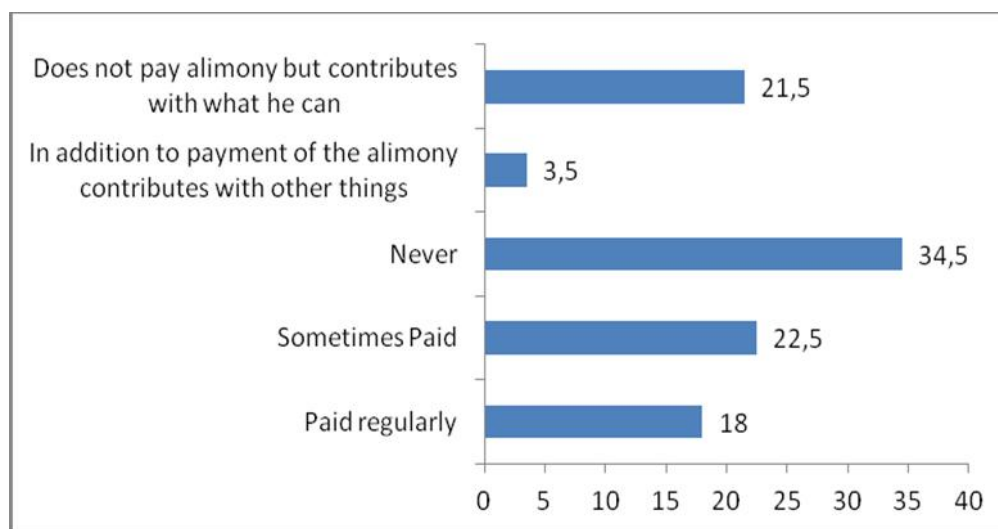
Analysis of data on respondents' attitudes towards divorce reveals that this event is accepted both at individual and social levels. After processing the data, in this section were calculated **Dominant Personal Opinion Index (DPOI)**, calculated using the formula:  $DPOI = (p-n) \cdot (100-ne) / 100$ , where: **p** – the proportion of positive opinions, **n** – share of negative opinions and **ne** – share of neutral opinions. As the index is closer to 100, the opinions/perceptions/attitudes are more positive. The idea that there should be no divorce in any case and it is necessary to keep the marriage at any price has the largest cumulative negative value of DPOI. This reveals that in the minds of respondents the divorce is not regarded as a failure, but as an opportunity to start a better life. As divorce becomes more prevalent, it becomes more visible and accepted. People see from those around them that marital difficulties are solved through legal separation. A significant positive value of a cumulative 20,09 of DPOI is linked with the idea that one can be divorced only when there is no family, which shows that respondents are aware of the negative consequences of divorce on children and the reason of separation must be one thoroughly.

When asked who should remain with child after divorce on the grounds that 98 percent of respondents were female, 46% of respondents said that mothers educate children better than fathers, 3% that fathers educate children better than mothers. 36,5% think it depends on the individuals and only 9% support the idea that neither mother nor father alone cannot educate the child well.

Parental divorce often has negative effects on the minor affecting his mental balance. In the absence of a parent of the minor emotional security is severely affected, which may result in specific behaviors based on hypersensitivity, isolation, poor school performance or deviant acts. Thus, 33,5% of respondents said that divorce negatively affected their child. 15% said that at the child was observed anger, sadness at 43%, to 16,5% – aggression, at 33% – closing itself, at 8% unjustifiable absent from hours, at 13% – decrease in school achievement and 6% – smoking and consumption of alcohol.

When asked how often their ex-husband / ex-wife sees his children, 28% said that they see them once a month or every few months, 26% once a year, 17% have not seen the children for many years and 14,5% had never seen them since the divorce. The same proportion of respondents said that her former husband meets with the child every week. Why so rarely meet with the children? Most mentioned because their ex-husband lives in another city or country (35,4%). In the opinion of 18,3% of respondents their former spouse does not want to see the child. In 15,4% of cases the child does not want to see their parent and in 9,1% the parent who retained the custody of the child does not want the child to see their other parent. In 9,12% of situations the meetings with children are reduced because of the fact that the parent who left the family created another family.

According to the opinion of legal frameworks, the share of cases that suppose the establishment of alimony of the child represents 75% of all cases of dissolution of marriage involving minors. The data in Figure 1 shows that only 18% debtors pay alimony regularly and in only 3,5% of cases the debtor helps and in another way besides alimony. 22,5% sometimes pay alimony and 34,5% never. 21,5% also do not pay alimony but they contribute to raising children.



**Fig 1. The payment of alimony by debtors**

**Source: investigations of authors.**

The above data are consistent with information obtained from the legal executors in the country. Thus, from the total of 22306 cases on alimony given to execution just only 26% of debtors regularly pay alimony, irregular payment are in 35,8% and 38,2% do not pay alimony at all. The causes of non-payment of alimony from respondents' conception are: 28,4% have no money to pay, 23,2% do not pay due to having another family, 29% do not want to pay and in 16,1% of cases the parent with custody of the child did not request alimony. Similar studies realized on this topic, also revealed that with separation of parents from children, changing their residence, they forget their duties. If there are oral agreements of parents regarding the participation on child support and growth, these are more frequently violated [5].

Table 2

**Share of legal executor's folders regarding alimony with regular,  
irregular and lack of payments**

	Total folders with alimony	Nr. of folders with regular payment	Nr. of folders with irregular payments	Nr. of folders with lack of payments
Nr.of folders	22305	5799	7977	8529
%	100	26	35,8	38,2

**Source: investigations of authors.**

The article 75 of the Family Code of the Republic of Moldova establishes that alimony for the minor child receives from the salary and / or other income in the amount of 1/4 of the parents – for one child, 1/3 – for to 2 children and 1/2- for 3 or more children. According to article 76, in cases where the parent who owes alimony to his child has an irregular or fluctuating salary, or does not have a salary, and payment of alimony as a share of wage is impossible, difficult or adversely affects substantial interests of one party, the court may determine the amount of alimony to a fixed monetary amount.

More than a third (36,7%) of child alimony was determined in the process of judgement of divorce, 16,1% was applied later after divorce through the court, to 9,5% alone reached at a certain amount, 19,1% lived alone reached the understanding that the debtor pay every month as much as possible. In other cases, alimony was not requested. Both studying results qualitatively and quantitatively, highlight that a majority of parents who have assumed the responsibility to maintain the child do not respect that responsibility. In this situation the parent who has the custody, has the right to request alimony, which can be calculated for another three years until the submit of the request.

Lawyers interviewed said that in both cases may arise some difficulties in determining alimony:

- Difficulties in demonstrating the real incomes of parents. *“Very rarely in court, mothers can prove real incomes of spouses”* (Judge, Balti, 6 years of experience). *“There are very frequent situations when wives come and say that he works, it has an income of many thousands lei, but when he brings the certificate from the work he has a miserable amount”* (Lawyer, Orhei, 14 years of experience). *“Frequently they bring certificates of 1,500 lei. It happens because of rivalry, adjustment of accounts between spouses”* (Lawyer, Chisinau, 8 years of experience).

- Derisory amount of subsistence minimum for a child calculated by the National Bureau of Statistics and with which they operate in establishment the alimony of a fixed amount. *“At present, if we run after the National Bureau of Statistics, in the environment for a child is charged up to 1,000 lei. The subsistence minimum is 1,800 lei. Parents have the same obligations towards the child and this sum of money is divided by two. We are entitled to collect only half of this amount from the party from whom it calls”* (Judge, Chisinau, 5 years of experience). *“It is a minimum gap of existence, because to this day, a mother with 1,800 lei does not do too much. It would be better to consider all the child's needs. They must not only take the minimum, because the minimum certainly does not take into account the need of fruit or vitamins that the child needs. Certainly, do not take into account the need of fruit, vitamins that the child needs. The child wants to go to a sport center, dances”*. (Judge, Ialoveni, 12 years of experience).

Receiving alimony amounts of divorced parents with children are very modest in most situations. The smallest alimony was 200 lei and the biggest 4000 lei. The average value of the alimony paid by debtors was 907 lei. In this context, are relevant the statements of respondents: *“in the current conditions the amount is miserable and I do not rely on it”, “it is generally sufficient, but in winter it is a little bit hard even with those 2500 lei that I got from my ex-husband”, “1000 lei is a little, if we analyze the prices of clothes, products and medicines for children”, “with 250 lei can not buy even a shoe, but the child should be wearing two shoes”*.

Lawyers interviewed said that rarely happens when parents' debtors realize that the amount determined is insufficient for raising and educating children and as a result they come with the initiative to pay a higher amount than that fixed by the court. *“If the father agrees to pay more, we do not take into account statistics. Such cases are counted on fingers. On the contrary, we have several instances when fathers after consulting with lawyers come and tell us that we are entitled to ask more than 800 lei and that they are not interested in the costs supported by mothers for their child. Accordingly, we are impartial, and go through the law and establish the legal framework so as it enables us”* (Judge, Ialoveni, 12 years of experience). The same conclusion can be extracted and from interviews with

parents, since only in a situation a single parent debtor contributes additional to alimony child support. *"I pay also dancing lessons, piano, trips to competitions abroad and other necessities of the girl"* (Male, 41 years old, urban).

The legislation provides an opportunity for mothers with children up to 3 years, to benefit also from maintenance. Thus, in accordance with Article 83 of the Family Code, the ex-spouse may claim maintenance from the other spouse if require financial support and is busy with common childcare for three years after birth. Determining the amount of alimony, it is taken into account the material and family situation of spouses (ex-spouses), as well as other important circumstances. Although, one of the interviewed mothers had children under two years at the time of divorce, she has not claimed this right, in the consideration that relations between spouses were extremely strained, and demand of alimony would have contributed further to their degeneration. Experts interviewed confirmed that in their judicial practice they very rarely have cases when the ex-spouses claim their right, because of difficulties in proving the situation and that the applicant does not have sufficient income to maintain themselves.

In some particular cases, husbands are forced to request alimony within marriage. The study results highlighted the main causes that lead to such a situation:

- Strong desire to preserve family *"they consider it a wandering of husband and he would be back in the family"*;
- The influence of stereotypes in society *"no divorce because of people"*;
- Alcohol use *"child money automatically stop as he receives salary, not manage to spend it on drinks"*;
- Intentional payment of alimony in the new marriage in order to pay them the reduced pension from his first marriage.

