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# Structural changes existing at the level of local labour markets<sup>1</sup> - a conceptual constructive analysis framework

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## Abstract

Increasing complexity of socio-economic systems is reflected by increasing complexity of policies. The multilevel architecture of policies global, regional-continual, national, regional and local is segmented more and more policies. The New Multiannual Financial Framework (NMFF) for the period 2021-2027 in its 2019 draft include at EU level eight Policies and 17 priority sectors. Competition is the driving force of the economy - driver leading to structural changes, at local labour markets. The problem is divided in two main plans: “What means to be competitive?” and “How to be competitive?” Further, using a conceptual analysis of key concepts for the main policies included in the new strategic cycle (2021-2017), we create a framework for policy analysis structural changes of local labour markets. Our original contribution is framework design using concepts and instruments provided by the New Economic Geography theory and the Centre – Periphery Model. The new conceptual relationship Core - Periphery is a structural relationship from the global level, to regional development and labour market segmentation, present as well as at micro level, in organisations structures. Industrialization in global markets shapes the previous growth model manifested in discontinuous times. Radical innovation shapes in digital transformation shapes the new model of growth manifested in disruptive times. Our contribution is framework for policy analysis structural changes of local labour markets, classifying the EU’s NMFF branches by the core-periphery relation.

**Keywords** –structural changes, core -periphery, local labour markets, discontinuous times, disruptive times

## 1. Introduction

Increasing complexity of socio-economic systems is reflected by increasing complexity of policies. The multilevel architecture of policies global, regional-continual, national, regional and local is segmented more and more policies.

The over segmentation of policies domains increases the rigidity and decrease flexibility, slowing the adaptive resilience of socio-economic systems.

In view to better understand the Structural changes existing at the level of local labour markets we suggest a new conceptual constructive analysis framework following the steps of Constructive Conceptual Analysis. The conceptual analysis framework is competitiveness described in The New Economic Geography theory and with Core – Periphery as the New conceptual relation.

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## 2. Method – Constructive Conceptual Analysis of for the main policies included in the new strategic cycle (2021-2017)

Analysis is a usual term, mostly referred as linguistic analysis and less as method of inquiry in analytic philosophy. Kosterec (2016) delineates the linguistic analysis to conceptual analysis, by their aim, pointing that:

*“The aim of linguistic analysis is to provide insight into **how** a term is used within a specific field or domain, the aim of conceptual analysis is to examine **the place of a concept in the conceptual network of a language or a theory**”.*

Nuopponen, (2010) define the Concept Analysis (CA) as an “activity where concepts, their characteristics and relations to other concepts” are clarified and notify the “lack of method descriptions in methodological guides”.

**Conceptual Analysis** as a methods concerning theory of knowledge was root in philosophy, mathematics and logic. Moore, (1922) establish the fundamental principles of ethical reasoning. Base on this, during the 1930s, flourish the Cambridge School of Analysis. (Baldwin, 2013)

Russell is “responsible more than anyone else for the creation and development of the modern logic of relations – the single greatest advance in logic since Aristotle. He then used the new logic as the basis of his mathematical philosophy called logicism” (Ongley and Carey, 2013). Russell (1905) formulate the theory of definite description called as the denoting in theory of knowledge. Wittgenstein was Russell’s student. Eames (2013) notify that the Russell and Wittgenstein disagreed concerning the relevance of theory of knowledge to the domain of philosophy. Russell sees the logic and conceptual analysis as the core of knowledge theory, while Wittgenstein sees separates the realms o science and philosophy: “philosophy cannot tell us how things are, and science cannot clarify our ideas or our languages”. (Eames, 2013, p.168)

The third “father” of the CA is Wittgenstein. In its Philosophical Investigations (1953), Wittgenstein treats the concepts of “meaning, of understanding, of a proposition, of logic, the foundations of mathematics, states of consciousness, and other things”.(Wittgenstein, 1953) Kosterec (2016) delineates and compares three methods, usually labelled as conceptual analysis: ”constructive method, detection method, and reductive conceptual analysis”. (Box1)

### Box 1. Conceptual Analysis Methods

**Constructive analysis CA** aims to broaden our conceptual theory, either by postulating a new relation or stating that some already known relation holds among previously unrelated parts of the language. Constructive analysis thus enables one to introduce new terms or concepts which were lacking in the initial explicit conceptual theory.

- study the relations among parts of a language

**CA problem** - the lack of an explicit relation among terms or concepts of a language within our conceptual theory of language.

- The problem is solved within a (possibly enriched) conceptual theory.

CA aim - **broaden our conceptual theory**, either

- by *postulating a new relation* (introducing new terms, or concepts)
- *stating* that some already known relation holds *among previously unrelated parts* of the language

**Examples:** definitions (prescriptive), explications; be an implicit relation among terms or concepts which is unknown to the speakers;

**CA results-** change the explicit conceptual theory but leaves the relations of the initial theory intact, is enabled by the relations within the initial conceptual theory;

- *is coherent* if the change of the conceptual theory is made using material already present in The initial conceptual theory, but a CA is mandatory to be always coherent.

CA fails if it does not result in a new relation

**CA is used to modify the explicit conceptual theory so that the problem is solved within a (possibly enriched) conceptual theory. This type of analysis studies pre-existing relations in a conceptual theory and proposes a new relation, which is then tested.**

**Detection analysis - DA** “it is common practice in philosophy to question a declaration that a certain relation holds among concepts of a given language”. In Mathematics mean is using knowledge about relations i.e. solving equations. In Philosophy is “whether some conceptual relation exists within our conceptual network”.

DA – could lead to a negative result

The problem is solved when the existence of the studied conceptual relation is found or proved possible or impossible within the implicit conceptual theory.

DA is used to analyse and broaden our knowledge of the implicit conceptual theory

**Reductive Analysis - RA.** Is whether some theory or language is reducible to another theory or language. For example, the question could be whether the former is only a notational variant of (a part of) the latter.

- the relations among two or more conceptual networks

RA result: finding out whether the relation in question holds among the given conceptual networks.

Examples: Science often redefines ordinary terms such as weight, colour, well-being, knowledge etc. A well-known philosophical reduction is the one between knowledge and justified true belief.

Based on (Kosterec, 2016)

Main steps in Constructive conceptual analysis method, synthesized by (Kosterec, 2016) are :

1. Specify the initial **Conceptual Background CB!**
2. Formulate the conceptual **problem P!**
3. State the new conceptual **relation R!**
4. Formulate tests **T** of the **conceptual relation R** within **CB!**
5. Elaborate the new relation **R** by tests **T respecting CB!**
6. If the relation **R** succeeds in tests, declare it a part of **CB!**

Further, we shall follow these six steps in view to build:

*“a framework for policy analysis structural changes of local labour markets, policies included in the new strategic cycle (2021-2017) based on Core- Periphery new relation, as a result of a Constructive Conceptual Analysis Conceptual background”.*

**Competition is the driving force of the economy** - driver leading to structural changes. The basic principle of competitiveness - making a profit. A profitable business or, in general any economic activity, is profitable when the income is greater than expenditure. This principle is reflected in all the five Porter’s competition forces: buyers/customers, suppliers, substitutes, new entrants and existing rivals. Porter (1979) Customers chose to buy if pay less and get more. Suppliers chose to delivers less and be paid more. Substitutes brings on a product market producer from other industries with different product with the same utility. New entrants diminish costs and relocate the clients from the prior sector’s industries. Existing rivals “fight” for the same product in the industry, in the same market. The problem is to be profitable, not big. And more than this, it is tremendously important to keep this positive balance long term to be sustainable. **In other words, it is important to create value in a sustainable manner.** Spacey (2017) points that “value creation is any process that creates outputs that are more valuable than its inputs”.

Van Neuss (2019) define **structural change at regional level**, in a broad sense as “the process of reallocation of economic activity across the three broad sectors agriculture, manufacturing and services” via **globalisation and trade**. OECD (2007) states, in the case of automotive industry, for the main drivers for change the “structural & economic (especially in terms of productivity), regulatory and technological”. National and regional governments in OECD countries are looking for ways to ensure that regions maintain a competitive edge in industries that generate wealth and jobs.(OECD, 2007)

The creation of value in a sustainable manner is our conceptual background, based on the competition.

### 3. Research question – conceptual problem formulation

To be competitive request a strong and precise strategy to create value. The actual model (to say the last hundred years) is focused on decreasing costs with any price, in the hypothesis that economic growth is infinite. Economic growth increases but also increases the resources consumption, some cases till exhaustion. Resources reserves are not any more available on long and medium term, the time horizon is shortening. Therefore, **the greatest change is in the strategy to create the value!** The new millennium model is changing the creation of value from “**diminishing the costs**” to “**creating value based on innovation**”! This new model expects to provide a sustainable growth in the sense that resources has to regenerate.

The problem is divided in two main plans: “What means to be competitive?” and “How to be competitive?”

Further, using a conceptual analysis of key concepts for the main policies included in the new strategic cycle (2021-2017), we create **a framework for policy analysis** structural changes of local labour markets. Our original contribution is framework design using concepts and instruments provided by the **New Economic Geography and the Centre – Periphery Model**.

### 4. The New Economic Geography and the Core– Periphery Model: the new conceptual relation

The Dixit-Stiglitz (1997) model is the starting point of the monopolistic competition and optimum production diversity. The research question is regarding the “production in welfare economics is whether a market solution will yield the socially optimum kinds and quantities of commodities” (Dixit and Stiglitz 1977). The starting point was the principle that “a commodity should be produced if the costs can be covered by the sum of revenues and a properly defined measure of consumer’s surplus”. Dixit and Stiglitz (1977) authors find that in monopoly conditions, firm pays the fixed costs and they state the principle that “a market solution considers profit at the appropriate margin, while a social optimum takes into account the consumer’s surplus. Dixit and Stiglitz (1977) The New Economic Geography (NEG) emerged when the Dixit& Stiglitz (theory) applied in the new industrial organisational theory, new international trade, new technological change and new economic growth.

Starting to 1985 emerges the NEG theory, which integrates geography with new trade and new growth. Fujita, Krugman and Venablesin (Fujita et al., 1999) present a spatial version of the Dixit Stiglitz Model.(FKVM) The spatial heterogeneity of resources induces inherent differences among locations, as a result of cumulative processes: urban and rural, industrial belts etc.

NEG explains agglomeration as the results of economic agglomeration. The NEG looks for:

*Box 1.*

#### *New Economic Geography (NEG) the New Conceptual Relation*

“Concentrations of population and of economic activity: the distinction between manufacturing belt and farm belt, the existence of the cities, the role of industry clusters. ...The larger point is that by modelling the sources of increasing returns to spatial concentration, we can learn something about how and when these returns may change, and then explore how the economy’s behaviour changes with them.” (Fujita et al., 1999, p.4)

Research questions:

When is a spatial concentration of economic activity sustainable?  
When is a symmetric equilibrium, without spatial concentration, unstable?  
“The answers to both of these questions hinge on the balance between centripetal forces, forces that tend to promote spatial concentration of economic activity, and centrifugal forces that oppose such concentration. They are not quite the same question, however, essentially because the first asks whether a situation is equilibrium, the second whether an equilibrium is stable.”

Source: (Fujita et al., 1999)

Llano (2000) points that FKVM model describes 3 localization forces:

- two agglomeration forces (symmetry de-stabilizers), Relationships between costs & demand (agglomeration forces) and
- one dispersion force (symmetry stabilizer): Local Competition (dispersion force);

#### 4.1. Core - Periphery model at global level: a structural relationship

Before the NEG, Wallerstein (1974), describe the world system in the core-periphery model coordinates, where the state is not any more the analysis unit. In this approach nest to economical analysis is made also a political one. Also, author observe that, “prior the modern era, world-economies were highly unstable structures”. According to Wallerstein (1974) the **world-system is a "multicultural territorial division of labour in which the production and exchange of basic goods and raw materials is necessary for the everyday life of its inhabitants."** Martinez-Vela (2001) comments Wallerstein definition, pointing that “this division of labour refers to the forces and relations of production of the world economy as a whole and it leads to the existence of **two interdependent regions: core and periphery**”. In this model, **Core are locations where** happens mostly processes that incorporate higher level of education, higher salaries, and more technology and generate more wealth to the world economy. **Periphery** are locations where are occurs processes that incorporates lower levels of education, lower salaries and less technology, which generates less wealth to the world economy. The third-tier structure – Semi- periphery are locations where ensues both core and periphery processes and serves as a buffer between core and periphery. Wallerstein sees the relation core- periphery as an exploitation relation, based on history events observation and analysis. We emphasise as very important to our purpose the 3 third structure of world systems> core, periphery and semi-periphery.

Goldfrank (2000) periphery agglomerate the labour -intensive, and the other on capital-intensive production. The three historical modes of production are, following Polanyi, mini-systems, world-empires, and world-economies.

Skocpol (1977) **the core-periphery relationship is structural. It changes the “traditional” to “modern”**. Semi-peripheral states act as a buffer zone between core and periphery, and has a mix of the kinds of activities and institutions that exist on them (Skocpol, 1977).

Figure 1. Core periphery theoretical and applied model



Source: (Moyer, 2016)Based on the list in Dunn, Kawana, Brewer (2000).

[https://en.wikipedia.org/wiki/Semi-periphery\\_countries](https://en.wikipedia.org/wiki/Semi-periphery_countries)

(Chase-Dunn et al., 2000) distinguish between

*“globalization as a contemporary political ideology and what we call **structural globalization**-the increasing worldwide density of large-scale interaction networks relative to the density of smaller networks. The term "globalization" often refers to changes in technologies of communication and transportation, increasingly internationalized financial flows and commodity trade, and the transition from national to world markets as the main arena for economic competition. “*

**Economic globalization is pulsatile and defined by** (Chase-Dunn et al., 2000)

- “means greater integration in the organization of production, distribution, and consumption of commodities in the world economy;

- the globalization of trade over the past two centuries. Trade globalization means the extent to which the long-distance and global exchange of commodities has increased (or decreased) relative to the exchange of commodities within national societies.”

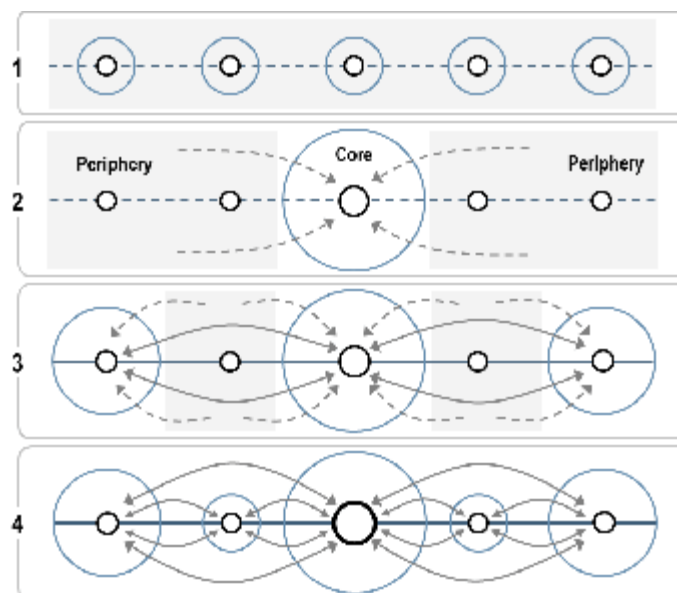
**The core/periphery hierarchy** is defined by (Chase-Dunn, 2001) as a structural constant, next to capitalism and interstate system. So, “core regions have strong states and specialize in high-technology, high-wage production while peripheral regions have weak states and specialize in labour-intensive and low-wage production”. (Chase-Dunn, 2001)

*All the human interaction networks small and large, from the household to global trade, constitute the world-system. This whole process can be understood structurally as a stratification system composed of economically and politically dominant core societies (themselves in competition with one another) and dependent peripheral and semi peripheral regions, some of which have been successful in improving their positions in the larger core/periphery hierarchy, while most have simply maintained their relative positions.(Chase-Dunn, 2001)*

#### 4.2. Core-Periphery model of regional development

Friedmann, (1966) develop the Core-Periphery relationship in the Urban / agglomerations and rural since 1966. (Figure 2) Regional development reflects the economic structure. The human history shows the transition from mainly agricultural, homogeneous / dispersed distribution, in Stage 1 to the first agglomerations, commercials and crafts Stage 2 heterogeneous distributions. The agglomeration plays the role of Core, locations that hosts first of all the markets! The dispersed population groups (farms and family’s households) plays the role of periphery. The technological progress and industrial development increase the emergence of higher agglomerations clustered in industrial regional sub centres. In industrial core-periphery stage is reached the maximum of regional inequalities. The periphery is the satellite of Core, usually in a master slave functional relationship. The last stage, the Stage 4, present the Post-industrial development, mainly in networks, where the regional inequalities are reduced in a fully integrated system.

**Figure 2. John Friedman’s Model of regional development - Core-Periphery Stages of Development in an Urban System**



Source: (Friedmann, 1966), taken from (Rodrigue, 2020)

Note:

Stage 1 – Preindustiral, no urban hierarchy

Stage 2 - Transitional, Primate city

Stage 3 – Industrial – regional subcentres

Stage 4 – Post industrial –regional inequities are reduced in a fully intergrated urban systems



Spatial structure reflects not only the development stage but also the specialisation and economic activities profiles. (Wallerstein, 1974) argues that „forces of the marketplace tend to maintain established differences of "occupational" structure among regions". People move from periphery to core (UMN, 2016)

**Core is urban structures that concentrate** financial power, education system especially high level and academic one, social elites, administrative centres and government, in a word – power! In these locations the incomes and salaries are higher and also the costs of living, wealth is concentrating. The economic profile of location is characterised by a high diversity, with or without industry, but mainly economic sectors that are **independent of space**.

**Periphery is rural** structures that have low financial power, incomes and salaries are low, usually concentrates poverty areas. The economic profile of location is characterised by a low diversity, agriculture, forestry and mining, but mainly **economic sectors that are dependent of space**. Regardless the scale level: local, national or global, people moves from periphery to centre, as brain drain, migration, mobility, driven by higher incomes and good jobs located in core.

#### *4.3. Core-periphery model and labour market segmentation*

**Core-periphery is a tool to model labour mobility and migration. The dynamics of agglomerations is developed by** Perroux (1955) which presents the case of growth poles, Myrdal launch in 1957 cumulative causation through the dispersion or concentration effect. Hirshmann (1958) identify the – “**trickle down**” effect, Friedmann & Miller (1965) – recreative hinterland (maximum 3 hours travel by car). Friedmann (1966) explains the Specialization of regions and division of labour between regions, the regional economic puzzle achieve an equilibrium through Spatial integration. Derica (2014) present the Core Periphery model in terms of Myrdal (1957) and Friedmann’s (1966) regional development policy in a synthesis. The Core locate abundant capital while the periphery locates abundant labour in a static image. The difference across space in both dimensions generate labour flows and capital flows in contrary directions. Abundant labour or capital demand for adequate capital a labour. This new equilibrium is created through migration / mobility / brain drain of labour towards core, for higher wages and incomes. In a global world the scene of labour mobility is moving faster and faster. The mobile workers execute mostly short time jobs, send a share of their remittance to their homeland and move for a new job. Fischer and Nijkamp (1987) points out that regional labour markets are delimited on an administrative basis or on institutional principles and not on the basis of functional or economic criteria. Morrison (1990) and Martin (1999) they promoted the dominant perspective by which labour markets are inherently local by their nature and extent, in the context in which they are multi-dimensional and have a very scalar nature. The location economy was launched by Marshall (1919, p. 285) by observing the industrial district, an industrial concentration in certain locations. Marshall, (1920 p. 268) explained the economic principles of agglomerations, and since 1890 launches the concept of positive externalities. Fischer and Nijkamp (1987) notes that “labour markets are segmented by firm, industry, job type, worker type, occupation and spatial location. In other words, the macro process of labour market segmentation is associated with a spatial segmentation process.”

#### *4.4. Core-periphery model in organisations structures*

**John Atkinson's Flexible-Firm Model**(Atkinson, 1984) classified the wide ranges of new ways of getting tasks done in functional, numerical and financial flexibility. The market instability generates a new structure of the workforce to optimise the allocation of human resources in the **core** and **peripheral** group. Market stagnation, job loss, uncertainty, technological change and working time generate new market realities. The response at firm level is the flexible firm. The flexible firm uses a “management technique that optimizes human resources by segmenting the workforce into core and peripheral groups”.

Atkinson (1984) Under Atkinson’s perspective, the core and peripheral group works within the company based on three types of flexibility:

### Box 2. Atkinson's flexibility typology

**Functional Flexibility.** This is associated with **high-skill levels** across many different tasks, as exhibited by the **core group of workers**. It allows management to relocate core workers between multiple workforces and tasks. Developing functional flexibility within a workforce generally requires **increased training, more flexible working hours and re-evaluation of payment/value to the company**.

**Numerical Flexibility.** This generally applies to the **peripheral workforce**, and is related to the **volume of low-skilled workers available in the labour market**. Numerical flexibility means that employers can match labour demands with the number of employees under contract at the company. This can be achieved through the of *flexible employment methods such as short-term contracts, outsourcing, temporary workers and other means*.

**Financial Flexibility.** Financial flexibility refers to the **capability of organisations to adjust the price (pay) of labour in accordance with the supply and demand of workers within the company**. It also refers to the compensation granted to individuals upon the termination of their contracts. Thus, financial flexibility is related to and supportive of numerical and functional flexibility.

Source:

[https://www.businessballs.com/organisational-culture/flexible-firm-model /](https://www.businessballs.com/organisational-culture/flexible-firm-model/)

#### 4.5. New, Shamrock organization in a discontinuous time

Handy (1989) push further the core periphery model to the Shamrock three leaves shape. In 1989 on the background of constant and random change called by Handy as "discontinuous change" transforms business, society, education and the nature of work. In this model the **Core workers** include the employees involved in strategies, knowledge and main processes; Flexible workers includes part-timers, contractors and consultants and Outsourced workers Include IT, marketing, payroll, training and franchising. **This "fluid structure" function in view to assure a rapid response to change.**

The core group- the skilled workers, primary workers and internal workers, are the employed on undetermined labour contract with the firm.. Glenn (2016) based on Ritson (2013) enriches the Atkinson model. So, the **First Peripheral Workers**, are employees on a daily labour contract, low skilled workers, easy to employ, assuring numerical flexibility. The second group of peripheral workers are in flexible labour contract forms: short term contracts, public subsidy trainees, delayed recruitment, job sharing, part time, etc. Another peripheral group is the external group of services provides for the firm, working as satellites for the firm based on a commercial relationship. The third peripheral group include: Agency Workers, Self-Employment, Subcontracting or Outsourcing.

#### 4.6. Critics for the Core-Periphery model

Raagma (2003) select as the most important Critics for the Core-Periphery Model the following ideas:

**Box 3**

#### **Critics for the Core-Periphery Model**

Friedman's, Gibbs's and Hautamäki's models became stuck in industrial society's economic **models and environmental static**: they presumed that the economic structure stabilizes and that the environmental problems of the rapidly growing cities would be continually insurmountable. Also, the CPM originated from rational arguments and the interests of production. They ignored people's personal needs and cultural factors

Friedmann's (1966) CPM was criticized ever since it was created. Brenner (1977) claimed that the centralization of power cannot cause the centralization of economy. He also said that the given approach would *not sufficiently describe interregional division of labour, distribution of wealth and goods*.

Storper and Walker (1989, 183) point out the importance of historic legacy and layers of investment, which create a specific milieu for a region. Because of that, many development paths are excluded and a path-dependency is formed: **the development of a region is rather evolutionary, based on the social networks and cultural values.**

The New economic model based on innovation and new structural changes at local labour markets level – in disruptive times

#### **4.7. A new framework for the policies according to new conceptual relation Core-Periphery model**

Shumpeter (1934) launches the theory of innovation, and (Kondratieff and Stolper, 1935) develops the theory of long cycles delimited by the technology carried by radical innovations / super innovations.

The new global context is characterized by the emergence and manifestation of all types of innovation and especially disruptive innovation. OSLO 2018 defines radical innovation along with incremental innovation:

*"3.56. The basic requirement for an innovation is that it must be significantly different from the company's previous products or business processes. Because "significantly different" is subjective and will vary depending on the company's capabilities and context, the interpretation and comparability of innovation statistics may benefit from additional data on the importance of innovations in terms of novelty or economic impact. Some forms of novelty, such as disruptive / disruptive or radical innovations and certain types of economic impacts, are difficult to identify in the limited observation period recommended for the study of innovation. (OSLO 2018, p.77)*

Production chain logistics is becoming increasingly complex. Modern production no longer takes place only in an organization but in an urban agglomeration. (Figure 3) This agglomeration plays the role of Centre and functionally realizes a concentration of capital, a high concentration of diverse (unrelated) economic activities, offers an extremely wide range of services and infrastructures at affordable costs for the population, services that ensure a high level of quality of life and, last but not least, it acts as a magnet that attracts talent (Florida, 2002; Moretti, 2012). The Periphery concentrates natural resources and specialized sectors in areas dependent on space such as agriculture, forestry, fish farming, tourism (land dependent), and mining. Peri urban - the buffer zone between urban and rural concentrates mainly the labour factor, especially in the new millennium. The boundaries of production functions are delimited by the space in which final goods and services are produced for consumption either locally or globally. **The production of tradable services and goods is carried out in core sectors**, specialized sectors, globally competitive, which achieve value through sales to the final consumer, in markets anywhere in the world. It is important that through economies of scale are minimized, optimized costs for the production of intermediate goods and services. Support for lower intermediate production costs is supported by **non-core sectors, which provide non-tradable goods and services** at a distance through foreign trade, and are **destined for local consumption**. This category includes production infrastructures (access to land, transport, energy, knowledge, skilled labour, storage, security) and quality of life (housing, access to water, energy, gas, water, sewerage, education, sports, culture, health). The complementarity functionality of non-core sectors ensures the success of core sectors. The public administration makes the balance of core-periphery functionality sectors and guide the shapes regional and local structures. The value created in global markets define the success of the core sectors (called also base sectors), but in the presence of then on-core sectors support. The newly created balance allows the realization of investments supported by taxes, high-income jobs that in turn create other positive externalities, new jobs in new sectors of activity, supporting the virtuous circle of development. The absence of a strong public administration does not allow the development of production infrastructures and quality of life, leading to the settlement of the location from the international trade circuits of the global economy. The location enters the vicious cycles of development, loses active labour, cannot make investments, cannot develop infrastructure, and quality of life decreases to marginalized areas, poverty with severe material deprivation especially in rural areas, but also as bags of poverty in the urban environment.

Transportation and energy costs are also called hard costs and transaction, commercial and intellectual property costs are soft costs. The decrease in connectivity costs is marked by the disappearance of state borders and the formation of economic blocs, as is the case in the European Union.

In these markets trade borders are eliminated, state borders are reduced in functionality allowing, among other things, the mobility of the labour factor. The labour factor is allocated internationally at the best price, especially when the cost of the stay exceeds the cost of departure.

Figure 3.A framework for policy analysis structural changes of local labour markets, policies included in the new strategic cycle (2021-2017) based on Core- Periphery new relation, as a result of a Constructive Conceptual Analysis

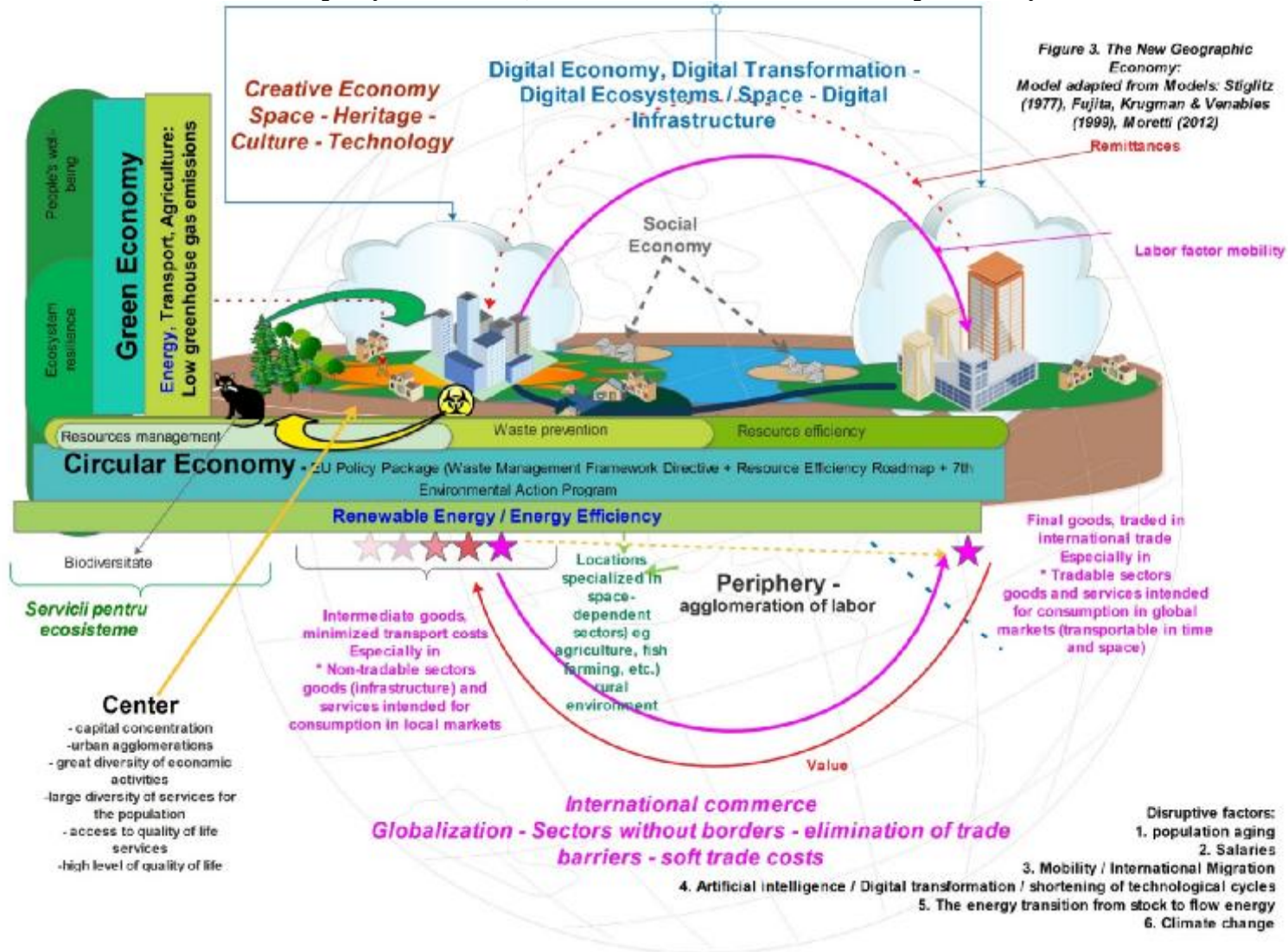


Figure 3. The New Geographic Economy: Model adapted from Models: Stiglitz (1977), Fujita, Krugman & Venables (1999), Moretti (2012)

People can migrate with their family, permanently changing their domicile and even their citizenship, or they can only go for a fixed period of time to other labour markets, keeping their domicile in their country of origin. Mobile workers can work in other labour markets either in the conditions of the national labour market / home market as posted workers / posted workers or directly in the conditions of the host markets in official conditions or, worse in unofficial conditions, disconnected from protection systems from both countries (home and host). Beyond connecting to social protection services, mobile workers send money home to relatives through remittances. Rodrick (2018) recently noted that international labour mobility is the largest unexplored frontier of globalization. Emigrants increase their income from 3 to 6 times when they move from a low-income country to a high-income country. Ketkar and Ratha (2008) highlighted the innovative role of remittances in financing development for poverty-stricken countries / regions.

Digitization, digital transformation and the creation of digital ecosystems make it possible to reduce transaction and execution costs by increasing efficiency, especially through automation and the use of Artificial Intelligence. These technologies mainly replace routine and repetitive work performed mainly by low-skilled workforce.

Urban agglomeration also creates negative externalities such as waste, pollution and resource consumption at such a rapid rate that it is no longer possible to regenerate natural resources, ecosystems of nature and biodiversity are destroyed, greenhouse gas production increases.

