

**SOCIAL PROTECTION OF OLDER PEOPLE AND THE  
STRUCTURE OF CONSUMPTION EXPENDITURE IN COUNTRIES  
OF CENTRAL AND EASTERN EUROPE**

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**Abstract**

*The adequacy of a pension system, from the viewpoint of retired people, is given by the amount of the benefits and by the consumption smoothing. In this paper, we have made a comparative study regarding the consumption structure of older people in five countries from Central and Eastern Europe, where the public pension system is the main pillar providing income security and protection against old age poverty.*

*Considering 2005 as the reference year, the differences of mean consumption expenditure in Czech Republic, Hungary, Poland, Romania and Slovakia before and after retirement had significantly decreased. Regarding the structure of consumption expenditure, the largest share of expenditure is made for housing, food and non-alcoholic beverages. After 60 years old the share of expenditures made to recreation, culture and health increases, highlighting the particular needs of the elderly.*

**Keywords:** *pension systems, consumption structure, poverty, pension adequacy.*

**JEL classification:** *E21, H55, I38.*

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## **1. Introduction**

Universal Declaration of Human Rights highlights the right to equality and dignity, as well the right to social protection (United Nations 1948). From this point of view, the state has the obligation to protect its own citizens, especially those who are in vulnerable social categories. One of the vulnerable social categories is represented by the older people, which are incapable to carry on professional activities and earn salary incomes to fulfill their basic needs (Begum and Wesumperuma 2012). As a consequence, through national pension system, state offers the financial means needed by older people to live a decent and dignified life (Mituț and Wolff 2011; Shahid 2014). The main purpose of pension systems is to decrease the poverty rate and to maintain the consumption level at retirement (Littlewood 2014).

In present paper, we have proposed to highlight the structure of consumption expenditure of older people in five states of Central and Eastern Europe, specifically: Czech Republic, Hungary, Poland, Romania and Slovakia. The main purpose is to reveal the adequacy level of public pension systems through the changes appeared in the structure of consumption expenditure before and after the age of 60. We have considered the age of 60 as threshold in our study due to the parametric reforms adopted in the latest years by these states which stipulate a gradual increase of standard retirement age and also the possibility of early retirement.

## **2. Literature review**

Worldwide, it can be noted various types of national pension systems frameworks, but according to World Bank, it is recommended a multi-pillar structure, through which the role of state in income redistribution is reduced, it is encouraged private savings and the diversification of income sources (Grech 2014). Passing from public structures to pension funds privately managed removes some of the limitations of pay-as-you-go pension systems, but brings up the risk of low returns portfolios (Louzek 2008; Aguilla 2011). Also, the relocation of a share of contributions to privately pension funds has on short time negative influence on budget incomes, threatening the financial sustainability of public pension system (Croitoru 2015).

In Central and Eastern Europe, the current pension systems are the result of transformation of socialist social protection system, based on political and social-economic changes (Hujo 2011). In ex-socialist states the public pension system is the main pillar through which is ensured the financial

protection of older people, the benefits provided are the main resource used to fulfill their needs (Balteş and Jimon 2018).

The actual demographic context puts a high pressure on the budget of social insurances, confronting decreased incomes from contributions and increased expenditure with benefits, due to enlarged share of beneficiaries and also due to the growth of life expectancy. Another problem largely discussed is regarding the benefits provided by pension systems and their adequacy and equitability. These aspects are interdependent because maintaining the financial liquidity of pension systems will allow them to provide adequate benefits (von Nordheim 2017).

Organization for Economic Cooperation and Development (2013) defines adequacy as the capacity to replace the incomes obtained from professional activities by pensions, at a level which can maintain the same life standard at retirement. From a microeconomic perspective, the efficiency of a pension system is indicated by maximization of benefits, meanwhile at macroeconomic level the efficiency of a pension system is given by the optimal redistribution between generations and also by minimizing the social protection expenditures, carried by the current contributors (Chybalski 2016).

World Bank appreciates the adequacy of a pension system by the provided benefits, which should offer protection against poverty risk and simultaneous smooth the consumption (Holzman and Hinz 2005). It is important to note that the disposable income of a person does not automatically reflect the individual consumption level, consumption is rather the expression of releasing a part of disposable income to fulfill a need, according with personal preferences (Ilmonen 2011). Taking into account the fact that human beings are subjects of a continually transformation, as physically, as socially and cognitively, their needs are specific to each stage of human development. Therefore, the consumption behavior is changeable, being correlated with age and social status (Wakabayashi and Hewings 2007), and also with technical and technological innovation and national social-economic development.