Parents who do not exercise their obligation to participate in child support can be sanctioned by various methods – sanctions of up to 3,000 lei, inability to renew passport, prohibition to move outside the country etc. According to expert opinion, most measures of influencing the debtors to honor its obligations are not effective, including the application of the prohibition of renewing their passport, considering the validity of these acts. *"The child needs to eat, needs money to go to school and other necessities, but the prohibition to the passport has effects from 10 to 10 years. If the citizen received their passport in the first five years, the second time to renew is in 10 years, so I could not wait for an expired passport. Twenty years and the child is already an adult"*.

The art. 64 of the Enforcement Code provides for the possibility to apply the prohibition on leaving abroad. But even here it records some problems – this prohibition is valid for 6 months. *"Moreover legislature did not indicate when these 6 months flows. It stems from the time the prohibition was imposed by the court or when this effective prohibition reached the border guard service. If it is contested the earliest the conclusion of the application of prohibition will reach the border guard service is three months after the fastest delivery. Therefore, half of a term has already passed"*. *"The issue with leaving the border is a matter of time now. Moreover, it can be applied only three times in the same proceedings. Up until the child is 18 years we apply the prohibition only 3 times more than 1 year and a half. Finally, it is a scarecrow more than an effective method"*. *"Applying the prohibition aims to protect creditor interests, but also a debtor's right to free movement is harmed. These two rules are balancing and even doctrinaires do not find the solution, which right is more fundamental: freedom of movement and property rights of the creditor. The courts in this matter have absolutely, uneven practice. It's a misunderstanding until the chapter point that nobody knows what's important to the person: property right to freedom or to movement"*. Effectiveness is recorded when the debtor has material possessions- house, car. In such case, the executor may constrain him by their sale.

**Conclusions.** Among the international practices, applied in order to constraint debtors to pay alimony, can include: application of mediation; deprivation of the driving license or other documents (Russian Federation, Czech Republic, UK, etc.); determining the amount of child maintenance to a standard amount and payment of advance payments by the authorities (Denmark), then these payments are collected from the debtor by withholding from wages, bank accounts and other sources; creation of a fund to support children during certain periods of time that parents cannot fulfill the responsibility of maintenance of children after divorce (Portugal, the Russian Federation discusses this subject); pecuniary penalty (Estonia, USA); and imprisonment (Estonia – a year, California – half a year for the first deviation, two years for the next one).

What should be done to protect children's rights in the case of divorce of parents in the Republic of Moldova? We believe that the primary would be necessary to initiate legislative measures to encourage voluntary payment of debtors (tax cuts and other benefits), according to some factors (children's number, occupational status, income and so on). Given that some debtors from objective reasons (insufficient income, lack of jobs etc.) do not honor their obligation to participate in child care, follow to be reviewed modalities for determining alimony according to social-economic situation of debtors. Thought should also be given regarding the establishment of programs to assist parents who are not supported by ex-spouses in the process of growing and educating children. Not least, the ways of sanctioning should be reviewed of debtors who do not honor their obligation to contribute to the maintenance of children (deprivation of permit, license activity, etc.).

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## FINANCIAL MECHANISMS OF FINANCIAL CRISES

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*The actuality of this article is determined by the need to demonstrate that financial crisis is not just an issue of economic disaster caused by contagion effect of financial cataclysm, expressed in national currency depreciation, depletion of foreign exchange reserves, mass bankruptcy of financial institutions, non-market entities insolvency and impossibility of sovereign debt servicing, but a special investment opportunity with associated characteristics of profitability. Central aims of article is research of financial crisis essence, investment mechanisms linked to existing fundamental laws of its conduct and determination of investment opportunities manifested in various segments of financial market and related sectors. Main research methods were: systemic analysis, statistical analysis, monographic and logic synthesis, etc. Main scientific results obtained in the article, due to research are to identify, analyze and demonstrate investment opportunities of international financial crisis and financial crises in Moldova.*

**Keywords:** financial crisis, financial contagion, investment opportunity.

*Actualitatea prezentului articol este determinat de necesitatea de a demonstra, c perioada crizei financiare nu este doar una legat de dezastrul economic cauzat de efectul de contagiune al cataclismului finanicar, exprimat prin deprecierea monedei naionale, epuizarea rezervelor valutare, falimentul în mas a instituțiilor financiare, insolvența entit ților pieței nefinanciare și imposibilitatea deservirii datoriei suverane, ci și o oportunitate investițional special cu caracteristicile aferente de profitabilitate. Articolul are ca scop central cercetarea esenței crizei financiare, a mecanismelor investiționale existente legate de legit țile de baz ale derul rii ei i determinarea oportunit ților investiționale manifestate pe diferite segmente ale pieței financiare, precum i în domeniile conexe. Metodele principale de cercetare au fost: analiza sistemic , analiza statistic , sinteza monografic , logic etc. Principalele rezultate tiin ifice ob inute în articol, urmare a cercet rii, sunt identificarea, analiza i demonstrarea oportunit ților investiționale ale crizelor financiare desf urate atât la nivel internațional, cât și în Republica Moldova.*

**Cuvinte-cheie:** criz financiar , contagiune financiar , oportunitate investițional .

**JEL Classification:** G01, G17, G21.

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**Introduction.** *Financial crisis* is a dysfunction of financial market mechanisms, a situation in which financial institutions or asset value falls quickly [4].

In essence, this is a profound disturbance of financial mechanisms, monetary system, which is manifested by revenues and expenditures inconsistency, exchange rate instability and fall, mutual non-payment of economic agents, monetary circulation nonconformance to fundamental laws [18].

As characteristics of financial crisis are speculative financial activity dominating on investment, massive fall of securities prices, retention of settlements with collapse amplification of payment system, obtaining losses in mass on derivatives market, liquidity reducing of financial market and institutions amplified by domino effect, banking panic and bankruptcy of banks [8].

Financial crises are associated with a drastic investor confidence diminishing in financial system. Amid these capitals are withdrawn declining credibility in financial markets and repatriated to their country of origin. This effect generates a liquidity decrease of transactions on stock market, pressure on exchange rate (due to higher demand for currency required for conversion of amounts disinvestment of capital market) and a pressure on interest rate (easing of demand for securities) [8].

One result of financial crisis is financial contagion – local and / or internationally process related to spread of oscillations of economic variables, which can be expressed by editing exchange rates, quotations of securities, interest rates (profitability) of loan instruments and capital flows [17].

Romanian researcher Cristian Paun indicated several forms of financial crisis contagion [8]:

- *Contagion effect of "monsoon" type*: is given by existence of global imbalance that affects a large number of countries (even can be affected all countries) connected to global economy.
- *Contagion effect of „spillover” type*: is given by existence of crisis in a particular country then propagated to a large number of countries. Kaminsky and Reinhart called this contagion effect based on *fundamentals based contagion*.
- *Contagion effect of „residual” type*: refers to changes in economic situation of different countries exceeding expectations of operators on market that are visible in residual value ("white noise") of models tested correlations between various savings (between one country and more countries or between a country and world economy).
- *Contagion effect of volatility*: it is a type of contagion recorded mainly on capital markets and is considering increasing volatility spread (associated with rising investment risk) of capital market on other capital markets. This type of contagion is among the most studied forms in literature.

Financial contagion can occur both at national (domestic) and international level and it is necessary to trigger the existence of causal connections of different nature.

The first is related to so-called real shocks, which refers to real sector of economy and *intermediate specific shocks* – a shock hits a bank or a financial non-banking institution and is specific by its origin for bank or financial institution. One of the most frequently studied real channels of contagion are *trade links*, which is manifested by failure of payment by contractual partners [1].

In the era of globalization *causal financial links* can be considered as important channels of contagion diffusion caused by high levels of financial market integration between affected economies [1].

**Conceptual approaches of investment operations related financial crises.** Investing activities during financial crisis is to acquire prudently suitable assets to a minimum values or, in the language of stock market operators, „at the bottom of the trend". The basic principle of this activity is to find those assets whose intrinsic value is significantly higher than their market value.

Intrinsic value is the amount considered on evaluation of available facts, to be the "true" of an item [11].

This is a factual value of asset or company based on actual value perception by taking into consideration all aspects of business, as well as tangible and intangible factors [20].

Some bibliographical sources instead prefers that term to use *fundamental (fair) value* of assets underlying company value based on determining of its financial condition. This notion is particularly present during fair value compression of companies in times of crisis. It has forecasting character and is based on analyst assumptions on possible increase in company value far exceeded manifestations of the crisis [19].

Investment activity in post-crisis period is based on consequences of contagion effect of financial crisis, evidenced by substantial increase in interest rates on bank deposits, loan instruments profitability, lower prices for real estate and other assets.

**Basic directions of investment activity related financial crises.** Investment opportunities related to financial crisis may be expressed in complex form through the following model:

$$y = \{v, b, c, d, i, r, a\} \quad (1)$$

where:

$y$  – profitability of investments during financial crisis;

$b$  – profitability increase of investments due to banking crisis;

$c$  – profitability increase of investments due to capital market crisis;

$d$  – profitability increase of investments due to public debt crisis;

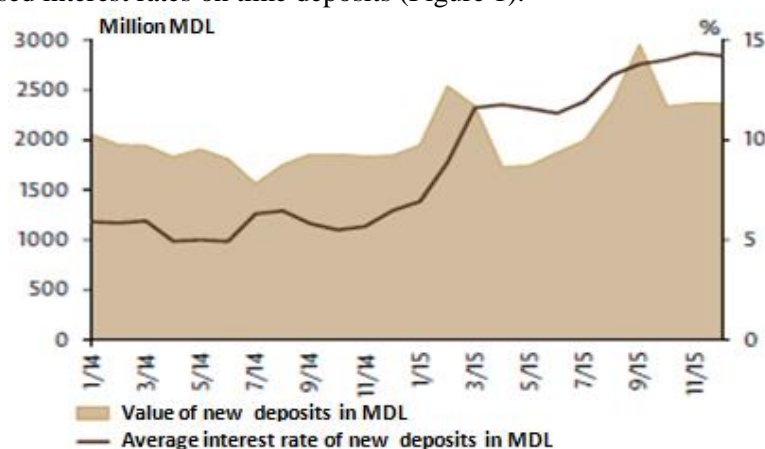
$i$  – profitability increase of investments due to real estate crisis;

$r$  – profitability increase of investments due to manifestations of financial crisis in real economy;

$a$  – profitability increase of investments from other manifestations of financial crisis.

*Banking crisis* is a form of financial crisis and is defined as a situation where in a country enters more banks become unable to meet its payment obligations in short term (liquidity crisis) or bank liabilities are lower than bank's assets which result in bank insolvency [8].

