

Financial awareness in retirement savings in a Hungarian survey

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Abstract: One of the most important social changes looming over the EU member states is the ageing of the population and its expected effects on the economy and the retirement security of citizens. A lot of research indicates that state pension will not be enough to cover expenses of retired people and therefore, in addition to state pension some kind of pension savings are necessary. This study consists of three parts. The first part shows the present and expected future populations of the EU member states based on demographic and statistical data, and its effect on state pensions. The second part presents the possibilities and forms of savings, with special attention to pension savings. The third part summarizes the theoretical basics and results of the survey-based behavioural economics research project “The role of self-care in our lives”.

Keywords: retirement security, financial investment, pension saving, behavioural economics

1. Examining the sustainability of the state pension system

1.1. Types of pension systems

Pension systems are for the long run and their effects are felt over the long run (Augusztinovics, 2014). The pensioner can get pension if the state has enough income and can pay the pensioner a monthly pension, or the individual sets aside some money for retirement, while they work. For us, the system that we live in and have got used to seems natural. However, there are three main systems that are used in different countries of the world:

1. Pay-as-you-go system (state pension, social insurance system): In Hungary the pension system until 1997 worked on the pay-as-you-go system. This means that active workers pay for the pensions of the elderly. In essence this is a kind of transfer between generations since the young generation can always be forced to finance the pensions of the elderly generation. This system can be sustained safely if the incomes cover the expenses. This means that as the number of pensioners increase, the number of active workers have to increase, too. Nowadays, however, the tendency is that as life expectancy increases, there are more and more pensioners, while the performance of the economy decreases so incomes can cover pensions less and less. The state must get the extra money from somewhere else, which is not economically sustainable in the long run.

2. A fully funded system: This is one possible system instead of the pay-as-you-go system. It is a fully capitalized pension insurance. Here the contributions are collected and invested by a private or state pension fund, and the pensions are paid from the returns of the investment. There is actually no connection between the active and inactive population. The system includes a capital accumulation period, during which only contributions are collected and there are no pension payments. The contributions are determined based on the amount of expected pension. An example is voluntary pension funds, where old-age pensions are paid from the interest of contributions (Csontos, 1997).

3. A combination of the above two, a funded system. Most pension insurance works on the pay-as-you-go principle, but there is a private or state pension fund which invests some of the contributions into securities. In this system there is a connection between the active and inactive population.

The last two systems can be further divided based on what results they promise to the investor and whether contribution is a fixed amount. In one type, called fixed results, the amount of pension follows the income from work. In another type, the fixed contribution type, the members pay a fixed contribution, and the amount of pension depends on returns on the market. In the fixed contribution type the member takes all the risk, their pension depends on the returns. In the other type, where the results are fixed, the risks of investment are taken by the owners of the fund. However, not even this system contains all the guarantees that members receive the amount of pension that is enough for a living (Csontos, 1997). The operating costs of the latter two systems are high, which reduces the returns of the investments. The pay-as-you-go system is cheaper but it carries the risk that the contributions of the active population decrease. This is why many countries use a combination of the two systems.

The Hungarian pension systems has two pillars. Pillar 1 is the state pension system working on the pay-as-you-go principle. Pillar 2 is fully funded systems (Novosz ath, 2014). The pay-as-you-go system is convenient when the economy is growing (Samuelson, 1958). The European Union displayed on its homepage its report on the changing number of EU citizens (Eurostat, 2015). Hungary is not in

a good position. In 1995 Hungary contributed 2.1% to people living in the EU, but in 2015 this ratio was only 1.9%. Fig 1 shows that the group of “below 2%” includes Sweden, Austria, Bulgaria, Denmark, Finland, Slovakia, Ireland, Luxemburg, Cyprus and Malta. All these countries have no more than 14% of the population of the EU, which is less than the population of Germany (16% of the EU). France has 13.1%, Britain 12.7%, Italy 12.0%, Spain 9.1%, Poland 7.5% and Romania has 3.9% of the population of the EU. The report states that development was fuelled by migration.

