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FINANCIAL BEHAVIOR OF ROMANIANS - PRELIMINARY ISSUES OF THE HOUSEHOLD BUDGET SURVEY WITH AN EXTENSION OF THE QUESTIONNAIRE

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Abstract: In the context of an unprecedented acceleration of the demographic ageing process the objective of financial stability at different levels of the economy needs economic and social measures that are based on scientific grounds regarding the identification, analysis and forecasting of the changes in the financial behavior of both economic agents and the population. Pertinent data are necessary for the analysis, and since they did not exist to the necessary extent, we came up with the **original idea** of using the existent infrastructure for projection and implementation of the Household Budget Survey in the territory, to which a **pilot section** was added. The present approach aims at presenting the preliminary results of the pilot questionnaire, dedicated to financial behavior of the households.

Key words: demographic ageing, financial behavior, saving behavior, life insurance, private pensions

1. Introduction

During the past two decades, the economic, social and financial systems of the developed countries, especially those of the European Union, have been suffering from numerous disequilibria generated by the deepening of the demographic ageing process.

In Romania, the coercive pronatalist policy from the years 1966-1989 caused an artificial Romanian baby-boom, which peaked in 1967 – 1968. After the fall of Ceausescu's communist regime at the end of 1989, the draconic legislation regarding abortion was revoked.

The decrease of natality that followed was a predictable reaction of the reproductive behavior of the population towards the old abusive pronatalist policy. However, the steepness of the decrease took the specialists by surprise. The total fertility rate plunged from 3.7 children per woman (for the whole duration of her fertile life) in 1967 to 1.8 in 1990 and to 1.3 in 2008. This level is much lower than the threshold for replacing the generations, which in Romania would be of 2.1 children per woman.

After 1990, the evolutions of natality and mortality corroborated with net emigration led to the decline of the population, but this is not the process that raises the most concerns from the point of view of the multiple implications for the economy and the society.

The divergent evolutions of natality in the two periods (communist and transition to a social market economy) caused important deformations in the age structure of the population in the sense of an unprecedented acceleration of the demographic ageing process. The weight of the elderly (65 years and more) in the total population grew from 8.3% in 1968 to 10.3% in 1990 and to almost 15% in 2008 and it is expected to reach 20% in 2032.

The effects of these structural mutations are already felt nowadays, but they will grow even stronger after 2032, when the generations of baby-boomers retire.

The implications of these demographic evolutions are complex and they can be felt both at macroeconomic and at microeconomic levels, especially at household level.

For **the economy as a whole**, it implies effects in the spheres of economic growth and inflation, of equilibrium and function of the pension and health systems, as well as on economies, prices, property and stock assets and so forth.

At household level, the individuals become aware of the fact that they will live longer (or at least they realize that the ones around them do) and, as a consequence, they adapt their behavior according to this perception, as well as according to the public policies and the general economic environment.

According to the **theory of life cycle (Modigliani and Brumberg, 1954)**, the financial behavior is different for both the youth and the elderly compared to maturity. Furthermore, the **theory of permanent income (M. Friedman, 1975)** states that, for certain conjunctures, the active population may be stimulated to increase their caution savings in order to compensate for a possible relative decrease of the future benefits after retirement. One of those conjunctures is the present world financial crisis, whose effects have started to be felt in the second semester of 2008 in Romania as well, through the erosion of the national currency, increase of unemployment, inflation, external payments balance and so forth.

In this context, the objective of financial stability at different levels of the economy needs economic and social measures that are based scientific grounds regarding the identification, analysis and forecasting of the changes in the financial behavior of both economic agents and the population.

Identification of the particularities of the population's financial behavior means to analyze the **saving, indebtedness and accumulation** components of the population, according to age, income, education level, patrimony, socio-professional category or other socio-demo-economic or cultural variables.

These characteristics are determinant for knowing and orienting **consumption, placements, intergeneration transfers, financial or non-financial patrimony accumulation and so forth.,** at **microeconomic** level (households or marketing policy at company level), **sectorial, institutional** (banks), as well as **macroeconomic.**

Building up answers firstly requires the characterization of behaviors according to age, generation and observation date. **This actually means grasping those particularities of the behaviors that emerge from combining the generation effects with present ones**. In reality, there are great difficulties in observing these effects due to

lack of longitudinal data. These are the only source for generation analysis, all other available sources observing only momentary effects.

The problem of the lack of appropriate informational sources is stringent in most EU countries, specific researches being relatively new. During the last decade, the Romanian informational statistic system has made actual progresses with regard to social-economic surveys, but it does not have yet a high level of organization and refining, so as to offer data regarding the financial behavior by all demographic and socio-economical variables mentioned above.

Solving some of these informational problems constituted the purpose of the research project entitled **"Modeling the financial behavior of the population under the impact of demographic ageing. System of specific indicators and measures for controlling the financial disequilibria"**, financed by the state budget through the contract number 91-016/2007 CNMP (National Centre for Program Management), in the competition Partnerships PNDII2007[1] Romania.

2. Methodology

In Romania, the **Household Budget Survey** (HBS) is a survey with representative sample at national level realized by the National Institute of Statistics. Starting with 2001, it was organized according to a methodology harmonized with EUROSTAT recommendations, as transversal record, instead of panel. However, the published results of the survey are not sufficient for reaching the aims of the project mentioned before. This is because the survey questionnaire includes questions regarding the financial behavior only to a small extent and in a synthetic way (population savings and loan rates) and the following processing of data stops only at general results and does not continue with demo-economic and social structures of the households.

Due to the limited financial resources of the project, the research team looked for solutions that ***avoided the very high costs*** implied by the *projection and organization of a* ***new survey.*** Thus, we came up with the **original idea** of using the existent infrastructure for projection and implementation of the Household Budget Survey in the territory, to which a **pilot section** was added.

This section had 6 basic fundamental questions, with multiple vertical and horizontal questions, taking into account two aspects:

a) Avoiding to overload the HBS questionnaire, which was already very complex, with more than one sheet (front and back);

b) Avoiding non-responses and inadequate responses

The six questions regarded:

- The type of financial placement (in lei or in foreign currency)
- Financial patrimony
- Incomes from rents, sub-rents, inheritance, insurances, different state allowances and so forth
- Solutions taken into account within the household for supplementation of incomes after retirement

[1] website: www.idcfp.ase.ro

- Household attitude towards risk, by four main chapters: health, professional career, income management and financial and non-financial patrimony administration

The first wave of field records was made during April-June 2008, together with the Household Budget Survey from the second trimester of 2008. The sampling and results estimation methodology was the same as for normal HBS. The sample comprised 9360 permanent households, distributed in sub samples of 3120 permanent households per month. The total answer rate was 85.9% (80.3% in urban area and 92.5% in rural area).

In the first stage, a specific IT solution was created for the database generation of the pilot section. In the second stage, the database was calibrated through statistic procedures and then developed through multiple crossings of the variables from the pilot section with variables from the regular HBS questionnaire, using specialized software. The database was saved under more utility programs, in order to make it as accessible as possible to the members of the research team.