In early 2015 in Moldova was triggered banking crisis. The drawback of liquidity in domestic banks has caused increased interest rates on time deposits (Figure 1).



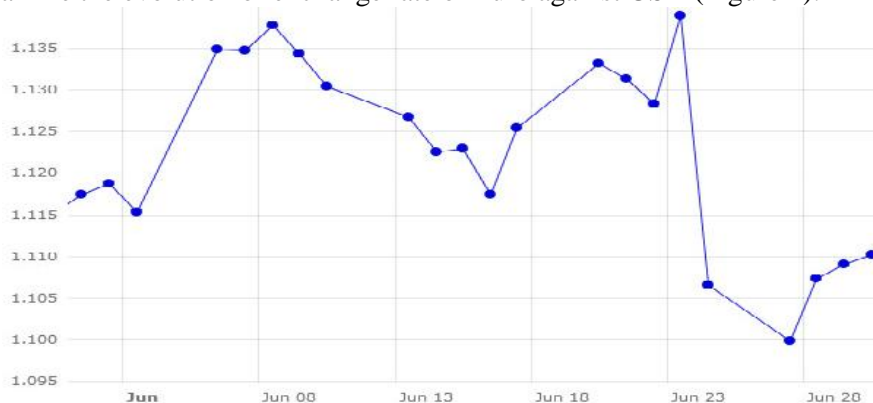
**Fig. 1. Dynamics of volume and average rates on term deposits in MDL**

Source: [9].

Thus, average interest rate on deposits in national currency rose to peak of 14.6 percent (November 2015), higher than in December 2014 by 2.2 times. The weighted average rate of deposits in national currency in 2015 accounted for 12.1 percent, higher than in 2014 by 2.1 times.

*Currency crisis* occurs on currency exchange markets, in critical situations, which is characterized by significant fluctuations of the exchange rate and leads to depletion of foreign exchange reserves of countries [12].

In the case of financial crisis caused by Brexit (referendum on Britain's membership of European Union) could serve as refuge currency US Dollar, while Euro and Pound were vulnerable currencies. For example, we can examine the evolution of exchange rate of Euro against USD (Figure 2).



**Fig. 2. EURO evolution towards USD during 01.06.2016-30.06.2016**

Source: [3].

Analysis demonstrates the feasibility of a speculative operation based on conversion of US Dollars per Euro on 06/23/2016 at the rate of 1 EUR = 1.1389 USD and carrying out inverse operation to 06/27/2016 at the rate of 1 EUR = 1.0998 USD [3].

Such ahead, being used an amount of 1 million EUR could bring a profit of 39100 EUR, equivalent to 356.8% of annual profitability. *Debt crisis* was defined as situation (or serious suspicion of occurrence thereof), when large debtors or even a country is unable to meet its debt service and repay payments relating thereto [14].

In the field of *public finance* it manifests itself by sudden reducing of international reserves volume and stabilization public funds, emergence and deepening of budget deficit problem, tax collection reducing, state budget funding and spending reducing, rapid growth of debt [13].

In Moldova in 1998 during financial crisis yields of state securities (SS) increased compared to 1997 by 5.7 p.p., constituting 29.0% and in 1999 – 28.5% [5].

A similar situation occurred on SS market in 2015 (Figure 3).

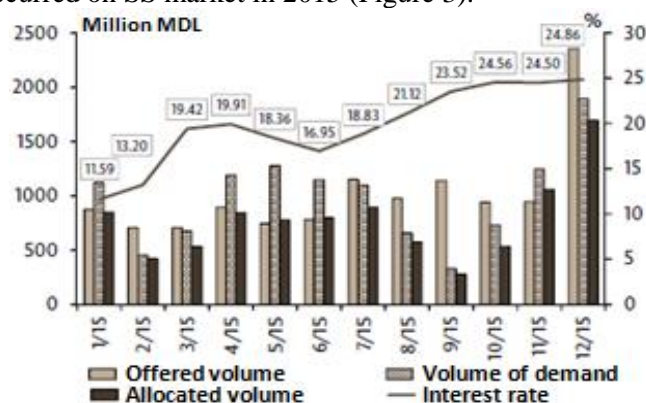


Fig. 3. Monthly dynamics of SS primary market indicators

Source: [9].

In December was reached the maximum yields of SS 24.86%, an increase compared to January by 13.27 p.p.

In 2002 *foreign debt crisis* occurred in Moldova. It is a situation where a country is unable to meet its debt service and repay the associated rates [8].

Non-payment of sovereign debt (collapse) occurs when a country can no longer pay its debts. Although devaluation and the collapse of voluntary decisions can be taken by the Government, they are often perceived as involuntary result of changes in investors leading to a sudden stop of capital entering in country or surge of capital leaving the country [2].

In 1997, Moldova issued bonds on international market worth \$75 million. with 9.87% interest rate, maturity term of these bonds was June 2002, date on which they were to be repurchased by Moldova international financial markets.

At the same time, reducing expenses on servicing external debt in 2002, the Ministry of Finance during 2001 carried out several transactions to repurchase Eurobonds with a discount on the secondary market, thereby reducing basic amount to \$ 39.87 million.

Because of difficult financial situation of Moldova and given that in 2002 expenditures on servicing external debt had to reach its climax, ie 24.5% of the revenue base of state budget and 3.6% of GDP, Moldova has initiated a process of negotiations reconsidering bond buyback [6], [7].

Thus, following negotiations between Moldovan authorities and holders of Eurobonds was obtained consent of latter to restructure Eurobonds remaining until 2009. Ie those investors were given an investment opportunity for a period of seven years at interest rate of LIBOR + 4.625 basis points, which at that time was imposed constituted approximately 6.8%, which is lower than initial interest rate but relatively high for the international capital market [6], [7].

*Stock market crisis* is a sudden and stable drop of exchange quotations in a relatively short time [16].

Such a phenomenon was observed in 2009, when Moldova was affected by the international financial crisis through stock market, which was expressed through uneven dynamics of volume and number of transactions on secondary market of corporate securities (shares) (Figure 4).

Thus, a significant decline in both measures was held in 2009, continued in 2010, respectively from 219,8 thousands to 5,7 thousands transactions, in volume from 621.9 million MDL to 559.1 million MDL. And in 2011 volume of transactions amounted to 1940.0 million MDL, which represents an increase of 1380.9 million MDL or 2.5 times. In our opinion, this was an opportune time to invest in shares of domestic companies that were heavily undervalued compared to their real value.

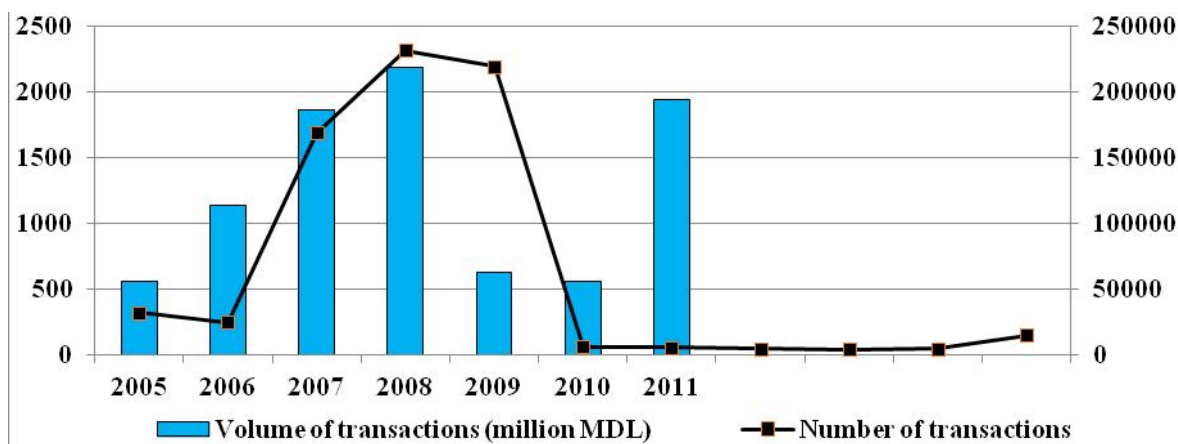


Fig. 4. Dynamics of transactions in secondary stock market during years 2007-2011

Source: [10].

*Subprime mortgage crisis* is a form of financial crisis, characterized by sharp rise in defaults on mortgage loans with a high level of risk, increased alienation of bank's pledged assets and reducing prices of securities secured by subprime mortgages caused by these processes.

This kind of crisis was unleashed in the US in 2007 [15].

Research conducted in January 2011 US showed that from June 2006 (when real estate prices have reached maximum) until November 2010 prices decreased by 26%, ie a degree higher than the Great Depression of the years 1928-1933 (25.9%). This can be seen as an investment opportunity on a long term.

Also, due to financial crisis of 1998 from Moldova real estate prices plummeted and in 1999-2000 were recorded the minimum of time to present.

**Conclusions.** Mentioned facts demonstrate the existence of great opportunities for investment activities ongoing of financial crises, which can provide a profitability essential increase of financial investment to periods of stability. However, it should be noted that such investments submit increased exigencies to skills and competence of investor and compliance with prudential norms.