The benefits of globalization also bring challenges. Connecting to globalization requires the adoption of fast-paced and especially faster and faster pace of technological change. Technological changes are mainly manifested by the shortening of production cycles, especially in certain sectors, sectors exposed to automation which have a high risk of releasing labour, regardless of the level of preparation by the manifestation of substitution effects. Technological changes can act as shocks with extremely high diffusion speeds, manifested in the form of crises.

Another challenge to which the local / urban or national economy must strike a balance is that of identity. Exposure to common events, processes and global culture exposes communities at any level to the risk of losing their identity. Paradoxically, the identity is the source of supporting the competitive force through global differentiation, but it is also exposed to the risk of global levelling.

#### ***4.8. The New Multiannual Financial Framework 2021-2027 and resilience to disruptive factors***

**The New Multiannual Financial Framework (NMFF)** for the period 2021-2027 was established on 5.04.2019. it comprises **eight Policies at EU level and 17 priority sectors** with related implementation programs. "Within each priority, programs will be **grouped in policy clusters**, which will be reflected in the titles of the annual budget." The financial framework reflects, in a significant manner the EU's priority. The complexity of the world is mirrored by the "**key crosscutting priorities such the digital economy, sustainability, security, migration, human capital and skills, as well as support for small businesses and innovation.**"(SWD(2018) 171 final). Each policy topic assumes to built resilience to the main disruptive factors, some of them challenging for Romania: population aging, Salaries, Mobility / International Migration, Artificial intelligence / Digital transformation / shortening of technological cycles, The energy transition from stock to flow energy, Climate change. Are the subjects of the new policy architecture (see Annex)

In terms of our paper, the disruptive factors are the tests for the Conceptual Background. We remind that "the creation of value in a sustainable manner is our conceptual background, based on the competition".

#### ***4.9. Our contribution***

Our contribution is framework for policy analysis structural changes of local labour markets, classifying the EU's NMFF branches by the core-periphery relation. This framework is built in the conceptual background, corresponding to the point five of the methodology "5. Elaborate the new relation R by tests T respecting CB!".

Figure 3 summarise the spatial distribution of the main policy action, allocating the following labels:

- **Core** - New global industries - global consumption, global employer

- Artificial intelligence / automation
- International trade
- Final goods and services tradable in international trade

- **Periphery** - Non-core sectors - local consumption, promoter Regions supporting smart specialisation, increasing competitiveness and sustainable quality of life

- Circular economy
- Social economy
- Green economy
- Connectivity - Energy & Transport & Information
- Creative economy
- The digital economy
- Climate change
- Quality of life services

## 5. Final remarks and conclusions

Industrialization in global markets shapes the previous growth model. The process of growth and wealth is generated in industrialized agglomerated locations. The main principle is “the creation and use of territory is fundamental to economic development” and “the territorial forms that industry takes are central to the shape and survival of capitalism itself”, Walker and Storper (1991). The **discontinues times**, as Handy (1989) called more than three decades before, just passed. It manifests by flexibility and adaptability increasing, as a response to “the drivers of changes in regional economic structures are assumed to be linked to globalisation, notably to reorganisation of production.” OECD (2007) Mechanism like “outsourcing and offshoring are the main globalisation drivers that changes the geography of production and processes” (OECD, 2007), with direct impact on regions and their economic structures.

**Radical innovation as response to disruptive factors** announces the need to shape a new growth model. Climate change, ageing & dramatic loss of biodiversity and waste creation that brings life over profit as importance are disruptive factors that acts in the same time. Under the simultaneous action of, some dangerous risk threshold could be passed and life is put at high risk. We name the new times as the **disruptive times**! Core is defined with the objective of increasing profit as the first priority. Periphery is defined as the life preserving as first priority. In consequence, when the life preserving is in danger periphery becomes the first priority. Periphery becomes the functional driver over the core, and then life overcomes profit, considering that profit in absence of life is worthless. Therefore, the life preserving is a part of the Conceptual Background in our case the Competition.

**Then, we add to the Competition (CB) is the driving force of the economy** - only while the life is not in danger. But, as Raagma (2003) said „even if the form changes, the economic concentration remains the same” but the relationship core-periphery is changing, shaping the new economic structures at local level, as well as the local labour markets.

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## Annex

### **The new Multiannual Financial Framework 2021-2027: A Modern Budget for a Union that Protects, Empowers and Defends:<sup>3</sup>**

#### **I. SINGLE MARKET, INNOVATION & DIGITAL**

##### 1 Research & Innovation

- Horizon Europe
- Euratom Research & Training Programme
- International Thermonuclear Experimental Reactor (ITER)

##### 2 European Strategic Investments

- InvestEU Fund
- Connecting Europe Facility
- Digital Europe Programme (including Cybersecurity)

##### 3 Single Market

- Single Market Programme (including Competitiveness and Small and Medium-Sized Enterprises - COSME, Food Safety, Statistics, Competition and Administrative Cooperation)
- EU Anti-Fraud Programme
- Cooperation in the Field of Taxation (FISCALIS)
- Cooperation in the Field of Customs (CUSTOMS)

##### 4 Space

- European Space Programme

#### **II. COHESION & VALUES**

##### 5 Regional Development & Cohesion

- European Regional Development Fund
- Cohesion Fund
- Support to the Turkish-Cypriot Community

##### 6 Economic & Monetary Union

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<sup>3</sup> Source: European Commission, 2018. A Modern Budget for a union that Protects, Empowers and Defends. The Multiannual Financial Framework for 2021 - 2027., {SWD(2018) 171 final}, Document no. 52018DC0321



- Reform Support Programme including the Reform Delivery Tool and the Convergence Facility
  - Protection of the Euro Against Counterfeiting
- 7 Investing in People, Social Cohesion & Values
- European Social Fund + (including Integration of Migrants and Health)
  - Erasmus+
  - European Solidarity Corps
  - Justice, Rights & Values
  - Creative Europe (including MEDIA)

### **III. NATURAL RESOURCES & ENVIRONMENT**

#### 8 Agriculture & Maritime Policy

- European Agricultural Guarantee Fund
- European Agricultural Fund for Rural Development
- European Maritime & Fisheries Fund

#### 9 Environment & Climate Action

- Programme for Environment & Climate Action (LIFE)

### **IV. MIGRATION & BORDER MANAGEMENT**

#### 10 Migration

- Asylum & Migration Fund

#### 11 Border Management

- Integrated Border Management Fund

### **V. SECURITY & DEFENCE**

#### 12 Security

- Internal Security Fund
- Nuclear Decommissioning (Lithuania)
- Nuclear Safety and Decommissioning (including for Bulgaria and Slovakia)

#### 13 Defence

- European Defence Fund
- Connecting Europe Facility – Military Mobility

#### 14 Crisis Response

- Union Civil Protection Mechanism (rescEU)

### **VI. NEIGHBOURHOOD & THE WORLD**

#### 15 External Action\*<sup>4</sup>

- Neighbourhood, Development and International Cooperation Instrument (including external aspects of migration)
- Humanitarian Aid
- Common Foreign & Security Policy
- Overseas Countries & Territories (including Greenland)

#### 16 Pre-Accession Assistance

- Pre-Accession Assistance

### **VII. EUROPEAN PUBLIC ADMINISTRATION**

#### 17 European Public Administration

- Administrative Expenditure, Pensions and European Schools

### **INSTRUMENTS OUTSIDE THE MFF CEILINGS**

- Emergency Aid Reserve
- EU Solidarity Fund
- European Globalisation Adjustment Fund
- Flexibility Instrument
- European Investment Stabilisation Function

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<sup>4</sup>The European Peace Facility is an off-budget fund outside the Financial Framework

# IS THE INCIDENCE OF ENVELOPE WAGES LESS PREVALENT IN MORE MODERNISED AND DEVELOPED COUNTRIES? AN EMPIRICAL ANALYSIS BASED ON EU28 MULTILEVEL APPROACH

Adriana AnaMaria DAVIDESCU<sup>1</sup>

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## Abstract

The paper aims to investigate the validity of modernisation thesis according to which the incidence of envelope wages is less prevalent in more developed and modernised countries, using the EU 28 member states and the multilevel modelling approach. In order to do that, a two-level logistic regression model in which the first level includes individuals' characteristics and the second one quantifies some proxies for modernisation thesis. While most studies provide evidence on the determinants of informality at the level of individual country or cross-country analysis, the present study has the advantage of analysing the prevalence of envelope wages using a special type of models controlling for both micro and macro information. The envelope wage is defined as a registered formal employment agreement, and an extra, undeclared "envelope wage," via a verbal unwritten agreement. In order to capture the incidence of envelope wages, the 2013 Special Euro barometer survey was used.

Empirical results revealed the total validity of the modernisation thesis, in countries with higher levels of economic development, higher qualities of government, a low level of corruption, a higher level of happy planet as well as a higher level of social progress, salary under-reporting is less prevalent. Also, a lower prevalence of envelope wages was proved to be associated with a higher tax morale.

**Keywords:** envelope wages, modernisation thesis, multilevel modelling, Euro barometer, EU28 member states.

## 1. Introduction

Wage work represents a formal agreement between the employer and the employee for the work done. Instead, undeclared wages represent a verbal agreement between the two parties involved (Horodnic 2016). According to Williams (2019) undeclared work/wage is known by many names: "envelope wages", "cash-in-hand", "shadow", "informal" etc. Most studies have shown that this verbal agreement is generally initiated by the employer to avoid paying taxes and social security contributions. Williams (2019 :137) explains why employers opt for this form of workers' compensation: "To evade payment of income, value-added or other taxes; To evade payment of social security contributions; To evade certain legal labour standards, such as minimum wages, maximum hours, safety standards". Williams (2013) considers that "enterprises sometimes involve a mixture of informal and formal employment", especially in Central and Eastern European Countries.

The informal sector has a great impact on both the labour force participation rate, and the employment rate, as those working in the informal sector appear to be inactive in the formal sector. For

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this reason, the percentage that shows us the participation rate/employment rate of the employees does not always match reality. Therefore, there are advantages and disadvantages to this form of work remuneration. The advantages, however, can be viewed in the short term and may lead to an increase of the level of wages for people in the informal sector. Consequently this should increase consumption which indirectly influences other sectors of activity, including the formal sector, etc. In contrast, the disadvantages of "envelope wages" consist of lost revenue for authorities, unfair competition among companies, workers with no welfare, sickness or accident insurance etc.

Williamson (2016, 2018) considers that the eradication of undeclared work through different mechanisms directly affects entrepreneurship, the business environment and implicitly the level of development of a country.

The main objective of this paper is to test the validity of modernisation thesis aiming to investigate if the envelope wages are less prevalent in more modernised and developed countries using a multilevel modelling approach. The phenomenon of envelope wages was analyzed in several studies at the level of EU/CEE countries (Williams 2008; Williams and Padmore ,2013; Williams ,2014; Horodnic, 2016).

In order to test the modernisation thesis grounded in an evidence-based approach based on envelope wage characteristics, a staged multi-level logistic regression model based on hierarchical data (individuals grouped in countries) has been employed having as source the data derived from 2013 Eurobarometer survey. Multilevel modelling reflects the between-group variability and the effects of group-level characteristics on the prevalence of envelope wages.

The modernisation theory argues that the likelihood of this type of undeclared work is less dominant in more developed and modernised economies (LaPorta and Shleifer 2014; Lewis, 1959; Williams and Horodnic, 2016; Williams, 2014). The main assumption of this theory is that: the likelihood of envelope wage is lower in more modernised developed economies. The paper is organized as follows. Section two presents a brief overview of the most relevant results in the literature regarding the envelope wage phenomenon, while section three was dedicated to the presentation of the data and methodology, highlighting the main method used in the analysis and also the main proxies for the modernisation thesis. The last section presents the most important empirical results ending with conclusions and discussions.

## **2. Theoretical background**

Traditionally, the terms formal and informal employment are different, from a social, geographical and temporal point of view. In contrast, practical economic and informal formalities are not necessarily distinct and can coexist (Bobek and Wickham, 2018). Informalization involves reducing employment costs and setting incomes below the minimum wage, leading to further erosion in formal-information divisions in some sectors (Bobek and Wickham, 2018).

Williams (2008) analyzed for the first time a common practice in the labour market in Central and East European economies, namely "envelope wages". In his study Williams showed that smaller companies offer a larger percentage of workers' wages in " envelope" compared to larger enterprises. Construction, household and personal services sectors, repair-services sector, transport sector, agricultural sector, hotel and restaurant sector, retail sector, manufacturing sector are sectors where we frequently encounter this form of workers' pay. Williams (2008) considers that "envelope wages, in short, prevails across all economic sectors". The conclusions of this study were also validated by the European Commission 2007; Pedersen 2003; Small Business Council 2004; Williams 2006. Among Central and Eastern Europe countries there are major differences regarding "envelope wages": Czech Republic, Slovenia, Slovakia, Hungary, and Estonia are countries with low portions of the labour force receiving envelope wages. At the other end, we find countries like Romania, Latvia, Bulgaria, Lithuania, and Poland.

Williams (2009) analyzed the incidence of envelope wages in the Baltic Sea region (Estonia, Latvia, Lithuania, Poland) using data from the 2007 Eurobarometer survey. In the Baltic Sea Region, “one in eight workers reported receiving envelope wages in the past 12 months”. The prevalence of envelope wages is different across the Baltic Sea region. Latvia (17% of all employees) and Estonia (8% of all employees) are at opposite’s poles. Lithuania (11% of all employees) and Poland (11% of all employees) sit between these two countries. Williams (2009) found out that workers in this region generally receive envelope wages along with official wages. On the contrary, Merikull and Staehr (2010), could not reach the same conclusion for the Baltic countries.

Analyzing the data from a survey in Bulgaria in 2013, William et al. (2014) indicated that in the process of analysing this phenomenon, the focus need to be on reducing the lack of alignment of formal and informal institutions.

Castells and Portes (1989, p.15) define the undeclared economy as the effort of “a specific form of income production” unregulated by the institutions of society in a legal and social environment in which similar activities are regulated”.

At EU level, undeclared work is defined as "any paid activities that are lawful as regards their nature but not declared to public authorities, taking account differences in the regulatory systems of the Member States"(European Commission, 2007a, p.1; OECD, 2012).

Analyzing informality in Sweden and Latvia, Likić-Brborić et al. (2013) pointed out that an increase in informalization of work and economy was a result of dual tendencies towards informalization both “from above” and “from below”. An important factor influencing this phenomenon is migration, especially in the post-EU enlargement period.

Onoshchenko analyzed informality at work in Ukraine, highlighting that informal activities are diverse in nature and are determined by a variety of reasons. No existing theory explains the informal economy in Ukraine, the solution being the adaptation of policies, removing barriers to formalization and stimulating activities in motion (Onoshchenko, 2012). Modernisation thesis reflects the development perspectives and social changes characterising the transition from traditional to modern societies (Harrison, 1991; Eisenstadt, 1987).

Collaboration at European level on undeclared work is partial and very limited. Therefore, a network needs to be developed to cover tax, social security and undeclared work issues, in order to exchange information, build capacity and operational cooperation not only on this issue. cross-border undeclared work, but also to combat undeclared work at national level (Williams and Nadin, 2012).

Formal employers often pay their formal employees, both with a declared salary and with an undeclared salary, called an envelope salary (Williams, 2010). Even if the rational economic decision would be for employers to pay envelope wages, many do not practice this, but voluntarily comply (Murphy, 2008).

The envelope salary contributes to evading tax and social security obligations. Using Eurobarometer data from 2007 and 2013, it was known that the prevalence of such a particular phenomenon is higher among men, young employees, individuals living in East-Central Europe and Southern Europe or manual workers.

The practice of additional remuneration is more common in countries with a lower level of economic development and less modernized state bureaucrats, fewer social transfers, social protection and labor market actions specially designed to offer protection to vulnerable groups as well as in countries with a high level of severe deprivation and inequalities (Kayaoglu and Williams, 2017).

An increased state morality and civic morality dropped the probability of entering in the unofficial sector for small enterprises (Williams and Horodnic, 2016). The decision of working in the unofficial sector could be attributed to the mismatch between the laws and regulations of the formal institutions as well as to the citizens perceptions regarding these institutions (Williams and Horodnic, 2015).

The higher prevalence of envelope wages is explained by competing theories that manifest themselves differently in each country, such as: a legacy of underdevelopment, also called the modernization thesis; as a result of high taxes, state corruption and overburden regulations as well as an inadequate state intervention in labor and assistance arrangements, leaves workers less fully protected. Using data from the 2013 survey on transnational variations in the incidence of envelope wages, the modernization theory have been supported by the empirical results, this practice being widely spread among poor people, less equal countries, with lower levels of taxation and social protection, and less efficient redistribution through social transfers (Williams, 2014). Other factors that lead to the prevalence of unregistered employment are the registration of low values of GDP per capita, social distribution and state intervention (subsidies and transfers, social contribution expenditures, health expenditures (Krasniqi, and Williams, 2018).

### 3. Data and Methodology

To evaluate the main determinants of envelope wage, the results of the 2013 Eurobarometer survey of 27563 employees in 28 European countries were used to evaluate the modernisation thesis, having a two-level hierarchical structure with individual respondents at level 1 and countries at level 2. In order to analyse the prevalence of envelope wages among citizens from EU countries, a sample of 11025 employed persons was used.

The research questions of our research are the following: What is the extent of between-country variation in the prevalence of envelope wages? Could between-country differences of this incidence be explained by differences between individual characteristics? Do individual-level variables have different effects in different countries? Does the incidence of envelope wage is smaller in more developed and modernised countries?

In order to test all these, the dependent variable have been build as the percentage of employees receiving envelope wages which is a binary variable coded by 1 for persons who answered ‘yes’ to the question QE10 of Eurobarometer questionnaire regarding if the employer paid the employee in the last year using this way of under-reproting salaries” and 0 otherwise.

As level 1-individual explanatory variables, there have been used the following variables:

- ✓ Gender: a dummy variable with value 0 for women and 1 for men;
- ✓ Age: a continuous variable indicating the exact age(mean centred);
- ✓ Education: a categorical variable with value 1 for 15 years old and under, value 2 for 16–19 years old and value 3 for 20 years old or over.
- ✓ Marital status: a categorical variable with value 1 for unmarried individuals, value 2 for(Re-)Married/Single with partner, value 3 for divorced or separated, value 4 widowed.
- ✓ Occupation of the employee: a categorical variable withvalue 1 for professional (employed doctor, lawyer, accountant, and architect), value 2 forgeneral management, director or top management (managing directors, director general,other director), value 3 for middle management, other management (department head,junior manager, teacher, technician), value 4 for employed position, working mainly at a desk, value 5 for employed position, not at a desk but travelling (salesmen, driver etc.), value6 for employed position, not at a desk, but in a service job (hospital, restaurant, police, fireman etc.), value 7 for supervisor, value 8 for skilled manual worker, and value 9 for other(unskilled) manual worker, servant.
- ✓ Difficulties paying bills: a categorical variable with value 1 for having difficulties most of the time, value 2 for occasionally and value 3 for almost never/never.
- ✓ Firm size: a categorical variable with value 1 for firms with one to four people, value2 for firms with five to nine people, value t3 for firms with ten to 19people, value 4 for firms with 20 to 49 people, value 5 for firms with50 to 99 people, value 6 for firms with 100 to 499 people and value 7for firms with 500 or more than 500 people.

- ✓ People 15 years in own household (household): a categorical variable with value 1 for one person, value 2 for two persons, value 3 for three persons and value 4 for four persons or more.
- ✓ Children: a categorical variable with value 1 for individuals with no children, value 2 for the presence of children less than 10 years old live in respondent's household, value 3 for the presence of children aged 10 to 14 years old and value 4 for the presence of children less than 10 years old and children aged 10 to 14 years old live in respondent's household.
- ✓ Area (area): a categorical variable with value 1 for rural area or village, value 2 for small or middle sized town and value 3 for large town.
- ✓ Region (region): a categorical variable with value 1 for East-Central Europe (Czech Republic, Poland, Slovenia, Estonia, Hungary, Slovak Rep., Romania, Lithuania, Bulgaria, Croatia, Latvia), value 2 for Western Europe (UK, Ireland, Germany, France, Belgium, Luxembourg, Austria, Netherlands), value 3 for Southern Europe (Malta, Cyprus, Italy, Portugal, Spain and Greece) and value 4 for Nordic Nations (Finland, Sweden and Denmark).
- ✓ Perceived risk of detection when engaging in undeclared work, with value 0 for a very small or fairly small risk and value 1 for a fairly high or very high risk.
- ✓ Expected sanctions: a dummy variable with value 1 for normal tax or social security contributions due, value 2 for normal tax or social security contributions due, plus a fine, and value 3 for prison.
- ✓ "Tax-morality index, index of their attitude towards tax non-compliance, presented in the question QE20 using a 10-point Likert scale (1 equals absolutely unacceptable and 10 equals absolutely acceptable). These are someone receives welfare payments without entitlement, a firm is hired by another firm and does not report earnings, a firm hires a private person and all or part of their salary is not declared, a firm is hired by a household and does not report earnings, someone evades taxes by not or only partially declaring income and a person hired by a household does not declare earnings when it should be declared. The tax morality index for each individual is calculated using the mean score across these six attitudinal questions. Lower values represent higher tax morale, and vice versa" (Williams and Horodnic, 2017, p.92; Williams and Horodnic, 2015a, p.230).

The source of all individual characteristics was the database of 2013 Eurobarometer survey data.

To evaluate the modernization thesis, the explanatory country level variables taken into consideration were the following:

- ✓ GDP per capita in purchasing power standards;
- ✓ European Quality of Government Index;
- ✓ Transparency International's Corruption Perceptions Index (CPI);
- ✓ Human Development Index (HDI);
- ✓ Happy Planet Index (HPI);
- ✓ Social Progress Index (SPI).

Definitions and data sources for all variables are provided in appendix A. All country level predictors were centred around its sample mean obtained from weighting scheme (across all individuals regardless of their country).

The GDP per capita at PPS is used as proxy for the level of economic development and the expected sign is a negative one, considering that if the level of economic development of a country is higher the propensity of participating in undeclared activities will decrease.

Higher scores for European Quality of Government Index imply higher quality of government and corresponding a smaller propensity to participate in undeclared work activities, so a negative sign is expected.

The higher of the CPI index, the less corrupt is the country and therefore the smaller the propensity to be involved in undeclared work activities.

The expected sign for Human Development Index (HDI) is negative, higher the level of human development of a country, smaller will be the participation in undeclared economy.

Happy Planet Index (HPI) is rated on a scale of 0 – 100 and the index is measured by giving higher scores to countries with lower ecological footprints. Higher scores of HPI, smaller propensity for undeclared work activities.

Social Progress Index (SPI) is rated on a scale of 0-100, higher scores of SPI revealing a smaller propensity of working in the unofficial sector.

Multiple imputation methods (through a system of chained equations) have been applied for social progress index for Luxembourg and Malta, based on a regression model of each partially observed variable on the others, creating ten imputations. For the imputation, we have used the predictive mean matching, involving that for each missing value first to find the predicted mean based on the fitted linear regression model based on the GDP per capita. The missing value is imputed by randomly choosing one of the observed values (of the variables being imputed) from those 2 subjects in the dataset who have the 2 closest predicted values to the predicted value for the subject for whom we are imputing).

In order to analyse between-country variation in envelope wages, in the first stage the appropriateness of the multi-level approach was tested by the estimation of a baseline random intercept model without any explanatory variables, the empty two level model with only an intercept and country effects (the null model) has the following specification:

$$\log\left(\frac{\pi_{ij}}{1-\pi_{ij}}\right) = \beta_0 + u_{0j} \quad (1)$$

The intercept  $\beta_0$  is shared by all countries, while the random effect  $u_{0j}$  is specific to county j and it follows a normal distribution with variance  $\sigma_{u_0}^2$ .

The second stage involved constructing a model with first-level (i.e. individual-level) characteristics in an attempt to understand their effects:

$$\log\left(\frac{\pi_{ij}}{1-\pi_{ij}}\right) = \beta_0 + \beta_1 \cdot X_{ij} + u_j, \quad (2)$$

At the second level, there will be added also the contextual factors to the model. In the third step, the logit random intercept model specification including both, individual level explanatory variables and their interactions, and country level explanatory variables, is the following [85]:

$$\log\left(\frac{\pi_{ij}}{1-\pi_{ij}}\right) = \beta_0 + \beta_1 \cdot X_{ij} + \beta_2 \cdot X_j + u_j, \quad (4)$$

where:  $\beta_0$  is the overall intercept,  $\beta_1$  is the cluster specific effect,  $\beta_2$  is the contextual effect,  $X_{ij}$  is the vector containing individual level explanatory variables and their interactions,  $X_j$  is the vector containing country level explanatory variables and  $u_j$  is the group (random) effect.

Given the fact that the country-level variables are strongly correlated, sequential models are applied to provide alternative perspectives on the modernisation thesis validation.

## 4. Empirical results

The percentage of formal employees across the EU-28 is almost 41.6% of the 27563 respondents, while 7.8% were self-employed and more than 50% were not working. Analysing the prevalence of those receiving envelope wages, we will analyse the total of 11025 respondents declaring to be formal employees. From these, only 3% admitted that they received envelope wages. Analysing the distribution of the prevalence of salary under-reporting across EU member states, Latvia (11.6%) and Romania (9.2%) have the highest proportion of those receiving envelope wages, while Germany, Finland and Sweden registered the lowest proportion for those receiving envelope wages.

Table 1. Incidence of Salary under-reporting by EU member state, 2013

Country/Region	% of employees receiving underreported salaries in prior year	Tax morality index of the formal employees
AT - Austria	2.1%	2.58
BE - Belgium	3.6%	2.65
BG - Bulgaria	6.9%	2.50
CY - Cyprus (Republic)	2.0%	1.51
CZ - Czech Republic	4.7%	3.12
DK - Denmark	1.6%	2.01
EE - Estonia	5.5%	2.86
ES - Spain	5.3%	2.01
FI - Finland	1.0%	1.86
FR - France	1.1%	2.12
GE - Germany	0.7%	2.22
GR - Greece	7.0%	1.97
Great Britain	2.2%	1.97
HR - Croatia	8.7%	2.18
HU - Hungary	6.1%	2.96
IE - Ireland	2.4%	2.55
IT - Italy	2.6%	2.47
LT - Lithuania	5.9%	3.14
LU - Luxembourg	2.9%	2.28
LV - Latvia	11.6%	3.94
MT - Malta	0.0%	1.82
NL - The Netherlands	2.6%	2.77
PL - Poland	5.4%	2.93
PT - Portugal	3.3%	2.52
RO - Romania	9.2%	2.27
SE - Sweden	1.3%	1.90
SI - Slovenia	4.4%	2.26
SK - Slovakia	7.6%	3.19
EU-28	3.8%	2.34

At the level of EU-28, salary under-reporting is considered to be most likely unacceptable. Analysing the variations in the tax morality across formal employees of EU countries, it is important to mention that countries such as Cyprus, Finland and Great Britain have highest tax morale, while Latvia, Slovakia, Lithuania, Czech Republic and Slovakia have the lowest tax morale.

The empirical results of Mann-Whitney test revealed that there is a highly statistically significant difference in the mean of tax morality of those admitting to receive envelope wages, revealing that the tax morality of those receiving envelope wages (3.17) is sensibly smaller compared with those not receiving such wages (2.29). Investigating the nature of the relationship between the prevalence of salary under-reporting and tax morality, the positive and statistically significant value of Spearman correlation coefficient (0.08) revealed that the countries with a high prevalence of salary under-reporting have also a lower tax morality.



Table 2. Expected sanctions, detection risk and tax morale by EU region

	EU	East-Central Europe	Nordic Nations	Southern Europe	Western Europe
Receiving envelope wages (%)	3%	6.5%	1.3%	3.8%	1.5%
Sanctions (%)					
Tax or social security contributions due	28.8%	36.7%	7.9%	25.8%	20%
Tax or social security contributions fine or prison	71.2%	63.3%	92.1%	74.2%	90%
Risk of detection (%)					
Small	54.3%	57.8%	89.5%	62.5%	37.1%
High	45.7%	42.2%	10.5%	37.5%	62.9%
Tax morale index(mean)	3.17	3.79	2.87	2.77	2.57
Not receiving envelope wages (%)	97%	93.5%	98.7%	96.2%	98.5%
Sanctions (%)					
Tax or social security contributions due	20.5%	31.3%	18.2%	22.1%	16.1%
Tax or social security contributions fine or prison	79.5%	68.7%	81.8%	77.9%	83.9%
Risk of detection (%)					
Small	56.8%	53.7%	73.7%	55.1%	57.1%
High	53.2%	46.3%	26.3%	44.9%	42.9%
Tax morale index(mean)	2.29	2.75	1.89	2.25	2.18

Regarding the proportion of employees receiving envelope wages, the differences across EU regions revealed the highest share in East and Central Europe (6.5%), compared with 4% for Southern Europe and almost 1.5% for Nordic Nations and Western Europe.

Given that East-Central Europe represent 22 per cent of the formal employees surveyed, and almost 45% of those admitted to receive envelope wages, this practice is heavily concentrated in this region.

Analysing the perceptions of those receiving envelope wages concerning the expected sanctions and detection risk it was revealed that people involved in such practices perceived the sanctions and the risk as being lower than those not receiving this kind of salary (28.8% of those receiving envelope wages consider that tax and social contributions will be due if caught compared with only 20.5% of those not receiving this kind of wages; regarding the risk of detection, 54.3% of those admitting to receive envelope wages consider the risk of detection to be rather small compared with 56.8% of those not involved in such activities. The tax morale (3.17) of those receiving envelope wages is smaller compared with those not involved in such activities (2.29). Also across EU regions, the results are quite similar; people receiving envelope wages tend to have a smaller risk of detection a lower level of expected sanctions and also a smaller level of tax morale compared with those not involved in such activities.

The empirical results of the null model proved that the multilevel is adequate, revealing that the log-odds of the employees' proportion receiving envelope wages in the last 12 months in an 'average' country is estimated to be  $\beta_0 = -3.39$ .

The between-country variance of the log-odds of receiving salary under-reporting in the last 12 months is estimated as 0.491 with a standard error of 0.168. The high value of Wald test revealed that there is a significant variation between countries in the prevalence of envelope wages.

Based on the value of between-country variance (0.491), the variance partition coefficient (VPC) was determined to be almost 13%, revealing that 13% of the envelope wage variance can be attributed to differences between countries.

Table 3 reports the results of random intercept models that only include individual-level variables for model I and also country level predictors for the validity of modernisation thesis (models II-VII).

The empirical results for the individual level variables pointed out that men are significantly more inclined to accept this type of payment compared with women and this fact is available also for younger employees, as well as those facing difficulties in paying the household bills and also less educated people. Regarding the business types and employee groups' impact on the decision of under-reporting salaries, smaller companies are more likely to underreport wages as well as unskilled and skilled manual workers and those travelling for their jobs.

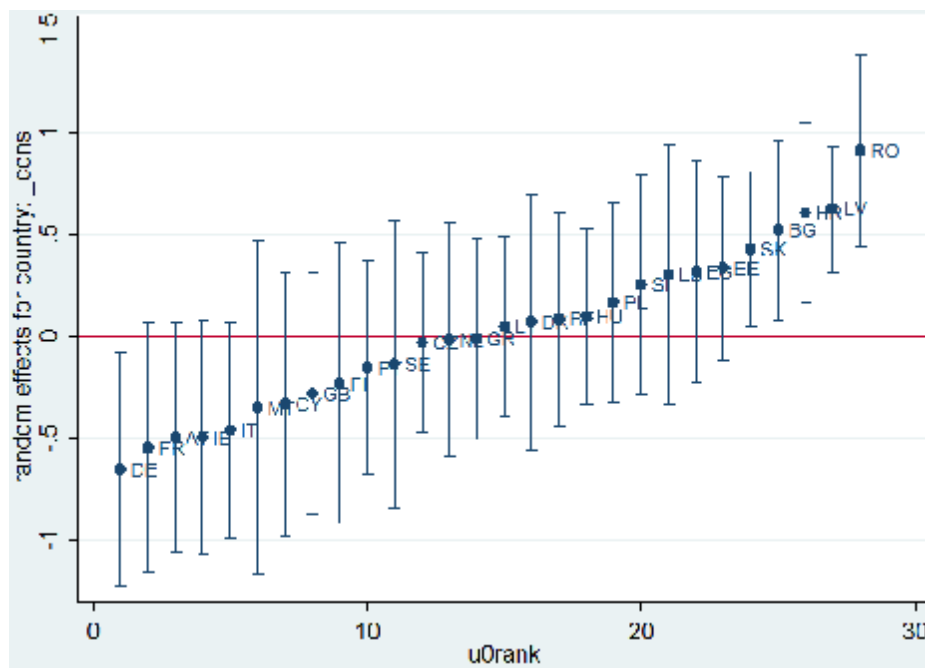
Analyzing how potential level of penalties could impact the prevalence of this practice, the empirical results infirmed any impact of the detection risk on the decision of under-reporting salaries. A higher level of perceived risk of detection do not exhibited any statistical impact on accepting this type pf payment.