The present approach aims at presenting the preliminary results of the pilot questionnaire, dedicated to financial behavior of the households. The authors intend to develop, finish and refine the results, respectively to model the financial behavior of the population after the development of the second HBS wave in May 2010.

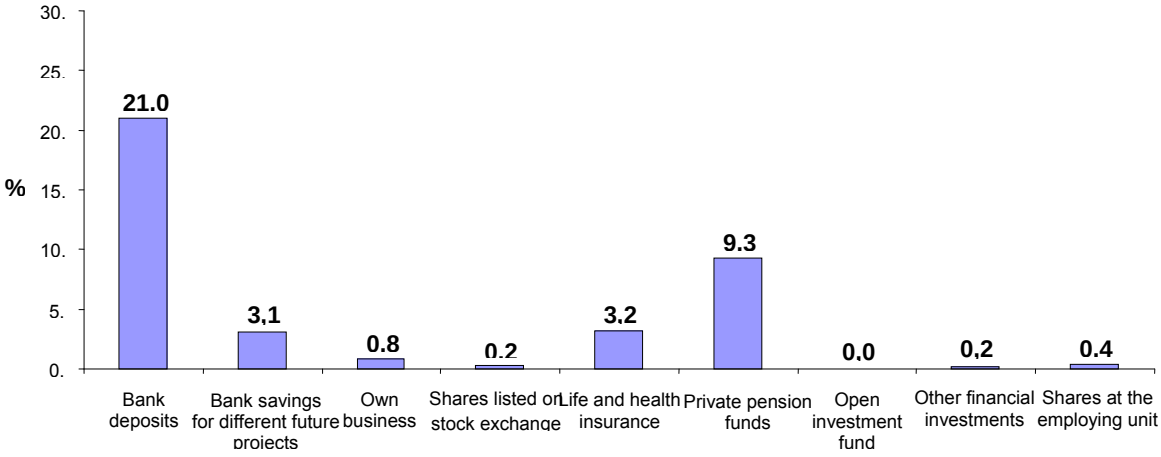
3. Preliminary Results of HBS

The first important result: **67.4% of the Romanian households reported that they had no financial investment at the time of the survey (second quarter of 2008).**

Among the **32.6%** households that had at least one financial investment, most had savings in **bank deposits** (21%), which shows a high level of confidence in banking products, compared to other methods of financial investments (Figure 1).

Figure 1

Percentage of households having financial investment in total households



On the second place in the top of preferences, but at great distance from the first place, were **private pension funds** - 9.8% of investment preferences, followed by **life or health insurance**, as well as **savings in banks for different future plans** (house, holidays, children's education and so forth). The "appetite" for large investments in private pension funds is explained by the entrance into force of the legislation on privately managed

mandatory pensions (second pillar), on the 1st of January 2008. According to it, all persons younger than or exactly 35 years old on the 31st of December 2007 were forced to opt for a private pension fund towards which to direct a certain percentage of individual contribution to CAS (Contributions for social insurances). This decision also referred to those who had less than or exactly 45 years old on the 31st of December 2007, but it was optional.

3.1. Specific results

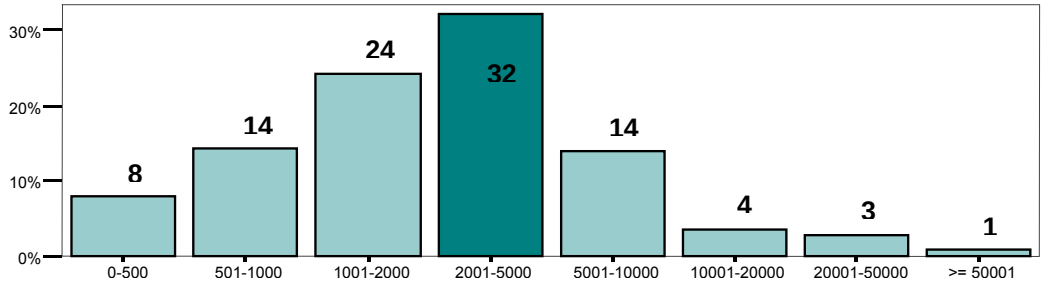
Further on, the analysis of the financial behavior of the population will focus exclusively and righteously on **the segment of those who reported at least one financial investment at the time of the interview** at HBS (Household Budget Survey). The replies of the heads of these households will be studied using advanced statistical methods and techniques so that we can grasp the specifics of their financial behavior by demographic, socio-economic and cultural characteristics.

Focusing on the households that had savings in bank deposits, we extended the analysis on the value of the installments where they fit.

The result: a highly asymmetric distribution of households on the value interval, because most declared small value savings (Figure 2). Approximately 78% of households with financial placements have savings less than 5000 lei (approximately 1180 Euros)[2] in bank deposits. Strong concentration to the left of the histogram shows both the low financial resources of Romanian households, and low propensity to save in the financial system. Undoubtedly, there is a part of the population's savings that remains outside the financial system, banking and non-banking, the so-called "money from the mattress".

Figure 2

Bank deposits (accounts, certificates of deposits etc.) according to the installment value declared (lei)



Continuously following the objectives of this phase of our project, we have deepened the analysis of the feature contained in each question in the experimental section with demographic, socio-economic and cultural variables.

3.1.1. Demographic and socio-economic profile of the households that have savings in bank deposits

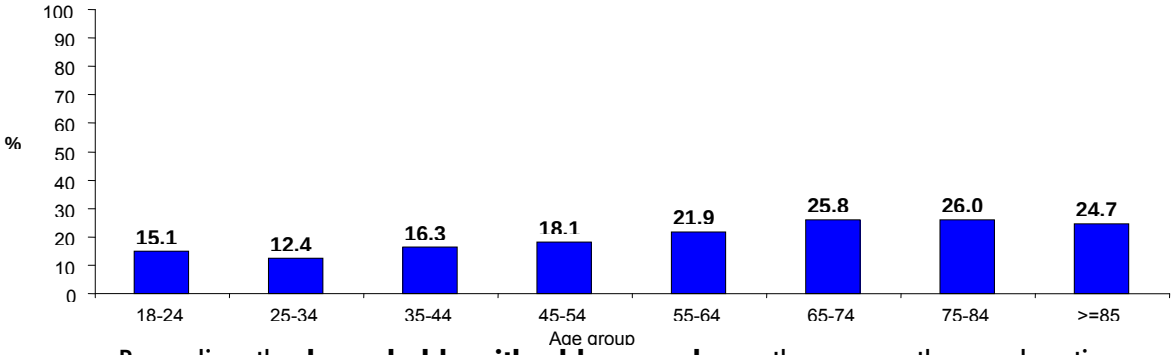
Out of processing the data, we derived that there is a direct link between the frequency of savings ownership in bank deposits and the age of the head of the household. As **age** increases, the share of households who reported savings deposits in banks also

[2] 1 euro=4,2372 lei, official exchange rate of the National Bank of Romania, 18.06.2010

increases (Figure 3). This conclusion is not true for the relationship between age and the amount saved.

In case of young households, the relatively large weights have several explanations. In general, young people are more open and more eager to use electronic means of payment, credits and so forth. These are the 'Internet generations', who receive a series of grants and state allowances until they turn 18 and scholarships up to 25 years (in the case of continuing education) on bank cards. On the same cards or on other separate ones they can make various savings.