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## FOREIGN EXCHANGE RISK MANAGEMENT IN THE REPUBLIC OF MOLDOVA IN CONDITIONS OF CURRENCY CRISIS

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*At the end of 2014 and beginning of 2015, the banking sector from Moldova faced a tough crisis. It was generated by a series of frauds which led to three banks in process of liquidation, three other banks under NBM's supervision and a huge gap in the broad money in the economy. These events severely affected the banking sector from the Republic of Moldova. Thus, the novelty of this paper is to highlight the difficulties which the banks from the Republic of Moldova have faced at managing their FX operations during that period. Also, considering the conditions of the downturn of the financial situation in the national banking sector and in the national economy in general, which followed as consequences of the crisis, this paper has the purpose to explain from theoretical point of view the basic concepts of correct banks' FX operations management. For this, the author applied analytical, logical, bibliographical and synthesis research techniques. The results of the research are identification of the causes of currency crises, presentation of the basic measures taken by the National Bank of Moldova for mitigating the effects of the crisis, as well as exhibition of author's recommendations regarding the main directions which have to be considered by banks in their foreign currency operations management.*

**Key words:** Foreign exchange risk, currency crisis, Central Bank, regulation, bank, management.

*La sfâr itul anului 2014 – începutul 2015, sectorul bancar din Republica Moldova s-a confruntat cu o criză dificilă. Aceasta a fost generată de o serie de infracțiuni, care au condus la trei bănci în proces de lichidare, alte trei bănci sub supravegherea BNM și un gol semnificativ în masa monetară din economie. Aceste evenimente au afectat puternic sistemul bancar din Republica Moldova, prin urmare actualitatea acestei lucrări este de a evidenția dificultățile cu care s-au ciocnit băncile din Republica Moldova la gestionarea operațiunilor valutare în acea perioadă. De asemenea, având în vedere condițiile de declin al situației financiare în sectorul bancar și în economia națională în general, care au urmat drept consecință a crizei, această lucrare are scopul de a explica, din punct de vedere teoretic, aspectele de bază ale gestiunii corecte a operațiunilor valutare efectuate de cîteva bănci. Pentru aceasta, autorul a utilizat metodele de cercetare analitică, logică bibliografică și de sinteză. Rezultatele cercetării rezid în identificarea cauzelor crizei valutare, prezentarea măsurilor întreprinse de Banca Națională a Moldovei pentru ameliorarea efectelor crizei, precum și denotarea recomandărilor autorului cu privire la direcțiile principale, care ar trebui luate în considerație de cîteva bănci la gestionarea operațiunilor lor valutare.*

**Cuvinte-cheie:** risc valutar, criză valutară, Bancă Centrală, reglementare, bancă licențiată, management.

2014

2015-

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**JEL Cladsification: E52, E58, E62, F31, J32.**

**Introduction.** In banks' activity at international level, the currency type of risk emerged relatively recent. It occurred as a result of the breakdown of the Bretton Woods monetary system and the subsequent exchange rates system evolution from fixed rates to floating ones. Due to banks' holdings and large number of operations in foreign currencies, performed by banks every day, they are constantly exposed to the currency risk, so its management is vital for accomplishing banks objectives, ideally avoiding losses or at least keeping them at minimum levels [1]. In this way, the currency (or Foreign Exchange – FX) risk can be defined as the potentially negative result of the banks foreign currency operations and occurs as a consequence of currency rates fluctuations.

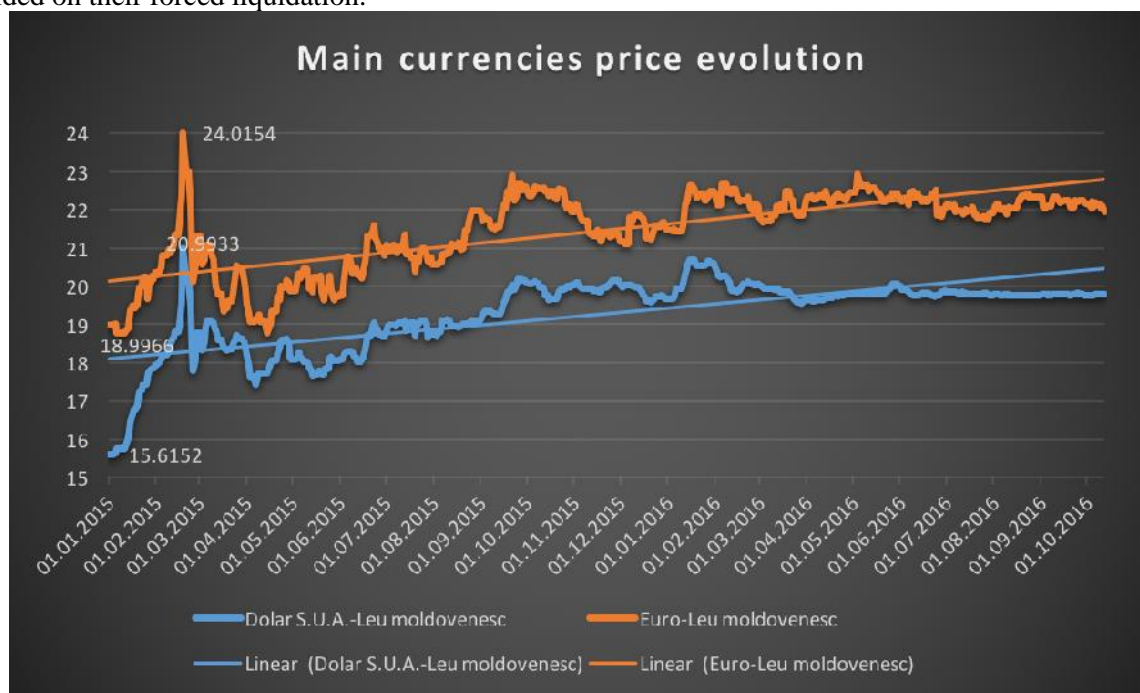
Generally speaking, banks are exposed to the foreign exchange risks both directly and indirectly. The direct effect results from banks' assets (or liabilities) with net payment streams denominated in a foreign currency. Foreign exchange rate fluctuations alter the domestic currency values of such assets. This explicit source of foreign exchange risk is the easiest to identify, and it is the most easily hedged. The indirect sources of risk are subtler but just as important. A bank without foreign assets or liabilities can be exposed to currency risk because the exchange rate can affect the profitability of its domestic banking operations [5].

**FX operations management, key approaches.** The main function of the foreign exchange risk management is monitoring the levels of the risks the bank is exposed to and taking proper position through setting limits for each hedging instrument and benchmarking for monitoring the hedging performance [2]. In the currency risk management, banks basically use strategies built on similar principles and procedures. Thus, an initial step taken by the bank is determination of the type of risk and measurement of the associate risk exposure. This step consists from gathering information of the operation that has to be done, such as the type of operation, its duration, volume, currencies involved in the operation, rates volatility, etc. [3]. Then, based on the information, it develops the risk management strategy on the operational level, including the execution process of currency hedging, the hedging instruments to be used, and the monitoring procedures of currency hedges. The third step is execution of exchange rate hedging. This means forecasting exchange rates, hedging approach mechanisms, determining the costs of currency hedging, and the establishment of benchmarks for measuring the performance of currency hedging. After all the measures have been taken, the treasury department or the chief dealer controls the evolution of the level of the exchange rate risk and ensures fast and timely reaction in unforeseen situations [2]. However, foreign exchange risk is not regulated at the banks level only. Central Banks elaborate their own sets of regulations in order to reduce currency risks and maintain control over them at national level, for example, in the legal framework related to banking activity in the Republic of Moldova, the risks associated with currency operations of the banks, are regulated by the Regulation on banks open foreign exchange position, approved by the DCA of the no. 126 of November 28, 1997. These regulations set the ratio limits for open foreign exchange positions, the rules for calculating and managing open currency positions, as well as the procedure of reporting FX positions, in this way Central Banks regulate banks foreign exchange activity to such an extent so they would not generate a shortage of currencies through opening large positions with a high degree of risk, thus potentially generating a currency (Foreign Exchange) crisis.

**Currency crisis. Evolution of the currency crisis in the Republic of Moldova.** A crisis is any event that is, or is expected to lead to, an unstable and dangerous situation affecting an individual, group, community, or whole society [9]. Therefore, we can define the currency crisis as the evolution in time of the foreign exchange value of a currency that either results in a sharp depreciation or forces the authorities to defend the currency by selling foreign exchange reserves or raising domestic interest rates. A currency crisis is considered as a nominal depreciation of the national currency of at least 30 percent that is also at least a 10 percent increase in the rate of depreciation compared to the year before [7]. In a fragile banking sector, a currency crisis can occur if speculators assume that regulatory organs would prefer to cease

exchange rates stability in order to avoid bankruptcies and further strains on the banking sector rather than endure the costs of defending the domestic currency. A possible reverse chain of causality, from currency crises to the onset of banking crises, is also well recognized. If banks hold significant holdings of unhedged foreign liabilities, a currency crisis shock can adversely alter the banking sector directly by causing a deterioration of bank balance sheets as currency depreciation raises the domestic currency burden of these liabilities [8]. In any of this cases, the effects of the currency crises on economies are imposing affecting the economy in several potential ways. While, a depreciation of the national currency that may enlarge the tradable goods sector and spur growth by correcting an overvalued currency or by making the exchange rate more competitive, it may also be conflicting by increasing the reimbursement costs of external debts expressed in foreign currencies, particularly in dollars.

The depreciation of the Republic of Moldova national currency started in the late 2014. It was an outcome of a series of frauds covered by high corruption at top governmental levels, which were executed on behalf of a group of three banks from Moldova, namely CB "Unibank" JSC, CB "Banca Sociala" JSC and BC "Banca de Economii" JSC. The situation developed as follows: in the beginning there was issued a large amount of doubtful credits to suspicious companies. These companies embezzled the received capital, transferring it on bank accounts out of the country, in this way creating a shortage of foreign currency in circulation, which according to the law of supply generated a spontaneous increase in the value of the good, i.e. of the foreign currencies, while due to underperforming credit portfolios, these banks have lost their liquidity and the National Bank of Moldova, based on the Moldovan Parliament's decision, was forced to classify their activity as violation of the legislation on banking activity, and decided on their forced liquidation.



**Chart 1. The evolution of the USDMDL and EURMDL in the period of 2015-2016**

**Source:** Authors' representation based on the data of the National Bank of Moldova [4].

In the graph shown above, we can follow a rapid increase in price of the reference currencies (EUR and USD) related to the national currency MDL in an extremely short period of time. In the beginning of January 2015, the MDL was rated at 15,6152 per 1USD and 18,7699 per 1EUR, as, already on 18<sup>th</sup> of February, 1USD was appreciated at 20,9933 and 1EUR at 24,0154. This means a depreciation of the national currency in relation to the USD by 34,19% and by 27,94% compared to the EURO. Then, The National Bank of Moldova reacted with a large sale of foreign currency reserves in order to artificially maintain the currency rate, which followed by a rapid drop in price to a value of 17,7729 for 1USD and 20,121 for 1EUR by 25.02.2015 due to the surplus of foreign currency entered in the country and was demanded to be exchanged, this time creating a shortage of national currency in the exchange offices.

Generally speaking, in attempts of stabilizing the national currency, the National Bank of Moldova applied a series of basic measures which included sales in large amounts of foreign currency reserves, and calling international credits for covering the gap generated by the fraud. These measures were efficient for a short term, helping to steady the steep fluctuations of the national currency, which obviously was again followed by an inevitable subsequent depreciation on the background of the reference currencies. In time, the environment grew highly unstable, due to high currency rates volatility and periodic fluctuations, subsequently exposing banks to a high degree of currency risk. These events had very tough consequences for all the levels of the economy, leading to a chain of events like problems with portfolios of deposits and credits in foreign currency of the banks due to clients' inability to pay the rates, an almost 3 times inflation increase from 4.6% at the beginning of the year to 13.6% by the end of the year and a base interest rate increase from 8.5% to 19.5% in the same period [4].