However, a significant and relevant result have been obtained regarding the tax morality impact, employees with a lower tax morale are more likely to receive envelope wages. Thus, in tackling this type of practice, attitude towards compliance is fundamental.

Analyzing the results of the models MII-MVII, empirical findings pointed out that the socio-demographic characteristics preserved in all models. The association between tax morale and the incidence of envelope wage is strongly significant in all models. Figure 2 reports the residual level-2 country effects derived from the first model, proving the differences between countries.

Analysing the caterpillar plot, Germany, France and Austria are countries with the lowest probability of receiving envelope wages in the last 12 months (largest negative values of  $u_j$ ) for which the confidence intervals do not overlap with 0, indicating that they have significantly lower probability of under-reporting than the EU average. At the upper end, Croatia, Latvia and Romania are the countries with intervals that do not overlap with 0 with the highest response probability (largest positive values of  $u_j$ ), indicating a significantly higher probability of under-reporting compared with the EU-28 average.

Fig.1. Country-level effects taking into consideration individual-level variables (model I)



In order to test the modernization thesis and due to the fact that the country-level variables taken into analysis are strongly correlated (appendix A), six alternative models were estimated in order to provide alternative perspectives on the cross-national variations in the prevalence of under-reporting salaries. Analyzing the empirical results of all six alternative models, the statistical significance of individual characteristics obtained previously preserved also in all models, and also ***the modernization thesis was confirmed by all models.***

Furthermore, employees from countries with a lower level of development (lower level of GDP per capita) are more likely to accept receiving this type of money, the log odds of the incidence of such phenomenon decreases by 0.023 for a one unit increase in GDP per capita. In the third model, salary underreporting is higher among employees living in countries with lower qualities of government; a unit increase in the European Quality of Governance Index, the log odds of receiving envelope wages decreases by 0.38. The fourth model pointed out the influence of corruption perceptions on the propensity of salary under-reporting; a unit increase in the corruption perceptions index (representing a cleaner country) will decrease the log odds of receiving envelope wages decreases by 0.02.

The fifth model revealed that wage under-reporting is much higher in countries with higher level of development; a unit increase in the Human Development Index, the log odds of receiving envelope wages decreases by 10.31. The sixth model pointed out the impact of happy planet index on the decision of receiving envelope wages; a unit increase in HPI, the log odds of receiving envelope wages decreases by 0.04. The last model pointed out the influence of social progress index on the salary under-reporting; a unit increase in the SPI, will decrease the log odds of receiving envelope wages decreases by 0.07.

***Therefore, the empirical results strongly and significantly supported the validation of modernization thesis, stipulating thus that in countries with lower levels of economic development, lower qualities of government, a high level of corruption, a lower level of happy planet and a lower level of social progress, salary under-reporting is more prevalent.***

Table 3. Multilevel mixed-effects logistic regression of the prevalence of receiving envelope wages

	MODEL I		MODEL II		MODEL III		MODEL IV		MODEL V		MODEL VI		MODEL VII	
	$\beta$	$exp(\beta)^3$	$\beta$	$exp(\beta)$	$\beta$	$exp(\beta)$	$\beta$	$exp(\beta)$	$\beta$	$exp(\beta)$	$\beta$	$exp(\beta)$	$\beta$	$exp(\beta)$
<b>GENDER(FEMALE)</b>														
<b>MEN</b>	0.36***	1.43	0.36***	1.44	0.36***	1.44	0.36***	1.43	0.36***	1.44	0.36***	1.43	0.36***	1.43
<b>AGE(MEAN CENTRED:41)</b>	-0.02***	0.98	-0.02***	0.98	-0.0***	0.98	-0.02***	0.98	-0.02***	0.98	-0.02***	0.98	-0.02***	0.98
<b>AGE WHEN STOPPED EDUCATION(1-15)</b>														
<b>16-19</b>	0.45*	1.57	0.45*	1.57	0.45*	1.57	0.46*	1.59	0.51*	1.66	0.45*	1.56	0.42*	1.53
<b>20+</b>	0.14	1.15	0.16	1.17	0.18	1.20	0.19	1.21	0.24	1.27	0.14	1.15	0.15	1.16
<b>OCCUPATION (EMPLOYED POSITION, AT DESK)</b>														
<b>EMPLOYED PROFESSIONAL</b>	0.43	1.53	0.42	1.51	0.43	1.53	0.44	1.55	0.41	1.51	0.42	1.52	0.41	1.51
<b>GENERAL MANAGEMENT, DIRECTOR OR TOP MANAGEMENT</b>	0.07	1.08	0.09	1.09	0.12	1.13	0.11	1.12	0.09	1.10	0.05	1.05	0.11	1.12
<b>MIDDLE MANAGEMENT</b>	0.04	1.04	0.05	1.05	0.08	1.08	0.07	1.07	0.06	1.06	0.03	1.03	0.07	1.07
<b>EMPLOYED POSITION, TRAVELLING</b>	0.76***	2.14	0.76***	2.15	0.78***	2.19	0.78***	2.19	0.78***	2.17	0.75***	2.12	0.77***	2.17
<b>EMPLOYED POSITION, SERVICE JOB</b>	0.31	1.36	0.32	1.38	0.36	1.43	0.35	1.42	0.34	1.40	0.31	1.36	0.34	1.40
<b>SUPERVISOR</b>	0.62	1.86	0.63*	1.89	0.66*	1.94	0.66*	1.93	0.65*	1.92	0.63*	1.89	0.65*	1.91

<sup>3</sup>Odds ratio.

	MODEL I		MODEL II		MODEL III		MODEL IV		MODEL V		MODEL VI		MODEL VII	
	$\beta$	$exp(\beta)^3$	$\beta$	$exp(\beta)$	$\beta$	$exp(\beta)$	$\beta$	$exp(\beta)$	$\beta$	$exp(\beta)$	$\beta$	$exp(\beta)$	$\beta$	$exp(\beta)$
<b>SKILLED MANUAL WORKER</b>	0.69***	1.99	0.69***	2.00	0.72***	2.05	0.72***	2.05	0.70***	2.02	0.68***	1.98	0.70***	2.02
<b>UNSKILLED MANUAL WORKER</b>	0.69***	2.00	0.71***	2.04	0.75***	2.12	0.75***	2.11	0.74***	2.10	0.68***	1.97	0.73***	2.08
<b>COMPANY SIZE (1-4 EMPLOYEES)</b>														
<b>5-9</b>	-0.21	0.81	-0.20	0.81	-0.20	0.82	-0.20	0.82	-0.22	0.80	-0.21	0.81	-0.21	0.81
<b>10-19</b>	-0.27	0.76	-0.27	0.76	-0.26	0.77	-0.26	0.77	-0.29	0.75	-0.28	0.75	-0.28	0.76
<b>20-49</b>	-0.61***	0.54	-0.60***	0.55	-0.60***	0.55	-0.60***	0.55	-0.62***	0.54	-0.61***	0.54	-0.62***	0.54
<b>50-99</b>	-1.07***	0.34	-1.07***	0.34	-1.06***	0.35	-1.06***	0.35	-1.07***	0.34	-1.08***	0.34	-1.07***	0.34
<b>100-499</b>	-1.20***	0.30	-1.18***	0.31	-1.16***	0.31	-1.17***	0.31	-1.17***	0.31	-1.21***	0.30	-1.17***	0.31
<b>500 OR MORE</b>	-1.50***	0.22	-1.46***	0.23	-1.42***	0.24	-1.44***	0.24	-1.42***	0.24	-1.49***	0.22	-1.43***	0.24
<b>DIFFICULTIES PAYING BILLS(ALMOST NEVER)</b>														
<b>MOST OF THE TIME FROM TIME TO TIME</b>	1.18***	3.26	1.14***	3.13	1.09***	2.96	1.11***	3.04	1.08***	2.94	1.17***	3.21	1.08***	2.94
	0.53***	1.70	0.51***	1.66	0.47***	1.59	0.48***	1.62	0.46***	1.58	0.52***	1.68	0.47***	1.59
<b>DETECTION RISK(SMALL) HIGH</b>														
	-0.06	0.94	-0.06	0.94	-0.07	0.93	-0.06	0.94	-0.07	0.93	-0.07	0.94	-0.07	0.93
<b>TAX MORALITY (MEAN CENTRED:2.34)</b>														
	0.28***	1.32	0.28***	1.32	0.28***	1.32	0.28***	1.32	0.28***	1.32	0.27***	1.32	0.28***	1.32
<b>CONSTANT</b>	-4.17***	0.015	-4.20***	0.014	-4.24***	0.014	-4.26	0.014	-4.37***	0.012	-4.16***	0.014	-4.24***	0.014
<b>GDP PER CAPITA(PPS)</b>			-0.023**	0.97										

	MODEL I		MODEL II		MODEL III		MODEL IV		MODEL V		MODEL VI		MODEL VII	
	$\beta$	$exp(\beta)^3$	$\beta$	$exp(\beta)$	$\beta$	$exp(\beta)$	$\beta$	$exp(\beta)$	$\beta$	$exp(\beta)$	$\beta$	$exp(\beta)$	$\beta$	$exp(\beta)$
EUROPEAN QUALITY OF GOVERNMENT INDEX (EQI)					-0.38***	0.682								
CORRUPTION PERCEPTION INDEX (CPI)							-0.02***	0.98						
HDI									-10.31***	0.00				
HAPPY PLANET INDEX (HPI)											-0.043***	0.96		
SOCIAL PROGRESS INDEX (SPI)													-0.072***	0.93
OBSERVATIONS	8994		8994		8994		8994		8994		8994		8994	
NO. OF GROUPS	28		28		28		28		28		28		28	
LOG LIKELIHOOD	-1231.80		-1229.71		-1226.16		-1228.56		-1223.73		-1229.57		-1224.98	
WALD CHI2	313.8***		322.28***		334.2***		324.2***		352.8***		320.41***		341.41***	
<b>RANDOM PART IDENTITY: COUNTRY</b>														
VARIANCE (CONSTANT) (INTERCEPT VARIANCE) (STANDARD ERROR)	0.234		0.151		0.097		0.147		0.046		0.185		0.072	
VARIANCE AT COUNTRY LEVEL <sup>4</sup> (%)	6.64%		4.38%		2.86%		4.27%		1.37%		5.31%		2.14%	
LR TEST	30.33 ***		8.45***		7.70***		15.14***		1.74 *		18.64***		3.96**	

Note: All coefficients are compared to the benchmark category, shown in brackets. All country level indicators were centred to the mean obtained using weighting scheme<sup>5</sup>. \*\*\* $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$ .

<sup>4</sup>Variance partition coefficient: measures the proportion of the total residual variance that is due to between-group variation.

<sup>5</sup>For the sample of 11025 respondents.

## 5. Conclusions

The informal sector has a great impact on both the labour force participation rate, and the employment rate, as those working in the informal sector appear to be inactive in the formal sector. For this reason, the percentage that shows us the participation rate/employment rate of the employees does not always match reality. Therefore, there are advantages and disadvantages to this form of work remuneration. The advantages, however, can be viewed in the short term and may lead to an increase of the level of wages for people in the informal sector. Consequently this should increase consumption which indirectly influences other sectors of activity, including the formal sector, etc. In contrast, the disadvantages of "envelope wages" consist of lost revenue for authorities, unfair competition among companies, workers with no welfare, sickness or accident insurance etc.

The paper aimed to investigate the validity of modernisation thesis according to which the incidence of envelope wages is less prevalent in more developed and modernised countries, using the EU 28 member states and the multilevel modelling approach. In order to do that, a two-level logistic regression model in which the first level includes individuals' characteristics and the second one quantifies some proxies for modernisation thesis.

While most studies provide evidence on the determinants of informality at the level of individual country or cross-country analysis, the present study has the advantage of analysing the prevalence of envelope wages using a special type of models controlling for both micro and macro information.

The envelope wage was defined as a registered formal employment agreement, and an extra, undeclared "envelope wage," via a verbal unwritten agreement.

In order to capture the incidence of envelope wages, the 2013 Special Eurobarometer survey was used.

*The empirical results strongly and significantly supported the validity of the modernisation thesis, highlighting that in countries with higher levels of economic development, higher qualities of government, a low level of corruption, a higher level of happy planet as well as a higher level of social progress, salary under-reporting is less prevalent. Also, a lower prevalence of envelope wages was proved to be associated with a higher tax morale.*

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# Labor Market Developments in the Romanian Regions after the Accession to the European Union: Employment, Wages, Structural Shifts<sup>1</sup>

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## Abstract

Access to adequate workforce, in numbers and in skills, is a continuous hot issue for all businesses, no matter if they are large or small, long-time established or startups, from urban or rural areas, as well as for all types of economies in terms of territorial aggregation. The adequate and timely matching of labor demand and labor supply in the labor market is never very smooth; one may always find time and spatial delays in the national, regional and local economies.

The paper presents, a brief, sectoral analysis of the key developments of labor market in the Romanian regions during the post-accession-post-crisis period, regarding the evolutions of employment, of wages and labor market structure. The results reveal different types of evolution on the Romanian labor market, occurred both sectorally and regionally after the country's accession to the EU: endurance (quasi-maintenance of a previously established dynamic equilibrium), break (shift towards a new dynamic equilibrium, either after accommodating a shock or not), and also distinctiveness (peculiar evolutions in a certain region as compared to the other regions). Such developments would necessarily involve the thorough and careful attention of the national and/or territorial policy makers and government authorities when nationally and/or territorially implementing the EU legislation in different areas of economic and social interest and when drawing up and applying the nationally-planned and regional/local policies.

**Keywords:** labor market, Romanian regions, employment, wages, sectoral shifts, regional policy

**JEL Classification:** J21, R11, R12

## Introduction and methodological issues

One of the primary goals of EU integration and, especially, of integration of Romania into the EU structures, is the *economic and social convergence* (European Commission 2010), mainly quantified through the *regional income per capita* (but also through other significant socio-economic indicators, such as employment, labor productivity, etc.– see, for instance, Tselios 2009; Miron, Tatomir and Alexe, 2013;

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Iordan, Ghizdeanu and Tapu, 2014; Chilian *et al.*, 2016, Iordan&Chilian, 2017c). The *theories of convergence and divergence* usually analyze the reasons behind the trends of diminishing or increasing the disparities between the rich and the poor regions, explaining the causes of persistent gaps. In particular, the *real convergence* studies deal with the long-term economic growth and with economic development and its factors, especially the dynamics of economic sectors with high economic and social impacts, as well as the supporting/unsupporting institutions and economic mechanisms (market structure, income distribution - Iordan&Chilian, 2017d).

Overall, the results of empirical studies on convergence in the EU provide mixed evidence (see Landesmann and Romisch, 2006; Ezcurra *et al.*, 2007; Jozwik and Ponikowski, 2014; Dobrinsky and Havlik, 2014). Some studies have generally revealed convergence of the EU member states and/or their regions, but the *pattern* and *speed of convergence* differ sharply across time intervals and regional groups (including periods of divergence or unclear evolutionary paths), such as the EU15 countries and the New Member States, and regions within these groups of countries. When examining convergence, the *impact of the latest financial crisis* upon particular countries was highly *uneven*, the pre-crisis convergence trends of the NMS continuing during and after the crisis, while the periphery countries of the EU15 diverged remarkably during these periods (Petraikos and Artelaris, 2009, 2014).

As regards Romania, key findings of different studies showed that, generally, in the pre-accession period a process of economic convergence was registered, while in the post-accession period a divergence/economic differentiation process was noticed, and growth in the inter and intra-regional disparities, deepened by the economic and financial crisis. However, during crisis Romania was among the few countries which have improved the real convergence as compared to the EU average (Iordan, Ghizdeanu and Tapu, 2014; Iordan&Chilian, 2017d).

Though it has deserved less attention, the *structural convergence/convergence of economic structures* is also important for the built up and functioning of the single economic and monetary area and for the development of the Member States and their regions. Studies have generally found a significant relationship between structural convergence and income (real) convergence, though assessments of the strength and direction of such a connection vary. Empirical studies revealed different trends in the European industries, overall, such as the increase in regional industrial concentration of both declining traditional industries and the fast-growing new and/or advanced sectors, or the increase in regional specialization, especially in manufacturing.

In the case of the NMS, a *split performance* between the Capital regions and the regions bordering the EU (regions with a mix of positive, structural and geographical initial conditions and market dynamics), and the other regions (with partially or totally collapsed industrial bases, sharp declining local demand and severely restricted efforts and policies directed at home-based growth) was revealed by some studies. The patterns of structural change looked very different in the NMS, both across periods and individual European countries, the structural changes being more distinct for *employment* than for *output* (implying large shifts in productivity), with wide-ranging shifts from agriculture and industry towards services (Havlik, 2014, Iordan&Chilian, 2017c).

Romania was one of the NMS that experienced noteworthy structural changes. The results of empirical studies generally show a *relative alignment of real convergence and structural convergence* within the national economy, but also important differences between counties due to the composition of sectoral structure (Miron, Tatomir and Alexe, 2013; Ghizdeanu *et al.*, 2015; Iordan and Chilian, 2015).

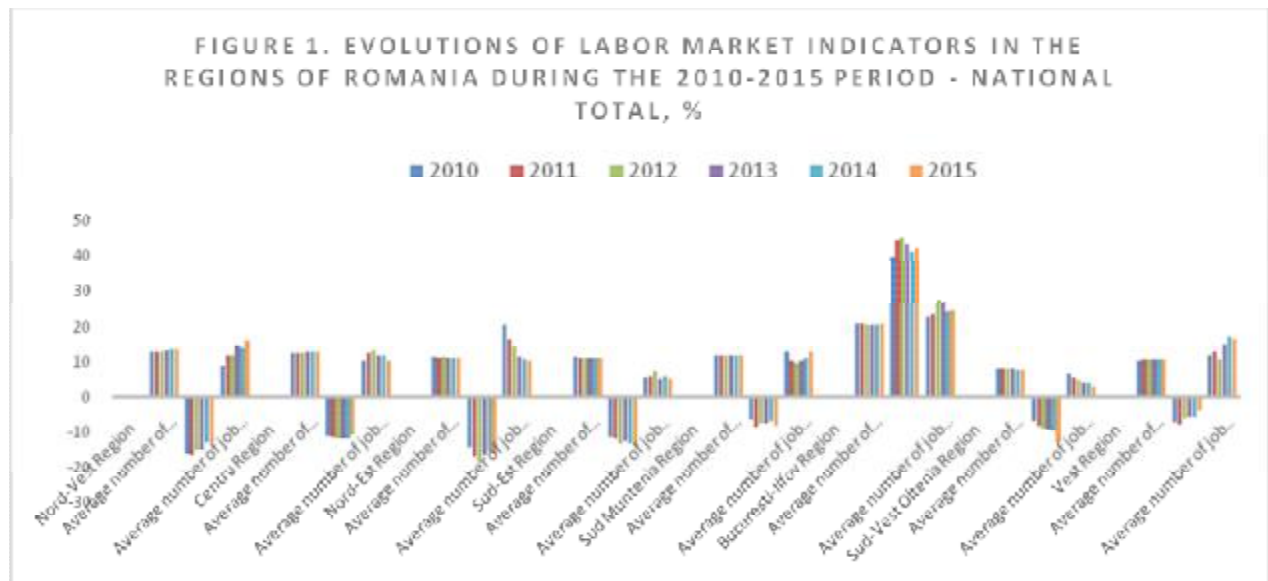
With very few exceptions, only the counties with higher levels of development recorded progresses in the post-accession period, both in terms of real convergence and the structural convergence. Also, some counties with higher development levels recorded a faster real convergence, but a slower structural convergence, which could indicate either specific geographic-economic peculiarities or the presence of sectoral structural rigidities.

In order to achieve real and/or structural convergence the *labor market* plays a key part and the overall, sectoral and territorial rigidities and frictions have different impacts on the convergence processes (Jordan&Chilian, 2017a, 2017b). Moreover, access to workforce with adequate skill level is a current and burning issue for all the public and private economic agents, irrespective of size, location and stage of business life cycle. However, the mechanisms of matching the labor demand with the labor supply do not work smoothly, but with time and spatial gaps in any national and regional/local economy even when they function properly.

Considering the above-mentioned issues, the paper presents a condensed analysis of the developments occurred during the post-accession-post-crisis period (2010-2015) on the *regional labor markets of Romania*. The analysis is carried out by the *main sectors of economic activity* for which relevant data was available from the national statistics, as follows: A. Agriculture, forestry and fishing, B. Mining and quarrying, C. Manufacturing, D. Production and distribution of electric and thermal power, natural gas, hot water and air conditioning, E. Water distribution, sanitation, waste management and decontamination activities, F. Constructions, G. Wholesale and retail trade, repairing of auto vehicles and motorcycles, H. Transport and storage, I. Hotels and restaurants, J. Information and communications, K. Finance and insurance activities, L. Real estate, M. Professional, scientific and technical activities, N. Administrative and support service activities, O. Public administration and defense, public social welfare activities, P. Education, Q. Health and social assistance, R. Entertainment, cultural and recreational activities, S. Other service activities. The data refer to the number of employees, average monthly net wages and number of job vacancies. Due to paper size limitations, we present only some synthesis results at the level of regions, by using the following indicators: *i) average number of employees – share in national and sector total, %, ii) average net monthly wage – percentage regional difference towards the national and sector total, %, and iii) number of job vacancies - share in national and sector total, %*.

## Results

The *shares of regions in the average number of employees* did not vary sharply during the 2010-2015 period, but the trends differed in the regions: overall increase in Nord-Vest, Centru, and Vest, overall decline in Sud-Est, Nord-Est, Sud Muntenia and Sud-Vest Oltenia and up-and-down lower oscillations around a relatively stable share in Bucuresti-Ilfov (Figure 1).



Source: Authors' computations based on Tempo-online data.

The level of *average monthly net wage* was clearly determined during the analyzed period by the wage level in the Bucuresti-Ilfov Region, which registered the single positive (high and relatively increasing) gap towards the national overall level. All the other regions registered negative gaps, with the highest in the Nord-Est Region and the lowest in the Vest Region, but with different trends: clearly declining in the Nord-Vest and Vest regions, clearly rising in the Sud-Est and Sud-Vest Oltenia regions, and oscillating in the other regions. During the same period, the highest share in the *total number of job vacancies* was registered by the Bucuresti-Ilfov Region, but it was declining towards the end of the analyzed interval, while the shares of some Nord-Vest and Vest regions increased significantly, signaling probably faster labor market and structural developments. At the same time, the share of the Nord-Est Region has declined sharply, that of the Sud-Vest Oltenia Region has declined less pronounced, while the shares of the Centru, Sud-Est and Sud-Muntenia regions oscillated around a quite constant trend.

Breaking down the analysis by *sectors of economic activity* and the same indicators<sup>4</sup>, the regional differences increase significantly, coupled also with higher sectoral differences. However, by sectors, very high shares (exceeding 20%) of regions in *total average number of employees* (signaling regional and sectoral concentration) were registered in the 2010-2015 period by only few regions, as follows:

- **Sud Muntenia Region**- declining trend over the period in *Agriculture, forestry and fishing*,
- **Sud-Vest Oltenia Region**- declining trend over the period in *Mining and quarrying*, and significantly ascending trend over the period in *Production and distribution of electric and thermal power, natural gas, hot water and air conditioning*,
- **Bucuresti-Ilfov Region**, as follows:
  - significantly declining trend over the period in *Constructions*,
  - generally declining trend over the period in *Wholesale and retail trade, repairing of auto vehicles and motorcycles*,
  - generally declining trend over the period in *Transport and storage*,

<sup>4</sup>Due to paper size limitations, these results were not included and are available upon request.

- oscillatory ascending trend over the period in *Hotels and restaurants*,
- significantly descending trend over the period in *Information and communications* (but still exceeding 52%!),
- significantly ascending trend over the period in *Finance and insurance activities* (exceeding 45%),
- oscillatory ascending trend over the period in *Real estate* (exceeding 27%),
- oscillatory descending trend over the period in *Professional, scientific and technical activities* (still exceeding 46%),
- oscillatory descending trend over the period in *Administrative and support service activities* (still exceeding 36%),
- ascending trend over the period in *Public administration and defense, public social welfare activities*,
- oscillatory descending trend over the period in *Entertainment, cultural and recreational activities* (exceeding 27%),
- oscillatory trend over the period in *Other service activities* (exceeding 26%).

During the same period, very high **positive wage gaps as compared to total sector average** (over 30%, signaling the *likely concentration of high-income generating sectors and/or higher labor demand, but also regional labor market peculiarities*) were registered only by the **Bucuresti-Ilfov Region** in the cases of *Agriculture, forestry and fishing* (highly, but oscillatory ascending over the 2010-2015 period), *Mining and quarrying* (highly and very oscillatory ascending over the 2010-2015 period, up to double the sector total average!), *Wholesale and retail trade, repairing of auto vehicles and motorcycles* (highly and oscillatory descending over the 2010-2015 period), *Hotels and restaurants* (oscillatory descending over the 2010-2015 period), *Finance and insurance activities* (oscillatory descending over the 2010-2015 period), *Real estate* (oscillatory descending over the 2010-2015 period), *Public administration and defense, public social welfare activities* (highly oscillating over the 2010-2015 period), and *Transport and storage* (ascending over the 2010-2015 period).

At the same time, very high **negative wage gaps as compared to total sector average** (over -20%, signaling the *likely concentration of low-income generating sectors and/or lower labor demand, but also regional labor market peculiarities*) were registered during the 2010-2015 period, with very different regional trends, by the following regions:

- **Nord-Vest** - upward trend during the period in *Mining and quarrying*, highly downward trend during period in *Information and communications*, oscillatory downward trend during the period in *Finance and insurance activities*, oscillatory downward trends during the period in *Professional, scientific and technical activities*, upward trend during the period in *Transport and storage*,

- **Centru** - oscillatory trend during the period in *Wholesale and retail trade, repairing of auto vehicles and motorcycles*, oscillatory trend during the period in *Information and communications*, upward trend during the period in *Finance and insurance activities*, oscillatory upward trends during the period in *Professional, scientific and technical activities*,

- **Sud-Est** - oscillatory trend during the period in *Wholesale and retail trade, repairing of auto vehicles and motorcycles*, upward trend during the period in *Information and communications*, upward trend during the period in *Finance and insurance activities*, oscillatory downward trends during the period in *Professional, scientific and technical activities*, oscillatory trend during the period in *Administrative and support service activities*,

- **Nord-Est** - oscillatory trend during the period in *Information and communications*, upward trend during the period in *Finance and insurance activities*, oscillatory downward trend during the period in

*Real estate*, oscillatory downward trends during the period in *Professional, scientific and technical activities*, upward trends during the period in *Transport and storage*,

- **Sud Muntenia** - oscillatory trend during the period in the case of *Information and communications*, upward trend during the period in *Finance and insurance activities*, oscillatory trend during the period in *Administrative and support service activities*,

- **Sud-Vest Oltenia** - upward trends during the period in *Information and communications*, and *Finance and insurance activities*, oscillatory upward trend during the period in *Real estate*, oscillatory downward trends during the period in *Professional, scientific and technical activities*, oscillatory trend during the period in *Administrative and support service activities*

- **Vest** - upward trend during the period in *Finance and insurance activities*, oscillatory downward trend during the period in *Real estate*, oscillatory upward trends during the period in *Professional, scientific and technical activities*.

The highest regional, sectoral and intra-period variability might be noticed in the case of **average number of job vacancies**, revealing quite significant peculiarities of regional and/or sectoral labor market, coupled with fast changing regional and/or sectoral economic circumstances. High shares (over 20%, signaling *increased concentration of sectoral labor demand and likely favorable circumstances*) in the total average number of job vacancies were registered by the regions:

- Nord-Est (highly oscillating during the 2010-2015 period), Bucuresti-Ilfov (highly increasing during the 2010-2015 period) and Vest (highly declining during the 2010-2015 period) in the case of *Agriculture, forestry and fishing*,

- Centru (highly oscillating during the 2010-2015 period) in the case of *Mining and quarrying*,

- Vest (increasing during the 2010-2015 period) in the case of *Manufacturing*,

- Nord-Vest (very highly oscillating but increasing during the 2010-2015 period) and Sud Muntenia (very highly declining during the 2010-2015 period) in the case of *Production and distribution of electric and thermal power, natural gas, hot water and air conditioning*,

- Bucuresti-Ilfov (highly oscillatory increasing during the 2010-2015 period) in the case of *Water distribution, sanitation, waste management and decontamination activities*,

- Nord-Vest (highly increasing during the 2010-2015 period) and Nord-Est (significantly declining during the 2010-2015 period) in the case of *Constructions*,

- Bucuresti-Ilfov (oscillatory increasing during the 2010-2015 period) in the case of *Wholesale and retail trade, repairing of auto vehicles and motorcycles*,

- Bucuresti-Ilfov (highly increasing during the 2010-2015 period) and Vest oscillatory declining during the 2010-2015 period) in the case of *Transport and storage*,

- Bucuresti-Ilfov (highly oscillatory decreasing during the 2010-2015 period) in the case of *Hotels and restaurants*,

- Nord-Vest (highly oscillatory and declining during the 2010-2015 period) and Bucuresti-Ilfov (highly declining during the 2010-2015 period, but still exceeding 55%) in the case of *Information and communications*,

- Bucuresti-Ilfov (highly oscillating during the 2010-2015 period, but still exceeding 39%) in the case of *Finance and insurance activities*,

- Sud-Est (highly oscillating and declining during the 2010-2015 period) and Bucuresti-Ilfov (oscillating during the 2010-2015 period) in the case of *Real estate*,

- Bucuresti-Ilfov (highly decreasing during the 2010-2015 period) in the case of *Professional, scientific and technical activities*,

- Bucuresti-Ilfov (oscillating during the 2010-2015 period) in the case of *Administrative and support service activities*,
- Bucuresti-Ilfov (highly oscillatory but declining during the 2010-2015 period, still exceeding 37%) in the case of *Public administration and defense, public social welfare activities*,
- Centru and Nord-Est (both highly declining during the 2010-2015 period) and Vest (highly increasing during the 2010-2015 period) in the case of *Education*,
- Nord-Est (very highly declining during the 2010-2015 period) and Bucuresti-Ilfov (increasing during the 2010-2015 period) in the case of *Health and social assistance*,
- Bucuresti-Ilfov (significantly increasing during the 2010-2015 period) in the case of *Entertainment, cultural and recreational activities*,
- Nord-Vest (very highly increasing during the 2010-2015 period) and Bucuresti-Ilfov (very highly declining during the 2010-2015 period) in the case of *Other service activities*.

## Conclusions

Against the background of *relatively low changes in the shares of Romanian regions in the total average number of employees* during the post-accession-post-crisis period, *relatively positive-divergent developments* of the gaps towards the national levels in the case of *total average net wage* and of the shares of regions in *total number of job vacancies* in some of the regions with negative wage gaps (Nord-Vest, Vest) may be noticed, as well as *relatively negative-divergent developments* (in Sud-Vest Oltenia Region) and *negative-parallel developments* (in the Nord-Est Region). In the case of the single Romanian region (Bucuresti-Ilfov) which has registered *positive wage gaps*, the evolutions of the above-mentioned indicators are *positive-convergent*, while in the rest of the regions the evolutions of the analyzed indicators were oscillatory. Such findings point towards a relatively higher dynamism of the labor markets of the more developed regions (București-Ilfov, Nord-Vest, Vest), especially on the *labor demand side*.

By the *main sectors of economic activity*, one may notice a high regional variety in the labor markets conditions and situations reflected by the analyzed indicators, characterized both by increases and declines in the *gaps towards the national levels regarding the average net wage*, coupled with increases and/or decreases in the *shares of regions in total number of job vacancies*. Also, in the case of some main economic sectors one may notice both increases and decreases in the *shares of some regions in total number of employees of the sector* (Manufacturing, Constructions, Hotels and restaurants, Information and communications, Transport and storage, Education, Health and social assistance). Beside the already-mentioned *overall dynamism of labor market* in certain regions, a *sectoral dynamism* is also revealed, coupled or not with the regional dynamism, both in the case of more and of less developed regions. The reverse situation is also noticeable, both in the case of more developed and less developed regions, sectoral rigidities coupled or not with the regional labor market rigidities being revealed.