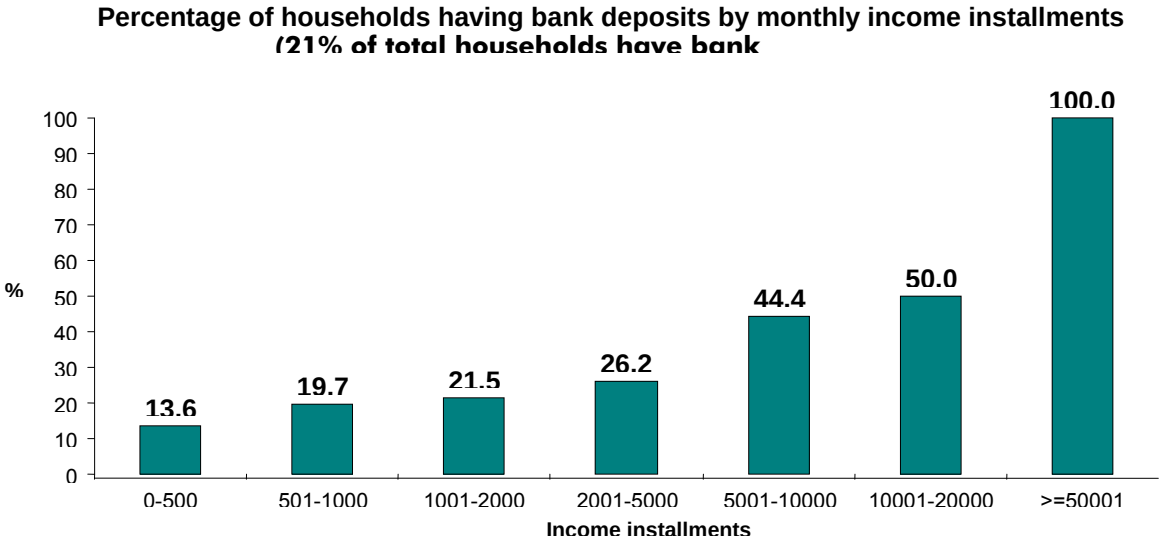
Figure 3
Percentage of households having bank deposits by age groups (21% of all households have bank accounts)



Regarding the **households with elder members**, there are other explanations. They predominantly include cultural factors, since most Romanians do not have a financial education in the true sense of the word. Until 1990, savings were almost entirely concentrated in the state-owned CEC Bank (Savings Bank), and loans were rare and on short-term. On a relatively large scale, the current financial behavior, as it manifests itself at the elder generations, is marked by inertia of former behavior. Despite the fact that, in the meantime, CEC turned into a commercial bank and it competes with all the other banks, these generations firstly grant their trust mainly to CEC.

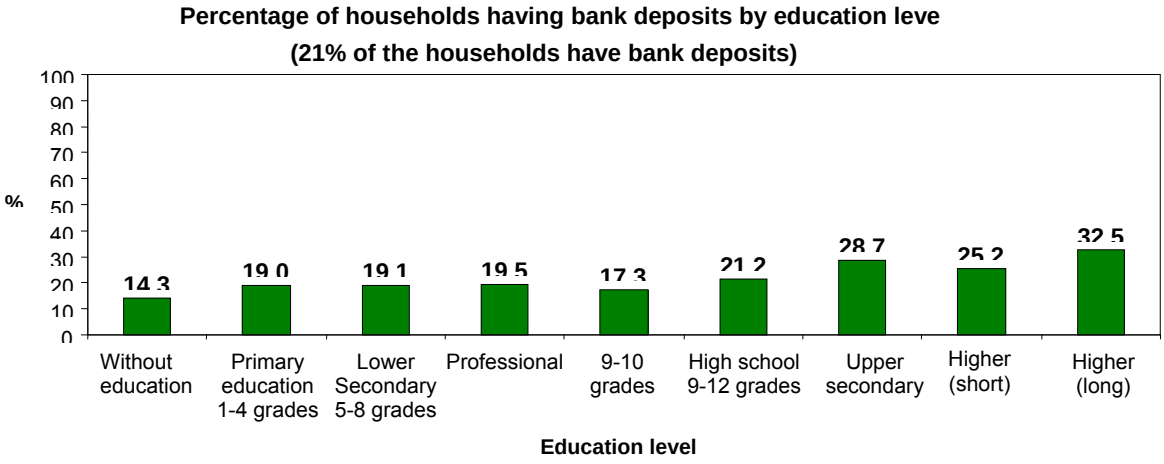
Also, the higher propensity to save at an advanced age, though often with small amounts (the concomitant relationship between age and the residence environment), can be explained by the Orthodox tradition for funerals and all other rituals after death, much more expensive than in other religions or rites. Thus, no later than 60 years, most people save money for the funeral and all the things related to it, so as not to be a burden for the followers.

Figure 4



There is a strong connection between **the level of monthly income** and the frequency of households having savings in a bank deposit (Figure 4). Among households that have declared a monthly income of less than 500 lei (118 Euros), only 13.6% had savings in banks. On the other hand, among households in which income exceeded 10001 lei per month (2360 Euros), more than half have savings in bank deposits.

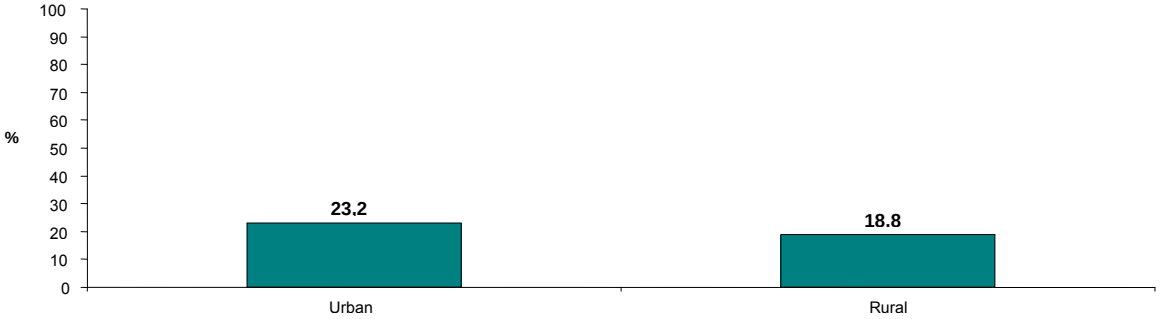
Figure 5



One of the important features in our analysis is **the level of education** of the household head. The frequency distribution obtained by this variable confirms the assertion according to which the share of households that have savings in bank deposits increases along with the increase of the education level. At the same time, it should not be forgotten that in households with high level of training, there are also other types of financial investments such as private pension funds, life insurance, health insurance and so forth.