### **3. Methodology of research**

The present paper is a descriptive research, which highlights the adequacy of the benefits provided by public pension systems *vis-à-vis* the structure of consumption expenditure of older people in five countries of Central and Eastern Europe. To reveal the adequacy of provided benefits, we compared the structure of consumption expenditure before and after the age of

60, based on the data published at Eurostat database. Therefore, we have mainly used in this research the synthesis method and the comparison method. The analyse begins in 2005, considered as reference year, and finishes in 2015, time period which is characterized by multiple reforms adopted by Central and Eastern European countries in order to maintain the sustainability of public pension systems.

#### **4. Main findings and discussions**

Social protection systems from Central and Eastern European countries passed through a large reforming process. Based on bismarckian principles, the pay-as-you-go public pension systems were founded in the socialist period, which benefited by an increased number of contributors. The demographic situation characterized by increased fertility rates, small proportion of older people in total population, decreased unemployment rates, substantial budgetary incomes and a relative low number of beneficiaries, allowed the adoption of some light eligibility criteria to access the benefits, and also permitted to provide considerable benefits.

Regarding the demographic situation of older people, reported at 2005, it is noted the increasing proportion of population aged over 60 years old in total population with 3.8% in Hungary, 4.3% in Romania, 4.5% in Slovakia, 4.9% in Czech Republic and 5.3% in Poland. The ageing population leads to a significant increase of dependency ratio of older people, having in 2015 values over 40% in Czech Republic, Hungary and Romania.

The social-politic, economic and demographic changes have imposed the reform and the adaptation of national pension systems to the new national conditions (Bonenkamp et. al 2017). The deepest regulations were structural, but the low performances of 2nd Pillar led to the reconsideration of privatizing the pension systems and to adoption of some parametric regulations regarding the public pension systems (Altiparmakov 2018). In Table 1 we have summarize the most important regulations adopted by Czech Republic, Hungary, Poland, Romania and Slovakia regarding the national pension systems.

One objective of these regulations was to ensure adequate financial benefits, through which the consumption level during the activity period is also maintained at retirement. The benefits provided by public pension systems are old-age pension, which holds the largest share in total benefits, the anticipated old-age pension, the invalidity pension and the survivors pension.

Besides these, in Romania it is the possibility to benefit of partial anticipated old-age pension, if it is fulfilled the complete retirement stage.

**Table 1: Reforms regarding the pension systems in Central and Eastern European countries**

<b>Country</b>	<b>Date</b>	<b>Type</b>	<b>Main regulation</b>
<b>Czech Republic</b>	2011	Parametric	Increasing the standard retirement age at 65 years old for both men and women and the minimum contributory period at 20 years.
	2013	Structural	Multi-pillar system: 1 <sup>st</sup> Pillar – public pension system 2 <sup>nd</sup> Pillar – voluntary private pension
<b>Hungary</b>	1998	Structural	Multi-pillar system: 1 <sup>st</sup> Pillar – public pension system 2 <sup>nd</sup> Pillar – mandatory private pension 3 <sup>rd</sup> Pillar – voluntary private pension
	2010	Parametric	Increasing the standard retirement age at 65 years old for both men and women.
	2011	Structural	Nationalization of 2 <sup>nd</sup> Pillar.
		Parametric	Indexation of pension benefits with inflation rate. Revoke the option of early retirement.
<b>Poland</b>	1999	Structural	Multi-pillar system: 1 <sup>st</sup> Pillar – public pension system 2 <sup>nd</sup> Pillar – mandatory private pension 3 <sup>rd</sup> Pillar – voluntary private pension
<b>Poland</b>	2013	Parametric	Establish the retirement age to 60 years for women and 65 for men.
	2014	Structural	Nationalization of 2 <sup>nd</sup> Pillar, as a sub-account in Social Insurance Institution.
<b>Romania</b>	2000	Parametric	Modification of benefit calculation formula based on pension points.
	2007	Structural	Multi-pillar system: 1 <sup>st</sup> Pillar – public pension system 2 <sup>nd</sup> Pillar – mandatory private pension 3 <sup>rd</sup> Pillar – voluntary private pension
		2010	Structural
	Parametric		Increasing the standard retirement age at 65 years old for men and 63 years old for women and the minimum contributory period at 15 years old.
<b>Slovakia</b>	2004	Parametric	Modification of benefit calculation formula based on