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# POVERTY AND RURAL POVERTY –STRONG AND PERSISTENT SOCIAL STIGMA OF ROMANIAN SOCIETY

Cristina Stroe<sup>1</sup>

## Abstract

In recent years, poverty has become quite important, affecting a large contingent of population and households, which also involves a sustained effort by the state, through specific forms of protection and social assistance.

There are more and more strong signals to reduce poverty and social exclusion among vulnerable groups, and this starts with knowledge and continuous analysis of the structure of these contingents; main causes and factors that generate and multiply poverty; and identification, implementation and subsequent evaluation and monitoring of appropriate solutions to improve social protection / social assistance systems, that intensify the reduction of poverty and its severe and extreme forms. These actions would lead to the promotion of social inclusion, ensuring equal opportunities for all, but also social solidarity. All these actions and efforts should respond more pronounced and more effectively to current economic and social challenges in line with the dynamics of the social environment. This dynamic has multiplied the tensions faced by social protection / social assistance systems, thus multiplying the need for adequate, coherent, efficient and effective social programs to enhance the poverty alleviation.

In the paper, dynamic analyses will focus on the evolution of poverty and rural poverty over a long period of time, 2007-2019, without detailing them in their multitude of sizes and structures, but only to provide an image of the trend of these phenomena that affect the population, both at national level and especially in rural area. Highlighting this trend and knowing the current situation lead to appropriate decisions in providing adequate support to people and groups vulnerable to these social risks.

**Keywords:** disparities, dynamics, indicators, poverty, rural poverty

## Introduction

The priority objectives in the field of poverty and social exclusion reduction, respectively of increasing social and occupational inclusion are presented in national strategic documents such as: National Reform Program 2017-2020, Government Program, National Strategy on Social Inclusion and Poverty Reduction 2015-2020, Strategy of Rural Development 2014-2020, Sustainable Development Strategy 2013-2020-2030, and so on - all of them also having the rural area as a central priority axis of support and development.

In all these strategic documents, concerns for reducing poverty and social exclusion are highlighted, which continue to be major national strategic objectives, as a result of the increased incidence of poverty affecting a large part of the population, especially in rural area.

According to the Substantiation Note for the approval of the National Strategy on Social Inclusion and Poverty Reduction for the period 2015-2020, at the level of 2012, poverty was 3 times more widespread in rural areas compared to urban ones, while poverty affects 1 in 3 children, and in rural areas 1 in 2 children face poverty. All these aspects suggest that people in rural areas, people with a low level of education, and children in these areas face high risks of poverty, material deprivation and social exclusion. Even if the risk of poverty and social exclusion among children and young people under 18 is declining, e.g. from 52.5% in 2012 to 35.8% in 2019, these incidences remain high. Children and young people are the most affected by this social risk which, therefore, manifests itself and persists with the same increased intensity even at the present time.

At the level of the total population, according to Eurostat data, in 2019, over 31% of Romania's population was exposed to the risk of poverty and social exclusion (over 6 million people),

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while in rural area there were 44.3% (over 3.78 million people); in towns and suburbs, the percentage reached almost 28% (almost 1.5 million people); in cities, poverty affects 14.5% of the population in 2019.

Moreover, in the Romania - European Semester Report 2018, as well as in the National Strategy for promoting social inclusion and poverty reduction for the period 2015-2020, the main categories with increased risk of poverty and social exclusion are stated among young people, families with children, Roma population, people with disabilities, the rural population and the inactive persons, and so on—important groups that are constantly facing poverty and its extreme and severe forms (material deprivation, marginalisation and social exclusion).

Therefore, even if at certain level of poverty or poverty and social exclusion indicators, the trend is slightly declining, the incidence of poverty remains high. Therefore, these population groups become vulnerable, the risk of poverty increase and they will place in the social protection / assistance network.

### ***Some indicators regarding the risk of poverty***

In the context of the open method of coordination, a common system of indicators for social inclusion, known as Laeken indicators, has been built for the comparative evaluation of the results of anti-poverty policies in the Member States of the European Union.

The common system of indicators comprises a series of indicators, in multiple structures and dimensions, and countries have had to quantify common indicators in dynamics, in order to ensure international comparability.

From the list of these numerous indicators in the paper it will be used only the indicator on the poverty rate calculated at the threshold of 60% of the median income after social transfers (at risk of poverty rate) - the major indicator of the Europe 2020 Strategy, Poverty and social exclusion Area. This indicator will continue to be considered in some of its multiple existing structures, and analyses will be carried out during the period 2007-2019, in order to follow these poverty evolutions.

#### ***1. At risk of o poverty***

At-risk-of-poverty rate considers only the strictly material dimension, referring to the proportion of people with an equivalent disposable income, after social transfers, below the at-risk-of-poverty threshold, which is usually set at 60% of the national median disposable income per equivalent adult, after social transfers.

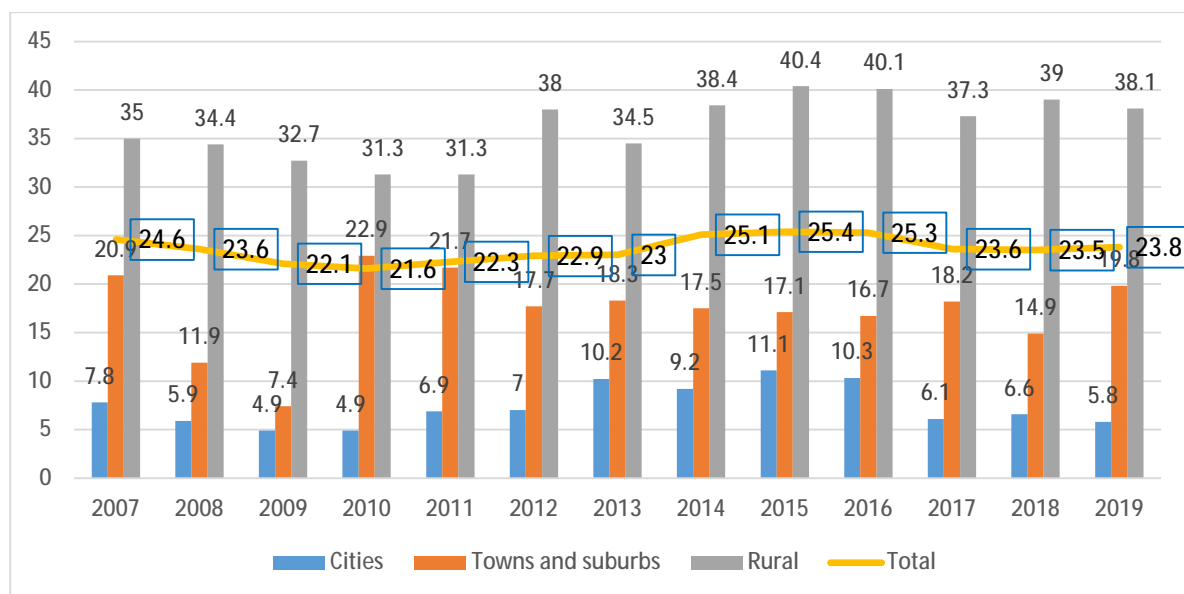
**Table 1. Persons in risk of poverty (income below 60%), by degree of urbanisation, 2007-2019 (thousand persons)**

	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Cities	622	454	368	364	513	470	651	602	713	620	349	372	325
Towns and suburbs	41	25	17	51	54	815	854	621	803	803	882	743	1.052
Rural	4.534	4.381	4.129	3.964	3.930	3.319	3.095	3.789	3.540	3.583	3.414	3.488	3.254
Total	5.198	4.860	4.514	4.379	4.497	4.604	4.600	5.012	5.056	5.006	4.646	4.603	4.632

Source: Eurostat, [ilc\_li43] (last update 17.06.2020). [https://ec.europa.eu/eurostat/web/products-datasets/-/ilc\\_li43](https://ec.europa.eu/eurostat/web/products-datasets/-/ilc_li43)

The share of people at risk of poverty has been on an upward trend since 2012, reaching a maximum of 25.4% (2015), then placing in a slight decrease (23.5% in 2018) and then increasing slightly in the following year (23.8% in 2019).

**Figure 1. At-risk-of-poverty by degree of urbanisation, 2007-2019 (%)**



Source: Eurostat, [ilc\_li43] (last update 17.06.2020). [https://ec.europa.eu/eurostat/web/products-datasets/-/ilc\\_li43](https://ec.europa.eu/eurostat/web/products-datasets/-/ilc_li43)

Differences between areas of residence are strongly affected from the perspective of people in poverty, so that in rural area there are 38% of people in poverty in the last reference year, compared to almost 20% in towns and suburbs and approx. 6% in cities (in 2019). At the rural level, the periods of increase alternate with those of decrease, so that the percentage of people facing poverty starts from 35% in 2007, reaches a maximum of over 40% in 2015, then showing slight oscillations around the threshold of 38%.

In the last year in rural area, 38.1% of people in poverty are registered, which means that over 3.25 million people in rural area are affected by this social risk. Practically, in almost 1 and a half decades, it can be appreciated that in rural area poverty could not be reduced, but, on the contrary, it has increased, despite many actions, programs, directions of action, plans and strategies aimed at the rural areas.

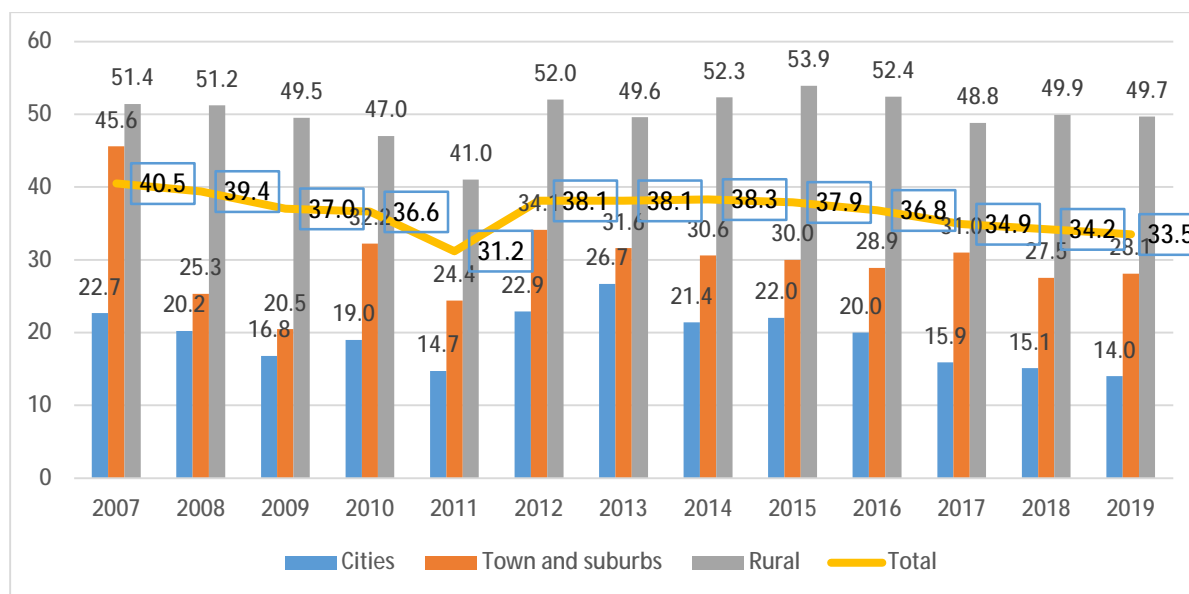
On the other hand, even if these actions aimed at the development of the rural areas, it was not found in the significant reduction of poverty. This confirms once again that pro-poor growth is not aimed directly at the poor people. At the same time, even if at one year there was a slight decrease in the incidence of poverty, this was a conjunctural situation, not a sustainable one, to support the rural population to overcome the state of vulnerability and social risks in the face of poverty and associated phenomena.

Also, analysing this indicator from an international comparative perspective, based on Eurostat data, it can be seen that, unfortunately, Romania occupies an unfavourable position, having the highest poverty rate in the panel of EU28 countries, and in terms of poverty in rural area, our country again has the supremacy (negatively viewed), at a great distance from the EU28 European average and, at the same time, from the entire panel of 27-28 countries.

This should be an alarm signal, especially since the incidence of poverty is high, and poverty affecting a large part of the population, approx. a quarter nationally and almost 40% in rural area.

Another indicator of interest is the risk of poverty after deducting housing costs, where urban-rural disparities are also high. Thus, there are gaps of more than 3 times at national level, compared to the European average, where there are no differences in poverty rates after deducting housing costs between rural and urban areas, either this urban if viewed from the perspective of cities, or towns and suburbs.

**Figure 2. At-risk-of-poverty after deducing housing costs by degree of urbanisation, 2007-2019**



Source: Eurostat, [ilc\_li48] (last update 17.06.2020). [https://ec.europa.eu/eurostat/web/products-datasets/-/ilc\\_li48](https://ec.europa.eu/eurostat/web/products-datasets/-/ilc_li48)

There is a significant differentiation in terms of the risk of poverty after deducing housing costs, analysed by degree of urbanization, respectively by area of residence. Thus, in Romania, the risk of poverty after reducing housing costs in 2019 was 14% in cities, and 49.7% in rural area, which means a difference by over 35 pp.

**Table 2. At-risk-of-poverty after deducing housing costs by degree of urbanisation, Romania and European average EU28, 2018 (%)**

2018	Romania	EU28
Cities	15,1	31,7
Town and suburbs	27,5	30,0
Rural	49,9	31,7
<b>Total</b>	<b>34,2</b>	<b>31,2</b>

Source: Eurostat, [ilc\_li48] (last update 17.06.2020). [https://ec.europa.eu/eurostat/web/products-datasets/-/ilc\\_li48](https://ec.europa.eu/eurostat/web/products-datasets/-/ilc_li48)

The European average for the risk of poverty after deducing housing costs in 2018 is not very differentiated between the level recorded in cities and towns & suburbs and those in rural area, the threshold ranging between 30-32%.

This is not a conjunctural situation, valid only at the level of the last year of analysis, but it is registered throughout the analysed decade. In contrast, in Romania, the differences between the areas of residence are particularly large in terms of the at-risk-of-poverty rate after deducing housing expenses by degree of urbanisation: in rural area, more than 1.5 times higher than in towns and suburbs and 3 times higher than in cities.

In addition, in 2018 there is a trend of decreasing regarding the risk of poverty after deducing housing costs in Romania both at national level (from 34.9% in 2017 to 33.5% in 2019), and at the level of cities and towns & suburbs. On the other hand, in rural area there is an increasing trend of poverty in recent years, with approx. 1 pp. (from 48.8% in 2017 to 49.9% in 2018 or 49.7% in 2019).

## 2. At-risk-of-poverty and work intensity of the household – low and very low intensity

The lack of opportunities in the Romanian rural areas can be highlighted through the indicator that reflects the share of the population living in households where work intensity is low and very low.

Thus, the indicator refers to people between 0-59 years old living in households where adult members of the household worked less than 20% of their work potential in the previous year.

**Table 3. Persons living in households with very low work intensity, by degree of urbanisation, 2007-2019 (thousand persons)**

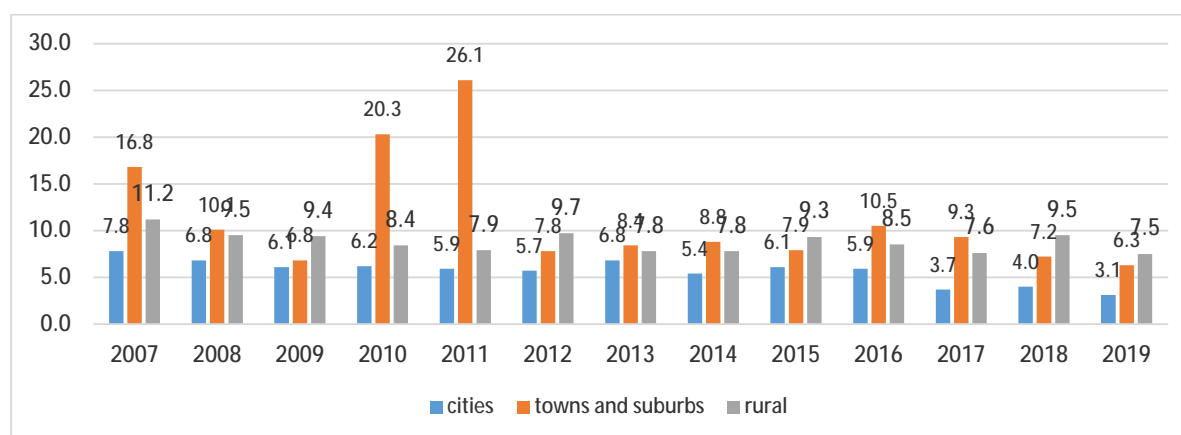
	2007	2008	2009	2010	2011	2012*	2013	2014	2015	2016	2017	2018	2019
Cities	511	428	372	369	345	302	332	273	295	266	155	163	125
Towns and suburbs	29	19	13	39	53	283	311	247	292	396	346	273	255
Rural	1.136	937	895	804	746	638	525	580	606	568	521	634	475

\*There is a break in time series in 2012; Source: Eurostat, [ilc\_lvhl23] (last update 17.06.2020).

[https://ec.europa.eu/eurostat/web/products-datasets/-/ilc\\_lvhl23](https://ec.europa.eu/eurostat/web/products-datasets/-/ilc_lvhl23)

From the perspective of the rural population aged up to 60 living in households with very low work intensity, the percentage in 2019 was 7.5% (almost 0.5 million people). With a total of 475 thousand persons in 2019 living in rural households with very low work intensity, it can be said that the number has varied greatly in recent years (525 thousand people in 2013, then a maximum of 634 thousand people reached in 2018), that means significant changes. Also in 2019 there is a significant decrease compared to the previous year in the number of people from rural areas who live in households where work intensity is very low, which would seem a positive aspect.

**Figure 3. Persons living in households with very low work intensity, by degree of urbanisation, 2007-2019 (%)**



\* There is a break in time series in 2012; Source: Eurostat, [ilc\_lvhl23] (last update 17.06.2020).

[https://ec.europa.eu/eurostat/web/products-datasets/-/ilc\\_lvhl23](https://ec.europa.eu/eurostat/web/products-datasets/-/ilc_lvhl23)

Because there is a “break in time series” in 2012, it is not possible to rigorously argue the significant decrease registered in 2012 compared to the previous and next years, but it is possible to analyse comparatively the period after 2012, as one without significant evolutions.

In this analysed period, in the rural area, the indicator had an oscillating evolution, alternating years of increase with those of decrease of the share of people living in households with very low work intensity, being between 7.5-9.7%. At a very close distance, with approx. 1-2 pp. are people

from towns and suburbs, whose share was placed on a continuous decreasing trend, from 10.5% to 6.3%. In contrast, in cities, the indicator has been below the threshold of 4% in recent years.

Thus, given the large number of people facing poverty in both urban and rural areas, regardless of the indicator analysed, the risk of poverty remains high for both areas of residence, despite the visible decline in recent year.

Very low work intensity in the household is often associated with an increased risk of poverty, which affects people and households, and where there are also dependent children, this risk is greatly amplified, in persistence and magnitude, making all of them vulnerable. Therefore, these households with dependent children face of the risk of poverty and its severe and extreme forms.

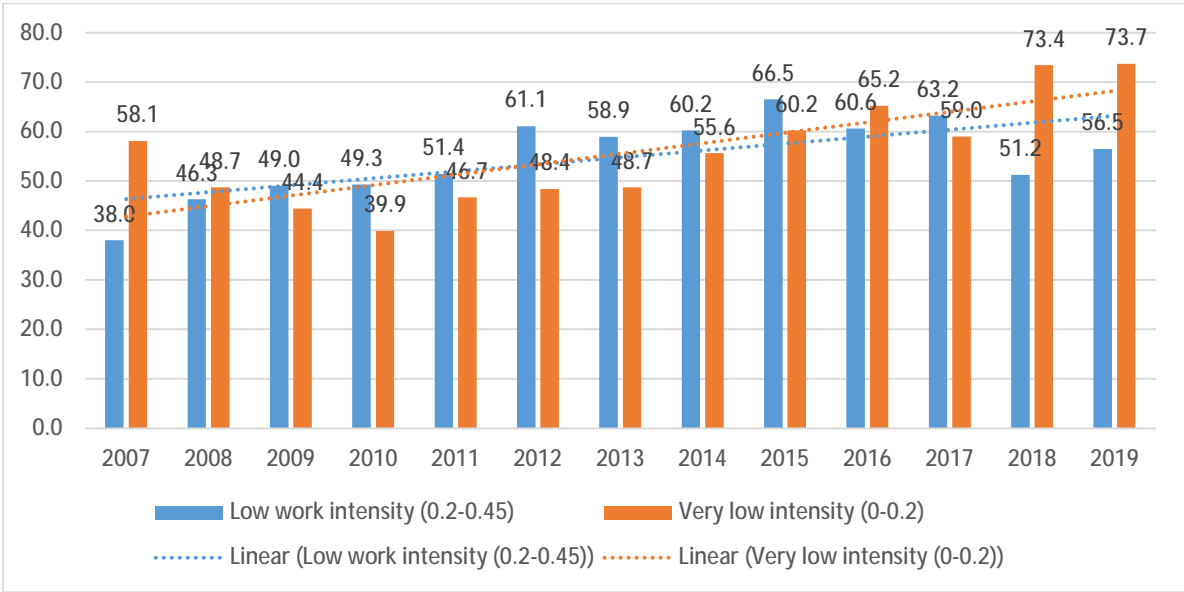
Despite declines, these risks of poverty affect the population, but especially young people and other vulnerable groups, and continue to put great pressure on the individual, the household, the community and also the protection and social assistance systems .

**3. At-risk-of-poverty in households with very low intensity of work**

Even at the intuitive level, it is assumed that a low intensity of work of the household would lead to an increase in the poverty rate. But the analysis of statistical data will show us this magnitude, and also its permanence in dynamics. For this, analyses will focus on low and very low work intensities of the household. And then, to analyse the magnitude of poverty, the extremes and quasi-extremes of the work intensity range will be compared.

After the low and very low intensity work of the household, these households are exposed to a rather varied risk of poverty, and the poverty rate increases as this intensity of work within the household decreases.

**Figure 4. At risk of poverty, by low and very low work intensity of the household, 2007-2019 (%)**



Source: Eurostat, [ilc\_li06] (last update 17.06.2020). [https://ec.europa.eu/eurostat/web/products-datasets/-/ilc\\_li06](https://ec.europa.eu/eurostat/web/products-datasets/-/ilc_li06)

Analyses of the incidence of poverty in households with a low and very low level of work intensity show a very high degree of exposure to this risk among households, the poverty rates being particularly high. Thus, where there are fewer working hours, at the same time equivalent to lower work incomes, poverty also covers a larger mass of such households. For households with low work intensity, poverty generally had an increasing trend in the period 2010-2019, starting from 49% in 2010, reaching a maximum of 66.5% in 2015 and then placing on a trend generally slightly decreasing, reaching 56.5% in 2019. The fact that it has remained at high thresholds of over 55-56% in

the last two years should be an alarm signal (the European average is around 40%). However, there is a decreasing trend in the last 5 years.

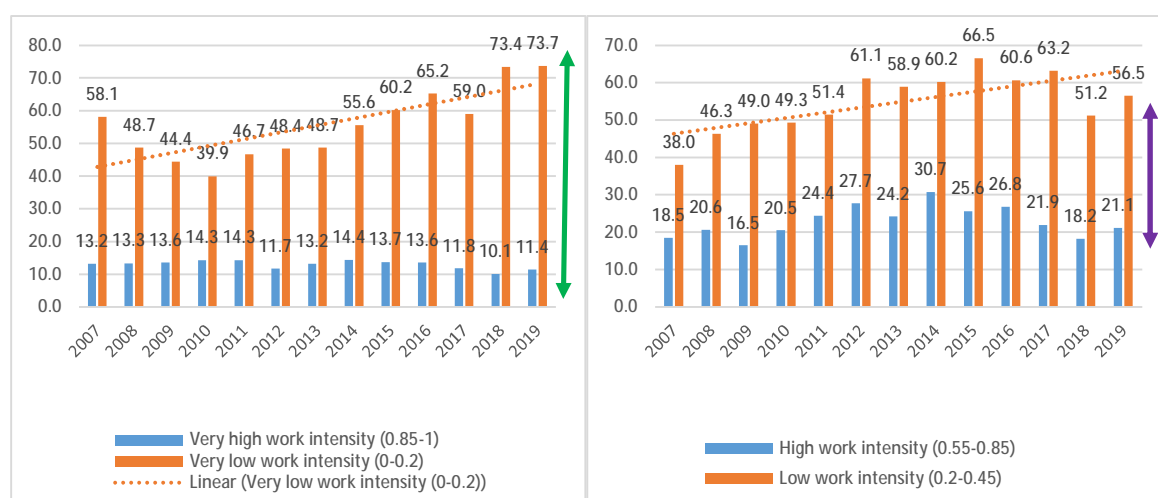
The same affirmation cannot be said about poverty, which affects households where work intensity is even lower. Thus, the exposure of households where work intensity is very low (respectively where people work less than 20 hours of their work potential), is much higher and, unfortunately, not only is in a continuously increase, but also has a sharp pace growth, especially in recent years compared to 2011-2013 period. As a share in the total population up to 60 years old, people from households with very low work intensity accounted for 7.4% in 2018 (National Institute of Statistics, Dimensions of social inclusion in Romania, 2019, pp. 40,

[https://insse.ro/cms/sites/default/files/field/publicatii/dimensiuni\\_ale\\_incluziunii\\_sociale\\_in\\_romania\\_2018.pdf](https://insse.ro/cms/sites/default/files/field/publicatii/dimensiuni_ale_incluziunii_sociale_in_romania_2018.pdf) ).

In these poverty situations, there are many households, and the incidence of poverty is high: in the first years of the analysis, the rate was approx. 40%, because after approx. a decade, to approach 74%, which shows that it has almost doubled in this period. With such a high incidence of poverty among these households (about three quarters of them being exposed to poverty), while maintaining this threshold for a longer period of time (2 years), which means high magnitude and long persistence. That means high poverty affects these households, having a major impact on them. These exposures to poverty are much more sensitive when there are dependent children within the household.

In order to better notice the extent of poverty among households according to this important determinant of work intensity among household's members, the extremes of the structures range, respectively the extremes and quasi-extremes of the work intensity range, will be compared in dynamics during 2007-2019 period.

**Figure 5. At risk of poverty by work intensity of household – extremes and quasi-extremes of work intensity range, 2007-2019 (%)**



Source: Eurostat, [ilc\_li06] (last update 17.06.2020). [https://ec.europa.eu/eurostat/web/products-datasets/-/ilc\\_li06](https://ec.europa.eu/eurostat/web/products-datasets/-/ilc_li06)

Comparatively, between the extremes of the variation interval regarding the very high work intensity of household vs. very low work intensity there are huge discrepancies, so that if in the case of the household where its members have a very high intensity of work they face poverty in proportion of 11%.

In contrast, when household's members work in the equivalent of less than 20 hours of potential, poverty is very high, the risk being almost 74%, which means that the presence of a job will increase the income of household members and, even if these people are in poverty, this exposure will not be as significant. The two extremes of variation confirm once again the extent of poverty and the significant gap in what means the relationship between poverty alleviation and the labour market, respectively with employment among household's members.



#### 4. In work poverty

Another indicator that joins the risk of poverty (for 23-25% of the population) and the risk of poverty and social exclusion (31-47%) refers to in-work poverty. It has long time been considered that the poor are the ones who do not have a job, that poverty is associated only with unemployment, or that work would be the sure way to reduce poverty, or having a job means to be out of poverty, etc. But statistics have shown that these are just desideratum and that, in reality, even if a person has a job, it is possible to earn a low income and fall into poverty. We cannot talk about being below the national minimum wage, but we are referring to a certain type of contract, with a shorter contract duration, part-time contract, or economic areas where work incomes are lower, or person's qualifications/skills are lower, etc. Therefore, in-work poverty refers to the situation in which the work income is below the poverty line (60% of the median income) and does not allow the person and / or family to leave the sphere of poverty.

Although we do not have statistical data on the in-work poverty rate by residence in any structure, but only at national level, we mentioned it here, as it is still a large number of people who, although working, are also at risk of poverty (in-work poverty indicator refers to employed people, employees or other employed persons except employees, as self-employed). Therefore, the presence of work does not automatically eliminate the risk of poverty among them, Romania registering the highest rate of in-work poverty in the panel of the 35 countries, as shown by Eurostat data and as mentioned in the Eurofound Report (Eurofound, 2017, In-work poverty in the EU, pp. 37, [https://www.eurofound.europa.eu/sites/default/files/ef\\_publication/field\\_ef\\_document/ef1725en.pdf](https://www.eurofound.europa.eu/sites/default/files/ef_publication/field_ef_document/ef1725en.pdf) ).

Eurostat data show that in the more than 10 years of analysis, at national level, in-work poverty is declining in recent years, with a rate reaching 15,7% in 2019 (19% in 2011-2012). Thus, in 2019, it is found that 1 in 7 people face in-work poverty, while almost 1 in 4 people are in poverty and almost 1 in 3 people are in poverty and social exclusion situations.

**Table 4. Risk of poverty and social exclusion, Risk of poverty and In-work poverty, 2007-2019**

	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Risk of poverty and social exclusion	47,0	44,2	43,0	41,5	40,9	43,2	41,9	40,3	37,4	38,8	35,7	32,5	31,2
Risk of poverty	24,6	23,6	22,1	21,6	22,3	22,9	23,0	25,1	25,4	25,3	23,6	23,5	23,8
In-work poverty risk	17,4	17,7	17,4	17,9	19,1	19,0	18,4	19,8	18,8	18,9	17,4	15,3	15,7

Source: Eurostat, (last update 17.06.2020). Poverty and social exclusion risk: [ilc\_peps01], [https://ec.europa.eu/eurostat/web/products-datasets/-/ilc\\_peps01](https://ec.europa.eu/eurostat/web/products-datasets/-/ilc_peps01), (last update 17.06.2020); Poverty risk: [ilc\_li02], [https://ec.europa.eu/eurostat/web/products-datasets/-/ilc\\_li02](https://ec.europa.eu/eurostat/web/products-datasets/-/ilc_li02), (last update 17.06.2020); In-work poverty risk: [ilc\_iw01], [https://ec.europa.eu/eurostat/web/products-datasets/-/ilc\\_iw01](https://ec.europa.eu/eurostat/web/products-datasets/-/ilc_iw01), (last update 17.06.2020).

A general dashboard at national level with the main indicators on poverty and social exclusion shows that in 2007-2019 periods they had quite oscillating evolutions, with increases towards the middle of the interval and then with a decreased trend compared to these maximum values. Thus, in recent years, these indicators have generally been on a declining trajectory, but remain high at the present, so that more than 4.63 million people still face poverty, while more than 6.07 million people are at risk of poverty and social exclusion. Even if a person has a job, it does not mean that it is completely protected against the risk of poverty, so that more than 15% of those who have a job and earn an income from work are still below the poverty threshold. This picture of indicators is highlighted at national level, the rural area presenting even more significant vulnerabilities in terms of poverty and its associated forms, respectively severe and extreme poverty, material deprivation, marginalization and social exclusion.

In addition, as mentioned by Lincaru et al. (2018), citing the World Bank, marginal rural areas are scenes with severe deficiencies that bring together people with poor education, are found in the informal sector, live in precarious conditions, with low infrastructure and basic utilities. The authors note that these marginal areas have a number of other weaknesses due to the combination of several factors such as low income household's concentrations, low level of education and relevant skills in

the labor market, high number of children in the household, etc., so a lot of vulnerabilities that lead to social risks associated with poverty and its extreme forms.