**Reactions to the currency crisis in the Republic of Moldova.** Having given this conditions, the crisis had to be dealt with at each level using specific methods and tactics. At the banks' level, the internal policies regarding foreign exchange operations were updated and adjusted to the conditions on the market, whereas at the upper level, the NMB decided to fight the situation through regulatory policies. In this way, on June 10, 2016 the Law no.94 of May 13, 2016 for amending and supplementing the Law on foreign exchange regulation no.62-XVI of March 21, 2008 was published in the Official Monitor of the Republic of Moldova no.157-162.

The main purpose of the modifications and completions to the Law on foreign exchange regulation is to improve the regulatory background regarding the foreign exchange activities, considering the commitments of the Republic of Moldova assumed together with the Moldova-EU Association Agreement. These amendments also improve functionality of the national currency market as they follow the developments of the international financial, monetary and foreign exchange markets, as well as the upgrades which came as consequences of the global financial crisis.

These supplements of the law are intended to gradual elimination of administrative implications towards residents carrying out foreign exchange operations; improvement of the operations efficiency on the domestic foreign exchange market; stimulating the competition between the participants of the market; strengthening the protection of consumer rights in respect of clients of foreign entities; improving the procedures related to licensing, functioning and control over the activity of foreign exchange entities; upgrading the regulations on the non-bank foreign exchange operations payment services providers, with regards to banks intermediary role in most of these operations.

The most considerable supplements to the Law on foreign exchange regulation relate to:

1. Liberalization of some foreign exchange operations, which were subject to the NBM authorization (operations with foreign financial instruments carried out by licensed banks and entities whose activity is regulated and supervised by the National Commission for Financial Markets; granting of financial loans to non-residents by the licensed banks; import into / export from the Republic of Moldova by non-resident banks of cash in foreign currency; import into / export from the Republic of Moldova by resident banks and non-resident banks of cash in national currency in the amount not exceeding MDL 100 000; a series of capital foreign exchange operations of residents in the amount up to EUR 10 000);

2. application of the notification regime at the NBM on external loans/credits received by residents within operations related to direct investments, as well as exemption from the notification regime of loans / credits and guarantees received by residents from non-residents, the amount of which does not exceed EUR 50 000;

3. extending on non-bank payment service providers of the provisions regarding the rights and obligations of licensed banks related to foreign exchange operations;

4. reducing the use of cash within the foreign exchange operations (e.g., the right of resident legal entities to receive from non-resident individuals cash in foreign currency as loans/credits was excluded, and for some cases the amount of an operation related to receipt by resident legal entities from non-residents of cash in foreign currency was limited up to EUR 5 000);

5. stipulation of the right (not an obligation) of the NBM to apply a new safeguard measure in the event of a systemic financial crisis, namely the possibility to prohibit or limit cash and non-cash withdrawals in foreign currency from the accounts in foreign currency opened with resident payment services providers, allowing only withdrawals of national currency. If in case of systemic financial crisis, depending on a specific situation, such a safeguard measure will be considered strictly necessary, it will be applied by the NBM in consultation with the Government (with immediate information of the Parliament)

and only during a limited period of time (up to 6 months). Such mechanism would allow state authorities to act urgently in order to avoid worsening the systemic financial crisis situation [10].

There is also a substantial part of the amendments is aiming to amend the conditions for licensing and functioning of foreign exchange entities. The most important amendments relate to:

1. cancellation of the obligation of the licensed banks to provide at the beginning and during the working day the amount of MDL 100 000 for each foreign exchange bureau;
2. cancellation of the requirement for foreign exchange offices to ensure at the beginning and during the working day the minimum amount at the equivalent of MDL 400 000 for performing the operations with individuals. However, the requirement for foreign exchange offices to hold circulating cash assets (consisting of pecuniary contributions to equity capital) in the amount of MDL 500 000, including for each branch, has been maintained;
3. setting the unlimited term of validity for the license of foreign exchange office and that of hotel holding foreign exchange bureau (hotel), while increasing the license fee for the foreign exchange office up to MDL 12 000 and MDL 6 000 for the hotel;
4. allowing to perform foreign exchange operations in cash with individuals through automated foreign exchange devices;
5. establishing the right of foreign exchange entities to change the currency exchange rates during the working day (in accordance with elaborated internal procedures), along with the NBM right to establish the frequency of change in currency exchange rates during working day, as well as specifying the obligations of foreign exchange entities to establish bid and ask rates of US dollar, Euro, Pound sterling, Romanian leu and the Ukrainian hryvnia with two decimal places, and the Russian ruble – three decimal places;
6. establishing the right of the foreign exchange entity's client to request revocation of the operation performed through the operational window within 30 minutes after its completion.

The law also amended certain provisions on foreign exchange control over the activity of foreign exchange entities and the application of sanctions to them. These amendments are intended to contribute to improving the sanctions regime applicable to foreign exchange offices and hotels, as well as to increase the level of responsibility of administrators and shareholders/associates of the foreign exchange offices for compliance with licensing and functioning conditions [10].

The implementation of the changes and amendments for NBM has specific benefits on the banking sector, namely:

- establishing the legal framework in line with the commitments in the context of the Association Agreement with the European Union
- offering the possibility of obtaining statistical information on private external debt of the country and forecasting private external debt servicing payments of the country, and to draw the balance of payments of Moldova;
- offering more effective sanctions to be applied to breaches of the law by exchange offices and hotels
- promoting cashless payments in currency operations.
- For consumers:
- Strengthening consumer rights protection because the customer of an exchange office will be entitled to request the revocation of foreign exchange transaction under certain conditions;
- increasing the level of competition in the market of foreign exchange operations in cash with individuals due to exchange offices' right to change working hours during the exchange rates applied.

However, their implementation has some negative impacts, such as:

1. The need of adjustment exchange offices' activity in the context of changing exchange rate throughout the day.
2. Providing by resident legal entities to notification of the NBM loans/credits received from non-residents in transactions related to direct investments.

**Summing up.** Theoretical aspects described above emphasize the importance of academic approach to the practical problems faced at foreign currency operations management of the commercial banks. Also, these aspects are directly linked with the causes and effects of the currency crisis which arose in Moldova at the end of 2014 and beginning of 2015, that is why it is acutely necessary to be analyzed.

The conditions of high degree of instability of the basic economic indicators, which further contributed to amplified foreign currency rates and volatility raised concerns about associated risks and



their effects on the safety and soundness of banks and overall financial stability. These conditions were stimulated by poor national regulation of the banking sector. However, even though the consequences of the currency crisis from 2014-2015 are still being felt through risen economic indicators indexes (inflation level, basic interest rate and foreign currency exchange rates, etc.), we consider that it had an extremely important contribution for the development of the national banking sector – it forced those banks, which remained on the market to upgrade their management strategies, to adapt to the new internal policies and be better prepared for such critical events in the future. It also forced the National Bank of Moldova to implement new amendments to the Law on Foreign Exchange Regulation no 62-XVI of 21 March 2008 which have the purpose of gradual elimination of those effects, which the currency crisis had and still has on the national economy.

In this way, considering the chain of events which took place during the peak of the crisis and the evolution of the economic situation until now **we can underline the following recommendations:**

#### **Banking sector administration:**

*Application of a thorough strategy of banks' supervision.* NBM has to change its approach mechanism to banking sector supervision and adjust it to the conditions of potential further attacks on banks and banking sector overall. It has to establish a maximum degree of risks at which are exposed to, monitor banks assets and make monthly analysis of their value changes so it would completely eliminate further fraudulent credit granting and subsequent embezzlements of the money on off-shore accounts.

*Updating and improving anti money-laundering legal framework.* This has to be done at the governmental level with direct participation of NBM in this process. This would result in a better monitoring of doubtful transactions and gathering complete information about the final beneficiaries of these transactions, thus helping commercial banks minimize risky credit portfolios.

#### **Improving banks' internal regulations:**

*Improvement of FX operations management strategies.* Considering the overall banking sector's conditions, it means adopting a cautious strategy in banks' foreign exchange risk management so the profits made in some operations could cover losses resulted from other operations. Also, an appropriate management of the currency operations in Moldova includes reviewing net situation of every currency and modifying it according to the overall conditions on the national and international markets. This can also be achieved through a better training of the currency dealers or the treasury department staff, who are responsible for performing FX operations.

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## DETERMINATION OF RESERVES FOR AGRICULTURAL PRODUCTION

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*The paper evidences the essence of land potential in agriculture as well as the methodology of determining the potential levels of land fertility during the production of different crop types based on an example of an existing agricultural enterprise. A method of calculating the coefficient of using the potential land productivity in this field and an index of a potential level of land resources' productivity as a sum of the actual crop yield and its real reserve of growth is suggested. Presented graphics show the activities of actual and potentially possible gross yield of grain, winter and spring crops, corn and sunflower for the given enterprise.*

**Key words:** potential, land resources, crop yield, gross output, reserve.

*În articol este demonstrat esența potențialului funciar în agricultur , precum i metodologia de determinare a nivelului potențial al productivității terenurilor în procesul de producere a diferitelor culturi, având ca exemplu o întreprindere agricol existent . A fost propus o metod de calculare a coeficientului de utilizare a potențialului de productivitate a terenurilor în domeniu i a indicatorului nivelului potențial al productivității resurselor funciare ca suma randamentului real i rezervelor reale de cre tere. Graficele prezint , în mod clar, indicatorii productivității brute efective și potențiale de recoltare a culturilor de cereale de iarn i de prim var , porumb i floarea-soarelui pentru întreprinderea cercetat .*

**Cuvinte-cheie:** potențial, resurse funciare, rentabilitate, productivitate brut , rezerv .

**JEL Classification:** N50, O13, Q10, Q18.

**Introduction.** The impact of scientific and technological progress on the development of the economy is extremely important in modern conditions and is determined by many factors. The degree of this effect depends mainly on industry opportunities, whereby companies are actively involved in the process of scientific and technological development, contributing to it, while taking into account local conditions, and making a maximum use of its results in practice in order to improve the efficiency of land use. These features are in turn determined by a set of terms, which are the general concept of "land potential" [1, c.80-81].

From the standpoint of economic theory, land potential can be expressed as the estimated maximum possible performance of the main means of production in agriculture, based on a proven set of scientific and technological achievements under actual prevailing climatic conditions of the region, area, business.