			pension points. Increasing the standard retirement age at 62 years for both men and women.
	2005	Structural	Multi-pillar system: 1 <sup>st</sup> Pillar – public pension system 2 <sup>nd</sup> Pillar – mandatory private pension 3 <sup>rd</sup> Pillar – voluntary private pension
	2013	Structural	Participation to 2 <sup>nd</sup> Pillar became voluntary.

Source: Author's own processing based on OECD Pension at a glance ([https://www.oecd-ilibrary.org/finance-and-investment/oecd-pensions-at-a-glance\\_19991363](https://www.oecd-ilibrary.org/finance-and-investment/oecd-pensions-at-a-glance_19991363))

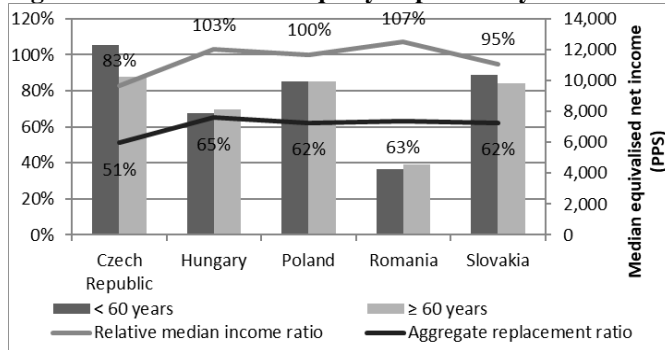
To appreciate the adequacy of benefits provided by the public pension systems in Figure 1 we have synthesized the value recorded in 2015 by some indicators considered to be the most relevant. The disposable median equivalised net income is an indicator through which it is ensured the comparability of individual incomes disposable to consumption or savings, in conditions in which all the members of a household are equals. The value of this indicator is expressed in purchasing power standard, item which reveal the amount of goods and services that can be bought in each state, removing the price differences between different national markets. Between 2005 and 2015, the median equivalised net income of the persons aged over 60 years had a considerable increase in all states, but in Romania this indicator still has moderate values.

Regarding the aggregate replacement rate, this indicator highlights the level of benefits provided by pension system reported at the income obtained by work. In these two years mentioned in our analyze, this indicator has values over 50%, and according to World Bank these values show that the public pension systems provide adequate benefits which ensure the financial protection of older people. Chybalski and Marcinkiewicz (2016) argue that the aggregate replacement rate cannot be considered sufficient to appreciate the adequacy of pension systems, this indicator should be correlated with the relative median income ratio and the risk of poverty rate.

The relative median income rate represents the ratio between the disposable median equivalised income of the persons aged over 60 years and the disposable median equivalised income of the persons aged less than 60 years. It can be noted that, in the analyzed period, this indicator records values over 80%.

Regarding the risk of poverty rate, the social redistributions made through the public pension systems have a positive impact in decreasing the share of persons threatened by this risk. In 2015 the risk of poverty rate is decreased with 3%-10% at the persons aged over 60 years, compared with the youngest ones.

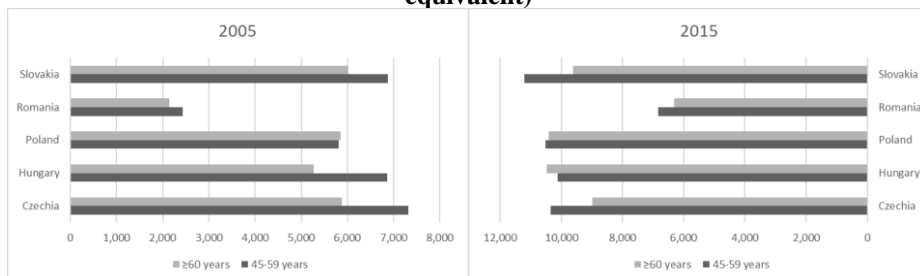
**Figure 1: Indicators of adequacy of pension system in 2015**



Source: Author's own processing based on data published at Eurostat database

To appreciate the consumption of older people we found to be relevant the indicator mean consumption expenditure. Figure 2 shows in a mirror image the values of this indicator at the persons aged between 45 and 59 years old in comparison with the persons aged 60 years old and over, in 2005 and 2015. It can be noted the increasing of consumption expenditure and, reported at 2005, the differences between the consumption expenditure of these two age categories had considerably decreased, especially in Hungary (with 27%) and in Czech Republic (with 7%).