## Conclusions

Therefore, throughout the analysed period 2007-2019, it can be seen that some indicators, whether national or specific to the rural area, show that poverty is persistent over time, which largely affects the population. In addition, although the trend in recent years is slightly declining, the fact that the values remain quite high both nationally, but especially in rural area, they should be a warning sign and still be considered in national priorities. At the same time, even if there have been some decreases in recent years, the values remain high at the present time. Comparing them with the rates recorded in other EU28 countries, these high incidences place Romania in unfavourable places, with the highest poverty rates in the panel of 28 countries. In terms of poverty in rural areas, these incidences again have the supremacy (negatively viewed), at a great distance from the European average EU28 among the entire panel of 27-28 countries. The high rates permanently registered in the analysed period, even though some of them have declined over time, make poverty and social exclusion significant social risks for vulnerable categories, being necessary combined and sustained efforts to attenuate these high incidences. At the same time, in the rural areas, these vulnerabilities are further amplified, the risks of poverty, as well as those of poverty and social exclusion having significant magnitude and persistence, with notable intensities.

Over time, numerous strategies, action plans, measures, directions of action, initiatives at national, regional, county, rural, and local level that directly concern the individual / household, as well as zonal strategies that directly concern the community as a whole have been implemented. Even if this broad spectrum of sectoral policies, programs and interventions that have targeted either the entire population or various vulnerable groups facing various social risks had results over time, and their effects are visible by reducing the incidence of poverty in recent years, these efforts must be sustained, continued and amplified, with the major aim of reducing poverty and social exclusion and improving the quality of life of the population, especially in rural areas where vulnerabilities are more pronounced and persist over time.



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# THE IMPACT OF COVID-19 PANDEMIC ON THE MOLDOVAN LABOUR MARKET<sup>1</sup>

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Mircea GUTIUM<sup>4</sup>

## Abstract

*In this paper are highlighted and analyzed the tendencies and the particularities of the labour market situation in the Republic of Moldova in the 2019 year and in the first quarter of 2020. The sources of statistical data used in the analysis are the National Bureau of Statistics of Moldova and the results of the surveys of APIUS organization and IOM-UN Migration Agency. In the context of COVID-19 pandemic it's consequences on the Moldovan labour market are evaluated and prospects of development of the situation are analyzed based on the approved national development strategy for the next decade and on the legislation on the remote work.*

**Key words:** labour market, unemployment, COVID-19 consequences, tendencies, forecast, Republic of Moldova

## IMPACTUL PANDEMIEI COVID-19 ASUPRA PIEȚEI FORȚEI DE MUNCĂ DIN REPUBLICA MOLDOVA

### Rezumat

*În acest articol sunt evidențiate și analizate tendințele și particularitățile situației pieței muncii în Republica Moldova în anul 2019 și în primul trimestru al anului 2020. Sursele de date statistice utilizate în analiză sunt Biroul Național de Statistică al Moldova și rezultatele sondajelor organizației APIUS și a Agenției pentru Migrație a ONU. În contextul pandemiei COVID-19, sunt evaluate consecințele pe piața forței de muncă din Moldova, iar perspectivele dezvoltării situației sunt analizate pe baza strategiei naționale de dezvoltare aprobată pentru următorul deceniu și a legislației privind munca la distanță.*

**Cuvinte-cheie:** piața forței de muncă, șomaj, consecințele COVID-19, tendințe, prognaza, Republica Moldova.

**JEL:** J21, K31.

## Introduction

Since the beginning of the COVID-19 pandemic in the world, there were registered deaths of over 560 thousand people due to coronavirus infection, according to Johns Hopkins University reports [2]. In total, there are registered 12.5 million cases of illness in the world. Most infected are in the United States, where there are more than 3.1 million people. In Brazil, the number of people registered

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with COVID-19 has exceeded 1.8 million. Moldova registered 18.9 thousands cases of COVID-19 and over 600 deaths.

Worldwide labour market was deeply affected by pandemic situation from SARS-CoV-2 virus. To stop the spread of the virus the state governments introduced measures of various degree of restriction in most countries. As a result, a part of the workers resorted to remote work and another part reduced their activity, going into a more flexible or partial program schedule or stopped their activity, going into technical unemployment or on leave, paid and/or unpaid. Because of the reduction of economic activity of economic agents, a part of them, especially SMEs, risk losing significant amounts of revenue on short-term and entering into the liquidation period in the long-term, which has brought an important blow on the labour market.

The Republic of Moldova has also introduced an emergency regime from March 17<sup>th</sup>, 2020 until May 15<sup>th</sup>, 2020, that included such measures: establishment of a special regime of entry and exit from the country; the establishment of a special traffic regime on the territory of the country; introduction of the quarantine regime and taking other mandatory sanitary-anti-epidemic measures; establishing a special working regime for all entities; prohibiting the holding of assemblies, public demonstrations and other mass actions and performing other necessary actions in order to prevent, reduce and eliminate the consequences of the coronavirus pandemic (COVID-19).

The Extraordinary National Commission for Public Health of Moldova decided to extend the state of emergency in public health throughout the Republic of Moldova until July 15<sup>th</sup>, 2020 [9] and which later was prolonged until July 31<sup>th</sup> [10], with the possibility of extending the deadline depending on the evolution of the epidemiological situation. During the state of emergency in public health it is restricted: being in public places (forests, parks, alleys, beaches, etc.), in groups of more than 3 people; being over 63 years of age, outside the home and in public spaces without urgent need; finding people on playgrounds, sports fields and recreational areas; the activity of the educational process and other restrictions. From July 1<sup>st</sup>, 2020, most economic activities are resumed in compliance with the general public and special health measures.

Due to this unprecedented situation some people have lost their jobs. At the same time, some people who went to work from home had their wages reduced, which reduced the purchasing power of the population.

## **1. Analysis of the main indicators of the labour market<sup>5</sup> in the Republic of Moldova in 2019**

According to NBS data, in 2019 the labour force amounted to 919.3 thousand pers. The activity rate of the population was 42.3%. The employed population was 872.4 thousand pers. The employment rate of the population aged 15 and over reached 40.1%. The number of unemployed, defined according to the International Labour Office in 2019 was 46.9 thousand pers. The unemployment rate in the country in 2019 was 5.1%. The inactive population in the country (15 years and over) in 2019 was 1255.9 thousand people, of which the largest share is held by retirees - 45.1%. The NEET group in the 15-29 age group had a share of 27.4%.

In 2019, the labour force, which includes the employed population and the unemployed, amounted to 919.3 thousand pers. Men (51.7%) had a higher share in the labour force than women

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<sup>5</sup>In 2019, a series of changes were made in the methodology of the Labour Force Survey: the inclusion in employed persons only of those who carry out activities to produce goods or provide services for payment or profit and non-inclusion of employed persons in the auxiliary household (as an addition to the house) with the production of agricultural products for the own consumption of the household; the use of the number of the population with habitual residence (the place where the person has lived mainly in the last 12 months regardless of the temporary absences) instead of the resident one; a new sample of households and a new rotation scheme. These changes cause the data for 2019 and those up to 2018, regarding the labour force to be not fully comparable.

(48.3%), as well as rural areas (53.7%) compared to urban areas (46.3%). At the same time, the activity rate of the population was 42.3%. Among economically active people, the indicator was higher for men (47.0%) than for women (38.2%). The activity rate is higher in urban areas (49.4%) than in rural areas (37.6%). In the age group 15-29 years the activity rate of economically active persons was 33.7%, and in the group 15-64 years - 49.4%. The economic activity rate of the working age population (according to the national legislation: 16-58 years - women and 16-63 years - men) was 52.6%.

The employed population in 2019 was 872.4 thousand pers. Men had a higher share in the employed population - 51.3% than women - 48.7%, as well as the rural area - 53.6% compared to the urban area - 46.4%.

The employment rate of the population aged 15 and over was 40.1%. The employment rate of men - 44.2% was higher than that of women (36.5%). According to the areas of residence, the employment rate was in urban areas - 47.0%, being higher than in rural areas - 35.6%. The employment rate of working age people (16-58 years - women / 16-63 years - men) had the value of 49.8%, of people aged 15-64 years - 46.8%, and in the age group 15-29 years constituted 30.9%.

The share of employees in the employed population is higher among women (83.2%) than among men (72.6%), and in urban areas (89.5%) than in rural areas (67.6%), and the share of self-employed in the employed population is higher among men (24.7%) than among women (10.1%), and in rural areas (24.3%) than in urban areas (9.9%).

**Figure 1. Share of the employed population by professional status by sex and by area of residence, year 2019**



**Source:** According to the data of the National Bureau of Statistics[1][11]

The share of non-agricultural activities in 2019 was 79.0%, of which persons employed in industry accounted for 14.7%, and in construction - 7.0%. 57.3% of the total employed persons worked in the services sector. The employed population in the distribution by forms of ownership constituted 70.7% in the private sector and 29.3% - in the public sector. The share of employees by professional status is 77.8%. The vast majority of employees were employed for an indefinite period (89.3%).

Undeclared work among employees in 2019 accounted for 7.2%, of which more employees are men - 9.1% compared to women - 5.6%. The largest shares of employees who work only on the basis of verbal agreements are: in agriculture - 48.3%, trade - 16.0%, construction - 15.3% and industry - 6.4%.

In the informal sector in 2019, worked 16.8% of the total number of persons employed in the economy, 23.1% of the number of employees had an informal job, thus of the total number of persons employed informally - 26.0%.

Number of underemployed persons (number of persons employed, whose total number of hours actually worked during the reference period was less than 40 hours per week, who wished and were available to work overtime) accounted for 3.9% of all employed persons.

The number of unemployed, defined according to the ILO in 2019 was 46.9 thousand pers. Unemployment was in a higher proportion among men - 58.8% of the total number of unemployed, as well as among people in urban areas - 55.5%.

The unemployment rate in the country in 2019 was 5.1%. The unemployment rate for men was 5.8%, and for women - 4.4%. There were small disparities between unemployment rates in urban and rural areas (respectively 4.9% and 5.3%). Among young people (15-24 years) the unemployment rate was 10.4%, and in the age category 15-29 was 8.5%.

The inactive population in the country (15 years and over) in 2019 was 1255.9 thousand people. The inactive population includes: pensioners (45.1%); family caregivers (housewives) (12.9%); pupils and students (12.8%); people who do not work and are not looking for a job in Moldova, because they already have a job (permanent or seasonal) abroad or who plan to work abroad (11.2%), people declared by households as gone abroad at work or looking for work for a period of less than 1 year (8.4%); other people outside the workforce (9.6%).

The NEET group is made up of young people in the 15-29 age group, who are not part of the employed population, do not study in the formal education system and do not participate in courses or other training outside the formal education system. In 2019, the share of this group constituted 27.4% of the population in the age group of 15-29 years (apart from the population that went abroad to work or looking for a job), being higher in women (35.5%) than in men (19.4%).

## **2. The situation on the labour market in the Republic of Moldova in the first quarter of 2020<sup>6</sup>**

According to NBS data, in Q I from 2020, the labour force constituted 840.5 thousand pers., decreasing by 6.5% compared to same period of last year. The employed population was 806.3 thousand pers. The employment rate of the population aged 15 and over was 37.5%. The number of unemployed, defined according to the ILO, was 34.2 thousand people, increasing by 50.9% compared to s.p.l.y. The unemployment rate in the country was 4.1%, lower by 3.6 p.p. The population outside the labour force in the country (aged 15 and over) was 1310.3 thousand people, constituting 60.9% of the population in the same age group, the largest share having retirees (44.3%). The NEET group in Q I of 2020 had a share of 15.1% of the population in the age group of 15-24 years, 25.9% - in the case of those aged 15-29 years and 30.8% - those aged 15-34 years.

In QI 2020, the labour force constituted 840.5 thousand pers., decreasing by 6.5% compared to s.p.l.y. Men (52.0%) had a higher share in the labour force than women (48.0%), as well as rural areas (53.1%) compared to urban areas (46.9%). At the same time, the activity rate of the population was 39.1%, which is 2.2 p.p. less compared to s.p.l.y. Among economically active people, the indicator was higher for men (43.5%) than for women (35.2%). The activity rate is higher in urban areas (46.4%) than in rural areas

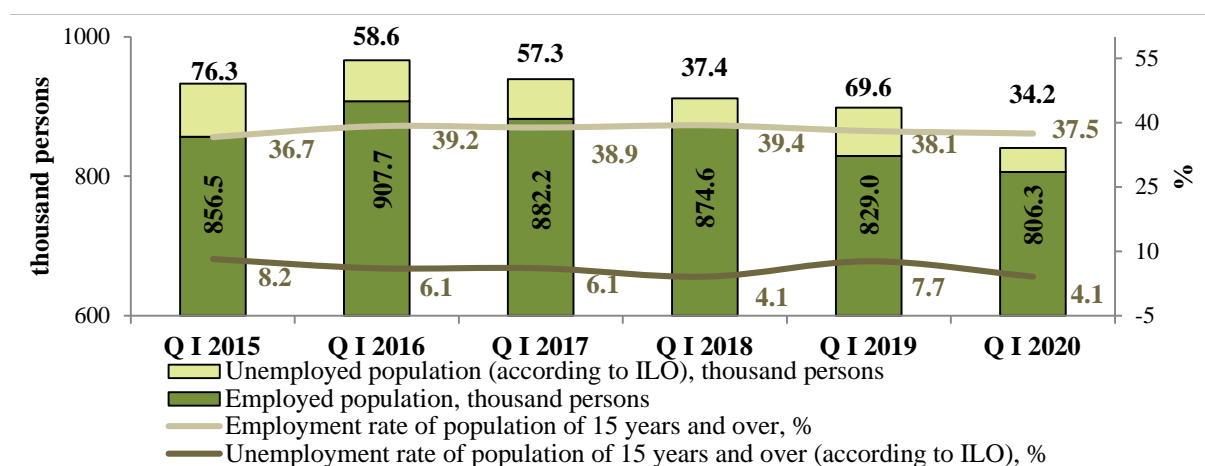
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<sup>6</sup>In estimating the research results of the Labour Force Survey, the number of the population with habitual residence was used. Starting with 2019, the Labour Force Survey is carried out according to a new survey plan and according to the revised definition of employment. According to the NBS, the employed population includes all persons aged 15 and over who have carried out an economic or social activity producing goods or services for at least one hour during the reference period (one week), in order to obtain income in the form of wages, payment in kind or other benefits. Starting with 2019, people employed in the production of agricultural products mainly for their own consumption are not included in employment. Until 2018, persons employed in the auxiliary household with the production of agricultural products exclusively for their own consumption (of the household) were included in employment, if they worked 20 hours or more per week.

(34.3%). In the age group 15-29 years the activity rate of economically active persons was 28.8%, and in the group 15-64 years - 46.0%. The economic activity rate of the working age population (according to the national legislation: 16-58 years - women and 16-63 years - men) was 49.1%.

The population employed in Q I 2020 was 806.3 thousand pers, less by 2.7% compared to s.p.l.y. Men had a higher share in the employed population - 51.7% than women - 48.3%, as well as rural areas - 53.3% compared to urban areas - 46.7%. The employment rate of the population aged 15 and over was 37.5%, lower by 0.6 p.p. compared to s.p.l.y. The employment rate of men - 41.5% was higher than that of women (34.0%). According to the areas of residence, the employment rate was in urban areas - 44.4%, being higher than in rural areas - 33.0%. The employment rate of the elderly (16-58 years - women / 16-63 years - men) had the value of 47.0%, of the people aged 15-64 - 44.1%, and in the 15-29 age group constituted 26.1%. In terms of employment rates, the largest differences by gender were for people aged 55-64 (employment rate in men was 16.3 p.p higher than in women) and for people aged 25-34 years by area of residence (employment rate in urban areas was 15.9 p.p higher than in rural areas).

**Figure 2. Evolutions of the number of employed population, of the unemployed and of the employment and unemployment rates of the population of 15 years and over, in Quarter I from the years 2015-2020<sup>7</sup>**



**Source:** According to the data of the National Bureau of Statistics [1][11]

The number of persons employed in agricultural activities in Q I 2020 was 153.0 thousand pers. (by 3.4 thousand or 2.2% less compared to s.p.l.y.) or 19.0% (by 0.1 p.p. more compared to s.p.l.y.), and the number of those engaged in non-agricultural activities was 653.4 thousand pers. (by 19.3 thousand or by 2.9% less compared to s.p.l.y.). The share of people employed in industry was 15.1%, including in manufacturing - 12.2%, and in construction - 5.3%. The number of people employed in industry was 121.5 thousand pers. (decreasing by 9.7% compared to s.p.l.y.), and in construction - 42.8 thousand pers. (decreasing by 6.9% compared to s.p.l.y.). 489.1 thousand people worked in the services sector or 60.7% of the total number of employed persons (less compared to s.p.l.y. by 3.1 thousand pers. or by 0.6%).

The employed population in the distribution by forms of ownership constituted 68.2% in the private sector and 31.8% - in the public sector. The share of employees by professional status is 80.2%. The vast majority of employees were employed for an indefinite period (90.7%). Undeclared work among employees in Q I in 2020 accounted for 4.6% (1.1 p.p. less compared to s.p.l.y.), of which more employees are men - 6.7% compared to women - 2.6%. The largest shares of employees working only on the basis of verbal agreements are estimated in: agriculture - 52.7%, trade - 17.9%, construction - 7.4% and industry - 7.3%. In the informal sector in Q I of 2020, 15.1% of all people employed in the economy were active, and 19.1% had an informal job. Of the total number of people employed informally, 20.1% were employees. In the non-agricultural sector, the share of informal employment was 8.7%. Of the total number of employees,

<sup>7</sup>According to the definition of the number of the population with habitual residence.



informal employment had 4.8%. 5.1% of employees received an “envelope salary”, and the highest shares were in: agriculture - 54.1%, trade - 17.6%, construction - 5.7%, industry - 7.9%. Number of underemployed persons (number of persons employed, whose total number of hours actually worked during the reference period was less than 40 hours per week, who wished and were available to work overtime) accounted for 34.9 thousands or 4.3% of total employed persons. Of the employed, 11.6% stated that they would like to change the situation in relation to the current job on the grounds that they are not satisfied with the level of remuneration (inadequate situation in relation to income).

The number of unemployed, defined according to the ILO, in Q I of 2020 was 34.2 thousand people, significantly increasing compared to s.p.l.y. (with 35.4 thousand pers. or with 50.9%). Unemployment was higher among men - 58.7% of the total number of unemployed, as well as among people in urban areas - 50.8%. The unemployment rate (LU1) in the country in Q I in 2020 was 4.1%, lower by 3.6 p.p. compared to s.p.l.y. The unemployment rate for men was 4.6%, and for women - 3.5%. There were small disparities between unemployment rates in urban and rural areas (respectively 4.4% and 3.8%). Among the people in the 15-24 age group, the unemployment rate was 13.0%, and in the 15-29 age group it was 9.4%. The composite rate of underemployment in relation to time and unemployment (LU2) at the country level in Q I 2020 was 5.2%, being lower by 5.1 p.p. compared to s.p.l.y. The compound rate of unemployment and potential labour force (LU3) was 8.2%, being lower by 3.5 p.p. compared to s.p.l.y. The composite indicator of underutilization of the labour force (LU4) had the value of 9.3%, being lower by 4.8 p.p. compared to s.p.l.y.

The non-labour force population in the country (aged 15 and over) in Q I of 2020 was 1310.3 thousand people, increasing by 2.6% compared to s.p.l.y., constituting 60.9% of the population in the same group of age, more by 2.2 p.p. compared to s.p.l.y. The inactive population includes: pensioners (44.3%); pupils and students (13.1%); family caregivers (housewives) (12.1%); people who do not work and are not looking for a job in Moldova, because they already have a job (permanent or seasonal) abroad or who plan to work abroad (10.9%), people declared by households as gone abroad at work or looking for work for a period of less than 1 year (9.2% or 120.2 thousand people, this number increasing compared to s.p.l.y. by 28.5%); other persons outside the labour force (10.4%). Among people who have a job abroad or intend to go abroad, a higher share is held by men - 17.9% compared to women - 5.6%. Also, men predominate among people who went abroad to work or looking for work - 15.0% compared to women - 4.7%. In family care activities, women predominate - 20.5% compared to 1.2% - men.

Young people in the 15-29 age group, who are not part of the employed population, do not study in the formal education system and do not participate in courses or other training outside the formal education system - the NEET group in Q I of 2020 had a share of 15.1% of the population in the age group of 15-24 years, 25.9% - in the case of those aged 15-29 years and 30.8% - in those aged 15-34 years, with values higher in women than in men in all these age groups (15-24 years: 15.3% - women vs. 14.8% - men; 15-29 years: 31.3% - women vs. 20.2% - men, 15-34 years: 38.3% - women vs. 22.8% - men).

### **3. Consequences of the COVID-19 pandemic on the labour market**

On March 17<sup>th</sup>, 2020, a state of emergency was established in the Republic of Moldova, thus covering the last 2 weeks of Q I of 2020. However, with the onset of the pandemic, some changes in the labour market were remarked. From the total number of employed population, 33.2 thousand pers. or 4.1% were people who reported being affected at work due to COVID-19, of whom women (4.6%) were more affected than men (3.7%). Of these, most (60.6%) are people who did not work at all or were absent from work (men - 69.7%, women - 52.7%); 28.4% worked from home or worked remotely (women - 39.7%, men - 15.2%); 25.5% worked fewer hours per week (women - 30.0%, men - 20.4%); 8.0% were transferred to part-time work (women - 8.8%; men - 7.1%). Due to the COVID-19 crisis, the situation at work of women was affected less than in the case of men: women - 53.7%, men - 46.3% (gender structure); women - 48.3%, men - 51.7% (in the total number of employed people). By residence areas, 50.5% of those persons belong to the urban area and 49.5% - to the rural area. By age groups, the largest share is held by people aged 25-34 years (36.3%), followed by people aged 35-44 years (24.6%) and those aged 45-54 years (19.5%).

The number of people who had a job, but did not work at all in Q I 2020 increased 2 times compared to s.p.l.y. At the same time, the share of these persons in the total number of persons employed increased by 2.5 p.p. (from 2.4% in Q I of 2019 to 4.9% in Q I of 2020). These increases are entirely due to the restrictions imposed in connection with the COVID-19 crisis. By reason of absence: 34% did not work due to stationary activity at the unit where they work; 29% had to take annual leave; 28% were on unpaid leave; 6% were technically unemployed. Compared to Q I of 2019, the number of people on unpaid leave increased 3.5 times, on annual leave - 2.9 times, of those on technical unemployment - 1.6 times. By gender, men constitute 53.2% of the total number of people who had a job, but who did not work due to the pandemic, and women - 46.8%, and by area of residence, those in urban areas constitute 48.2% and those in rural areas - 51.8%. By age groups, most (40.7%) are people aged 25-34 years, followed by people aged 35-44 years (25.1%). Of the people who did not work due to the pandemic, 88% are employees (80% in the number of employed people) and 12% - self-employed, forced to stop working. By the distribution of absences from work by economic activities, the largest share was held by trade activities (27.3%), industry (24.8%), education (15.4%). By gender, absences for men prevail in trade activities (32.8%) and in the manufacturing industry (23.6%), and in the case of women - in education (31.8%), the manufacturing industry and the activities of trade (21% each). According to the types of absences, unpaid leave prevails in the industry - 66.3% (for men - 74.8%) and technical unemployment - 20.2% (for women - 24.8%); in trade, stationary activity prevails - 55.5% (for men - 71%) and unpaid leave - 28.5% (for women - 36.2%); in education - rest leave - 59.3% (for women - 57.9%). The number of people who performed work at home in Q I in 2020 was 16.6 thousand people, increasing 2.5 times compared to s.p.l.y. (6.75 thousand people in Q I of 2019). This increase is mostly (96% or 9.4 thousand pers.) due to the effects of the restrictions imposed by COVID-19. Of these, 49% said the number of hours worked at home per week was 40 hours or more. By gender, 75.2% of women and 24.8% of men work remotely, and by area of residence: 51.4% - those in urban areas and 48.6% - those in rural areas. According to the age groups, 2 out of 5 people are aged 25-34 years, and every 5th person is part of either the 35-44 age group or the 45-54 age group. By economic activities, 54.7% are education workers, 18.1% - workers in professional, scientific and technical activities and 12.0% - in trade. Of those who said that their situation at work was affected by the pandemic, 86.1% either worked less than 40 hours a week or did not work at all, and among those who did not have suffered from this pandemic the indicator is 32.4% (2.7 times lower than the one above) (2.8 p.p. higher compared to s.p.l.y.). People who worked fewer hours a week due to the pandemic mentioned the same reasons as people who did not work at all: technical unemployment and stationary activity of the unit. By gender, men who worked fewer hours or did not work at all represent 90.1% of all men affected by the pandemic at work, and women - 82.7%. Regarding reduced working hours, by age, the most affected are people aged 35-44 years (29.0%) and people aged 45-54 years (25.7%). Among those who worked fewer hours, 43.7% worked in education, in trade - 15.9% and in manufacturing - 14.0%. The number of persons employed with part-time work in Q I of 2020 was 51.1 thousand pers. (6.3% of the total employed persons). Of these, 5.2% stated that they switched to part-time work due to the pandemic, the main reasons being the lack of customers or orders and the transfer of the employer's initiative to such a work schedule. There were major differences by gender and area of residence among those who worked part-time due to the pandemic, with the share of the total number of these people being higher among women (59%) than men (41%) and in rural areas (64.4%) than in urban areas (35.6%). Most of the persons transferred to the part-time program are those in the age groups 25-34 years (39.8%) and 35-44 years (30.9%).

Due to the restrictions associated with COVID-19, there was a significant increase in unemployment. According to the Moldovan National Employment Agency, many employees have lost their jobs. In March, when a state of emergency was declared, 1511 unemployed people were registered at the agency. The number of unemployed increased significantly in April, to 9127 people. In May, 6182 people registered as unemployed. In the first half of the year, 28.1 thousand people were registered as unemployed through territorial employment units.

Most of the registered unemployed are people aged 30-49 (14.8 thousand unemployed or 28% of the total number of registered unemployed). They are followed by the age group of 50-65 years (8.2

thousand unemployed). 17.6 thousand unemployed or 63% do not have professional qualifications, having a level of elementary / middle / high school education. Of this category, 64% are women.

The right to unemployment benefits is established by the territorial divisions, and the amount is determined by the National Social Insurance Fund. This assistance may not exceed the average monthly salary in the economy for the previous year at the time when the entitlement to unemployment benefits was established.

During the emergency situation, persons registered with unemployment status in one of the territorial labour divisions, including those who returned from abroad, received a monthly unemployment benefit in the amount of 2775 Moldovan lei, only from the date of submission and transmission of the application. Starting with June 2<sup>nd</sup>, between May 7<sup>th</sup>-15<sup>th</sup>, the territorial employment divisions issued 14698 decisions on establishing the right to unemployment benefits, which were transferred to the National Social Insurance Fund for the calculation and payment of unemployment benefits.

Regarding the most popular professions in the Republic of Moldova, these are the following professions: tailoring (light industry/ clothing); driver, nurse, medical specialist, food and non-food seller, police inspector, accountant, manager.

#### **4. The impact of the COVID-19 pandemic on the light industry in the Republic of Moldova**

According to the study conducted by the Employers' Association of Light Industry (APIUS) between 15-22 May 2020 on the impact of the COVID-19 pandemic on light industry in the Republic of Moldova, in which participated 63 companies or 13.8% of production companies in the Republic of Moldova, in 37% of companies there were staff reductions in proportion of more than 50%, in 26% of companies this proportion was from 30% to 50%, in 24% of enterprises the share of reduced staff was from 10% to 25% and only 14% of companies did not have staff reductions. The pandemic will have an absolute impact on future staff reductions in 11% of companies, a significant impact in 33% of companies, an insignificant impact in 38% of companies and only in 17% of companies will have no impact. Factors such as the stay at home of pensioners and young mothers due to the closure of schools and kindergartens, as well as the search for other jobs by laid off employees, will have a significant impact on staff reductions. The average size of the staff reduction is about 33%. It is estimated that this size will remain the same until the end of the year. Thus, following the extrapolations, the average number of staff decreased by about 7600 pers. The reduction of staff attendance due to the suspension of schools and kindergartens is estimated to have an absolute and significant effect on production companies of 78%. Reducing the number of staff will have an absolute and significant effect of 46% on the efficiency of production companies. It is estimated that these factors will have a similar impact by the end of the year [3].

#### **5. Elaboration of the draft law on remote work**

In the context of the COVID-2019 crisis, which increased the importance of remote work, the need arose to regulate this form of work organization. Thus, a draft law amending the Labour Code of the Republic of Moldova was created. According to this bill, in case of impossibility for the employee to perform work at the workplace organized by the employer and in order to protect the safety and health of the employee during the emergency, natural or technical disasters, epidemics, pandemics, the employer, depending the specifics of the employee's work, may order, by reasoned order (disposition, decision, resolution), the temporary change of the employee's job with the performing of work at home or remotely, without operating the respective changes in the individual employment contract. The order (disposition, decision, resolution) is communicated to the employee, including by electronic means. Remote work is the form of work organization in the fields of activity in which it is possible to carry it out, through which the employee fulfills the duties specific to the position he or she is holding, outside the workplace organized by the employer, including using information and communication

technology. The employee with remote work enjoys all the rights and guarantees recognized by law, by the collective labour contract or other normative act at unit level applicable to employees whose job is organized by the employer. The individual contract for remote work is concluded, amended and terminated, including by the exchange of electronic documents with the use of a qualified advanced electronic signature. The individual employment contract regarding remote work will additionally contain: the conditions for performing remote work; the program in which the employer is entitled to verify the employee's activity and the manner of carrying out the control; the way of recording the working hours provided by the employee with remote work; the conditions for incurring expenses related to the activity of remote work and other provisions agreed by the parties [8].

## **6. The intention of returning migrants to invest their savings in business**

The return of migrants can stimulate the recovery of Moldova, which has suffered from the pandemic. Migrant workers returning to the country intend to invest their savings in business. This is mentioned in a report published by the IOM Mission to Moldova (UN Agency for Migration) of the first rapid survey on the diaspora, which examines the impact of COVID-19 due to migration [6].

The study was conducted between April 17<sup>th</sup> and May 17<sup>th</sup>, 2020, based on an online survey of 1186 Moldovan migrants, which supplements the conduct of semi-structured interviews with diaspora representatives from 10 major destination countries - Portugal, Spain, France, Italy, Germany, Ireland, the United Kingdom, Poland, the Russian Federation and Israel. These countries permanently or temporarily host about 80% of all Moldovan migrants (about 1 million Moldovans lived abroad in 2019, according to UNDESA). This study is part of a series of surveys on migration trends in Moldova in the context of the COVID-19 pandemic. The next survey will focus on the situation of Moldovan migrants returning to Moldova and families dependent on remittances.

A new IOM survey shows that due to the COVID-19 pandemic, Moldovan migrants are losing their jobs and returning home, which will lead to a sharp decline in remittances to Moldova. At the same time, the skills developed abroad and the economies of Moldovan migrants can be an important advantage for the poorest country in Europe.

Moldova largely depends on remittances from migrants, whose share is estimated at 16% of GDP in 2019. Remittances are an important source for the daily survival of thousands of Moldovan families, which is an important factor for development.

In the report, IOM-Moldova estimates that 150000 migrants could return in 2020, representing 10% of the local working-age population, contributing to a possible increase in unemployment to 8.5% by the end of 2020. The IOM survey also showed that almost half of Moldovan migrants lost their jobs and stopped sending money home, and one in four has difficulty paying rent in the host country. Moreover, only 9% of Moldovans who rely on return believe that they will need social assistance when they return home, while about 24% intend to invest their savings in business. Almost half of the respondents believe that they will bring new skills home and find or create new jobs in Moldova. More than a quarter of those who want to return home say they are emigrating again once travel restrictions are lifted and when destination countries offer them new job opportunities.

The head of the IOM mission in Moldova, Lars Johan Lonnback, said at the UN Working Group on the Socio-Economic Impact of COVID-19 in Moldova that there are reasons for optimism: "Our survey shows that Moldovan migrants who are forced to repatriate because of COVID-19, which are often far from poverty, should be perceived in terms of their added value for the development of the country of origin, but in no way stigmatized. Many will return to stay home and invest their savings and use the skills acquired in developed countries."

The IOM survey recommends the implementation of support strategies for returning migrants, which will focus on counseling services, business start-up services, vocational training, vocational guidance and services for testing and certifying informal skills acquired abroad.

At the same time, 23.4% of Moldovan households have reached the poverty line, being without remittances, 17% of migrants have stopped sending money due to the pandemic. The Swiss

Cooperation Organization in Moldova says that over 108 thousand people in 37.5 thousand households are in a difficult situation [4].