Thus, on the one hand, the scientific and technical potential characterizes the real possibilities of

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the industry to use the objective achievements of scientific and technological progress, on the other hand defining the degree of direct participation in it. In agriculture, this process contributes to a more efficient use of land resources, improvement of soil fertility, creation of new high-yield plant varieties and hybrids of plants.

The economic evaluation of land expresses its relative value as a means of production in agriculture, based on the objective conditions in the certain natural and economic areas. The evaluation of land is performed using a system of natural and value indicators. The evaluation information is recorded in the cadastral documents. However, the economic evaluation of land has not been practically applied.

In a market economy, owners or users of land determine themselves the structure of production, its volume and quality indicators. However, this freedom of action, unfortunately, often leads to a retreat from science-based rotation of crops, which, as a rule, is crucial for the conservation of soil fertility and compliance with the rules of alternation of crops. In this regard, there is a need of introducing the new concept – “Land potential”, instead of the currently used economic evaluation. The new introduced concept would reflect the potential of land productivity in real production conditions. It is important to make calculations of land potential on an annualized basis, for example, for three to five years in a row.

Indicators of potential land productivity can be calculated for an individual sector, district or region of the republic as a whole in natural and cost estimates. In an agricultural enterprise of a smaller area, all other things being equal, it is easier to provide a higher crop yield than ensure it on a scale of a whole country.

Consider the methodology for determining the potential level of land productivity in an example of «Cumnuc Agro» Ltd. from Ceadir – Lunga district. The main crops are presented in Table 1.

Table 1

**Production of major crops in the «Cumnuc Agro» Ltd. for 2004-2015**

Year	Winter crops			Spring crops excluding corn			Corn			Sunflower		
	ha	cwt	cwt/ha	ha	cwt	cwt/ha	ha	cwt	cwt/ha	ha	cwt	cwt/ha
2004	593	25959	43,8	53	1706	32,2	626	23219	37,1	497	7 780	15,7
2005	656	17701	26,7	175	3554	20,9	386	13927	36,1	485	57 06	11,8
2006	658	18991	28,9	167	4801	28,7	334	7103	21,3	489	10438	21,3
2007	702	22591	32,2	237	2857	12,1	335	6035	18	363	4 006	11
2008	794	26542	33,4	61	2170	35,6	376	11856	31,5	389	10 121	26
2009	696	15728	22,6	61	1304	21,4	311	8432	27,1	508	8 395	16,5
2010	682	20721	30,4	86	1043	12,1	405	18214	45	510	12 269	24,1
2011	665	22215	33,4	89	2519	28,3	380	10607	27,9	504	10 852	21,5
2012	697	13647	19,6	105	1937	18,4	390	7343	18,8	516	8 908	17,3
2013	678	24324	35,9	91	1955	21,5	400	17120	42,8	542	12 032	22,2
2014	695	28360	40,8	153	4683	30,6	294	10676	36,3	557	13 950	25
2015	684	23254	34	149	4262	28,6	321	7507	23,4	705	15 252	21,6
Average	683	21669	31,7	119	2733	23,0	380	11837	31,2	505	9976	19,7

Source: Form number 9 – AIC «Cumnuc Agro» Ltd. for the relevant years.

We calculate the average yields (for 3 consecutive years) of major crops, established in the investigated company during the last 12 years (2004-2015). The results are shown in Table 2.

Table 2

## Moving average yields of major crops at «Cumnuc Agro» Ltd, 2004-2015

Year	Winter crops			Spring crops excluding corn			Corn			Sunflower		
	ha	cwt	cwt/ha	ha	cwt	cwt/ha	Ha	cwt	cwt/ha	ha	cwt	cwt/ha
2004	-	-	-	-	-	-	-	-	-	-	-	-
2005	-	-	-	-	-	-	-	-	-	-	-	-
2006	635,7	20883,7	32,6	131,7	3353,7	25,5	448,7	14749,7	32,9	490,3	7974,7	16,3
2007	672	19761	29,4	193	3737,3	19,4	351,7	9021,7	25,7	445,7	6 717	15,1
2008	718	22708	31,6	155	3276	21,1	348,3	8331,3	23,9	413,7	8 188	19,8
2009	730,7	21620,3	29,6	119,7	2110,3	17,6	340,7	8774,3	25,8	420	7 507	17,9
2010	724	20997,7	29	69,3	1505,7	21,7	364	12834	<b>35,3</b>	469	10 262	21,9
2011	681	19554,7	28,7	78,7	1622	20,6	365,3	12417,7	34	507,3	10 493	20,7
2012	681,3	18861	27,7	93,3	1833	19,7	391,7	12054,7	30,8	510	10 676	20,9
2013	680	20062	29,5	95	2137	22,5	358	11690	32,7	520,7	10 597	20,4
2014	690	22110,3	32	116,3	2858,3	24,6	361,3	11713	32,4	538,3	11 630	21,6
2015	685,7	25312,7	<b>36,9</b>	131	3633,3	<b>27,7</b>	338,3	11767,7	34,8	601,3	13 745	<b>22,9</b>

Source: based on data in Table 1.

In economics, production potential of land resources means the highest possible yield in quality and quantity in a most efficient use of all available means of production and labor. Using the data of Table 2, we find the maximum values of indicators of productivity. In the production of winter crops, spring crops without corn and sunflower, highest rates were reached in the past 3 years – for 2013-2015 – 36.9 cwt/ha, 27.7 and 22.9 cwt / ha respectively. The cultivation of corn reaches its maximum yield of 35.3 cwt/ ha in the period of 2008-2010. We take these indicators as normative as actually produced under the specific conditions of the enterprise. They are marked in the table.

The estimated reserves of increase in the productivity of land is characterized by the difference between the production potential and the achieved level of its use.

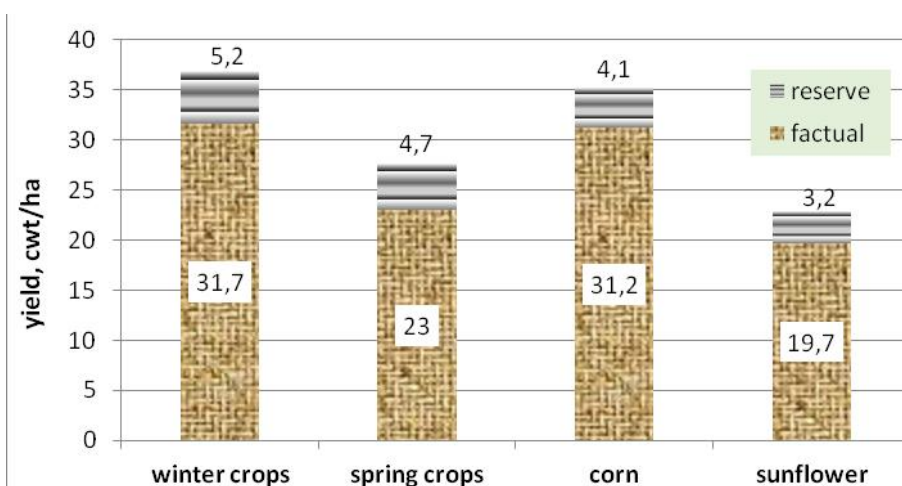
The coefficient of utilization of the potential land productivity in agriculture is determined by the ratio of the actual level of productivity to the potential one [2, p.103-104].

$$\frac{q_f}{q_p} \quad (1)$$

The potential level of land productivity is defined as the sum of the actual yield and its real reserve of growth ( q):

$$q_p = q_f + \Delta q \quad (2)$$

Based on the data from Tables 1 and 2, we find the real reserves increase of land productivity of «Cumnuc Agro» Ltd. in the production of winter crops, spring crops without corn, corn and sunflower. The results are graphically presented in Figure 1. We can see that the shortfall of production per hectare ranges from 13.2% in the production of corn to 20.5% in the cultivation of spring crops without corn.

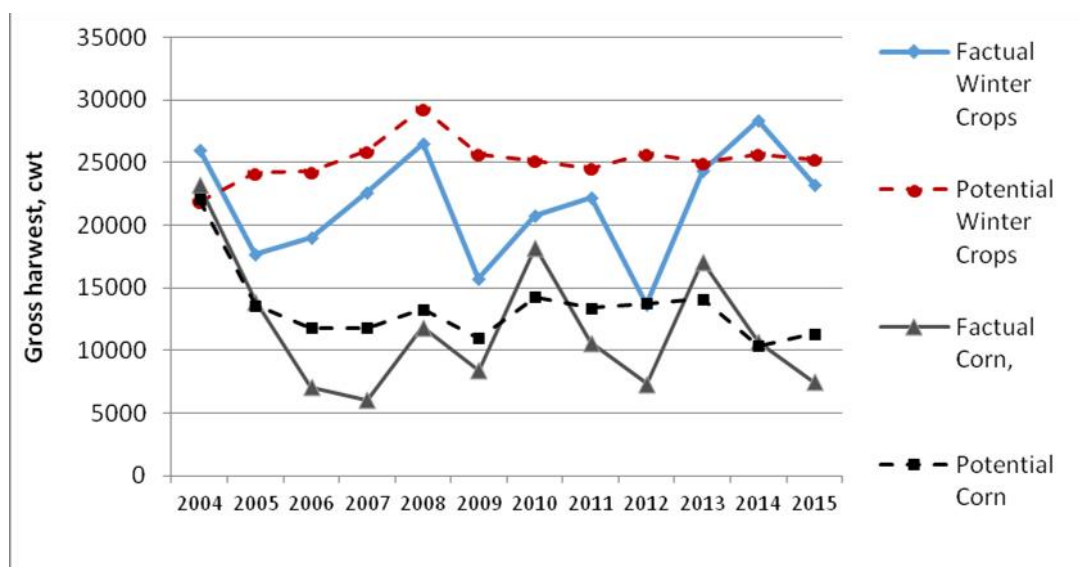


**Fig. 1. Indices of average actual yield and growth reserves for major crops at SRL «Cumnuc Agro» during 2004-2015**

Source: based on data presented in Table 1 and Table 2.