Figure 6

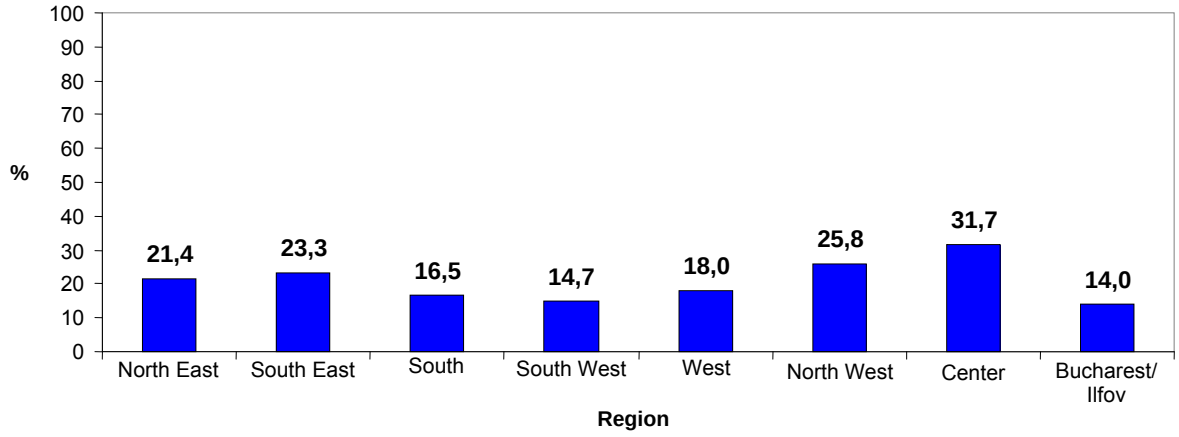
Percentage of households having bank deposits by residence environment
(21% of the households have bank deposits)



A predictable result: **the rural households** have savings in deposits at banks in a much smaller extent than **urban households** (Figure 6). The explanatory factors for this difference are the ones that make the difference in living standards of households in rural areas compared to those from urban areas: income, level of education, access to financial and banking information, banking facilities, digital division and so forth.

Figure 7

Percentage of households having bank deposits by development regions
(21% of the households have bank deposits)

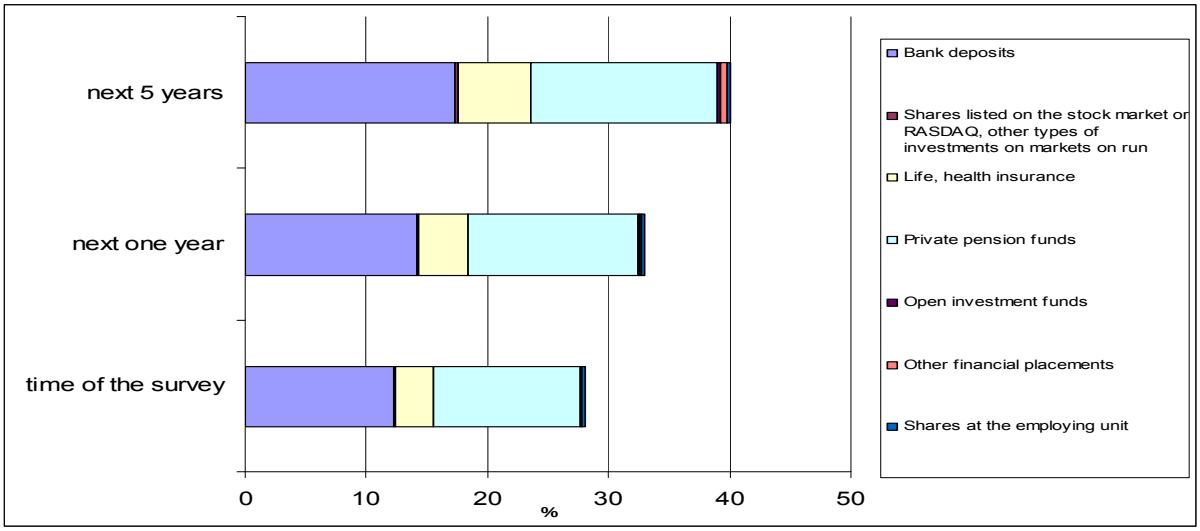


Another variable that brings additional knowledge is the **development region** where the household is (Figure 7). It is interesting to note that households in the most developed country regions – Bucharest/Ilfov and West declared fewer savings deposits in banks than most regions. It is very likely that in the households of the "richer" regions behavior is more diversified, financial resources are bigger, and may be oriented towards modern financial investment like shares listed on the stock market or RASDAQ, private pension, health or life insurance or investments in businesses of their own and so forth.

3.1.2 Demographic and socio-economic profile of households with financial manifest or intentional behavior meant to supplement income after retirement

After this overview of households that declared they have savings in bank deposits, the analysis has been developed on **households that manifest financial behavior for the present and the future** (Figure 8).

Figure 8. Percentage of total respondents who have ensured an extra income for themselves after retiring or intend to do so



The perception of increasing the individual longevity and the need to preserve the living standard achieved before retirement determines people to act, or at least to imagine measures to undertake in the near future, with the view of increasing savings and financial accumulation in different ways.

For the society as a whole, the sum of the relatively similar financial behavior generates financial consequences of the most complex and manifest, as the demographic ageing process deepens, corroborated with the effects of the financial crisis.

Although the share of population who undertook such actions is very low, further we will refer to them as the ones with financial behavior. Thus, we aim to analyze the characteristics of the group having a financial behavior and to highlight the statistically significant differences compared to the group having no financial behavior. The analyzed features are the following:

1. Demo-economic characteristics regarding the household head (gender, age, level of education)
2. Household size (number of people in household);
3. The total income and income per household member
4. Residence environment (urban, rural)

A. Who are the ones that saved money in order to have extra income at an old age?

Table 1 presents the descriptive statistics computed for the numeric characteristics analyzed, calculated both for the group with saving behavior and for the rest of the households.

Table 1

Group Statistics

	Extra income after retirement	N	Mean	Std. Deviation	Std. Error Mean
Age	NO	6941	57.7372	16.06411	.19282
	YES	969	57.5872	15.12793	.48598
Income per Household member	NO	6941	624.2312	465.35929	5.58570
	YES	969	939.1213	1877.05592	60.29972
Household size	NO	6941	2.39	1.386	.017
	YES	969	2.55	1.283	.041
Total incomes	NO	6941	1386.187	1173.4655	14.0851
	YES	969	2206.839	3846.6564	123.5724

For verifying the hypotheses regarding the equality of means of the two groups we computed several tests.

Age

The calculated value of the z test is 0.287, which leads to accepting the assumption of equality of variances. We cannot say that there are differences regarding the age of those who have and those who don't have a saving behavior in order to ensure themselves an extra income after retirement.

Average income per household member and total income

Based on the results obtained, we may say that the group of those who have savings for ensuring themselves a higher income after retirement is part of households with higher income. Also, the households that have saving behavior have a higher total income.