According to data for 2019, in one-fifth of all families with children in Moldova there are immigrants, in the villages there are 3 times more than in the city. The disruption of the flow of remittances due to the pandemic has a significant impact on migrants, their families, as well as on the country's economy, which is based on remittances.

## Conclusions and perspectives

The COVID-19 pandemic had a significant impact on the labour market in the Republic of Moldova. There was an increase in number of people who did not work at all, because of technical unemployment or stationary activity of the unit (most of whom are employees) or absence from work, in number of those who worked at home or worked remotely (in which for the most part the number of hours worked at home per week was 40 hours and more), in number of those who worked fewer hours per week and those who were transferred to part-time work. Among the people who went to work part-time due to the pandemic, there were major differences by gender and area of residence, the share of the total number of these people being higher among women than men and in rural areas than in urban areas. Most of the people transferred to the part-time program are from the 25-34 and 35-44 age groups. Due to the absence, most people did not work due to stationary activity at the unit where they work, were forced to take annual leave or they were on unpaid leave. These increases are entirely due to the restrictions imposed in connection with the COVID-19 crisis. Due to this crisis, the situation of women in the workplace has been less affected than in the case of men.

Factors such as the stay of pensioners and young mothers due to the closure of schools and kindergartens, as well as the search for other jobs by laid off employees, will have a significant impact of staff reductions.

Also, due to the COVID-19 pandemic, Moldovan migrants lose their jobs and return home, which will lead to a sharp decrease in remittances to Moldova. At the same time, the skills developed abroad and the economies of Moldovan migrants can be an important advantage for the poorest country in Europe.

At the same time, the situation on the labour market following the establishment of the state of emergency determined the need to regulate remote work. In addition, state authorities have approved a number of documents aimed at improving the situation on the labour market.

The Government has approved and should present to the Parliament the National Development Strategy "Moldova - 2030" for consideration [7]. Its purpose is to significantly improve the quality of life of people in the Republic of Moldova, reduce the flow of young people leaving the country, increase the attractiveness for investment, create jobs throughout the country and opportunities for personal development of young professionals. The National Development Strategy "Moldova - 2030" is a strategic vision document that indicates the direction of development of the country and society for the next decade, is based on the principle of human life cycle, human rights and quality of life, includes four pillars of sustainable development with ten objectives relevant in the long term, structured as follows: *sustainable and inclusive economy* (increasing income from sustainable sources and mitigating economic inequalities; increasing people's access to physical infrastructure, public utilities and living conditions; improving working conditions and reducing informal employment); *robust human and social capital* (ensuring quality education for all and promoting lifelong learning opportunities; ensuring the fundamental right to the best physical and mental health; sound and inclusive social protection system; ensuring a work-life balance); *honest and efficient institutions* (ensuring efficient and inclusive governance and the rule of law; promoting a peaceful, secure and inclusive society); *healthy environment* (ensuring the fundamental right to a healthy and safe environment). Of these, three of the objectives are directly aimed at the labour market. Thus, in order to increase incomes from sustainable sources and alleviate economic inequalities, it is necessary to increase the competitiveness of the Moldovan economy, for which the basic mechanism is the smart specialization of the state, following which implementation is expected: reducing by 50% the level of

absolute poverty among the population, especially that of vulnerable groups; increasing productivity in agriculture through equal and secure access to factors of production, knowledge, financial services and markets; implementing policies to support productive activities, create decent jobs, entrepreneurship, creativity; stimulating productivity growth at faster rates than real wage growth, through diversification, technological modernization and innovation. In order *to improve working conditions and reduce informal employment*, the following are expected to be achieved: increasing the employment level to the average size of the Central and Eastern European states and stimulating productive employment and work; eradication of forced labour, trafficking in human beings and child labour; protection of labour rights and promotion of safe and secure working environments for all employees. In order *to ensure a work-life balance*, state authorities must focus on: encouraging the allocation of time for personal development activities; flexibility of labour legislation; adapting infrastructure and public services to the needs of vulnerable groups.

The government has approved a program to support businesses with high potential for growth and internationalization [5]. It is based on three components: *investments in increasing business, competitiveness and productivity* (increasing innovative potential by adopting new technologies, efficient and flexible management systems, as well as increasing the efficiency and quality of products / services); *import substitution and export orientation* (overcoming technical barriers to trade; diversification of high value-added products / services and their adaptation to international standards; providing advice, information and financial support, provided to identify new foreign markets or potential business development); *creating and strengthening links with local and foreign partners* (increasing the capacity of local suppliers, encouraging partnerships between local SMEs and transnational corporations, developing and including profiles of domestic producers on various national and international platforms, integrating Moldovan SMEs in international value chains (internationalisation) and clustering orientation). The aim of the project is to support the SME sector, which plays an important role in the development of the national economy and job creation.

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# Gender Inequalities in Educational Pathways

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## Abstract

The central idea of this paper concerns the gender gap in educational pathways. This issue can be addressed from more perspectives. On the one hand, we can analyse this problem from the socialization process perspective. Through this process, individuals learn how to behave and make some evaluations regarding a particular aspect of their lives, in our case the decision-making process in educational career choices. What we can observe here in this paper, is the fact that the socialization process is gendered, prescribing from the earliest stages of life specific educational routes for men and women. On the other hand, we can move further and we can use another perspective such as the expectation-values theory. This theory takes into account the self-perceptions of students regarding their strengths and weaknesses within some disciplines. After this self-evaluation students make some decisions with respect to their future field of study that subsequently will shape their professional career. From the perspective of gender segregation, there are important and persistent disparities due to the uneven concentration of women and men in various fields of study, an issue that should be studied and addressed more, particularly in terms of policies. Therefore, this issue will be presented and analysed in this paper by using the literature in this domain of interest. Also, I will use some statistical data to support this statement.

## Introduction

In many parts of the world, encouraging students to choose a program of study in science, technology, engineering, mathematics and computer science (disciplines known as "STEM") has been for a long time a defining result of national innovation strategies. Increased focus on STEM disciplines may be related to their contribution to a country's competitiveness and economic prosperity (Hango, 2013).

However, the choices regarding educational trajectories are being shaped by the assigned gender of a person. Certain educational pathways were reserved for the female gender. This kind of educational fields leaned more towards domains of study such as humanities or arts, while the male gender was characterized by fields of study such as mathematics, science, engineering, and technology. Even though these gender differences regarding the choice of a certain educational path have faded, they continue to exist today as a consequence of the socialization process that is still quite gendered.

Underrepresentation of girls and women in science, technology, engineering and mathematics (STEM) is a global phenomenon (Stoet and Geary, 2018). Although it was identified in some studies that a large number of women predominate in the fields of social and life sciences (Ceci, Ginther, Kahn, & Williams, 2014; Su and Rounds, 2016), their underrepresentation is still very salient in areas that focus on inorganic phenomena, such as computer science. Notwithstanding the considerable efforts to understand and change this aspect, the gender gap in STEM-related disciplines continues to persist even today (Stoet and Geary, 2018). Even though, there were many attempts of approaching this matter, the discrepancies

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remained and continue to hinder the solving of the problem. This is why it is necessary to look at this problem from another angle (Ibid.).

## Literature Review

Decision-making processes that take place at the individual level lead to a cumulative result that is represented by gendered patterns in educational choices. According to the Rational Action Theory, people, after considering the probabilities of success, costs and benefits they can perceive of various options, they choose a specific educational path according to its probability of achieving something (Erikson and Jonsson 1996). “The set of available alternatives as well as the perception of benefits and costs are limited by certain external structures, such as the set-up of the education system or the labor market” (Lörz, Schindler and Walter, 2011, p. 182). Thus, „gender patterns in educational choices evolve because the decision-making process differs across the genders”(Ibid.).

Thereby, using the proper literature, I will provide an explanation of the hypothesis that argues the perception of benefits that come from educational trajectories present some dissimilarities according to gender. As stated by socialization theories, individuals have separate passions and objectives, mainly by gender (Charles and Bradley, 2002). Consequently, women view the advantages of educational trajectories taking into account distinct matters compared to men. For instance, women prefer more occupations that enable social connection, empathy or prosocial behavior (Marini, Fan, Finley, & Beutel, 1996), while men have a bigger interest in obtaining jobs with good pays and chance of promotions (Bradley, 2000; Davies and Guppy, 1997). Another explanation concerns the differences between life-plans. Jobs that permit a synergy of family responsibilities and work or a facile reintegration into the labor market after a period of maternity leave are assumed to be particularly attractive to women (Reskin, 1993).

A prevalent statement found in the research domain concerning this issue is that the roots of gender segregation in higher education reside in the earlier stages of students' educational careers, mainly in high school (Ayalon 2003). The participation of female students in advanced mathematics and science courses in high school is relatively low for several reasons that have been identified as a result of research in the field: some are related to the attitude of girls towards this field of study, and others to school influence. Research on students' attitudes has focused on their lack of interest in mathematics and science, their belief that these areas of study are irrelevant to their careers, and their anxiety generated by mathematics (Ibid.). Researchers focusing on school influence refer to negative messages coming from teachers and counselors, male curriculum orientation in math and science, the small number of female teachers who can serve as role models, and differential school policy in assigning students to advanced courses in these fields (Ayalon 2003).

In study conducted by Stoet and Geary (2018), they found an important contextual factor that seems to influence women's participation in STEM disciplines and professions. They discovered that countries who present a great level of gender equality have one of the biggest STEM differences in secondary and tertiary education, called by them “the educational-gender-equality-paradox”. The students' rational choices have a central role in describing the stated paradox and it comes from the expectation-values theory point of view (Ibid.).

Based on this theory, students are considered to use their knowledge about what subjects in school they believe they have the best performance so that to use this as a starting point in their future decisions about what educational paths and/or career to choose (Wang, Eccles, & Kenny, 2013). There is a common belief that students prefer a certain education career based on their perceived strength and weaknesses regarding to some courses because of the well-known practice of school counselors. This is explained by the fact that “when students have the opportunity to choose their coursework in secondary

education, they are typically recommended to make choices based on the basis of their strengths and enjoyment” (Stoet and Geary, 2018, p. 582).

Stoet and Geary (2018) discovered that girls and boys obtained similar scores in science skills in most countries. Also, they identified that math or science have a great probability to be a school subject at boys are better than girls, based on an examination of differences between students regarding strengths and weaknesses in school courses. They also found that the association between gender discrepancies in educational ability and university graduation rates in STEM disciplines is higher in countries with gender equality. They are saying that “for each of the 67 countries and regions participating in 2015 PISA, we first tested for sex differences in science literacy(i.e., average score for boys – average score of girls, by country)”(Stoet and Geary, 2018, p. 585). They “found that girls outperformed boys in 19 (28.4%) countries, boys outperformed girls in 22 (32.8%) countries, and there was no statistically significant difference in the remaining 26 (38.8%) countries” (Ibid.).They also calculated “the percentage of boys and girls who had science, math, or reading as their personal academic strength [...]”(Stoet and Geary, 2018, p. 585).“On average (across nations), 24% of girls had science as their strength, 25% of girls had mathematics as their strength, and 51% had reading. The corresponding values for boys were 38% science, 42% mathematics and 20% reading” (Ibid.).

Therefore, Stoetand Geary (2018) argue that in the situation where boys have relatively better performance in science and math, and girls have relatively better results at reading than in other fields of study, there is a possibility of significant gender differences in educational pathways related to STEM subjects. These differences are the results of the expectation-values theory and are in line with previous findings. The dissimilarities arise from an apparently rational choice to follow certain educational trajectories that support their own qualities in education that is also a common feature of school counseling given to students (Ibid.).

From the point of view of feminist critical approaches, gender is a principal cultural framework in the coordination of behaviour and the organization of social relationships. It usually acts as a contextual identity that influences the performance of behaviors assumed on behalf of organizational roles and identities (Ridgeway, 2009). The researches show that gender classification unconsciously generates stereotypes in the minds of individuals, making them cognitively available to model behavior and judgments (Blair and Banaji, 1996; Kunda and Spencer, 2003). Thus, in contexts that involve people of the opposite or same sex, gender stereotypes implicitly shape behavior and judgments as far as gender is culturally defined as relevant to that situation, for example, a gender typified task, such as mathematics (Ridgeway and Correll, 2004; Ridgeway and Smith-Lovin, 1999).

Thereby, what creates gender inequalities is how people understand and relate to gender differences between individuals. Such prejudices and behaviors in turn leads people who are subjected to them to review their attitude so as to fit the expectations and standards generally accepted by society. These situations can also have profoundly negative effects, in the sense that individuals become increasingly confused about their own identity, both personal and gender, because despite the fact that they do what is considered normal and appropriate for them, they do not feel and do not consider that this reflects their genuine personality.

## **Methodology**

In the following part of this paper I present and analyze some statistical data about the results of Romanian pupils in the PISA 2018 evaluation and regarding gender disparities in educational choices and trajectories. In order to do that I will use statistical data provided by OECD, Eurostat and EIGE.

## Data Analysis

In Romania, girls recorded similar scores to boys in mathematics. In contrast, in all OECD countries, boys outperformed girls by five points. While girls slightly outperformed boys in science (by two points) on average in OECD countries, in the PISA 2018 evaluation, in Romania girls and boys performed similarly in science (OECD, 2019).

Among students with high performance in math or science, 1 in 8 boys in Romania expect to work as an engineer or professional scientist at age 30, while 1 in 2 girls expect to do the same (however, the difference is not statistically significant). About 1 in 3 high-performing girls expect to work in health-related professions, while less than 1 in 10 boys with similar performances expect to do the same. Approximately 14% of boys and 2% of girls in Romania expect to work in ICT-specific professions (Ibid.).

In the following paragraphs I will present statistical data regarding the distribution of pupils and student in different area of education by gender in Romania.

According to the data provided in Table 1 and Table 2, there were no significant changes in the preferences of high school and post-high school students regarding the field of study during the years 2016, 2017 and 2018. As we see in the both tables, educational choices are influenced by sex in general. However, the only fields of study in upper-secondary education that do not register significant gender discrepancies are Agriculture, forestry, fisheries and veterinary (Males – 6.8%; Females – 5.4% in 2018) and Services (Males – 25.7%; Females – 25.5% in 2018). In the opposite sense, gender exerts a significant influence on the field of study in Education, where the share of boys, despite the fact that it is small, remains constant, and the share of girls shows a slight increase annually. Also, male students are overrepresented in Engineering, manufacturing and construction, while females in Social sciences, journalism and information.

**Table 1. Pupils enrolled by education level, sex and field of education, in 2016, 2017 and 2018, Romania.**

Upper-secondary education - vocational	2016		2017		2018	
	Males	Females	Males	Females	Males	Females
<i>Field of education</i>						
Education	0.3%	4.3%	0.3%	4.7%	0.3%	4.8%
Arts and Humanities	4.5%	6.7%	4.7%	6.9%	4.7%	7.1%
Social sciences, journalism and information	11.4%	20.3%	11.6%	19.3%	11.8%	19.1%
Business, administration and law	0.8%	1.6%	1%	2%	1%	1.9%
Agriculture, forestry, fisheries and veterinary	6.5%	5.3%	6.5%	5.4%	6.8%	5.4%
Engineering, manufacturing and construction	54.4%	38.3%	51.7%	37.1%	49.8%	36.3%
Services	22.3%	23.4%	24.2%	24.6%	25.7%	25.5%
<b>Total</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>

Source: Eurostat, [educ\_uoe\_enra03]

In the case of Post-secondary non-tertiary education – vocational (Table 2), the most salient gender gap resides in Health and welfare field of study, where the share of boys and girls is much dissimilar and remains the same during the years included in this analysis. For the field of study in Information and Communication Technologies, we can see that gender differences is not very significant (Males – 6.5%; Females – 2.4% in 2018).

In the case of Engineering, manufacturing and construction, the gender disparities are even wider than for upper-secondary education. Similarly, the differences are higher in the case of Services as compare with upper-secondary education. So, for vocational education, higher the level of qualification, higher gender disparities.

**Table 2. Students enrolled by education level, sex and field of education in 2016, 2017 and 2018, Romania**

<b>Post-secondary non-tertiary education - vocational</b>	2016		2017		2018	
	Males	Females	Males	Females	Males	Females
<i>Field of education</i>						
Business, administration and law	3.5%	2.7%	3.4%	2.8%	3.3%	2.7%
Health and welfare	33.0%	81.0%	32.8%	80.2%	33.5%	81%
Agriculture, forestry, fisheries and veterinary	4.8%	1.7%	4.9%	2.1%	4.7%	1.9%
Information and Communication Technologies	6.6%	2.4%	7.2%	2.5%	6.5%	2.4%
Engineering, manufacturing and construction	31.8%	6.2%	31.4%	6.6%	31.3%	6.3%
Services	20.4%	5.9%	20.3%	5.9%	20.7%	5.7%
<b>Total</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>

Source: Eurostat, [educ\_uoe\_enra03]

According to the European Institute for Gender Equality - EIGE (2019), at national level there has been an increase in the score of educational achievement and participation, which is due to a growing number of tertiary graduates between 2005 and 2017. The share of women with higher education is 14% (compared to 8% in 2005), while the share of men with higher education is 13% (compared to 9% in 2005). Also, Romania has almost met its national strategic objective EU 2020 to have 26.7% of people aged between 30 and 34 with higher education. The current rate is 25% (28% of women and 21% of men). However, despite improvements in terms of segregation, the unequal concentration of women and men in different fields of study in tertiary education remains a challenge. About 32% of women and 17% of men study in fields such as education, social sciences, health or humanities and arts (Ibid.).

**Table 3. Students enrolled in tertiary education by education level, sex and field of education in 2016, 2017, 2018 in Romania**

<b>Tertiary education</b>	2016		2017		2018	
	Males	Females	Males	Females	Males	Females
<i>Field of education</i>						
Education	0.6%	5.1%	0.7%	5.4%	0.7%	5.5%
Arts and Humanities	7.6%	10.6%	7.6%	10.4%	7.6%	10.3%
Social sciences, journalism and	5.5%	11.5%	5.3%	11.2%	5.5%	11.6%

<b>Tertiary education</b>	2016		2017		2018	
information						
Business, administration and law	18.6%	28.7%	18.9%	28.3%	19.3%	27.6%
Natural sciences, mathematics and statistics	4.2%	5.9%	3.8%	5.3%	3.7%	5.3%
Health and welfare	8.9%	16.3%	9.6%	17.1%	9.5%	17.3%
Engineering, manufacturing and construction	33.1%	12.8%	32%	12.7%	30.9%	12.6%
Information and Communication Technologies	9.3%	3.4%	9.9%	3.7%	10.3%	3.8%
Agriculture, forestry, fisheries and veterinary	6.3%	3.5%	6.3%	3.6%	6%	3.5%
Services	6%	2.3%	6%	2.3%	6.4%	2.4%
<b>Total</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>

Source: Eurostat, [educ\_uoe\_enrt03]

In the last table (Table 3), there is the distribution of males and females by the field of study in the tertiary education. An interesting fact is the share of men and women in the Business, administration and law field of study that is slightly different from the above tables. There are more women enrolled in this domain of study than men, comparing to the shares in upper-secondary education and post-secondary education. In the case of Engineering, manufacturing and construction, the gender disparities keep its trend, with a little increase in the share of female students of six percentage points on average, compared with the case of post-secondary education.

This table confirms what EIGE (2019) claims about the uneven concentration of men and women in some area of study in tertiary education. There are 45% of females and just 23% of males in domain related to education, social sciences, health and arts and humanities in 2018 in Romania. Also, this data correspond with the PISA 2018 evaluation in Romania, where boys and girls obtained similar scores in science skills. Moreover, there is a difference of almost two percentage points (1.6) between the share of males and females enrolled in Natural sciences, mathematics and statistics field of study, where are more women than men, even though the differences are small. But, the dissimilarities remains solid in Information and Communication Technologies domain of education, where are 4% of females and 10% of males enrolled in this field.

## Conclusions

In this paper I aimed to identify gender inequalities from the perspective of educational pathways adopted by students. In achieving this objective, I consulted the literature in domain, which revealed that girls and boys differ in terms of choices regard educational pathways because of the evaluation they make before, taking into account the benefits they can gain later. However, this decision-making process is greatly affected by the way children were socialized, including in education, which risks leading to gender discrepancies in tertiary education and also in subsequent professional life.

At the national level, from the point of view of the PISA 2018 evaluation, girls and boys obtained similar scores in mathematics and science, compared to the results obtained in OECD countries, where boys outperformed girls in mathematics, but girls outperformed boys in science.

From the perspective of gender segregation, there are important and persistent disparities due to the uneven concentration of women and men in various fields of study, an issue that should be studied and addressed more, particularly in terms of policies.

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# CURRENT SITUATION AND PROSPECTS OF INCOME AND CONSUMPTION EXPENDITURE OF HOUSEHOLDS WITH CHILDREN IN THE REPUBLIC OF MOLDOVA<sup>1</sup>

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## Abstract

*As is generally known, usually the households with children have some peculiarities that differentiate them from the households with no children. The presence and the dependent status of children from their parents or other significant adults in their households determine changes in the level and the structure of disposable income and consumption expenditure in the households. Republic of Moldova like other countries as well was affected by the so-called COVID-19 pandemic. In this paper the peculiarities of the current situation of households with children in Moldova are emphasized and analyzed based on their disposable income and consumption expenditure, using as a source of the statistical data the National Bureau of Statistics of Moldova. Also, in the view of recent research on COVID-19 consequences, are outlined the prospects of the situation of households with children in Moldova.*

**Key words:** households, family couples with children, single parents with children, disposable income, consumption expenditure, Republic of Moldova.

## SITUAȚIA CURENTĂ ȘI PERSPECTIVE ALE VENITURILOR ȘI ALE CHELTUIELILOR DE CONSUM ALE GOSPODĂRIILOR CU COPII ÎN REPUBLICA MOLDOVA

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## Rezumat

*După cum este în general cunoscut, de obicei, gospodăriile cu copii au unele particularități care le diferențiază de gospodăriile fără copii. Prezența și starea dependentă a copiilor de părinții lor sau de alți adulți semnificativi în gospodăriile lor determină schimbări ale nivelului și structurii veniturilor disponibile și cheltuielilor de consum în gospodării. Republica Moldova, la fel ca și alte țări, a fost afectată de așa-numita pandemie COVID-19. În acest articol sunt evidențiate și analizate particularitățile situației actuale a gospodăriilor cu copii din Moldova pe baza venitului disponibil și a cheltuielilor de consum, folosind ca sursă de date statistice Biroul Național de Statistică al Moldovei. De asemenea, în perspectiva cercetărilor recente privind consecințele COVID-19, sunt prezentate perspectivele situației gospodăriilor cu copii din Moldova.*

**Cuvinte-cheie:** gospodării, cupluri familiale cu copii, părinți singuri cu copii, venituri disponibile, cheltuieli de consum, Republica Moldova.

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## Introduction

A harmonious and sustainable development of a society normally corresponds to an adequate level of welfare of the population. One of the approaches commonly used in the assessment of welfare is based on the analysis of consumption expenditure and disposable income of households. As it is generally known, households with children have some peculiarities that differentiate them from households without children. The presence and dependence of children on their parents or other significant adults in their households determines changes in the level and structure of disposable income and consumption expenditure in households. In the Republic of Moldova, as in many other countries, the Household Budget Survey is used for their analysis. Over the years it has undergone several significant changes, the latter referring mainly to the use of the definition of the number of people with habitual residence (the number of persons who have lived mainly in the last 12 months on the territory of the Republic of Moldova regardless of temporary absences (for recreation, vacation, visits to relatives and friends, business, medical treatment, religious pilgrimages, etc.)) instead of the resident population (number of persons who have a permanent residence in the respective territory, including temporarily absent persons). The statistical data on households' characteristics were recalculated from the year 2014 onwards. It also must be mentioned here that the data are comparable only for the years 2014-2018, since there were some changes in the Household Budget Survey design in 2019 (a new sample of households and a new scheme of rotation).

According to NBS metadata the disposable income of the households by source can be classified in: income from employment (salarial activity); income from self-employment in agriculture (the net income from the sale of own agricultural production, as well as the equivalent value of consumption from own agricultural resources, not traded); income from self-employment in non-agricultural sector (the net income from various types of non-agricultural activities on their own account, including the amounts collected from the realization of the finished products from the individual work activities, as well as the profit obtained by the population as a result of the trade-intermediation activities); property income (money collected by the population in the form of interest from bank deposits and loans offered to individuals; dividends and sales of actions; rents from the leasing of goods that do not belong to the production activity (real estate, means of transport, durable goods, etc.); income from social protection payments (old-age, disability and survivor pensions; social allowances; incapacity benefits; single allowances (for the childbirth, in case of death, for the care of the sick); payments for the care of the child up to 1.5/ 3.0 years old; social aid; allowances for veterans and war widows; scholarships etc.); other income (alimony; money and goods received free of charge, money collected from life insurance, personal property, money transfers from abroad, etc.).

The consumption expenditures of the population according to their destination are classified in expenditures on: food (purchase of products consumed as well as the value of human consumption of food from the household's own resources); alcoholic beverages, tobacco (alcoholic beverages, tobacco and smoking accessories, and the equivalent value of consuming these products from the household's own resources); clothing and footwear (procurement of clothing and footwear, as well as expenses incurred for the payment of services related to their manufacture and repair); household maintenance (rent, energy, water and other communal services, as well as the expenses related to arrangement and repair of the house); dwelling equipment (endowment and equipping the house with various durable goods, household items, and payment for services related to their maintenance); medical care and health (procurement of medicines, medical devices, sanitary and hygiene items, payment for services, medical treatment and hospital treatment); transport (purchase of means of auto-moto transport, spare parts, services related to their service and repair, as well as the payment of various transport services); communication (payment of postal services, telecommunications, and the costs of servicing telecommunication); entertainment

(purchase of the objects of socio-cultural purpose, for rest and sports; of printed production (manuals, didactic material, newspapers, office supplies, etc.); including payment for various cultural activities and services, tourism, etc.); education (purchase of textbooks, school supplies, etc., as well as payments for the payment of education services, inclusive the extracurricular activities and mediation services); hotels, restaurants, cafes, etc. (accommodation and food outside the household in various specialized places); miscellaneous expenses (purchase of hygiene items and cosmetics, haberdashery articles; payment of insurance services for life, real estate, means of transport, etc.; pocket money; funds offered as gifts to particular individuals etc.).

The household is considered a group of two or more people living together usually having family ties and having a common budget, participating fully or partly to the formation of income and their expenditure, or the person who lives and manages separately and does not belong to another household. Households with children are considered to be households with children up to 18 years of age. Family couples are considered the households made up of couples with or without unmarried children.

The Household Budget Survey consists from a gross sample of 9768 households surveyed annually. The sample is a probabilistic one representative at national level, by areas of residence and by statistical regions: North, Center, South and Chisinau municipality [1]. At the national level, the confidence intervals for the significance level of 95% for 2018 are estimated at 2383.1 ± 23.8 Moldovan lei for disposable income per person and 2407.9 ± 19.3 Moldovan lei for consumption expenditures per person [4].

As the statistical data on households between 2014-2018 and 2019 are not comparable, they will be analyzed separately.

## **1. The characteristics of households with children in Moldova**

According to National Bureau of Statistics of Republic of Moldova metadata with regard to the children the Moldovan households are classified in two ways. First one concerns the presence of children in the household and according to it there are households without children (households with single persons, couples without children, other households with children) and households with children (single parents with children, couples with children, other households with children). The second one is about the number of children in the household and divides the households in: those with 1 child, the ones with 2 children, households with 3 children or more and the households with no children. Further the analysis will focus mainly on types of households with children and only on some occasions on households with no children.

By the type of the household in 2019 the average size of the family couples with children was 3.7 persons (3.6 persons in urban area and 3.8 persons in rural area), for single parents with children – 2.5 persons (2.4 persons in urban area and 2.7 persons in rural area), for other household with children – 4.1 persons (3.9 persons in urban area and 4.1 persons in rural area).

In 2019, in the structure of households those with children had a share of 31.5%, of which most were family couples with children - 17.8%, single parents with children accounted for 2.4%, and other households with children had a share of 11.3%. Depending on the area of residence, there are significant discrepancies between the weights of households with children. Thus, in urban areas, family couples with children prevail (23.5% vs. 14.0% in rural areas) and single parents with children (3.6% vs. 1.6% in rural areas), and in rural areas other households with children predominate (13.8% vs. 7.6% in urban areas). By the number of children in the household, those with 1 child represent 14.9%, those with 2 children - 12.5%, with 3 children and more - 4.2%, and the remaining 68.4% being without children. In urban areas, those with 1 child (17.4% compared to 13.2% in rural areas) and 2 children (13.8% compared to 11.5% in rural areas) have a higher share, and in rural areas - those with 3 or more children (4.8% compared to

3.4% in urban areas) have a higher share. The structure of households by the number of children also varies depending on the statistical region.

By the type of the household in 2018 the average size of the family couples with children was 3.8 persons (3.4 persons in urban area and 3.8 persons in rural area), for single parents with children – 2.7 persons (2.4 persons in urban area and 2.7 persons in rural area), for other household with children – 4.2 persons (4.1 persons in urban area and 4.3 persons in rural area). In the case of family couples with children the average size of the household didn't change from 2014, regardless of residence area. For the single parents with children the average size of the household has grown slightly (from 2.4 persons in 2014 to 2.5 people in 2018), while in other households with children the average size slightly reduced (from 4.3 persons in 2014 to 4.2 people in 2018), because of the reduction of the household size in rural areas (from 4.4 people in 2014 to 4.3 people in 2018), while in urban areas the size has grown slightly (from 4.0 people in 2014 to 4.1 people in 2018).

In 2018 totally per country family couples with children had a share of 18.1% from all households (increasing from 17.4% in 2014), the share being higher in urban area – 20.9% (increasing from 20.2% in 2014) than in rural area – 16.0% (increasing from 15.2% in 2014). The share of households with single parents with children was 2.3% in 2018 (the same as in 2014), the share being higher in urban area – 3.4% (increasing from 2.8% in 2014) than in rural area – 1.4% (increasing from 1.9% in 2014). The share of other households with children was 11.5% in 2018 (decreasing from 15.5% in 2014), the share being higher in rural area – 13.0% (decreasing from 18.2% in 2014) than in urban area – 9.4% (decreasing from 12.1% in 2014). In 2018 totally per country households with 1 child had a share of 16.9% from all households (decreasing from 19.4% in 2014), the share being higher in urban area – 20.3% (decreasing from 22.6% in 2014) than in rural area – 14.4% (decreasing from 17.0% in 2014). The share of households with 2 children was 11.0% in 2018 (decreasing from 12.2% in 2014), the share being higher in urban area – 11.4% (increasing from 10.5% in 2014) than in rural area – 10.8% (decreasing from 13.5% in 2014). The share of households with 3 children and more was 3.8% in 2018 (decreasing from 3.6% in 2014), the share being higher in rural area – 5.2% (increasing from 4.8% in 2014) than in urban area – 2.0% (the same as in 2014). The share of households without children was 68.2% in 2018 (increasing from 64.8% in 2014), the share being higher in rural area – 69.6% (increasing from 64.7% in 2014) than in urban area – 66.3% (increasing from 64.9% in 2014).