Over the last five years the average annual yield on sowings of winter crops at the studied enterprise has been equal to 32.7 cwt/ ha (683.8 ha and 22,360 cwt), for spring crops without corn – 26.2 cwt. / ha (117.4 ha and 3,071 cwt), corn – 29.8 cwt / ha (357 ha and 10,651 cwt) and sunflower – 21.6 centner / ha (564.8 ha and 12,199 cwt). By calculating the difference between potential and actual yields indicators, we find the real reserve of production for each type of crop. Thus, the shortage of grain average during 2011-2015 makes up 2,872.2 cwt (683.8ha\* 36.9 cwt. / ha – 22,360 cwt) or 12.9% for winter crops, for spring crops without corn constitutes 181 centners (5.9%), for corn – 1,772.6 cwt (16.7%) and for sunflower – 735 cwt (6.1%). Only in 2015 the potential gross harvest for the winter grain crops amounted to 25,239.6 centner (684 ha\* 36,9cwt / ha), which is 1,985.6 cwt. or 8.6% less, corn – to 366.1 centners less that is 4.9%), for sunflower – on 892.5 cwt. or 5.9%. Gross harvest of summer grain crops without corn exceeded the potential level of 134.7 centners, which is 3.2%

Comparing actual and potential values of production of sunflower and crops in the enterprise we can detect a difference in each year of cultivation. The calculations in the dynamics of the considered 12 years of winter grain crops and corn are shown in Figure 2.

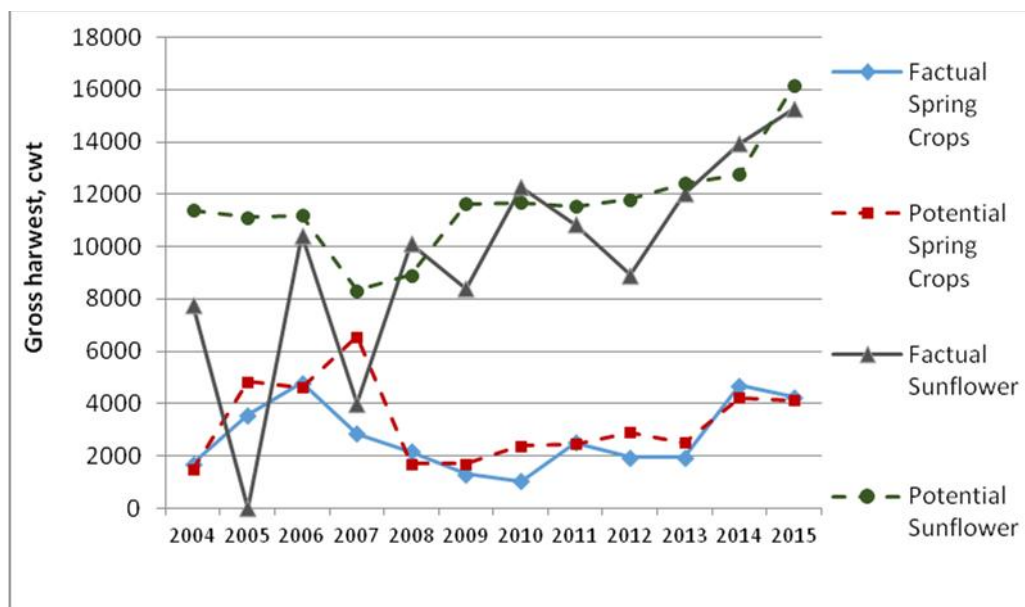


**Fig. 2. Indicators of the actual and potential gross harvest of winter crops and corn for «Cumnuc Agro» Ltd, 2004-2015**

Source: based on data from Table 1 and Table 2.

The ratio of the actual and potential gross harvest of summer grain crops without corn and sunflower is presented in Figure 3.

The analysis shows that in the production of winter crops for the studied period of 12 years the gross grain harvest reached the potential values only two times (in 2004 and 2014), whereas in the production of spring crops it was observed every other year (2004, 2006, 2008, 2011, 2014 and 2015) for corn it was 5 years (2004, 2005, 2010, 2013 and 2014), sunflower – only 3 years (2008, 2010 and 2014).



**Fig. 3. The indicators of actual and potential gross grain harvest of spring crops and sunflowers in «Cumnuc Agro» Ltd, 2004-2015**

Source: based on data from Table 1 and Table 2.

The production shortfall during the sample period of 12 years amounted to 4933 tons in the production of winter crops, 2750 tones in the production of corn, whereas for summer grain crops except corn it reached 826 tons and for sunflower seeds – 2218 tones.

Using the above method every agricultural enterprise can determine its levels of productivity for each crop in order to improve their production planning. Based on these calculations they can also plan the gross grain crop yield for sunflower, grapes, fruit and other products.

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## RECENZIE

**la monografia: „Economia imagina iei creative”,  
autor Dumitru MOLDOVANU, doctor habilitat în economie, profesor universitar, membru  
corespondent al Academiei de Științe a Moldovei**

Studiul doctorului habilitat în economie, profesorului universitar, membrului corespondent al A. M. Moldovanu Dumitru, prezintă o cercetare de o originalitate veritabilă, marcantă, care își găsește expresia în investigarea unui subiect științific de cel mai înalt grad de nouitate și a interacțiunilor și corelațiilor de un caracter inovativ, care până în prezent nu a fost abordat în știința economică autohtonă. Cercetarea este una prin excelență interdisciplinară – în zona de interferență dintre fizică (clasică și cuantelor), filosofie și economie.

Apariția științei economice este pusă în dependență de mecanica clasică, regândirea științei economice – cu revoluția cuantelor, iar fizica cuantică, demonstrează autorul, a împiedicat știința religia.

Faptul, că conștiința umană este „fabrică care produce” realitatea materială este o teză pe care savantul economist „clasic” și filozoful, din start, nu o poate accepta. Autorul, însă, îi face pe acești doi să ezite asupra răspunsului tradițional, „fora” de argumentele din studiu. În acest cadru, autorul implică cercetarea și argumentarea sa din domeniul cosmologiei, transformării energiei în materie de către conștiința umană la două nivele ale realității particulelor subatomice și obiectelor mari.

Sunt delimitate două niveluri ale procesului de producție: la nivelul subatomic și, apoi, la nivelul obiectivelor mari, care sunt materializate din energia infinită a Universului cu „unealta” conștiinței umane creative, având ca componente intențiile, imaginația, așteptările (p.55). Dorința este o forță mai mare decât talentul. Deoarece particulele subatomice „înregistrează” momentan dorințele, așteptările și imaginile din crierul omului, ele devin imediat cunoscute în întregul Univers! (p.69).

Autorul tratează Universul ca o hologramă – o proiecție a unei lumi mai profunde, dar invizibile (p.72). Aceasta reiese și din paradigma acestei enorme holograme și, concomitent, este „răspunsul” Universului (p.74-75).

Prin legea atractivității – legea fundamentală a psihologiei, noi atragem totul ceea ce dorim, sau lucrurile de care avem frică. Individul atrage în viața sa bunurile, situațiile, succesele la care visează sau și le imaginează insistent (p.83) prin atragerea energiei necesare din univers.

Autorul, după economia cunoașterii, plasează economia imaginației creative, implicându-se în cercetarea rolului calităților spirituale în derularea procesului economic, trecând de la relația Om – Pământ la relația Om – Univers și plasând în centrul raționamentelor sale „omul creativ” (p.85). Pe lângă cosmofizică, cosmochimie, cosmobiologie, cosmobotanică, cosmozoologie, autorul afirmă că în scurt timp va apărea și cosmoeconomia.

Aptitudinile spirituale vor deveni prioritare și în economie. Realizările economice tot mai mult sunt determinate de calitatea gândurilor și dispoziția individului, acestea devenind neofactori de producție cu totul speciali. Are loc tranziția la „economia imaginației creative” (p.89), atât la nivel micro-, cât și macroeconomic. Este argumentată teza că unele fenomene și procese economice ar avea loc fără anumite cauze obiective, ci „din senin”, asemănător cu „salturile cuantice” (p.92). Adică principiul incertitudinii este valabil și pentru viața economică (de exemplu, nimeni nu a previzionat criza economică mondială din anii 2008-2009).

Autorul tratează econofizica ca folosirea metodelor și legilor fizicii teoretice pentru explicarea fenomenelor economice (p.94), ceea ce permite să fie utilizat și principiul incertitudinii psihologice umane în procesele economice.

Pornind de la teza lui K. Marx despre „construcția” (citește „imaginația”) inițială a arhitectului întâi în capul său, pe lângă cele două tipuri de muncă – fizică și intelectuală, autorul include un al treilea tip, principal nou – efortul uman, spiritual, pe care îl numește munca imaginației creative (ca formă a efortului spiritual) (p. 99).

În opinia autorului, „Homo economicus” „cedează” în fața „omului creativ”. Ultimul nu este un mag, ci se aseamănă mai mult cu o „fabrică” și este forța motrice a „economiei imaginației creative”. Scopul suprem al existenței omului creativ devine autoperfecționarea spirituală, și nu acumularea averii. Mai mult ca atât: transformând energiile inepuizabile captate din Univers în bunuri economice, omul creativ este în stare de a scoate activitatea economică de sub presiunea legii rarității (p.110).

Este argumentată teza precum că energia solară, prin fotosinteză, este transformată în hrană de



peste 3 mii de persoane. Aceste persoane sunt numite autotrofi (p.p.111,112). Sunt i multe persoane care tr iesc f r mâncare i ap !

Printr-o defini ie mai concretizat , omul creativ este o „ma in ”, o „fabric ”, care „produce” cuno tin e, idei, inven ii i „modeleaz ” împrejur rile i situa iile, în care tr ie te. Ca fapt împlinit, autorul aminte te c alimentele organice asigur organismul cu energia necesar doar în propor ie de 35-40%. Restul energiei necesare omul o absoarbe direct din Cosmos (p.113).

O alt tez original : taina crizelor economice poate fi descoperit doar atunci, când se va renun a la interpret rile sale pur „mecaniciste”, strict „obiective i materialiste” ale vie ii economice, când cercet torii vor avea drept punct de plecare ideea fundamental a fizicii cuantice, potrivit c rei „observa ia creeaz efectiv realitatea fizic observat ” (p.1149).

Originea dezechilibrelor economice urmeaz a fi c utat în „comportamentul” con tiin ei umane, în „calitatea” gândurilor individului, în „ac iunile” involuntare i necontrolate, sceptice i pesimiste ale imagina iei, dar i ale a tept rilor unei mase critice de persoane. Crizele seculare, consider autorul, ar putea fi un rezultat al implic rii în voin a economic chiar a Spiritului Suprem! (p.115) (a se lua în cont ideea despre „mâna invizibil ”, de exemplu).

Dar, recunoa te autorul, ideea implic rii Ra iunii Supreme r mâne, deocamdat , doar o ipotez . Oricum, savantul admite aceast ipotez i o trateaz de pe pozi ii teologice, conectând-o la cazul crizelor economice, stabilindu-le alte cauze: acumularea unei cantit i enorme de inven ii i descoperiri care nu pot fi implementate din cauza intereselor egoiste ale businessului.