**Figure 2: Mean consumption expenditure in 2005 and 2015 (PPS/adult equivalent)**



Source: Author's own processing based on data published at Eurostat database

To highlight the structure of consumption expenditure we used the data published in Eurostat database which presents the individual consumption by purpose, being identified 12 main categories of consumption expenditure.

The structure of consumption expenditure in 2005 (Table 2), regardless the age group, the higher share of consumption expenditure is hold by the items intended to fulfill the basic needs, respectively the expenditures for food and non-alcoholic beverages and the expenditures for housing and utilities. The lower proportion is hold by the expenditure to educational good and services.

It is noted that according with the age group, the other categories of consumption expenditure have had a different evolution. Therefore, in the case of population aged between 45 and 59 years old, in Czech Republic, Poland, Hungary and Slovakia, a large share of consumption expenditure is detained by the expenditures made for transport, recreation and culture, followed by the expenditures made for the maintenance of the house, clothing and footwear, miscellaneous goods and services. As regards Romania, the structure of consumption expenditure is distinct. Firstly, it is remarked that 12% of consumption expenditure is represented by health goods and services, and by alcoholic beverages, tobacco and narcotics, contrary with the situation founded in the other four states included in our study. Secondly, in Romania seems to be a tendency to equalize the remained consumption expenditures categories, according with the classification by purpose made by Eurostat. The share of the consumption expenditure of clothing and footwear, communications, maintenance of the house, transport, recreation and culture, is relatively small, having values between 3.2% and 3.7%.

In the case of persons aged 60 years old and over, it can be noted a structure of consumption expenditure relatively similar in all states considered for this research, mainly compounded by consumption of health goods and services, transport, communications, furnishings, household equipment, routine maintenance of the house, recreation and culture. In this age group, the consumption of services of restaurants and hotels holds a small proportion. Also, the consumption of alcoholic beverages, tobacco and narcotics has a low share in total consumption expenditure in Czech Republic, Poland, Hungary and Slovakia.

Reported at the age group 45-59 years old, at age of 60 and over the structure of consumption expenditure shows an increasing of the consumption



of health good and services, exception making Czech Republic where only 3% of total consumption expenditure is distributed to health.

**Table 2: The structure of consumption expenditure in 2005**

Classification of Individual Consumption by Purpose	Czech Republic		Hungary		Poland		Romania		Slovakia	
	45-59 years	≥ 60 years	45-59 years	≥ 60 years	45-59 years	≥ 60 years	45-59 years	≥ 60 years	45-59 years	≥ 60 years
Food and non-alcoholic beverages	19.8%	25.3%	21.6%	26.5%	26.1%	26.7%	50%	51.4%	24.6%	27.7%
Alcoholic beverages, tobacco and narcotics	3.4%	3.1%	4%	2.9%	2.7%	1.9%	5.1%	3.6%	3%	2.4%
Clothing and footwear	5.7%	3.8%	5%	3.3%	4.4%	2.8%	3.7%	2.6%	5.4%	3.6%
Housing, water, electricity, gas and other fuels	19.4%	25.6%	18.1%	23.7%	32%	36.8%	17.9%	19.1%	30%	39.8%
Furnishings, household equipment and routine maintenance of the house	6.3%	6.6%	4.3%	5.3%	4.5%	4%	3.3%	2.7%	4%	4%
Health	1.9%	3%	3.4%	8.1%	3.9%	8.4%	7.5%	10.3%	2.6%	4.5%
Transport	11.7%	8.2%	15.9%	7.6%	8.2%	5%	3.3%	1.8%	8.4%	3.8%
Communication	4.5%	4.4%	6.7%	6%	5.1%	4.2%	3.6%	3.1%	4.5%	3%
Recreation and culture	10.4%	8.7%	8.6%	7.5%	5.9%	4.8%	3.2%	2.7%	5.9%	4.2%
Education	0.5%	0%	1.1%	0.2%	1.3%	0.3%	0.2%	0.1%	0.7%	0.1%
Restaurants and hotels	5.4%	2.9%	3.2%	2.4%	1.4%	0.9%	0.3%	0.5%	5.1%	1.3%
Miscellaneous goods and services	5.8%	5.6%	8%	6.5%	5.7%	4.6%	1.9%	2%	5.8%	5.6%