## **2. The income of the households with children in Moldova**

In 2019 on the whole country the average disposable income per capita of the Moldovan households with family couples with children was in the amount of 2657.5 MDL (higher in urban area (3162.3 MDL) than in rural area (2119.4 MDL)), from which the biggest share - 60.1% was from employment (higher in urban area (69.1%) than in rural area (45.9%)), followed by: other incomes – 18.0% (lower in urban area (15.6%) than in rural area (21.8%)) (from which remittances – 13.6%, lower in urban area (10.3%) than in rural area (18.9%)), income from self-employment in non-agricultural sector- 8.5% (lower in urban area (8.3%) than in rural area (8.8%)), income from self-employment in agriculture- 6.6% (much lower in urban area (0.4%) than in rural area (16.5%)), social protection payments- 6.5% (lower in urban area (6.2%) than in rural area (7.0%)) (from which: pensions – 1.1% (0.8% in urban area and 1.6% in rural area), child allowances – 4.2% (4.9% in urban area and 3.1% in rural area), social support – 0.4% (0.1% in urban area and 0.9% in rural area)), property income- 0.3% (0.4% in urban area and 0.1% in rural area). In 2019 on the whole country the average disposable income per capita of the Moldovan households with single parents with children was in the amount of 2298.8 MDL (higher in urban area (2655.7 MDL) than in rural area (1811.0 MDL)), from which the biggest share – 52.6% was from employment (higher in urban area (58.5%) than in rural area (41.0%)), followed by: other incomes – 29.1% (higher in urban area

(30.1%) than in rural area (27.2%)) (from which remittances – 16.0%, lower in urban area (14.0%) than in rural area (19.9%)), social protection payments – 7.7% (lower in urban area (3.7%) than in rural area (15.8%)) (from which: pensions – 1.2% (0.7% in urban area and 2.2% in rural area), child allowances – 1.9% (2.2% in urban area and 1.2% in rural area), social support – 2.8% (8.3% in rural area)), income from self-employment in non-agricultural sector –6.3% (higher in urban area (7.5%) than in rural area (3.9%)), income from self-employment in agriculture –4.2% (much lower in urban area (0.3%) than in rural area (12.1%)). In 2019 on the whole country the average disposable income per capita of the other Moldovan households with children was in the amount of 2165.9 MDL (higher in urban area (2747.4 MDL) than in rural area (1964.8 MDL)), from which the biggest share –41.9% was from employment (higher in urban area (55.9%) than in rural area (35.2%)), followed by: other incomes – 24.8% (lower in urban area (19.4%) than in rural area (27.3%)) (from which remittances – 22.4%, lower in urban area (15.4%) than in rural area (25.8%)), social protection payments – 14.2% (higher in urban area (15.7%) than in rural area (13.5%)) (from which: pensions – 8.4% (9.2% in urban area and 8.0% in rural area), child allowances – 1.9% (2.2% in urban area and 1.8% in rural area), social support – 0.6% (0.9% in rural area)), income from self-employment in agriculture –11.6% (much lower in urban area (1.7%) than in rural area (16.4%)), income from self-employment in non-agricultural sector –7.2% (slightly higher in urban area (7.2%) than in rural area (7.1%)), property income - 0.3% (0.5% in rural area).

In the year 2019 on the whole country the average disposable income per capita of the Moldovan households with 1 child was in the amount of 2939.2 MDL (higher in urban area (3584.2 MDL) than in rural area (2389.0 MDL)), from which the biggest share –58.2% was from employment (higher in urban area (69.4%) than in rural area (43.9%)), followed by: other incomes – 18.9% (lower in urban area (16.0%) than in rural area (22.5%)) (from which remittances – 15.3%, lower in urban area (10.8%) than in rural area (21.1%)), social protection payments – 9.2% (lower in urban area (8.7%) than in rural area (9.8%)) (from which: pensions – 4.3% (3.3% in urban area and 5.5% in rural area), child allowances – 2.7% (3.5% in urban area and 1.6% in rural area), social support – 0.3% (0.6% in rural area)), income from self-employment in agriculture –7.4% (much lower in urban area (0.5%) than in rural area (16.1%)), income from self-employment in non-agricultural sector –5.9% (lower in urban area (5.0%) than in rural area (7.1%)), property income - 0.4% (0.4% in urban area and 0.5% in rural area).

In the year 2019 on the whole country the average disposable income per capita of the Moldovan households with 2 children was in the amount of 2360.6 MDL (higher in urban area (2805.5 MDL) than in rural area (2025.1 MDL)), from which the biggest share –52.1% was from employment (higher in urban area (63.5%) than in rural area (40.2%)), followed by: other incomes – 22.6% (lower in urban area (17.5%) than in rural area (27.9%)) (from which remittances – 18.1%, lower in urban area (11.7%) than in rural area (24.8%)), income from self-employment in non-agricultural sector –9.2% (higher in urban area (10.5%) than in rural area (7.8%)), social protection payments – 8.2% (lower in urban area (7.6%) than in rural area (8.8%)) (from which: pensions – 3.2% (2.0% in urban area and 4.4% in rural area), child allowances – 3.6% (4.8% in urban area and 2.3% in rural area), social support – 0.2% (0.3% in rural area)), income from self-employment in agriculture –7.8% (much lower in urban area (0.6%) than in rural area (15.3%)), property income - 0.1% (0.2% in urban area and 0.1% in rural area).

In the year 2019 on the whole country the average disposable income per capita of the Moldovan households with 3 children and more was in the amount of 1679.6 MDL (higher in urban area (2076.4 MDL) than in rural area (1502.2 MDL)), from which the biggest share –41.2% was from employment (higher in urban area (55.0%) than in rural area (32.7%)), followed by: other incomes – 22.7% (slightly higher in urban area (23.0%) than in rural area (22.6%)) (from which remittances – 18.3%, lower in urban area (16.0%) than in rural area (19.7%)), income from self-employment in agriculture – 12.6% (much lower in urban area (1.9%) than in rural area (19.2%)), social protection payments – 12.5% (much lower in urban area (7.4%) than in rural area (15.6%)) (from which: pensions – 2.8% (1.9% in urban area and 3.4% in rural area), child allowances – 4.6% (4.3% in urban area and 4.8% in rural area), social support –

2.8% (0.5% in urban area and 4.3% in rural area)), income from self-employment in non-agricultural sector –11.0% (higher in urban area (12.7%) than in rural area (9.9%)).

In the year 2019 on the whole country the average disposable income per capita of the Moldovan households without children was in the amount of 3320.4 MDL (higher in urban area (4081.4 MDL) than in rural area (2860.3 MDL)), from which the biggest share –47.7% was from employment (much higher in urban area (60.7%) than in rural area (36.5%)), followed by: social protection payments –25.8% (lower in urban area (24.1%) than in rural area (27.3%)) (from which: pensions – 22.5% (22.5% in urban area and 22.6% in rural area), social support – 0.3% (0.1% in urban area and 0.5% in rural area)), other incomes – 11.7% (lower in urban area (9.3%) than in rural area (13.7%)) (from which remittances – 9.0%, lower in urban area (5.9%) than in rural area (11.6%)), income from self-employment in agriculture –9.4% (much lower in urban area (0.8%) than in rural area (16.9%)), income from self-employment in non-agricultural sector –5.0% (lower in urban area (4.7%) than in rural area (5.3%)), property income - 0.3% (0.4% in urban area and 0.3% in rural area).

The **Table 1** shows the average monthly disposable income per capita of the Moldovan households with children by type of household and areas of residence between 2014 and 2018. According to the data from 2018, from the types of household with children and area of residence urban family couples with children had the biggest amounts of average disposable monthly income per capita, followed by urban single parents with children and other urban households with children. It should be noted though, that in the case of rural area, a bigger amount of average monthly disposable income per capita had „other rural households with children”<sup>3</sup>, followed by rural family couples with children and rural single parents with children. The situation is the same for the year 2014. From important changes that took place between 2014 and 2018 in the amount of the average monthly disposable income per capita of the Moldovan households can be mentioned: the increase of the income from employment in all types of households with children in urban area (by 50-60% for the family couples with children and single parents with children and by 35% for other households with children) and in rural area (by 40-50% for the family couples with children and single parents with children and by 65% for other households with children); the decrease of the income from remittances for urban single parents with children by 71%; the increase of the self-employment in non-agricultural sector for urban single parents with children by 2.1 times; the increase of the social protection payments (especially pensions) for other urban households with children by 70%. In any other cases the changes were much smaller.

**Table 1. The average monthly disposable income per capita of the Moldovan households with children by type of household and areas of residence between 2014 and 2018, MDL**

	Total percountry		Urban area		Rural area		Total percountry		Urban area		Rural area	
	2014	2018	2014	2018	2014	2018	2014	2018	2014	2018	2014	2018
	Family couples with children						Single parents with children					
<b>Disposable income - total</b>	1607.1	2131.1	1957.6	2676.0	1280.9	1666.5	1504.7	1969.0	1935.4	2354.3	1048.3	1377.3
<b>Employment</b>	799.7	1202.3	1219.8	1904.6	408.6	603.5	662.9	1057.5	929.2	1402.4	380.6	527.8
<b>Self-employment in agriculture</b>	124.9	161.5	9.8	11.5	232.1	289.3	72.9	75.7	2.7	5.4	147.3	183.7
<b>Self-employment in non-</b>	179.0	163.4	228.1	201.4	133.4	131.0	78.7	140.2	91.4	194.2	65.2	57.3

<sup>3</sup> Here and further quotations are used for this phrase where it can be confused in order to designate the term used in statistical classification and not just some expression used coincidentally.

<b>agricultural sector</b>												
<b>Property income</b>	1.3	2.0	1.1	2.9	1.5	1.3	11.8	4.7	22.8	7.7	-	-
<b>Social protection payments, from which:</b>	76.5	119.7	95.1	113.7	59.2	124.8	159.2	164.8	175.2	142.6	142.3	198.9
<b>pensions</b>	10.8	18.9	8.3	16.1	13.1	21.2	86.7	54.8	125.8	67.5	45.2	35.2
<b>child allowances</b>	43.4	55.6	66.7	80.9	21.6	34.0	20.9	5.6	40.6	3.0	-	9.7
<b>social support</b>	7.8	21.8	2.1	0.9	13.2	39.7	26.6	57.9	-	34.0	54.9	94.5
<b>Other income, from which:</b>	425.7	482.3	403.8	441.9	446.1	516.6	519.3	526.1	713.9	601.9	313.0	409.6
<b>remittances</b>	349.7	409.3	288.7	326.7	406.5	479.8	333.5	191.7	436.7	127.1	224.1	290.9
	<b>Other households with children</b>											
	<b>Total percountry</b>		<b>Urban area</b>		<b>Rural area</b>							
	<b>2014</b>	<b>2018</b>	<b>2014</b>	<b>2018</b>	<b>2014</b>	<b>2018</b>	<b>2014</b>	<b>2018</b>	<b>2014</b>	<b>2018</b>	<b>2014</b>	<b>2018</b>
<b>Disposable income - total</b>	1380.6	1887.9	1543.9	2103.6	1303.8	1778.4						
<b>Employment</b>	563.0	850.7	917.4	1236.6	396.3	654.7						
<b>Self-employment in agriculture</b>	175.9	187.4	25.6	24.8	246.5	270.0						
<b>Self-employment in non-agricultural sector</b>	87.1	112.9	119.0	211.0	72.1	63.1						
<b>Property income</b>	0.5	-	-	-	0.7	-						
<b>Social protection payments, from which:</b>	150.0	241.6	164.4	279.1	143.2	222.5						
<b>pensions</b>	109.6	150.9	123.3	184.5	103.1	133.8						
<b>child allowances</b>	21.8	26.5	26.6	32.1	19.5	23.6						
<b>social support</b>	4.3	20.5	2.9	15.0	4.9	23.3						
<b>Other income, from which:</b>	404.3	495.4	317.6	352.1	445.1	568.2						
<b>remittances</b>	364.3	431.9	243.8	244.2	420.9	527.2						

*Source:* Elaborated on the basis of NBS of Republic of Moldova[6]

The *Table 2* shows the share of average monthly disposable income per capita of the Moldovan households with children by type of household and areas of residence between 2014 and 2018. There are significant differences in the income structure of different types of households with children, as well as by residence area. It should be noted that the income from employment occupies if not the largest share, then an essential one - about half of the share of income. In the case of family couples with children, 2/3 of the income comes from employment in urban areas, while in rural areas they have only 1/3 of all income. The shares of income from employment in other types of households than family couples with children showed smaller differences depending on the area of residence, although in rural areas they were about 1/3, in urban areas the share was about 2/3. Obviously, an important share in the rural area is occupied by the income from the individual agricultural activity - about 1/5, which is a bit lower in the case of single

parents with children and other households with children. Remittances also occupy an important place in the income structure of households with children, especially rural ones, the share of which was about 1/3 regardless of the type of household with children.

It should be noted here that there are major differences in the share of remittances between types of households with children in urban areas, so in the case of single parents with children their share is 5.4% in 2018, while in the same year this share in family couples with children and other households with children was higher - about 12%. This difference is caused by the fact that single parents have more difficulty going abroad, having dependent children compared to households with more adults.

Households with children in rural areas are more dependent on social protection payments than those in urban areas. This is more obvious for single parents with children in rural areas, in the structure of income whose share of social benefits is 14.4% in 2018, as well as for "other households with children" in rural areas (12.5%) compared to family couples with children from rural areas (7.5%).

In family couples with children from rural areas, but especially in households with single parents with children, social support occupies a slightly higher share than other types of social protection payments, while in other households with children, pensions have a significant share in the incomes, where older relatives or grandparents may be the ones caring for children, while one or both parents may be abroad (in these households the share of remittances is also high).

Property income occupies an insignificant share in the income structure of households with children, without changing significantly over the years and without differing significantly depending on the area of residence or type of household, while income from individual non-agricultural activity has a share, although not large, but significant in the income structure of households with children, regardless of the place of residence. With the exception of family couples with children where the share of these incomes was higher in rural areas than in urban areas, in the case of other types of households with children the situation is the opposite. These incomes contain, among others, the amounts collected from the realization of the finished products from the individual work activities, as well as the profit obtained by the population as a result of the trade-intermediation activities. Obtaining these incomes is more difficult for single parents with children from rural areas and "other households with children" who are more employed in individual agricultural activity, lacking people to take care of these sources of income in addition to agricultural activities.

It should be noted that the share of income from employment between 2014 and 2018 increased in family couples with children and single parents with children in both urban and rural areas. There was also an increase in the share of social protection payments in households with children in rural areas and in "other households with children" in general, as well as in the share of income from individual non-agricultural activities in urban areas. On the background of these increases, the share of incomes from other categories in households with children decreased, and in particular the share of remittances in the case of single parents with children decreased significantly.

**Table 2. The share of average monthly disposable income per capita of the Moldovan households with children by type of household and areas of residence between 2014 and 2018, %**

	Total percountry		Urban area		Rural area		Total percountry		Urban area		Rural area	
	2014	2018	2014	2018	2014	2018	2014	2018	2014	2018	2014	2018
	Family couples with children						Single parents with children					
<b>Employment</b>	49.8	56.4	62.3	71.2	31.9	36.2	44.1	53.7	48.0	59.6	36.3	38.3

	Total percountry		Urban area		Rural area		Total percountry		Urban area		Rural area	
	2014	2018	2014	2018	2014	2018	2014	2018	2014	2018	2014	2018
	Family couples with children						Single parents with children					
Self-employment in agriculture	7.8	7.6	0.5	0.4	18.1	17.4	4.8	3.8	0.1	0.2	14.1	13.3
Self-employment in non-agricultural sector	11.1	7.7	11.7	7.5	10.4	7.9	5.2	7.1	4.7	8.2	6.2	4.2
Property income	0.1	0.1	0.1	0.1	0.1	0.1	0.8	0.2	1.2	0.3	-	-
Social protection payments, from which:	4.8	5.6	4.9	4.2	4.6	7.5	10.6	8.4	9.1	6.1	13.6	14.4
pensions	0.7	0.9	0.4	0.6	1.0	1.3	5.8	2.8	6.5	2.9	4.3	2.6
child allowances	2.7	2.6	3.4	3.0	1.7	2.0	1.4	0.3	2.1	0.1	-	0.7
social support	0.5	1.0	0.1	0.0	1.0	2.4	1.8	2.9	-	1.4	5.2	6.9
Other income, from which:	26.5	22.6	20.6	16.5	34.8	31.0	34.5	26.7	36.9	25.6	29.9	29.7
remittances	21.8	19.2	14.7	12.2	31.7	28.8	22.2	9.7	22.6	5.4	21.4	21.1
	Other households with children											
	Total percountry				Urban area				Rural area			
	2014		2018		2014		2018		2014		2018	
Employment	40.8		45.1		59.4		58.8		30.4		36.8	
Self-employment in agriculture	12.7		9.9		1.7		1.2		18.9		15.2	
Self-employment in non-agricultural sector	6.3		6.0		7.7		10.0		5.5		3.5	
Property income	0.0		-		-		-		0.1		-	
Social protection payments, from which:	10.9		12.8		10.6		13.3		11.0		12.5	
pensions	7.9		8.0		8.0		8.8		7.9		7.5	
child allowances	1.6		1.4		1.7		1.5		1.5		1.3	
social support	0.3		1.1		0.2		0.7		0.4		1.3	
Other income, from which:	29.3		26.2		20.6		16.7		34.1		31.9	
remittances	26.4		22.9		15.8		11.6		32.3		29.6	

Source: Elaborated on the basis of NBS of Republic of Moldova[6]

The *Table 3* shows the average monthly disposable income per capita of the Moldovan households with children by number of children and areas of residence between 2014 and 2018. According to the data from 2018, by the number of children and area of residence urban households with 1 child had the biggest amounts of average disposable monthly income per capita, evidently followed by urban households with 2 children and those with 3 children and more. The hierarchy of amounts is the same in the case of rural households with children. Obviously, households without children, regardless of area of residence, had bigger amounts of average monthly disposable income per capita compared to the households with children. A curious thing is that the amount of the average monthly disposable income per capita for urban households with 3 children is comparable with the one of the rural households with 2 children and it's



much more similar than in the case of urban households with 2 children compared to rural households with 1 child. The situation isn't too different for the year 2014. From most significant changes that took place between 2014 and 2018 in the amount of the average monthly disposable income per capita of the Moldovan households can be mentioned: the increase of the income from employment in all types of households with children in urban area (by about 50% for the households with 1 child, for those with 3 children and more and for those without children; by 76% for the households with 2 children) and in rural area (by 40-50% for the households with 1 child, for those with 3 children and more and for those without children; by 73% for the households with 2 children); the increase of the income from remittances in households with 3 children and more (from urban area – by 51%, from rural area – by 43%); the increase of the income from remittances in rural households with 1 child by 35%; the increase of the social protection payments (especially pensions) for households without children (from urban area – by 50%, from rural area – by 62%). In other cases the changes were much smaller.

**Table 3. The average monthly disposable income per capita of the Moldovan households with children by number of children and areas of residence between 2014 and 2018, MDL**

	Total percountry		Urban area		Rural area		Total percountry		Urban area		Rural area	
	2014	2018	2014	2018	2014	2018	2014	2018	2014	2018	2014	2018
	<b>1 child</b>						<b>2 children</b>					
<b>Disposable income - total</b>	1741.4	2325.3	2084.3	2679.2	1470.2	1995.0	1353.4	1954.7	1523.2	2365.2	1254.6	1646.5
<b>Employment</b>	889.7	1314.3	1305.9	1895.6	504.4	771.7	550.7	1016.6	861.9	1519.3	369.6	639.2
<b>Self-employment in agriculture</b>	134.3	169.1	13.2	15.1	246.5	312.8	153.9	146.2	12.2	11.9	236.4	247.1
<b>Self-employment in non-agricultural sector</b>	137.0	117.8	159.6	152.9	116.0	85.1	116.9	165.0	172.5	240.8	84.5	108.1
<b>Property income</b>	1.5	2.9	3.2	4.3	-	1.6	1.6	-	-	-	2.5	-
<b>Social protection payments, from which:</b>	123.0	186.3	121.3	195.6	124.5	177.6	107.4	150.5	130.9	144.3	93.7	155.2
<b>pensions</b>	77.4	95.4	65.9	91.2	87.9	99.3	51.1	61.5	51.7	57.7	50.8	64.3
<b>child allowances</b>	3.0	35.5	46.2	52.5	15.0	19.6	32.7	44.4	51.5	72.1	21.7	23.6
<b>social support</b>	3.2	15.0	0.7	9.0	5.4	20.6	4.1	19.9	0.3	3.4	6.4	32.3
<b>Other income, from which:</b>	455.9	534.8	431.1	415.6	478.9	646.1	423.0	476.3	345.7	448.9	468.0	496.9
<b>remittances</b>	383.9	434.1	315.0	252.4	447.7	603.6	364.2	399.5	241.8	331.0	435.5	450.9
	<b>3 children and more</b>						<b>No children</b>					
<b>Disposable income - total</b>	1025.6	1384.1	1290.7	1638.8	942.6	1314.0	2011.4	2711.4	2408.1	3326.8	1705.3	2294.3
<b>Employment</b>	303.3	438.2	526.2	770.0	233.5	346.9	850.7	1189.9	1288.5	1869.7	513.0	729.3
<b>Self-employment in agriculture</b>	177.1	213.1	45.6	33.4	218.3	262.6	184.8	197.5	27.2	24.2	306.4	315.0
<b>Self-employment in non-agricultural sector</b>	137.8	152.9	326.1	344.3	78.8	100.2	123.4	140.6	161.8	180.6	93.7	113.4
<b>Property income</b>	-	-	-	-	-	-	2.2	1.9	5.0	4.5	-	0.2
<b>Social protection</b>	117.7	179.5	142.2	135.7	110.0	191.5	474.1	734.1	543.1	812.3	420.9	681.1

<b>payments, from which:</b>												
<b>pensions</b>	452	482	472	58.3	44.6	45.5	437.2	661.8	492.5	747.7	394.6	603.6
<b>child allowances</b>	35.3	50.0	65.3	44.3	25.8	51.5	0.1	-	0.2	-	-	-
<b>social support</b>	26.3	50.9	21.0	20.3	27.9	59.3	3.7	12.5	2.0	6.0	5.0	16.9
<b>Other income, from which:</b>	289.7	400.4	250.6	355.4	301.9	412.8	376.2	447.3	382.4	435.5	371.4	455.3
<b>remittances</b>	247.4	359.9	187.7	284.0	266.1	380.8	293.6	357.9	264.7	300.1	315.9	397.1

*Source:* Elaborated on the basis of NBS of Republic of Moldova [6]

The *Table 4* shows the share of average monthly disposable income per capita of the Moldovan households with children by number of children and areas of residence between 2014 and 2018. It is noted that households with 1 or 2 children have a significantly higher share of income from employment than those with 3 or more children. This lower share of salary income in households with 3 or more children is supplemented by higher shares of income from self-employment (1/4-1/5): agricultural sector - in rural areas and non-agricultural sector in urban areas, and also higher shares of social protection payments - about 15% in villages and about 8% - in cities. There aren't very significant differences between households with different numbers of children in the share of remittances in total income, shares that represent 1/3 in rural areas and about 10-17% - in urban areas. In households without children, pensions occupy a significant source of income (20-26%), in addition to remittances and employment incomes, while incomes from individual non-agricultural activity have lower shares than in the case of households with children.

Among the significant changes in the income structure of households with children depending on the number of children between 2014 and 2018 are: the increase of the share of income from employment in households with 1 or 2 children and those in urban areas with 3 children and more (with about 4-11 p.p.); increase of the share of social protection payments in households with 3 or more children in rural areas (by about 3 p.p.) and the share of remittances in the same type of households in urban areas (by about 3 p.p.); reduction of the share of remittances in households with 1 or 2 children (by about 3-7 p.p.), of the share of social protection payments in households with 3 or more children in urban areas (by about 3 p.p.), of the share of incomes from agricultural activity in rural areas in households with children (by 1-4 p.p.) and the share of income from non-agricultural activity in urban areas in households with 1 child or 3 children and more (by 2-4 p.p.).

**Table 4. The share of average monthly disposable income per capita of the Moldovan households with children by number of children and areas of residence between 2014 and 2018, %**

	Total percountry		Urban area		Rural area		Total percountry		Urban area		Rural area	
	2014	2018	2014	2018	2014	2018	2014	2018	2014	2018	2014	2018
	<b>1 child</b>						<b>2 children</b>					
<b>Employment</b>	51.1	56.5	64.2	70.8	34.3	38.7	40.7	52.0	56.6	64.2	29.5	38.8
<b>Self-employment in agriculture</b>	7.7	7.3	0.7	0.6	16.8	15.7	11.4	7.5	0.8	0.5	18.8	15.0
<b>Self-employment in non-agricultural sector</b>	7.9	5.1	7.8	5.7	7.9	4.3	8.6	8.4	11.3	10.2	6.7	6.6
<b>Property income</b>	0.1	0.1	0.2	0.2	-	0.1	0.1	-	-	-	0.2	-
<b>Social protection</b>	7.1	8.0	6.0	7.3	8.5	8.9	7.9	7.7	8.6	6.1	7.5	9.4

<b>payments, from which:</b>												
<b>pensions</b>	4.4	4.1	3.2	3.4	6.0	5.0	3.8	3.1	3.4	2.4	4.0	3.9
<b>child allowances</b>	1.7	1.5	2.3	2.0	1.0	1.0	2.4	2.3	3.4	3.1	1.7	1.4
<b>social support</b>	0.2	0.6	0.0	0.3	0.4	1.0	0.3	1.0	0.0	0.1	0.5	2.0
<b>Other income, from which:</b>	26.2	23.0	21.2	15.5	32.6	32.4	31.3	24.4	22.7	19.0	37.3	30.2
<b>remittances</b>	22.0	18.7	15.5	9.4	30.5	30.3	26.9	20.4	15.9	14.0	34.7	27.4
	<b>3 children and more</b>						<b>No children</b>					
<b>Employment</b>	29.6	31.7	40.8	47.0	24.8	26.4	42.3	43.9	53.5	56.2	30.1	31.8
<b>Self-employment in agriculture</b>	17.3	15.4	3.5	2.0	23.2	20.0	9.2	7.3	1.1	0.7	18.0	13.7
<b>Self-employment in non-agricultural sector</b>	13.4	11.0	25.3	21.0	8.4	7.6	6.1	5.2	6.7	5.4	5.5	4.9
<b>Property income</b>	-	-	-	-	-	-	0.1	0.1	0.2	0.1	-	0.0
<b>Social protection payments, from which:</b>	11.5	13.0	11.0	8.3	11.7	14.6	23.6	27.1	22.6	24.4	24.7	29.7
<b>pensions</b>	4.4	3.5	3.7	3.6	4.7	3.5	21.7	24.4	20.5	22.5	23.1	26.3
<b>child allowances</b>	3.4	3.6	5.1	2.7	2.7	3.9	0.0	-	0.0	-	-	-
<b>social support</b>	2.6	3.7	1.6	1.2	3.0	4.5	0.2	0.5	0.1	0.2	0.3	0.7
<b>Other income, from which:</b>	28.2	28.9	19.4	21.7	32.0	31.4	18.7	16.5	15.9	13.1	21.8	19.8
<b>remittances</b>	24.1	26.0	14.5	17.3	28.2	29.0	14.6	13.2	11.0	9.0	18.5	17.3

*Source:* Elaborated on the basis of NBS of Republic of Moldova[6]

### 3. The monthly consumption expenditure of the households with children in Moldova

In 2019 on the whole country the average monthly consumption expenditure per capita of the Moldovan households with family couples with children was in the amount of 2759.9 MDL (higher in urban area (3300.3 MDL) than in rural area (2183.8 MDL)), from which the biggest share –38.1% was for food (much lower in urban area (35.0%) than in rural area (42.9%)), followed by: household maintenance – 14.3% (lower in urban area (13.9%) than in rural area (14.9%)), clothing and footwear –11.2% (lower in urban area (10.8%) than in rural area (11.7%)), transport–7.3% (higher in urban area (7.7%) than in rural area (6.6%)), dwelling equipment –5.1% (lower in urban area (4.6%) than in rural area (5.7%)), miscellaneous expenses – 4.7% (higher in urban area (4.9%) than in rural area (4.5%)), entertainment – 4.5% (higher in urban area (5.9%) than in rural area (2.3%)), communication – 4.3% (slightly lower in urban area (4.3%) than in rural area (4.4%)), medical care and health – 3.6% (higher in urban area (3.9%) than in rural area (3.1%)), hotels, restaurants, cafes etc. – 3.4% (higher in urban area (4.9%) than in rural area (1.0%)), education – 2.1% (higher in urban area (2.6%) than in rural area (1.2%)), alcoholic beverages, tobacco – 1.5% (slightly lower in urban area (1.5%) than in rural area (1.7%)). In 2019 on the whole country the average consumption expenditure per capita of the Moldovan households with single parents with children was in the amount of 2537.5 MDL (higher in urban area (2988.2 MDL) than in rural area (1921.7 MDL)), from which the biggest share – 40.0% was for food (much lower in urban area (37.2%) than in rural area (46.0%)), followed by: household maintenance – 16.6% (higher in urban area (17.3%) than in rural area (15.3%)), clothing and footwear – 10.4% (higher in urban area (10.6%) than in

rural area (9.9%)), dwelling equipment – 5.2% (higher in urban area (5.4%) than in rural area (5.0%)), miscellaneous expenses – 5.2% (much lower in urban area (4.4%) than in rural area (6.8%)), communication – 5.1% (higher in urban area (5.2%) than in rural area (4.9%)), medical care and health – 4.8% (lower in urban area (4.7%) than in rural area (5.0%)), entertainment – 4.2% (higher in urban area (5.4%) than in rural area (1.6%)), transport – 3.2% (higher in urban area (3.6%) than in rural area (2.3%)), hotels, restaurants, cafes etc. – 2.9% (higher in urban area (3.8%) than in rural area (0.9%)), education – 1.9% (higher in urban area (2.3%) than in rural area (1.2%)), alcoholic beverages, tobacco – 0.5% (slightly lower in urban area (0.3%) than in rural area (1.0%)). In 2019 on the whole country the average consumption expenditure per capita of the other Moldovan households with children was in the amount of 2190.2 MDL (higher in urban area (2763.9 MDL) than in rural area (1991.8 MDL)), from which the biggest share – 43.4% was for food (much lower in urban area (40.4%) than in rural area (44.8%)), followed by: household maintenance – 13.4% (lower in urban area (13.3%) than in rural area (13.5%)), clothing and footwear – 11.2% (lower in urban area (10.5%) than in rural area (11.5%)), transport – 5.3% (lower in urban area (4.3%) than in rural area (5.8%)), communication – 4.9% (higher in urban area (5.0%) than in rural area (4.8%)), medical care and health – 4.8% (higher in urban area (5.8%) than in rural area (4.4%)), dwelling equipment – 4.7% (lower in urban area (4.0%) than in rural area (5.1%)), miscellaneous expenses – 4.6% (higher in urban area (5.3%) than in rural area (4.2%)), entertainment – 2.9% (higher in urban area (5.0%) than in rural area (1.9%)), hotels, restaurants, cafes etc. – 1.7% (higher in urban area (3.2%) than in rural area (1.0%)), alcoholic beverages, tobacco – 1.6% (lower in urban area (1.2%) than in rural area (1.8%)), education – 1.5% (higher in urban area (1.9%) than in rural area (1.3%)).