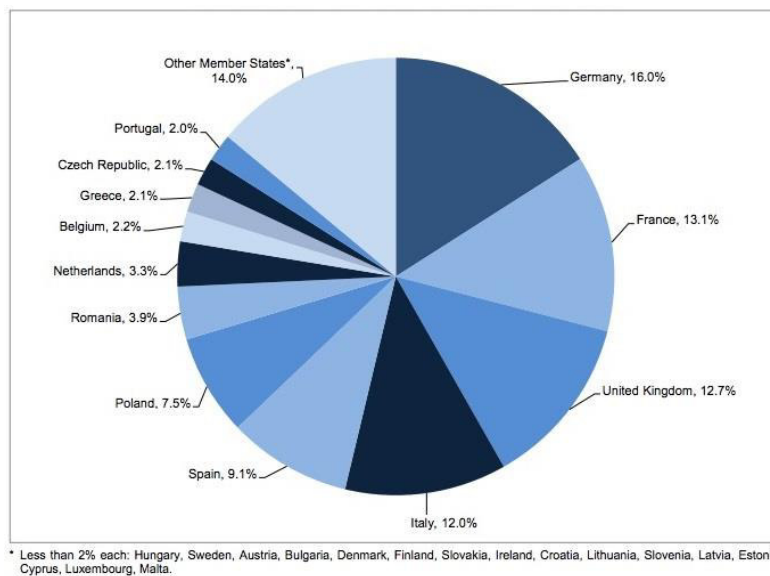


Figure 1

The population of individual countries as a percentage of the population of the EU (Eurostat, 2015)

The current Hungarian social insurance system is burdened by three problems, which can threaten the financial balance of the Hungarian pension system: the ageing of the society, low rate of employment and partial payment of contributions.

Table 1.
EPC calculations for the EU
(European Commission, 2015)

	2010	2050
Population of the EU	735 394 902	706 792 824
Population of Hungary	10 014 324	8 232 439
Life expectancy of women	82,1 years	89 years
Life expectancy of men	76 years	84,5 years
Number of births per family	1.5	1.6
working age population between 15 and 64 years of age	325 million	283 million
EU pension expenses {GDP %}	10,2 %	12,5 %
Hungary's pension expenses {GDP %}	10,4 %	13,8 %

The population of Hungary has not been growing for a long time, economic growth has slowed down, and pension expenses are growing based on the calculations (Banyár 2014, Mészáros 2016). Currently pay-as-you-go systems are in a serious crisis all over the world; the reform of the state pension system is inevitable. At the macro level an automatic system handling contributions and pension payments should be created which would ensure the long-term balance of the system (Holtzer 2010, Novoszáth 2014).

The simplified mathematical model of the pay-as-you-go system is the following (Simonovits 2002, Holtzer 2010, Szabó 2017a):

$$\text{Number of contribution payers} \times \text{Pension contribution rate} \times \text{Average annual salary} = \text{Number of pensioners} \times \text{Yearly average pension}$$

Forecasts show that the number of pensioners will increase drastically – this cannot be changed. Therefore the right side of the formula will increase and the balance will be upset. The question is how the balance can be reset.

- Increasing the number of contributors: demographic forecasts predict that this number will not increase, more likely it will decrease. A solution can be to motivate young people to have more children.
- Increasing the pension contribution rate: it would put a further burden on employers and employees, too.
- Increasing the average annual salary: productivity is low in Hungary, salaries cannot be increased very much.

- Decreasing the average yearly pension: pensions are low as they are; if they are further decreased, it can lead to a loss of votes, which the government wishes to avoid. Another possibility is raising the age of retirement, which was suggested and then introduced in many European countries.

Wherever the formula is changed, the system is upset. The two sides must be balanced macroeconomically. Experts recommend a mixed system. In the current system a supplementary way to ensure one's living in old age could be using a voluntary pension fund. This can mean that in retirement the individual can keep the standard of living (s)he has got used to in his/her active years. These institutions supplement other pension saving schemes, such as pension insurance.

Table 2.
The liquidity of financial savings
[own table, 2017].

product types	time periods	liquidity
cash, bank account	1 year	liquid
long-term investment account	2-5 year	least liquid
investment fund shares, investment fund, Building Society	6-10 year	least liquid
pension savings account, Voluntary pension fund, life insurance	from 10 years up to retirement	least liquid

2. Forms of financial savings and possibilities

There are many ways of saving (see Table 2). Young people in the X and Y generation, who are already able to learn finances, are already able use of these opportunities, according to their financial knowledge, take advantage of them, and make prudent financial decisions for their retirement savings as well (Csiszárík-

Kocsir, Medve 2013a, 2013b, Csiszárík-Kocsir, Varga, Fodor 2016, Csiszárík-Kocsir, Varga 2017a, 20017b).

Before choosing the product, the following questions have to be answered: does the employer want to take part in its financing; what time period are we planning for; do we want to set money aside regularly (monthly, quarterly, biannually, annually), or do we have a larger amount of money that we wish to invest now; how much liquidity do we want; how important are tax reliefs; guarantees of return or capital, how much risk are we willing to take in return for higher possible returns? Below are the forms of savings in detail:

1. Investment funds: These funds collect the savings of small investors to invest this higher wealth more advantageously and safely than small investors could individually. The fund is owned by the investors together and is created and supervised by the fund management. The share of individual investors is represented by investment fund shares. The net value of one share shows how much the share is worth on that day. That is, if the wealth of investment fund was sold on that day and the value was divided by the number of shares, we would get the value of one investment fund share. Investors can join investment funds by buying investment fund shares. The value of a share depends on the value of investments the fund owns.