Source: Author's own processing based on data published at Eurostat database

In Table 3 is presented the structure of consumption expenditure by age in the five states of Central and Eastern Europe, in 2015. As in 2005, at both age groups the consumption expenditures of good and services used to fulfill the basic needs, respectively food, non-alcoholic beverages, housing and utilities hold over 40% of total consumption expenditure, by the opposite with the consumption expenditures of educational goods and services.

In 2015 the consumption expenditure of the persons aged between 45 years old and 59 years old were mostly compounded by transport, clothing and footwear, recreation and culture and also to miscellaneous goods and services. As regarded the structure of consumption expenditure of the persons aged 60 years old and over, it can be noted that in Poland, Hungary and Romania over 6% of total consumption is represented by the health goods and services, and in Czech Republic and Slovakia over 11% of total consumption is summarized by recreational and cultural goods and services, and by transport.

Reported at the age group 45-59 years old, it can be noted that at 60 years old and over the consumption structure presents a decrease share of consumption expenditure of services of restaurants and hotels with 2.7% in Czech Republic, and in Romania and Slovakia the share of consumption expenditure for clothing and footwear with 2%, respectively 2.5%. Also, in Romania, it can be observed a decrease with 3% of the consumption expenditures for transport.

Taking into account the age groups and reported at 2005, it can be noted that in 2015 the consumption expenditure of the persons aged between 45 years old and 59 years old from Czech Republic does not have significant variations, however the consumption expenditure for miscellaneous goods and services increased with 1.9%, but it is recorded a decreasing in the consumption expenditure for alcoholic beverages, tobacco and narcotics (-0.4%) and in the consumption expenditure for recreational and cultural goods and services (-0.8%). In Hungary the consumption expenditure for housing and utilities have increased in 2015 with 17.6%, compared with 2005, while the consumption expenditure for transport has decreased with 5.2%, the consumption expenditure for recreational and cultural goods and services has a reduction of 3.6% and the consumption expenditure for miscellaneous goods and services dropped by 2.4%. In case of Poland, in 2015 the consumption expenditure for food and non-alcoholic beverages decreased with 4.3%, the consumption expenditure for services for restaurants and hotels increased with 1.6%, and the consumption expenditure for miscellaneous goods and services has a growth of 1.4%. In 2015, compared with 2005, in Romania the

consumption expenditure for food and non-alcoholic beverage decreased with 20.6% and the consumption expenditure for health goods and services has reduced with 4.3%, meanwhile the consumption expenditure for housing and utilities has grown with 16.2%. In Slovakia the structure of consumption expenditure shows the increase of consumption expenditure for transport with 4.3%, compared with 2005, and the decrease of consumption expenditure for food and non-alcoholic beverage with 6% and for housing and utilities with 1%.

**Table 3: The structure of consumption expenditure in 2015**

Classification of Individual Consumption by Purpose	Czech Republic		Hungary		Poland		Romania		Slovakia	
	45-59 years	≥ 60 years	45-59 years	≥ 60 years	45-59 years	≥ 60 years	45-59 years	≥ 60 years	45-59 years	≥ 60 years
Food and non-alcoholic beverages	20.7%	23.6%	19.8%	21.1%	21.8%	22%	29.4%	30.7%	18.6%	22.8%
Alcoholic beverages, tobacco and narcotics	3%	3.6%	3.1%	3.5%	2.4%	2%	6.9%	4.7%	2.6%	2.8%
Clothing and footwear	5.6%	3.9%	3.5%	2%	4.8%	3.1%	4.8%	2.8%	5.2%	2.7%
Housing, water, electricity, gas and other fuels	21.3%	26.9%	35.7%	42.3%	32.9%	40.1%	34.1%	40.8%	29%	40.8%
Furnishings, household equipment and routine maintenance of the house	6.2%	6.4%	3.1%	3.5%	4.4%	3.9%	3.3%	3.4%	4.4%	4.3%
Health	2.4%	3.9%	3.4%	6.5%	3.9%	6.8%	3.2%	6.7%	2.4%	4.2%
Transport	12.4%	7.4%	10.7%	5.5%	8.7%	5.3%	5.8%	2.6%	12.7%	6.5%
Communications	4.6%	3.9%	6.2%	5%	4.7%	3.9%	4.2%	3.1%	5.1%	4.1%
Recreation and culture	9.6%	9.5%	5%	4.2%	5.6%	4.6%	3.2%	2.3%	6.1%	4.6%
Education	0.5%	0.1%	1%	0.2%	0.7%	0.1%	0.5%	0.1%	0.9%	0.2%
Restaurants and hotels	6.4%	3.7%	2.8%	1.4%	3%	2.4%	1.4%	0.4%	5.2%	2.7%