Se argumenteaz ca criza economic este o „pauz ” i „pist ” pentru un nou avânt, iar gândirea pozitiv este un instrument de depozitare a crizelor economice, cauzele c rora sunt a tept rile necontrolate i pesimiste ale unei mase critice de indivizi (factorul psihologic), tez , pe care autorul o trateaz tot de pe pozi ia fizicii cuantice i psihologiei umane. De aici concluzia autorului: imagina ia controlat i a tept rile optimiste ale individului reprezint un instrument puternic i eficient de prevenire i dep ire rapid a crizelor. Ca rezultat, se descrie cum ar putea contribui economi tii la dep irea crizelor în context economic real.

Ultimul, al aptelea capitol al lucr rii, este consacrat form rii omului creativ în calitate de obiectiv principal al colii superioare. Autorul schimb radical scopul tradi ional în cauz , argumentarea construind-o pe conceptul expus anterior în studiul s u.

Formarea omului creativ ca for motrice a „economiei imagina iei creative” necesit folosirea calit ilor sale spirituale ce pot fi formate prin educa ie i instruire. Este vorba de a crea realitatea prin observare i la nivelul obiectivelor mari. Ast zi, pentru acestea, sunt create premise reale i, în primul rând, descoperirea cuno tin elor, pân acum, ezoterice (ascunse, secrete) de c tre foarte multe persoane i utilizate pentru autoperfec ionare. Transmiterea cuno tin elor ezoterice trebuie s devin sarcina „instructorului spiritual” în scopul declan rii calit ilor spirituale ale omului (p.135). Astfel, imagina ia i intui ia devin mai importante ca cuno tin ele. Plus la aceasta, profesorul-cercet tor i instructorul spiritual (magul) trebuie s fie colegi de facultate (p.140) i s conlucreze orchestrat.

...Keynes scria c „economistul trebuie s fie matematician, istoric, om de stat, filosof – toate în aceea i m sur ”. O pleiad de savan i – economi ti ilu tri, au venit din alte domenii de cercetare sau au fost autodidac i. i to i ei posedau o imagina ie creativ i o intui ie ie it din comun (p. 144).

Responsabil de formarea omului creativ este coala superioar , sus ine autorul, care trebuie s - i reformuleze radical obiectivele, subordonate dezvolt rii calit ilor spirituale ale studen ilor!

...Economia imagina iei creative a m.c. al A M, Dumitru Moldovanu, nu accept o lectur u oar ! Cei, care inten ioneaz s p trund în conceputul, esen a i con inutul operei numite, „din mers” sau preconcept, nici nu face s înceap lectura. În elegerea „miezului” operei, asupra c reia ne-am expus, necesit efort intelectual sus inut, precum i „imagina ia creativ ”, pe care, la sigur, absoluta majoritate dintre noi înc n-o posed m!

...Deci, s deschidem cartea i s începem o lectur neordinar i dificil !

**Vadim MACARI,**  
doctor în economie,  
conferen iar cercet tor,  
Institutul Na ional de Cercet ri Economice

## REVIEW

**on the monograph: „Economy of creative imagination”,  
Dumitru MOLDOVANU, PhD, professor, correspondent member of the  
Academy of Sciences of Moldova**

The study of doctor habilitat in Economics, Professor, correspondent member of ASM, Moldovanu Dumitru, presents a research with a marked genuine originality, which finds its expression in the investigation of a scientific topic of the highest degree of novelty and interactions and correlations of an innovative character, which until now has not been addressed in local economic science. The research is an interdisciplinary one par excellence – in the area of interference between physics (classical and quantum), philosophy and economics.

The emergence of economics is made depending on classical mechanics, rethinking of economics – with the quantum revolution, and quantum physics, as demonstrated by the author, reconciled the science and religion.

The fact that human consciousness is being "a factory producing" material reality is a statement which the "classic" and philosopher economist scientist, from the start, can not accept it. The author, however, makes these two to hesitate on the traditional answer, being „forced” by the arguments from the study. In this framework, the author implies his research and argumentation from the field of cosmology, energy transformation in material by the human consciousness at two levels of reality of subatomic particles and larger objects.

There are defined two levels of the production process: at the subatomic level and then at the level of high goals, which are embodied from the infinite energy of the Universe with the "tool" of creative human consciousness, with the components of intentions, imagination, expectations (p.55). Desire is a force greater than the talent. Since subatomic particles "record" currently desires, expectations and images of human brain, they immediately become known in the whole universe! (p.69).

The author treats the universe as a hologram – a projection of a deeper world, but invisible (p.72). This emerges from the paradigm of this enormous hologram and, simultaneously, is "the answer" of the Universe (p.74-75).

Through the law of attractiveness – the fundamental law of psychology, we attract everything what we want or what we fear. The man attracts in his life goods, circumstances, successes that he dreams for or imagines them strongly (p.83) by attracting the necessary energy from the universe.

The author, after the knowledge economy, puts the economy of creative imagination, engaging in research of the role of spiritual qualities in development of the economic process, moving from relationship Man – Earth to relationship Man – Universe and by placing in the center of its reasoning the "creative man" (p.85). Besides cosmophysics, cosmochemistry, cosmobiology, cosmobotanics, cosmozoology, the author states that soon will appear cosmoeconomy.

Spiritual skills will become priorities in the economy. Economic achievements are increasingly determined by the quality of the individual thoughts and disposition, making them very special production neo-factors. There is a transition to "creative imagination economy" (p.89), both at micro and macro levels. There is argued the thesis that some economic processes and phenomena would occur without some objective causes, but "suddenly" like "quantum leaps" (p.92), meaning that the uncertainty principle is applied to the economic life (for example, no one predicted the global economic crisis in 2008-2009).

The author treats econophysics as using the methods and laws of theoretical physics to explain economic phenomena (p.94), which allows it to be also used the psychological uncertainty principle in economic processes.

Starting from the thesis of K Marx about original "construction" (read "imagination") of the architect first in his head, in addition to the two types of work – physical and intellectual, the author includes a third type, essentially new – human, spiritual effort, which he calls work of the creative imagination (as a form of spiritual effort) (p. 99).

According to the author, "Homo economicus" gives positions in front of the "creative man". The latter is not a magician, but more like a "factory" and is the driving force of "creative imagination economy". The ultimate goal of creative human existence becomes spiritual self-improvement, rather than accumulating wealth. Moreover: transforming the inexhaustible energies of the universe captured in economic goods, creative man is able to pull economic activity under the pressure of rarity law (p.110).

There is argued the thesis that solar energy through photosynthesis, is converted into food for over 3000 people. These people are called autotrophic (p.p.111, 112). There are many people living without food and water!

Through a materialized definition, creative man is a "machine", a "factory" that "produces" knowledge, ideas, inventions and "shapes" the circumstances and situations in which he lives. As an accomplished fact, the author points out that organic foods provide the body with the energy needed only in the proportion of 35-40%. The man absorbs the remaining necessary energy directly from Cosmos (p.113).

Another original thesis: the mystery of economic crises can be discovered only when we will quit the purely "mechanistic" interpretations, strictly "objective and materialistic" of the economic life, when researchers will have as a starting point the fundamental idea of quantum physics, according to which "observation actually creates the observed physical reality" (p.1149).

The origin of economic imbalances has to be sought in the "behavior" of human consciousness, the "quality" of individual thoughts, in "actions" that are involuntary and uncontrolled, skeptical and pessimistic belonging to imagination and expectations of a critical mass of people. Author believes that secular crisis could be a result of involvement in economic will even of the Supreme Spirit! (p.115) (to be taken into account the idea of the "invisible hand", for example).

But the author admits, that the idea of involving Supreme Reason remains, for now, only a hypothesis. However, the scientist admits this hypothesis and treats it from the theological position, linking it to economic crises, setting them other causes: the accumulation of enormous amounts of inventions and discoveries that can not be implemented due to the selfish interests of business.

It is argued that the economic crisis is a "break" and "track" for a new energy and positive thinking is a tool for storage of economic crises, the causes of which are uncontrolled and pessimistic expectations of a critical mass of individuals (psychological factor), theses, which the author treats from the position of quantum physics and human psychology. Hence the conclusion of the author: controlled imagination and optimistic expectations of the individual are a powerful and effective way of preventing and overcoming crises rapidly. As a result, there is described how economists could contribute to overcoming the economic crisis in the real context.

The last, the seventh chapter of the book is devoted to creative human formation as the primary objective of superior school. Author radically changes the traditional order in question, the arguments consisting in a concept previously presented in his study.

Creative human formation as the driving force of "the economy of creative imagination" requires the use of his spiritual qualities that can be formed through education and training. It is about creating reality through observation and high level objectives. Today, they have real conditions and, above all, knowledge discovery, till now esoteric one (hidden, secret) by many people and used for self-improvement. Transmission of esoteric knowledge must become the task of "spiritual instructor" to trigger spiritual qualities of man (p.135). Thus, imagination and intuition are more important than knowledge. In addition, teacher-researcher and spiritual instructor (magician) must be college colleagues (p.140) and must work orchestrated.

...Keynes wrote that "the economist must be mathematician, historian, statesman, philosopher – all equally". A host of scholars – illustrious economists came from other areas of research or were self-taught. And all they possessed a creative imagination and extraordinary intuition (p. 144).

Superior school is responsible for the creative human formation, the author mentions, who must radically reformulate objectives, subordinated to the developing spiritual qualities of the students!

...The economy of the creative imagination of c.m. of ASM Dumitru Moldovanu does not accept a light reading! Those who intend to get the concept, the essence and content of work "on the fly" or preconceived better do not start the reading. Understanding the "core" of the work, on which we have mentioned above, requires sustained intellectual effort and "creative imagination", which, sure, the absolute majority of us still do not possess!

...So, let's open the book and start an unordinary and difficult reading!

**Vadim MACARI,**  
PhD, Associate Professor,  
National Institute for Economic Research

## FOR THE AUTHORS

## REQUIREMENTS

for presentation of scientific papers in order to be published  
in the journal „Economy and Sociology”, of „B” category

In order to ensure the quality and fair assessment of scientific publications, the authors are asked to take into account the following criteria while presenting the articles for editing:

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3. **Abstract** about **Actuality, Aim, Methodology and Results**, in **Romanian, English and Russian** (max. 1 pag. A4).
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7. **Basic content** – its name will be based on the content of the article
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