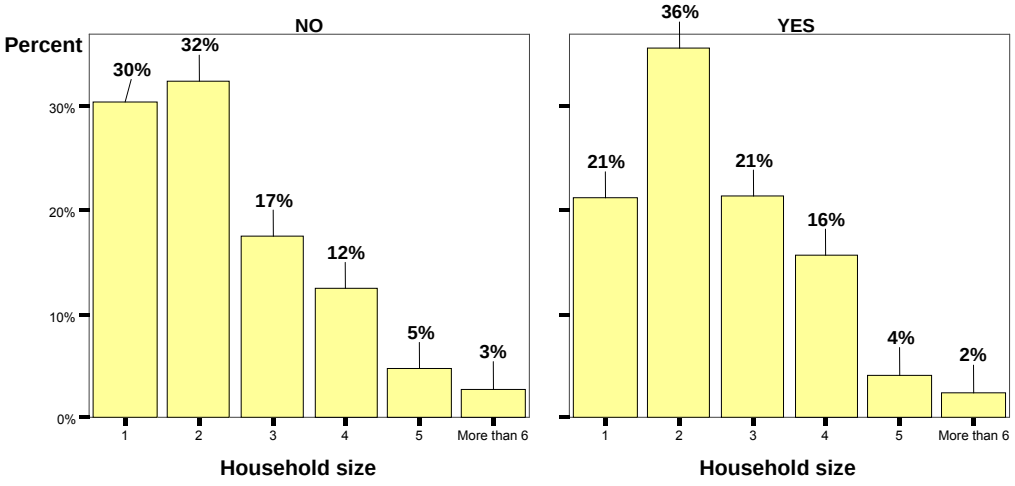
Household size

Persons having saving behavior are mostly from two member households. We find that for households of one person it is more difficult to save. For this reason the average household size for households having saving behavior is statistically significant higher than of a household without saving behavior.

Figure 9. Household distribution by household size and by groups

NO – they **do not** have bank deposits for extra income after retirement

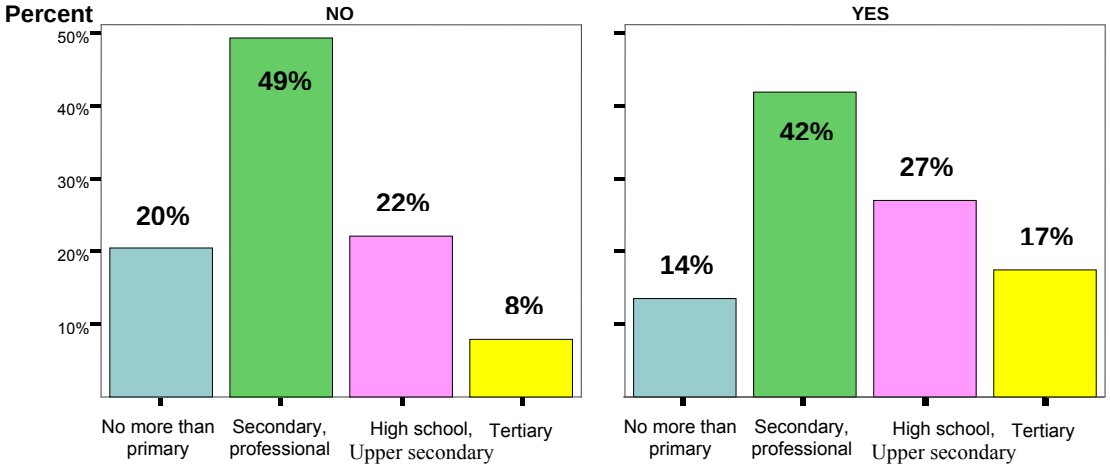
YES – they have bank deposits for extra income after retirement



Education level

The results indicate the existence of feeble a link between the variable "Education level" and "Ensuring extra incomes after retirement through saving".

Figure 10. Household distribution by education level and by groups

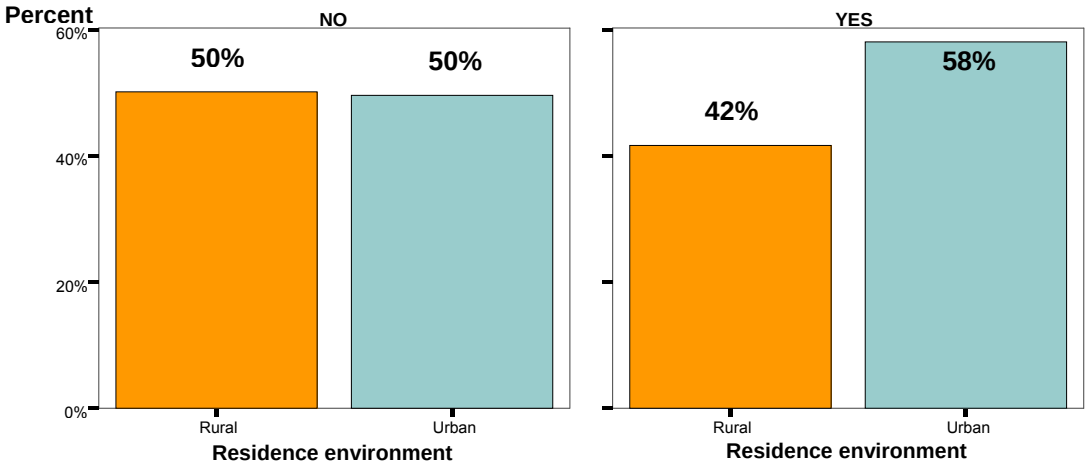


As the Figure shows, the households where the head of the household has a higher education level resorted to a higher extent to savings for ensuring extra income after retirement.

Residence environment

This characteristic has an even more reduced influence than the previous one. We notice that 58% of the households that have such savings are from urban areas, while the households without savings are equally distributed by residence environment. The difference between the percentages is statistically significant, but the association intensity is very feeble (V=0.056).

Figure 11. Household distribution by residence environment and by the two groups: with and without savings



The other demo-economic characteristics regarding the head of the household (gender, marital status, occupational status) do not significantly influence the households' behavior regarding savings as bank deposits for ensuring an extra income after retirement.

B. Who are those who have life or health insurance in order to have an extra income at an old age?

Table 2 presents the descriptive statistics indicators calculated for the numeric characteristics analyzed, both for the group constituted from those who have life or health insurance and for those who do not have.

Table 2

Group Statistics

	Extra income after retirement	N	Mean	Std. Deviation	Std. Error Mean
Household size	NO	7662	2.38	1.302	.015
	YES	248	2.89	1.131	.072
Age	NO	7662	58.0719	15.93779	.18208
	YES	248	46.8105	12.07200	.76657
Income per household member	NO	7662	647.2775	786.13496	8.98103
	YES	248	1142.5685	909.54047	57.75588
Total income	NO	7662	1438.663	1725.0726	19.7077
	YES	248	2971.415	2100.6027	133.3884

Age

The results show that the average age of those having life or health insurances is significantly statistic lower than for those who don't.

Average income per household member and total income

We may say that the group of those who have life or health insurance in order to ensure extra income after retirement is part of the households with higher income per

household member. Also, the households that have life or health insurance have a higher total income.