Miscellaneous goods and services	7.7%	4.2%	5.6%	6.2%	7.1%	5.6%	3.3%	2.5%	7.2%	4.2%
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Source: Author's own processing based on data published at Eurostat database

Regarding the structure of consumption expenditure of persons aged 60 years old and over, in 2015, reported at 2005, can be remarked insignificant variations in Czech Republic (an increase with 1.3% of consumption expenditure for housing and utilities and with 0.9% of the consumption expenditure for health goods and services, respectively a decrease of consumption expenditure for food and non-alcoholic beverage with 1.7% and in the consumption expenditure for miscellaneous goods and services with 1.4%). In Hungary, the structure of consumption expenditure presents a growth of the share of consumption expenditure for housing and utilities with 18.6% and a decline of consumption expenditure for food with 5.4% and in the consumption expenditure for recreational and cultural goods and services with 3.3%. In Poland, in 2015 is increasing the consumption expenditures for housing and utilities with 3.3%, and the consumption expenditure for services of restaurants and hotels with 1.5%, but it is a decreasing of consumption expenditure for food and non-alcoholic beverages with 4.7% and of consumption expenditure for health good and services with 1.6%. Romania presents a significant increase of consumption expenditure for housing and utilities (+21.7%), alcoholic beverages, tobacco and narcotics (+1.1%) and an important decrease of consumption expenditure for food and non-alcoholic beverages (-20.7%), health goods and services (-3.6%). With regard of the structure of consumption expenditure in Slovakia, in 2015, compared with 2005, can be noted the growth of consumption expenditure for transport (+2.7%) and services of restaurants and hotels (+1.4%) and a reduction of consumption expenditure for food and non-alcoholic beverages (-4.9%).

## **5. Conclusions**

The states of Central and Eastern Europe have passed through a large process of reformation of social insurances systems, especially the national pension systems. The main objective followed by the reformation was maintaining the financial sustainability through the adoption of a multi-pillar structure which will decrease the pressure of budget expenditure from the public pension system. Based on the economic crisis, which conducted to very low returns on the market capital, Hungary and Poland decided the nationalization of the 2nd Pillar, and Romania reduced the contributory rate for this pillar. Also, it was adopted serial parametric reforms regarding the

growth of incomes from social contribution through increasing the standard retirement age and the minimum contributory period.

The reform of national pension systems in countries of Central and Eastern Europe also targeted the adequacy of benefits provided by public pension systems to decrease the poverty rate and ensure a decent life-style at retirement. Therefore, between 2005 and 2015, it can be noted the increase of disposable median equivalised net income after 60 years old, and also the income replacement rate by pensions exceeding 50% of incomes obtained in the activity period. The rate of relative median income shows that the disposable median equivalized income at retirement in 2015, has equal and even higher values in Poland, Hungary and Romania, compared with the disposable median equivalised income obtained by the persons aged between 45 years old and 59 years old.

Providing the adequate incomes to the retirees can be analyzed through the structure of consumption expenditure. According with age, the structure of consumption expenditure is variable and reflects the specific needs and preferences of that age. In the countries of Central and Eastern Europe included in this study, it can be noted that the largest share of consumption expenditure is hold by the consumption expenditure of housing, food and non-alcoholic beverages. In case of population aged 60 years old and over, an important category of consumption expenditure is represented by the health, recreational and cultural goods and services.

In our opinion, the impact of pension systems reforms in maintaining the consumption level at the age of 60 years old and over should be analyzed in correlation with the national socio-economic framework.

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