2. Pension savings account (NYESZ): It is a supplementary element of the Hungarian pension system. Anyone opening such an account can decide what securities the money should be invested in (shares, bonds, or investment fund shares). Currently this is the only form of pension savings where in addition to state support, the individual can decide the concrete type of investment (s)he wishes to use.

3. Long-term investment account (TBSZ): Natural persons investing their money in a long-term investment account are partially or fully exempt from the 16% interest tax and the 16% exchange gains tax, if certain condition specified in the law are fulfilled. The goal of this account is to foster self-care and long-term investment.

4. Voluntary pension fund (ÖPT): The members pay regular contributions to the fund and when they reach retirement age, they receive various pension services from the fund. As opposed to state pension, the pension payments are covered by the contributions paid by the members and their accrued interest. Membership and contributions in the case of a voluntary pension fund is always voluntary. The contributions can vary but the minimum amount is a monthly 2000 Ft. A voluntary pension fund can be used to accumulate wealth for other purposes than pension. Voluntary pension funds are advantageous for members because the states give considerable tax relief after contributions.

5. Hungarian Building Society (LTP): It is a special credit institute which only collects deposits for the purpose of buying homes and only gives loans for this

purpose. Saving in Building Societies is supported by the government. After the time of saving expires, the Building Society provides a loan with low interest. All Hungarian citizens can use this service regardless of marital status or income. It can only be used to buy a home. The greatest advantage of this way of saving is the 30% state support, which can amount to 72 000 Ft yearly. With one contract the maximum amount of savings per month is 20 000 Ft.

6. Life insurance: In an everyday sense, life insurance is connected to events in the insured person's life: mostly death but also disability, operations, serious illnesses, permanent damage to health, incapacity or other event specified in the contract (reaching a certain age, wedding, having a child, retirement etc.).

3. The role of self-care in our decisions

3.1. Behavioural economics and decision making tipology

Behavioural economists can understand human decisions based on psychological traits better than normal economists who count on people making rational decisions. Adam Smith, the father of economy was a behavioural economist. Economy remained such until Keynes, but a great change came after World War II, which made economy rely on mathematics much more. Economists made the theory more precise by formalizing it since the most easily solvable models work with perfectly rational people (Herbert, 1957). Traditional economy calculates its models with perfectly rational people, where we can decide what is best for us based on our system of values (Herbert, 1996). In many areas, however, we systematically make irrational decisions and this was recognized by behavioural economy. It spreads fast and its mathematical and economic tools can measure and predict these systematic errors better and better. Today's economy states that people decide now how much they will earn in the rest of their life and then how they will smooth their consumption. Like if someone said they will work until the age of 65 and die at the age of 90, therefore they will need 25 years of pension. Then they would start to calculate how much they will save with what returns and then save exactly as much as they calculated (Richard, 2016). Self-care for retirement can be voluntary pension fund membership, insurance or other savings. It is not easy to choose the right one, which can provide the standard of living we expect in retirement. Decisions, such as "what financial investment to choose" cannot always be predicted based on rationality or preferences – this is proved by psychological research – because rationality is often overwritten by irrational thoughts (Fodor, 2013).

Table 3.
Decision-making tipology, strengths and weaknesses
(Fodor, 2013).

Hemisphere/decisiveness	Decision making tipology	Strengths	Weaknesses
Left hemisphere, rational, decisive	Pragmatic	Decisive, logical	Misses creative solutions, does not listen to others
Right hemisphere, emotional, decisive	Extroverted	Decisive, intuitive, popular	Misses facts, makes hasty conclusions
Left hemisphere, not decisive	Analytical	Collects data, logical	Thorough analysis slows down decision
Right hemisphere, emotional, not decisive	Jovial	Attentive, listens to others	Does not make hard decisions

Research has shown that the processing of rational and irrational information is related to the left and right hemispheres of the brain (see Table 3). The left hemisphere is responsible for conscious, dominant, logical, rational, analytic and positive thinking, whereas the right hemisphere is responsible for the subconscious – irrational, emotional and negative thinking. Whether a person processes information in a positive or negative way is difficult to change but can be influenced (Fodor, 2013). Most people usually use the left hemisphere – it is characterized by positive information processing (Hámori, 1998). Positivity means that this hemisphere hopes for the positive outcome of things and therefore finds it hard to tolerate crises, which endanger its positive outlook on the world and expectations. The left hemisphere is characterized by systematic and analytical problem-solving, research and making lists. The right hemisphere is more suited to processing negative information, That is it plays with possible outcomes of a given situation and is activated when a given situation happens. it is economically important that in forming one’s individual system of preferences, the right hemisphere is dominant.