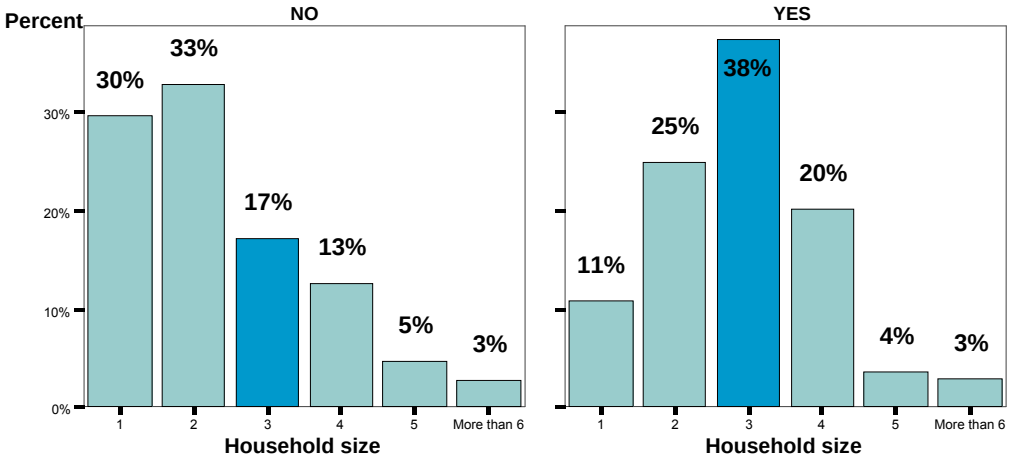
Household size

The persons that have life or health insurance are mainly part of families with 3 members. We see that only 11% of the households constituted by a single person have life or health insurance.

Figure 12. Household distribution by household size and by groups

NO – they **do not** have life or health insurance for extra income after retirement

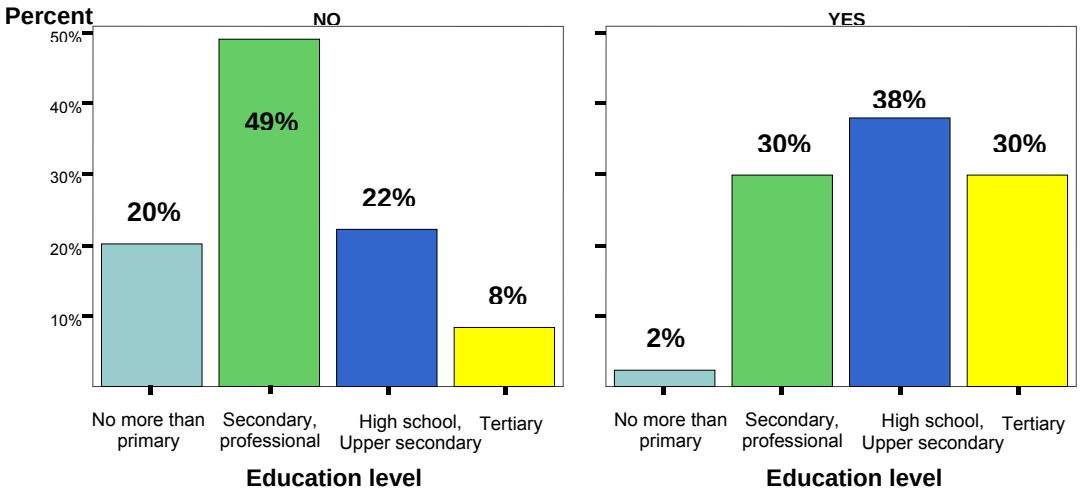
YES – they have life or health insurance for extra income after retirement



Education level

The computed value of the χ^2 test (201.85) indicated the existence of a feeble link between the variable "Education level" and "Life or health insurance settlement". We notice that households whose heads have a high education level (at least secondary level education) resorted to a greater extent to life or health insurances.

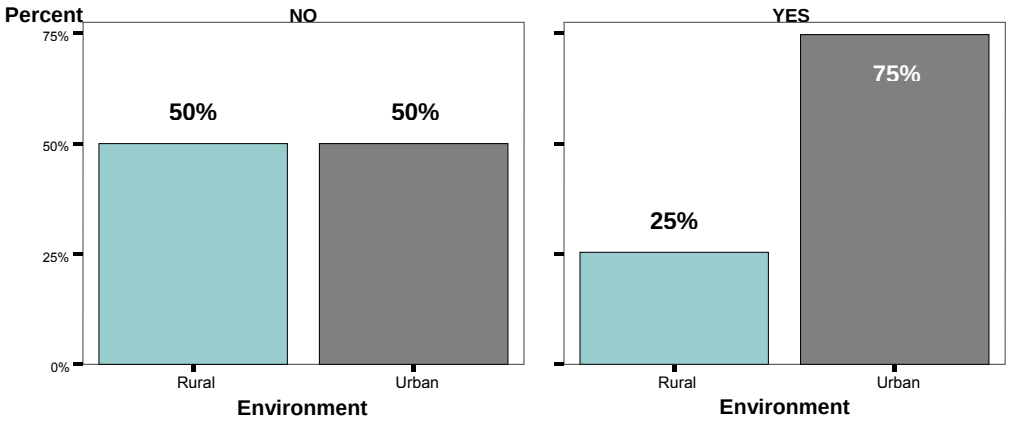
Figure 13. Household distribution by education level and by groups



Residence environment of the household

An even smaller influence is that of the characteristic residence environment. We notice that 75% of the households that have life or health insurance are from the urban area, compared to the equal repartition by environment for the households that do not have life or health insurances. The difference between the percentages is statistically significant, but the intensity of the association is very low (V=0.086).

Figure 14. Household distribution by residence environment and by groups



The other demo-economic characteristics regarding the head of the household (gender, marital status, occupational status) do not significantly influence the households' behavior regarding the settlement of life or health insurance.

C. Who are those who contributed to private pension funds in order to have an extra income at old age?

Table 3 presents the descriptive statistics indicators computed for the numeric characteristics analyzed, calculated both for the group of those who contributed to private pension funds and for the rest of the households

Table 3

Group Statistics

	Extra income after retirement	N	Mean	Std. Deviation	Std. Error Mean
Household size	NO	6956	2.30	1.281	.015
	YES	954	3.05	1.251	.040
Age	NO	6956	59.6100	15.38340	.18445
	YES	954	43.9298	12.96918	.41989
Income per household member	NO	6956	622.6314	798.81694	9.57784
	YES	954	955.7367	699.79173	22.65659
Total income	NO	6956	1341.312	1728.9684	20.7304
	YES	954	2546.941	1600.8287	51.8287

Age

There is a statistically significant difference in the case of those who contributed to private pension funds, thus age has an influence on the contribution to private pension funds. This is a predictable results, taking into account that the private pension became compulsory for people aged up to 35 years and optional for those aged up to 45 years.