In 2019 on the whole country the average consumption expenditure per capita of the Moldovan households with 1 child was in the amount of 2876.4 MDL (higher in urban area (3527.1 MDL) than in rural area (2321.3 MDL)), from which the biggest share – 38.8% was for food (much lower in urban area (36.0%) than in rural area (42.5%)), followed by: household maintenance – 14.7% (lower in urban area (14.4%) than in rural area (15.0%)), clothing and footwear – 11.2% (lower in urban area (10.2%) than in rural area (12.4%)), transport – 6.0% (higher in urban area (6.9%) than in rural area (4.9%)), dwelling equipment – 5.0% (lower in urban area (4.4%) than in rural area (5.8%)), miscellaneous expenses – 5.0% (higher in urban area (5.7%) than in rural area (4.2%)), communication – 4.8% (lower in urban area (4.6%) than in rural area (5.1%)), medical care and health – 4.2% (lower in urban area (4.1%) than in rural area (4.4%)), entertainment – 4.1% (much higher in urban area (5.7%) than in rural area (2.0%)), hotels, restaurants, cafes etc. – 2.8% (much higher in urban area (4.2%) than in rural area (1.0%)), education – 1.7% (higher in urban area (2.4%) than in rural area (0.8%)), alcoholic beverages, tobacco – 1.7% (lower in urban area (1.5%) than in rural area (1.8%)). In 2019 on the whole country the average consumption expenditure per capita of the Moldovan households with 2 children was in the amount of 2496.8 MDL (higher in urban area (2960.1 MDL) than in rural area (2147.3 MDL)), from which the biggest share – 39.4% was for food (much lower in urban area (35.9%) than in rural area (43.1%)), followed by: household maintenance – 13.8% (lower in urban area (13.5%) than in rural area (14.1%)), clothing and footwear – 11.3% (lower in urban area (11.2%) than in rural area (11.5%)), transport – 7.1% (lower in urban area (6.4%) than in rural area (7.7%)), dwelling equipment – 5.0% (lower in urban area (4.8%) than in rural area (5.2%)), miscellaneous expenses – 4.4% (the same in urban area as in rural area (4.4%)), communication – 4.4% (lower in urban area (4.3%) than in rural area (4.5%)), entertainment – 4.1% (much higher in urban area (5.9%) than in rural area (2.2%)), medical care and health – 3.9% (higher in urban area (4.7%) than in rural area (3.1%)), hotels, restaurants, cafes etc. – 3.2% (much higher in urban area (5.2%) than in rural area (1.2%)), education – 1.9% (higher in urban area (2.4%) than in rural area (1.3%)), alcoholic beverages, tobacco – 1.5% (lower in urban area (1.3%) than in rural area (1.7%)). In 2019 on the whole country the average consumption expenditure per capita of the Moldovan households with 3 children and more was in the amount of 1918.9 MDL (higher in urban area (2629.0 MDL) than in

rural area (1601.4 MDL)), from which the biggest share – 44.4% was for food (much lower in urban area (38.5%) than in rural area (48.6%)), followed by: household maintenance – 13.5% (higher in urban area (14.3%) than in rural area (12.9%)), clothing and footwear – 10.5% (higher in urban area (11.4%) than in rural area (9.9%)), transport – 5.8% (higher in urban area (7.1%) than in rural area (4.8%)), dwelling equipment – 4.8% (lower in urban area (4.5%) than in rural area (5.0%)), medical care and health – 4.4% (slightly lower in urban area (4.4%) than in rural area (4.5%)), communication – 4.3% (higher in urban area (4.8%) than in rural area (3.9%)), miscellaneous expenses – 4.3% (lower in urban area (4.0%) than in rural area (4.6%)), entertainment – 3.1% (much higher in urban area (4.5%) than in rural area (2.0%)), education – 2.3% (higher in urban area (2.7%) than in rural area (2.0%)), hotels, restaurants, cafes etc. – 1.5% (higher in urban area (2.9%) than in rural area (0.5%)), alcoholic beverages, tobacco – 1.0% (lower in urban area (0.8%) than in rural area (1.2%)). In 2019 on the whole country the average consumption expenditure per capita of the Moldovan households without children was in the amount of 3048.4 MDL (higher in urban area (3830.2 MDL) than in rural area (2575.8 MDL)), from which the biggest share – 41.2% was for food (much lower in urban area (37.0%) than in rural area (45.0%)), followed by: household maintenance – 17.9% (lower in urban area (17.4%) than in rural area (18.4%)), clothing and footwear – 8.4% (lower in urban area (8.2%) than in rural area (8.6%)), medical care and health – 6.1% (higher in urban area (6.8%) than in rural area (5.5%)), transport – 5.8% (higher in urban area (7.0%) than in rural area (4.8%)), dwelling equipment – 5.2% (lower in urban area (4.9%) than in rural area (5.6%)), communication – 4.5% (slightly lower in urban area (4.4%) than in rural area (4.5%)), miscellaneous expenses – 4.0% (higher in urban area (4.3%) than in rural area (3.6%)), hotels, restaurants, cafes etc. – 2.4% (much higher in urban area (4.4%) than in rural area (0.7%)), alcoholic beverages, tobacco – 2.1% (lower in urban area (1.9%) than in rural area (2.2%)), entertainment – 1.9% (much higher in urban area (3.0%) than in rural area (0.9%)), education – 0.5% (higher in urban area (0.8%) than in rural area (0.2%)).

The *Table 5* shows the average monthly consumption expenditure per capita of the Moldovan households with children by type of household and areas of residence between 2014 and 2018. According to the data from 2018, urban family couples with children had the biggest amounts of average monthly consumption expenditure per capita, followed by urban single parents with children and other urban households with children. Here should be noted that in 2014 the average monthly consumption expenditure was bigger for urban single parents with children than for urban family couples with children. In 2018 „other rural households with children” had the biggest amounts of average monthly consumption expenditure per capita, followed by rural family couples with children and rural single parents with children. Though, here should be noted that in 2014 the average monthly consumption expenditure was bigger for rural family couples with children that were followed by other rural households with children and rural single parents with children. From the significant changes that took place between 2014 and 2018 in the amount of the average monthly consumption expenditure per capita of the Moldovan households with children by type of household and areas of residence can be evidenced: the increase of the amount of the consumption expenditure for food in all types of households with children in urban area (by 34-35% for the family couples with children and other households with children and by 25% for the single parents with children) and in rural area (by 37-39% for the single parents with children and for other households with children and by 27% for family couples with children); the increase of the amount of the consumption expenditure for urban family couples with children for clothing and footwear by 42% and for hotels, restaurants, cafes etc. – by 3.2 times; the increase of the amount of the consumption expenditure for other urban households with children for clothing and footwear by 55%. Other modifications were much smaller.

**Table 5. The average monthly consumption expenditure per capita of the Moldovan households with children by type of household and areas of residence between 2014 and 2018, MDL**

	Total per country		Urban area		Rural area		Total per country		Urban area		Rural area	
	2014	2018	2014	2018	2014	2018	2014	2018	2014	2018	2014	2018
	<b>Family couples with children</b>						<b>Single parents with children</b>					
<b>Consumption expenditures - total</b>	1674.3	2265.3	2015.8	2885.0	1356.5	1736.9	1832.6	2281.1	2422.1	2729.8	1207.7	1592.1
<b>Food</b>	704.5	914.7	789.7	1058.2	625.2	792.2	744.6	994.3	886.3	1110.7	594.3	815.5
<b>Alcoholic beverages, tobacco</b>	20.2	31.6	21.9	41.5	18.7	23.3	16.3	14.4	25.4	19.9	6.7	6.1
<b>Clothing and footwear</b>	213.6	295.6	243.1	346.2	186.2	252.6	235.7	291.8	298.5	334.3	169.1	226.5
<b>Household maintenance</b>	298.2	340.1	377.5	451.4	224.3	245.2	320.9	386.0	441.3	481.9	193.3	238.9
<b>Dwelling equipment</b>	58.7	76.9	65.4	97.2	52.4	59.5	52.8	65.8	70.4	68.2	34.2	62.1
<b>Medical care and health</b>	68.2	86.8	80.3	98.0	56.9	77.3	99.8	87.6	162.9	127.6	33.0	26.2
<b>Transport</b>	81.9	128.9	116.4	198.9	49.7	69.1	83.1	60.7	116.6	81.5	47.5	28.8
<b>Communication</b>	79.4	109.3	101.7	140.9	58.7	82.3	86.7	133.6	118.6	176.3	53.0	68.0
<b>Entertainment</b>	29.9	61.6	47.7	108.1	13.3	22.0	37.8	61.1	54.1	80.6	20.6	31.1
<b>Education</b>	8.9	15.9	13.7	19.9	4.4	12.5	21.9	18.3	39.6	28.5	3.2	2.5
<b>Hotels, restaurants, cafes etc.</b>	26.6	78.0	48.3	153.8	6.3	13.5	42.4	50.8	69.2	79.7	14.1	6.5
<b>Miscellaneous</b>	84.2	125.8	109.9	171.0	60.2	87.3	90.6	116.7	139.3	140.7	38.9	79.8
	<b>Other households with children</b>											
	<b>Total per country</b>				<b>Urban area</b>				<b>Rural area</b>			
	<b>2014</b>		<b>2018</b>		<b>2014</b>		<b>2018</b>		<b>2014</b>		<b>2018</b>	
<b>Consumption expenditures - total</b>	1436.5		1896.8		1655.1		2180.1		1333.7		1752.9	
<b>Food</b>	634.1		874.9		719.1		968.3		594.2		827.6	
<b>Alcoholic beverages, tobacco</b>	15.8		29.0		10.3		27.2		18.3		30.0	
<b>Clothing and footwear</b>	177.7		246.4		174.4		269.6		179.2		234.6	
<b>Household maintenance</b>	238.9		277.8		301.2		327.3		209.7		252.7	
<b>Dwelling equipment</b>	46.3		59.8		41.5		58.3		48.6		60.6	
<b>Medical care and health</b>	69.3		82.2		70.6		98.0		68.7		74.2	

<b>Transport</b>	64.3	70.4	74.0	86.7	59.8	62.1
<b>Communication</b>	67.7	93.5	83.8	112.3	60.1	84.0
<b>Entertainment</b>	14.2	25.4	23.8	41.7	9.7	17.2
<b>Education</b>	21.5	13.7	39.8	14.2	12.9	13.5
<b>Hotels, restaurants, cafes etc.</b>	18.9	28.1	43.7	57.3	7.2	13.3
<b>Miscellaneous</b>	67.7	95.3	72.9	119.3	65.2	83.1

*Source:*Elaborated on the basis of NBS of Republic of Moldova[5]

The *Table 6* shows the share of average monthly consumption expenditure per capita of the Moldovan households with children by type of household and areas of residence between 2014 and 2018. In all types of households, food expenditures account for about 1/3-1/2 of the total expenditures. (about 37% for family couples with urban children and 46% for family couples with rural children, about 41% for single parents with children from urban areas and about 51% for single parents with children from rural areas, and 43-47% in other households with children), a significant share is also spent on clothing and footwear (about 10-15%) and those for household maintenance (about 14-19%). Family couples with children and single parents with children have a share of entertainment expenses and those for hotels, restaurants, cafes, etc. higher (1.0-3.7% and 0.4-5.3%, respectively) than in other households with children (0.7-1.9% and, respectively, 0.5-2.6%).

Among the major changes between 2014 and 2018 in the structure of consumption expenditures of households with children can be mentioned: the decrease of the share of expenditures for food and household maintenance together with the increase of the share of expenditures for entertainment and for hotels, restaurants, cafes, etc. in family couples with children; increase of the share of expenditure on food and communications and miscellaneous expenditures together with the decrease of the share of expenditure on medical care and health and transport for single parents with children; increase of the share of expenditure on food and clothing and footwear and miscellaneous expenditures together with the decrease of the share of expenditure on household maintenance and education in other households with children.

Therefore, it can be seen that households with single parents with children, as well as family couples with children and other households with children in rural areas are in a more precarious situation, given the share of food expenditure in the structure of consumption expenditure, as well as its evolution.

**Table 6. The share of average monthly consumption expenditure per capita of the Moldovan households with children by type of household and areas of residence between 2014 and 2018, %**

	Total per country		Urban area		Rural area		Total per country		Urban area		Rural area	
	2014	2018	2014	2018	2014	2018	2014	2018	2014	2018	2014	2018
	<b>Family couples with children</b>						<b>Single parents with children</b>					
<b>Food</b>	42.1	40.4	39.2	36.7	46.1	45.6	40.6	43.6	36.6	40.7	49.2	51.2
<b>Alcoholic beverages, tobacco</b>	1.2	1.4	1.1	1.4	1.4	1.3	0.9	0.6	1.0	0.7	0.6	0.4
<b>Clothing and footwear</b>	12.8	13.1	12.1	12.0	13.7	14.5	12.9	12.8	12.3	12.2	14.0	14.2
<b>Household maintenance</b>	17.8	15.0	18.7	15.6	16.5	14.1	17.5	16.9	18.2	17.7	16.0	15.0

<b>Dwelling equipment</b>	3.5	3.4	3.2	3.4	3.9	3.4	2.9	2.9	2.9	2.5	2.8	3.9
<b>Medical care and health</b>	4.1	3.8	4.0	3.4	4.2	4.5	5.4	3.8	6.7	4.7	2.7	1.6
<b>Transport</b>	4.9	5.7	5.8	6.9	3.7	4.0	4.5	2.7	4.8	3.0	3.9	1.8
<b>Communication</b>	4.7	4.8	5.0	4.9	4.3	4.7	4.7	5.9	4.9	6.5	4.4	4.3
<b>Entertainment</b>	1.8	2.7	2.4	3.7	1.0	1.3	2.1	2.7	2.2	3.0	1.7	2.0
<b>Education</b>	0.5	0.7	0.7	0.7	0.3	0.7	1.2	0.8	1.6	1.0	0.3	0.2
<b>Hotels, restaurants, cafes etc.</b>	1.6	3.4	2.4	5.3	0.5	0.8	2.3	2.2	2.9	2.9	1.2	0.4
<b>Miscellaneous</b>	5.0	5.6	5.5	5.9	4.4	5.0	4.9	5.1	5.8	5.2	3.2	5.0
	<b>Other households with children</b>											
	<b>Total per country</b>				<b>Urban area</b>				<b>Rural area</b>			
	<b>2014</b>		<b>2018</b>		<b>2014</b>		<b>2018</b>		<b>2014</b>		<b>2018</b>	
<b>Food</b>	44.1		46.1		43.4		44.4		44.6		47.2	
<b>Alcoholic beverages, tobacco</b>	1.1		1.5		0.6		1.2		1.4		1.7	
<b>Clothing and footwear</b>	12.4		13.0		10.5		12.4		13.4		13.4	
<b>Household maintenance</b>	16.6		14.6		18.2		15.0		15.7		14.4	
<b>Dwelling equipment</b>	3.2		3.2		2.5		2.7		3.6		3.5	
<b>Medical care and health</b>	4.8		4.3		4.3		4.5		5.2		4.2	
<b>Transport</b>	4.5		3.7		4.5		4.0		4.5		3.5	
<b>Communication</b>	4.7		4.9		5.1		5.2		4.5		4.8	
<b>Entertainment</b>	1.0		1.3		1.4		1.9		0.7		1.0	
<b>Education</b>	1.5		0.7		2.4		0.7		1.0		0.8	
<b>Hotels, restaurants, cafes etc.</b>	1.3		1.5		2.6		2.6		0.5		0.8	
<b>Miscellaneous</b>	4.7		5.0		4.4		5.5		4.9		4.7	

*Source:* Elaborated on the basis of NBS of Republic of Moldova[5]

The *Table 7* shows the average monthly consumption expenditure per capita of the Moldovan households with children by number of children and areas of residence between 2014 and 2018. According to the data from 2018, by the number of children and area of residence urban households with 1 child had the highest amounts of average disposable monthly income per capita, obviously followed by urban households with 2 children and those with 3 children and more. The hierarchy of amounts is similar in the case of rural households with children. Evidently, the households without children, regardless of area of residence, had higher amounts of average monthly consumption expenditure per capita compared to the households with children. The same situation is also for the year 2014. From the most essential changes that took place between 2014 and 2018 in the amount of the average monthly consumption expenditure per capita of the Moldovan households can be evidenced: the increase of the amount of consumption expenditure of food in all types of households with children in urban area (by about 27% for the households with 1 child, by about 50% for the households with 2 children and for those with 3 children and more; by 32% for households without children) and in rural area (by about 38% for the households with 1 child, by about 29% for the households with 2 children; by 35.0% for the households with 3 children and more; by 33% for households without children); the increase of the amount of consumption expenditure for clothing and footwear in urban households with 1 child by 46%; the increase



of the amount of consumption expenditure in urban households with 2 children for clothing and footwear by 46% and for household maintenance by 33%; the increase of the amount of consumption expenditure for household maintenance in households with 1 child (in urban area by 33% and in rural area – by 40%). In other cases the changes were minor.

**Table 7. The average monthly consumption expenditure per capita of the Moldovan households with children by number of children and areas of residence between 2014 and 2018, MDL**

	Total per country		Urban area		Rural area		Total per country		Urban area		Rural area	
	2014	2018	2014	2018	2014	2018	2014	2018	2014	2018	2014	2018
	<b>1 child</b>						<b>2 children</b>					
<b>Consumption expenditures - total</b>	1788.5	2377.3	2135.5	2808.7	1467.2	1974.8	1454.3	2080.5	1636.7	2587.7	1348.1	1699.8
<b>Food</b>	738.4	973.9	847.6	1072.4	637.3	882.0	633.9	882.4	676.4	1011.0	609.1	785.9
<b>Alcoholic beverages, tobacco</b>	21.4	39.9	21.0	45.8	21.7	34.5	16.2	21.3	14.2	21.1	17.4	21.5
<b>Clothing and footwear</b>	216.8	303.9	233.9	340.5	201.0	269.7	194.9	270.2	213.1	310.6	184.3	239.8
<b>Household maintenance</b>	325.7	369.7	403.6	445.4	253.6	299.1	242.4	305.8	298.1	396.6	209.9	237.5
<b>Dwelling equipment</b>	60.6	76.7	69.8	88.1	52.0	66.2	47.2	68.1	38.2	83.2	52.5	56.7
<b>Medical care and health</b>	84.5	100.9	99.8	110.2	70.4	92.2	59.7	84.2	55.3	97.9	62.2	73.9
<b>Transport</b>	83.2	122.9	107.4	155.0	60.8	93.0	74.1	103.8	95.8	164.7	61.5	58.2
<b>Communication</b>	88.9	128.1	109.4	158.6	70.0	99.6	67.3	94.7	83.1	114.5	58.1	79.9
<b>Entertainment</b>	26.1	50.5	42.6	89.0	10.8	14.6	17.6	53.7	27.0	91.1	12.2	25.6
<b>Education</b>	23.7	17.5	33.9	20.2	14.2	14.9	9.7	17.5	13.9	19.4	7.2	16.0
<b>Hotels, restaurants, cafes etc.</b>	31.8	66.2	57.8	121.8	7.7	14.3	20.4	63.6	39.8	127.5	9.1	15.8
<b>Miscellaneous</b>	87.3	127.0	108.7	161.7	67.5	94.7	70.9	115.2	81.5	150.0	64.8	89.1
	<b>3 children and more</b>						<b>No children</b>					
<b>Consumption expenditures – total</b>	1107.4	1503.0	1343.5	1892.2	1033.6	1395.9	2029.7	2680.3	2367.7	3226.7	1769.0	2310.0
<b>Food</b>	549.0	757.0	596.1	887.4	534.3	721.1	889.8	1170.3	1010.9	1332.1	796.2	1060.7
<b>Alcoholic beverages, tobacco</b>	10.5	21.6	7.5	35.3	11.5	17.8	31.5	50.3	32.2	54.9	30.9	47.1
<b>Clothing and footwear</b>	136.1	211.4	144.4	240.7	133.5	203.4	198.6	257.9	210.3	283.2	189.6	240.8
<b>Household maintenance</b>	157.5	201.9	212.5	288.0	140.3	178.2	403.7	543.7	495.3	660.0	333.1	464.9
<b>Dwelling equipment</b>	38.3	53.0	39.2	45.1	38.1	55.2	74.3	110.8	72.9	117.6	75.3	106.2
<b>Medical care and health</b>	50.4	44.9	57.8	49.2	48.2	43.7	121.4	138.4	132.8	175.0	112.6	113.6
<b>Transport</b>	38.0	41.4	65.3	98.9	29.5	25.6	87.7	100.3	112.4	136.9	68.6	75.5
<b>Communication</b>	41.8	61.1	54.0	73.4	38.0	57.6	84.7	122.4	106.4	154.7	68.0	100.6
<b>Entertainment</b>	23.5	21.8	60.7	26.0	11.8	20.6	23.6	26.3	35.1	52.2	14.8	8.8

<b>Education</b>	50	38	140	56	22	33	118	124	146	225	96	56
<b>Hotels, restaurants, cafes etc.</b>	36	143	110	41.2	12	69	318	430	565	91.1	128	105
<b>Miscellaneous</b>	53.7	70.7	81.1	101.2	45.1	62.3	709	1044	88.2	146.5	57.5	75.8

*Source:*Elaborated on the basis of NBS of Republic of Moldova[5]

The *Table 8* shows the share of average monthly consumption expenditure per capita of the Moldovan households with children by number of children and areas of residence between 2014 and 2018. The structure of consumption expenditures also varies depending on the number of children in the household. Along with the increase in the number of children in households with children, the share of expenditures for: food products also increases (from 41.0% in 2014 for households with 1 child to 50.4% in 2018 in those with 3 children and more); clothing and footwear (from 12.8% in 2014 for households with 1 child to 14.1% in 2018 for those with 3 children and more); dwelling equipment (from 3.2% in 2014 for households with 1 child to 3.5% in 2018 for those with 3 children and more), but also decreases the share of expenditures for: household maintenance (from 15.6% in 2014 for households with 1 child to 13.4% in 2018 in those with 3 children and more); medical care and health (from 4.2% in 2014 for households with 1 child to 3.0% in 2018 for those with 3 children and more); transport (from 5.2% in 2014 for households with 1 child to 2.8% in 2018 in those with 3 or more children); communication (from 5.4% in 2014 for households with 1 child to 4.1% in 2018 for those with 3 or more children). Unlike households with children, those without children had higher shares of expenditures for alcoholic beverages and tobacco, household maintenance, dwelling equipment and medical care and health.

Between 2014 and 2018 there are significant differences between some categories of expenditures on households with children in urban and rural areas. To a more significant extent, the shares of expenses for food, alcoholic beverages and tobacco, clothing and footwear, hotels, restaurants, cafes, etc. have increased and the share of spendings on entertainment, medical care and health in households with 3 or more children in urban areas has decreased. In rural areas, the share of expenditures of the same type of households has mostly undergone minor changes, and among the most significant are: the decrease in the share of expenditure on medical care and health, transport and the increase in the share of expenditure on clothing and footwear.

In the case of households with 1 child, the most essential changes in the share of expenditures were those in the urban environment - the decrease in the share of expenditures for housing maintenance; for food and increasing the share of spending on hotels, restaurants, cafes, etc.; leisure; clothing and footwear. In the rural area, in the case of this type of households, the share of food expenses and the share of household maintenance expenses had more significant changes, the weights of other expenses not having major changes.

In households with 2 children, again several major changes took place in the urban environment: increasing the share of:entertainment expenses; hotels, restaurants, cafes, etc. and lowering the share of: food expenditure; household maintenance and clothing and footwear. In rural areas, this type of households had an increase in the share of food expenditures and a decrease in the share of housing and transport expenditures, with the share of other expenditures changing less.

In the case of households without children, there have been no significant changes in the structure of expenditures in either urban or rural areas, with some exceptions, such as: a decrease in the share of food expenditure in urban areas and in rural areas - an increase in the share of household maintenance expenditures and the decrease in the share of medical care and health expenditures.

In the case of households with children, it is obvious that the number of children determines a higher share in the household of food and clothing and footwear expenses because these expenses are for individual use.

**Table 8. The share of average monthly consumption expenditure per capita of the Moldovan households with children by number of children and areas of residence between 2014 and 2018, %**

	Total per country		Urban area		Rural area		Total per country		Urban area		Rural area	
	2014	2018	2014	2018	2014	2018	2014	2018	2014	2018	2014	2018
	<b>1 child</b>						<b>2 children</b>					
<b>Food</b>	41.3	41.0	39.7	38.2	43.4	44.7	43.6	42.4	41.3	39.1	45.2	46.2
<b>Alcoholic beverages, tobacco</b>	1.2	1.7	1.0	1.6	1.5	1.7	1.1	1.0	0.9	0.8	1.3	1.3
<b>Clothing and footwear</b>	12.1	12.8	11.0	12.1	13.7	13.7	13.4	13.0	13.0	12.0	13.7	14.1
<b>Household maintenance</b>	18.2	15.6	18.9	15.9	17.3	15.1	16.7	14.7	18.2	15.3	15.6	14.0
<b>Dwelling equipment</b>	3.4	3.2	3.3	3.1	3.5	3.4	3.2	3.3	2.3	3.2	3.9	3.3
<b>Medical care and health</b>	4.7	4.2	4.7	3.9	4.8	4.7	4.1	4.0	3.4	3.8	4.6	4.3
<b>Transport</b>	4.7	5.2	5.0	5.5	4.1	4.7	5.1	5.0	5.9	6.4	4.6	3.4
<b>Communication</b>	5.0	5.4	5.1	5.6	4.8	5.0	4.6	4.6	5.1	4.4	4.3	4.7
<b>Entertainment</b>	1.5	2.1	2.0	3.2	0.7	0.7	1.2	2.6	1.6	3.5	0.9	1.5
<b>Education</b>	1.3	0.7	1.6	0.7	1.0	0.8	0.7	0.8	0.8	0.7	0.5	0.9
<b>Hotels, restaurants, cafes etc.</b>	1.8	2.8	2.7	4.3	0.5	0.7	1.4	3.1	2.4	4.9	0.7	0.9
<b>Miscellaneous</b>	4.9	5.3	5.1	5.8	4.6	4.8	4.9	5.5	5.0	5.8	4.8	5.2
	<b>3 children and more</b>						<b>No children</b>					
<b>Food</b>	49.6	50.4	44.4	46.9	51.7	51.7	43.8	43.7	42.7	41.3	45.0	45.9
<b>Alcoholic beverages, tobacco</b>	1.0	1.4	0.6	1.9	1.1	1.3	1.6	1.9	1.4	1.7	1.7	2.0
<b>Clothing and footwear</b>	12.3	14.1	10.7	12.7	12.9	14.6	9.8	9.6	8.9	8.8	10.7	10.4
<b>Household maintenance</b>	14.2	13.4	15.8	15.2	13.6	12.8	19.9	20.3	20.9	20.5	18.8	20.1
<b>Dwelling equipment</b>	3.5	3.5	2.9	2.4	3.7	4.0	3.7	4.1	3.1	3.6	4.3	4.6
<b>Medical care and health</b>	4.6	3.0	4.3	2.6	4.7	3.1	6.0	5.2	5.6	5.4	6.4	4.9
<b>Transport</b>	3.4	2.8	4.9	5.2	2.9	1.8	4.3	3.7	4.7	4.2	3.9	3.3
<b>Communication</b>	3.8	4.1	4.0	3.9	3.7	4.1	4.2	4.6	4.5	4.8	3.8	4.4
<b>Entertainment</b>	2.1	1.4	4.5	1.4	1.1	1.5	1.2	1.0	1.5	1.6	0.8	0.4
<b>Education</b>	0.5	0.3	1.0	0.3	0.2	0.2	0.6	0.5	0.6	0.7	0.5	0.2
<b>Hotels, restaurants, cafes etc.</b>	0.3	1.0	0.8	2.2	0.1	0.5	1.6	1.6	2.4	2.8	0.7	0.5
<b>Miscellaneous</b>	4.8	4.7	6.0	5.4	4.4	4.5	3.5	3.9	3.7	4.5	3.3	3.3

*Source:* Elaborated on the basis of NBS of Republic of Moldova[5]

#### **4. The actual and potential consequences of COVID-19 crisis on the households with children in Moldova**

The consequences of the COVID-19 are unprecedented and are being felt all around the world. Severely affected economies and labour markets, struggling for survival of many businesses, job and income losses, rising poverty affect a multitude of people. The people most exposed at risk are the self-employed, domestic workers and caregivers, the ones employed in occasional or temporary work. The lack of adequate social protection systems aggravates the vulnerability to the crisis of working families. For many children and their families, the rapidly changing situation means disturbed education and care for children, family illnesses and the potential loss of household income. In the context of restrictions on free movement and the socio-economic downturn of the crisis that put the household at increased risks, family-friendly policies and practices can make a critical difference. Work and income protection, paid leave for family care, flexible work arrangements and access to quality, emergency child care are important measures that allow employees to protect themselves and have self-care and care for children and their relatives.

The return of many Moldovan migrants to Moldova in the context of existing barriers due to COVID-19 crisis and their remittances and acquired skills may support Moldovan households, but only on short-term, because of job losses, unpaid leaves, technical unemployment, stationary activity. There is the possibility to invest the remittances at home. Also, barriers due to COVID-19 crisis together with an increase in laid-off labour force will increase the competition on labour market, thus growing the difficulty to find a job, not just a decent one and this may affect negatively household incomes and consumption expenditures. These aspects may prompt the returned migrants to use the remittances to compensate and/or increase consumption expenditures of the household instead of saving and/or investing.

In Moldova due to COVID-19 crisis, from 33.2 thousands of workers or 4.1% of total employed population that were affected: 20.1 thousands did not work at all or were absent from work (this number has grown 2 times from the quarter I of 2019 to the quarter I of 2020), 2.7 thousands were put on partial work schedule, 8.5 thousands worked fewer hours a week and also, from the quarter I of 2019 to the quarter I of 2020 the number of those with unpaid leave has grown three and half times and those in technical unemployment – by 1.6 times and on top of this most of the workers who suffered from the crisis are employees [3]. Also, the estimated reduction of workers in the Moldovan light industry is by 7600 workers [2]. According to a recent survey of CCF/HHC Moldova [8] on vulnerable families, where 140 families participated (50.7% were families with 3 children and more, 18.6% - families with 1 child, 30.7% - families with 2 children), 54% of the interviewed families stated that their income decreased during March-April 2020, compared to January-February 2020. The monthly income of the families oscillates between 540 and 9500 MDL, and some families even indicated the lack of any income in that month. The dynamics of the monthly income of the interviewed families in the period January-April 2020 show that they achieved the highest revenues in January 2020, mainly as a result of the implementation of the decisions of the District Commissions for Child Protection regarding the allocation of family support for 2019. Starting with February, the income decreased constantly. In the period January-March 2020 the share of families with an income of 3000 MDL and more reduced from 47% to 41%, the share of families with an income of 1601-3000 MDL has grown from 29% to 34%, the share of families with an income of less than 1600 MDL has grown from 22% to 24%, the share of families without an income has reduced from 2% to 1% and all this means that overall the number of families with a smaller income has grown as a reduction of the number of families with a higher income. A sharp reduction was registered from March 2020 to 15 April 2020: the share of families with an income of 3000 MDL and more reduced from 41% to 21%, the share of families with an income of 1601-3000 MDL has grown from 34% to 36%, the share of families with an income of less than 1600 MDL has grown from 24% to 31%, the share of families

without an income has grown from 1% to 12%. According to the respondents the reduction in household income is due to reduction in occasional work and delay of payment of social benefits and was stopped the provision of financial assistance for family support due to the impossibility of evaluation / confirmation of the needs and impossibility of meeting the multidisciplinary team for completion of necessary documents. The problem of food insufficiency was determined by the decreased income.

All these issues will contribute to the decrease of the household income, especially from employment and self-employment jobs affected by this crisis, not only in short-term, but also in long-term, if state authorities, businesses, workers won't adapt to the new conditions of labour market or won't find solutions to tackle these issues.

## **Conclusions and prospects**

From the year 2014 up to the years 2018 and 2019 took place important changes in the structure of Moldovan households with children and in the amounts and structures of their average monthly consumption expenditure per capita and average monthly disposable income per capita and also between the types of households with children, by number of their children and by the area of residence. The average size of the households with single parents with children and urban households with family couples with children have grown, while the average size of the "other households with children" has shrunk. The share of "other households with children" has reduced while the shares other types of households with children didn't shown major changes. The most important source of disposable income for the households with children is the income from the employment and its share in total disposable income has grown, regardless of the type of the household with children, area of residence of the household or the number of children in the household. It has increased at a much faster rate (together with the income from social protection payments) than other sources of income. Another essential source of income for households with children is the remittances that had and continue to have a bigger share in the rural households that grows, but usually with a slower rate. Also, for rural households with children another significant source of income is from the self-employment in agriculture, though it's share has decreased between 2014 and 2018, because of a bigger rate of growth of income from employment and from the social protection payments. The property income has a too small share in the total income of the households to be significant at all. Pensions are an important source of income for "other households with children". The share of the income from self-employment in non-agricultural sector has grown for the urban single parents with children, "other urban households with children", households with 2 children and those with 3 children and more, while for other types of households with children it has decreased, because of the reduction in it's absolute amount. The most significant share of the consumption expenditures in households with children is for food that can have from a third to a half of all expenses in urban households and half of all expenses in rural households. Other important destinations of expenses are clothing and footwear (that has a higher share as the number of children is bigger) and household maintenance (that has a higher share as the number of children is smaller). The shares of expenses on entertainment and hotels, restaurants, cafes etc. are higher in urban households with children. Other destinations of expenses had smaller shares and smaller changes.

The COVID-19 crisis has affected Moldova as other countries and has created many issues for Moldovan households as well. The growth of job losses; increases of cases of partial work schedule, technical unemployment and stationary activity, the return of migrants from abroad, growth of unpaid leaves and other issues affected and will continue to affect negatively the disposable income and consumption expenditure of households (especially the ones with children and vulnerable ones) at least on short-term and now it's up to state authorities, businesses and workers to come with solutions and use this crisis as a basis for the future growth of Moldovan economy, otherwise it will deepen it's chronic social

and economic problems. In accordance with UNICEF guidelines [7], as general measures to be used in order to support households with children may be mentioned the following: implementation of flexible working arrangements (flexible working time, flexible free time, flexible locations/roles); supporting parents working with safe and appropriate childcare options in the context of COVID-19; prevention and approach of risks at work, strengthening occupational safety and health measures; guidance and training in occupational safety and health measures and hygiene practices; encouraging workers to seek appropriate medical care in case of fever, cough and shortness of breath; support workers manage stress and personal safety during the COVID-19 pandemic; supporting social protection measures undertaken by the government.

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