The right hemisphere collects experience about the individual outcomes. The decision-making process is largely influenced by what hemisphere the individual relies on when making decisions. Another important factor of decision making is the decisiveness of the decision maker. A decisive person makes decisions faster than a non-decisive person. Based on decisiveness and the use of the hemispheres, four decision-making styles can be distinguished with accompanying personality traits.

3.2. The role of financial awareness in decisions

The research focused on the present and future state of the respondents. We would like to know what customs and processes motivated them to choose the kind of self-care, pension system they chose. We examined the respondents with the

methodology of behavioural economics and factor analysis. The research examines the role of self-care as a pillar supplementing state pension in public awareness and in our decisions, what pension system is considered desirable in the future, what will constitute the pension of the future generations, how many people will work and how in the future.

The starting point of the research is that people think of pension with fear and uncertainty. Based on the previous chapters it can be seen that the pay-as-you-go system is in a crisis, therefore the second pillar of the pension system, self-care receives more and more attention. Self-care helps save our financial and personal independence and expresses our responsibility towards our family. In developed western countries self-care has been playing an important role for a long time (Szabó 2017b, 2017c). To understand the motivations behind our decisions more deeply (Hámori, 1998), I used certain parts of factor analysis, which is a very widespread method for mapping personality nowadays (Ottó 2003, Czirfusz 2010). I processed the data of the surveys and performed the statistical calculations with the SPSS software with help from the department (Sajtos 2007, Szabó 2017b, 2017c). The online survey was completed in 2017. The respondents provided their answers online on [kerdoivem.hu](http://www.kerdoivem.hu/kerdoiv/927511662/) (link: <http://www.kerdoivem.hu/kerdoiv/927511662/>). Table 4 shows that there were 500 respondents altogether (n=500). My basic questions were connected to pension systems, pension savings, self-care and retirement security because these are the elements that determine the financial background of our future existence, that is, the extent of our self-care.

Table 4.
Statistical data of the respondents
[My own editing, 2017].

Number of respondents [n]	500
Male	270
Female	230
Average age [years]	31

The replies were divided into three groups:

1. Knowledge of pension systems (mandatory, voluntary);
2. Financial planning (characteristics of various savings plans);
3. The role of self-care (the mapping of personality).

The above three groups are analyzed separately by the qualitative research. Several statistical characteristics were calculated, such as average and frequency, and cross tabulation analysis was performed. The present paper only focuses on state pension and the role of self-care. Based on the answers, the respondents are basically informed about the pension system. 92.2% of respondents do not consider the current state pension system stable. They trust pension savings more – 65.2% of the respondents answered yes to this question. Only 15.6% of the respondents have pension insurance. The results show that savings are important to the respondents. Fig. 4 shows further internal connections.

Table 4.
Relationship between pension savings and age
[My own editing, 2017].

		Have pension saving		Total
		Yes	No	
Age [years]	between 15-19	1	63	64
	between 19-28	48	162	210
	between 29-48	100	73	173
	above 49	33	20	53
Total		182	318	500
Percentage [%]		36,4	63,6	100

Table 5. shows further relationships between pension savings and optimism. Pension savings are more important for optimist men than optimist women.

Table 5.
The role of optimism in pension savings
[My own editing, 2017].

			Pension saving		Total
			Men	Women	
Optimist	Yes	No. of respondents	324	12	336
		% Optimist	96,4%	3,6%	100,0%
		% Pension savings	67,4%	63,2%	67,2%
		% Total	64,8%	2,4%	67,2%
	No	No. of respondents	157	7	164
		% Optimist	95,7%	4,3%	100,0%
		% Pension savings	32,6%	36,8%	32,8%
		% Total	31,4%	1,4%	32,8%
Total	No. of respondents	481	19	500	
	% Optimist	96,2%	3,8%	100,0%	
	% Pension savings	100,0%	100,0%	100,0%	
	% Total	96,2%	3,8%	100,0%	

Conclusion

According to forecasts, the current pension system will probably cause social, economic and other problems both in Hungary and globally in the future due to the ageing of societies, the drastic change in the proportion of retired and working age people. Experts favour a mixed system but there is no universally accepted and favoured concept yet. In spite of the small amount of answers, there are many possibilities. The respondents consider many possibilities to ensure their future living. There is no choice concerning state pension because it is mandatory. In the case of other supplementary possibilities, such as voluntary pension funds and private investments our income and emotional decisions determine which form or forms we choose.

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