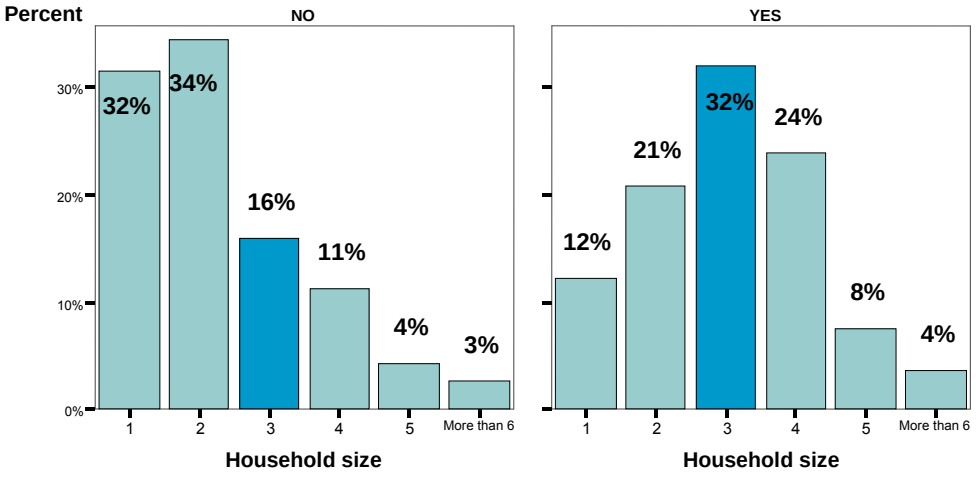
Average income per household member and total income

We may say that the group of those who contributed to private pension funds is part of the households with higher income per household member. Also, households that contributed to private pension funds have a higher total income.

Household size

The persons that contributed to private pension funds are mainly part of households with 3 members. We see that only 12% of the households of a single person contribute to private pension funds.

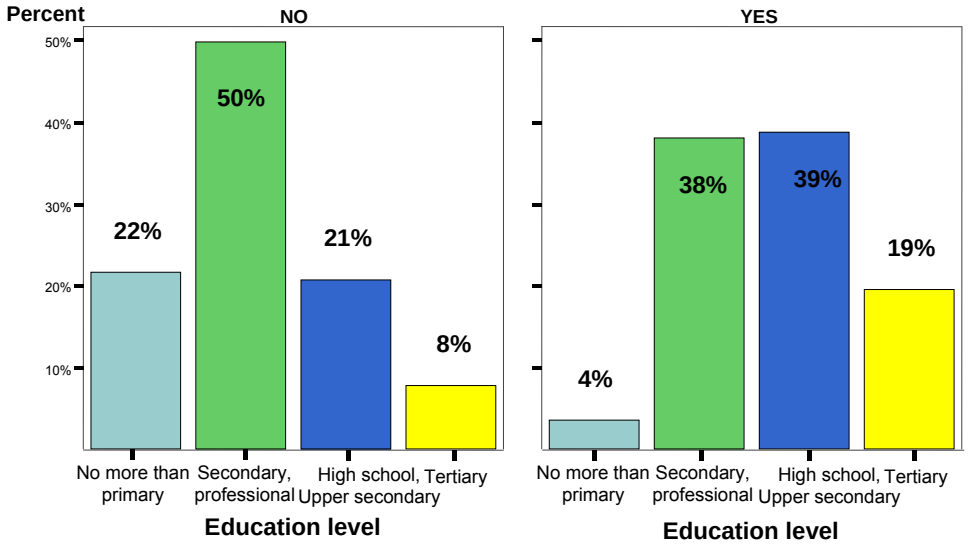
Figure 15. Household distribution by household size and by groups
NO – they **do not** private pension funds for extra income after retirement
YES – they have private pension funds for extra income after retirement



Education level

The computed value of the χ^2 test (415.223) indicates the existence of a feeble link between the variables "Education level" and "With contribution to private pension funds". We notice that households whose "heads" have a high education level (at least secondary level education) contributed to a greater extent to private pension funds (table 11).

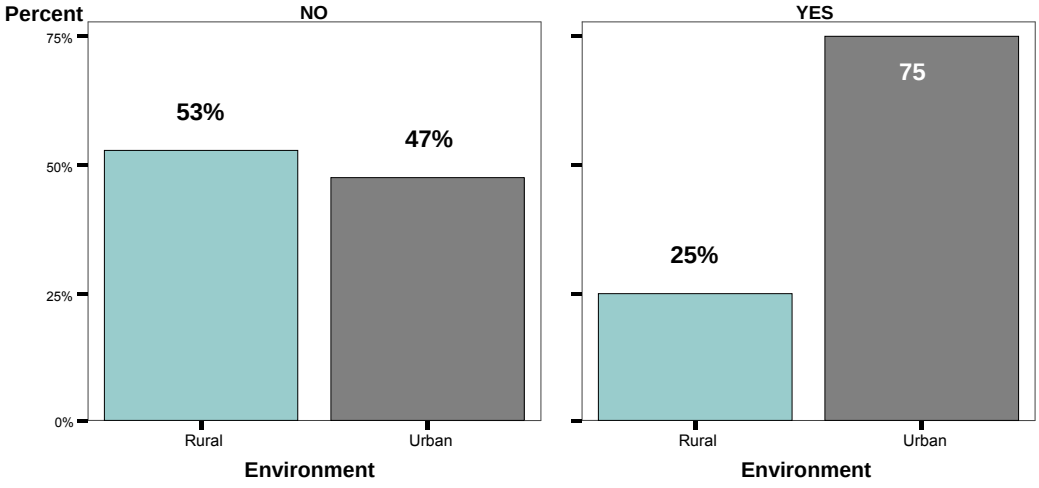
Figure 16. Household distribution by education level and by groups



Residence environment

A smaller influence is that of the characteristic residence environment. We notice that 75% of the households that contribute to private pension funds are from the urban area. The difference between the percentages is statistically significant, but the intensity of the association is very low (V=0.212)

Figure 17. Household distribution by residence environment and by groups

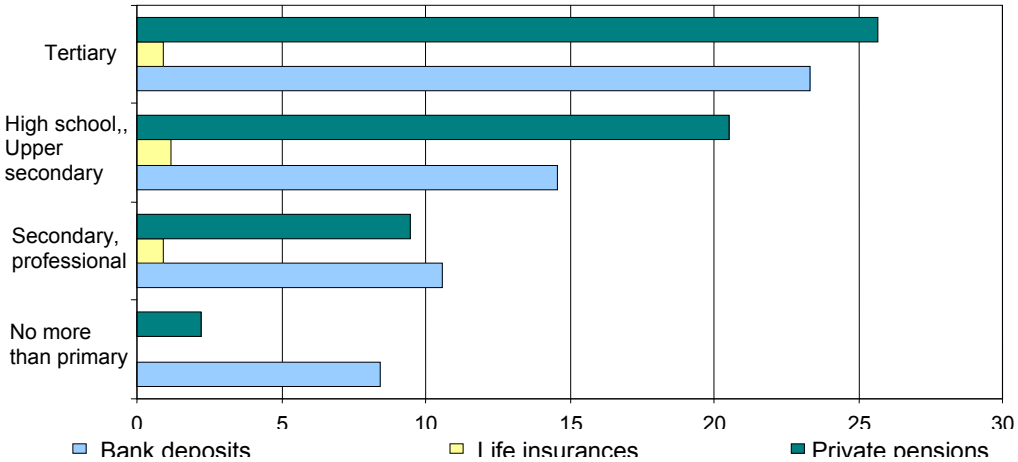


The other demo-economic characteristics regarding the head of the household (gender, marital status, occupational status) do not significantly influence the households' behavior regarding the contribution to private pension funds.

Figure 18 represents a synthesis of the influence of education level on the financial behavior of the households. We may notice that those households represented by a head of

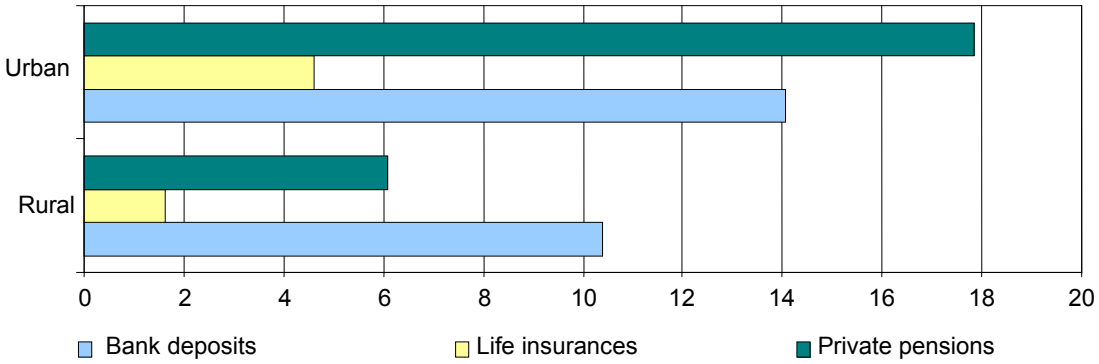
household with a high level of education have a greater openness towards the three ways to ensure themselves an extra income after retirement.

Figure 18 The influence of education level on the financial behavior of the households



In a similar way, Figure 19 represents a synthesis of the influence that the environment has on the three components of financial behavior that we analyzed.

Figure 19 The influence of the environment on the financial behavior of the households



4. Conclusion

The extension of the HBS questionnaire with the Financial Placements section allows for a deeper study of the financial behavior of the households in Romania, as it was observed during the field recordings from the second trimester of 2008.

The preliminary processing indicates that most Romanian households (67.4% of total households) *do not have any financial placement*. The rest of 32.6% of total households, who reported at least one financial placement, oriented their preferences mainly towards *bank deposits*, but with relatively low values. It is, on the one hand the confirmation of the lack of financial education of the population, and on the other, that of low financial

resources of the Romanian households, as well as the low propensity for savings within the financial system. Undoubtedly, there is a part of the population's savings that remains outside the financial system, banking and non-banking, the so-called "money from the mattress".

After processing the database, direct and strong relationships emerged between the *frequency of having savings in bank deposits* and:

- the *age* of the household head; as age increases, the weight of households having economies in bank deposits increases as well;
- *monthly income level*;
- *education level* of the household head; in the households with a high (at least secondary) education level, there are also other types of financial placements, such as private pension funds, life insurances, health insurances;
- urban residence environment;
- development level of the region where the household is.

Using statistical tests for significance and correlation, the relationships between the households that we identified as having financial behavior and different demographic and socio-economic characteristics were verified. We considered those households that, either in the present or in the next 5 years, are preoccupied to gain extra incomes after the retirement of its members, through different financial products: bank savings, life and health insurance and private pensions.

The present approach is the first to present, outside the borders of Romania, the preliminary results of the HBS with the pilot questionnaire, dedicated to the financial behavior of households. In the near future, the research team intends to fully exploit the HBS database with the "Financial Behavior" section from the two waves, through crossings with characteristics from the regular sections of HBS and using advanced data analysis methods. In this way we will be able to identify more relationships between different variables, the intensity of their relationships and we will be able to model the different types of financial behavior of the households. Thereby, the solutions necessary for ensuring a certain financial equilibrium will be easier to conceive and apply.

References:

- Abel, A.B., **The effects of a Baby Boom on Stock Prices and Capital Accumulation in the Presence of Social Security**, Econometrica, 71, 2, 2000, p. 551-578.
- Arrondel, L., **Epargne, Assurance vie et Retraite**, Paris, Economica, 2003
- Artus, P., **Trois essais sur le vieillissement**, Caisse des depots et consignations, Service de la Recherche, 2000.
- Artus, P., **Allongement de l'esperance de vie et choix du systeme de retraite**, *Revue economique*, vol.53(4), pp.809-824, 2002.
- Bonnet, X. & Dubois E., **Peut-on comprendre la hausse imprévue du taux d'épargne des ménages depuis 1990?**, Economie & Prévision, n°121, 1995
- Brooks, R., **Asset Market Effects of the Baby Boom and Social Security Reform** IMF Working Paper, 2002
- Brooks, R., **Population Aging and Global Capital Flows in a Parallel Universe** IMF Staff Papers Vol.50 No.2, 2003

- Chauvel, L., **Le destin des générations, Presse Universitaire de France**, 2ème édition, 2002
- Dauriol, J., **Les comportements d'accumulation patrimoniale des ménages français**, *Cahiers de recherche Eurisco* nr. 2005-08, EURIsCO, Université Paris Dauphine, Paris, 2005, p. 1-15.
- El Mekkaoui-de Freitas N., **Les comportements financiers des fonds de pension sur les marchés internationaux de capitaux**, Thèse de Doctorat, Université Paris-Dauphine, 1998
- Feldstein, M., **Social Security and saving : new time series evidence**, NBER Working paper n°5054, 1995
- Friedman, M., **A Theory of the Consumption Function**, Princeton University Press, Princeton, 1957
- Modigliani F., BRUMBERG R., **Utility analysis and the consumption function: an interpretation of cross-section data**, in *Post-Keynesian Economics*, ed. K. Kurihara, New Brunswick, NJ: Rutgers University Press, 1954.
- Poterba J.M. **Population age structure and asset returns**, *Review of Economics and Statistics*, March, 2000.
- Poterba, J.M., **Demographic Structure and Asset Returns,** *The Review of Economics and Statsitics* 83(4), 2001, p. 565-584.
- Poterba, J.M., **Population Aging and Financial Markets** NBER Working Paper, Massachusetts Institute of Technology, 2004
- Vanriet-Margueron J., **Le risque-retrait. Une étude des comportements de prévoyance des ménages**, teza de doctorat, Universite Paris IX Dauphine, 2004.
- www.insee.fr
- www.insse.ro
- http://www.bls.gov/cex/home.htm
- http://www.bls.gov/opub/hom/pdf/homch16.pdf
- http:/www.cso.ie/surveysandmethodologies/surveys/housing_households/survey_hbs.htm
- http://www.destatis.de/jetspeed/portal/cms/Sites/destatis/Internet/EN/Content/Statistics/WirtschaftsrechnungenZeitbudgets/LaufendeWirtschaftsrechnungen/content75/LaufendeWirtschaftsrechnungenInfo.psml
- http:/www.ine.es/jaxi/menu.do?type=pcaxis&path=%2Ft25%2Fp458&file=inebase&L=1
- http://www.stat.go.jp/english/data/kakei/1560.htm
- http://www.statistics.gov.uk/cci/nugget.asp?id=284
- http://www.statistics.gr/anaz_eng.asp