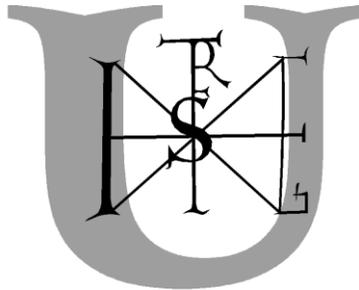


Szent István University Gödöllő
Management and Business Administration PhD School



**THE EFFECTS OF STATE REGULATIONS ON THE POPULATION'S
LONG TERM SAVINGS**

Theses of PhD Dissertation

ANNAMÁRIA HORVÁTHNÉ KÖKÉNY

GÖDÖLLŐ

2014

Name of PhD School: Szent István University
Management and Business Administration
PhD School

Science branch of PhD School: Management and Business Administration

Head of PhD School: Dr. István Szűcs
Professor, MTA doctor
Szent István University, Gödöllő
Faculty of Economics and Social Sciences
Institute of Economics, Law and Methodology

Supervisor: Dr. habil. Zsuzsanna Széles, PhD
head of department, associate professor
Szent István University, Gödöllő
Faculty of Economics and Social Sciences,
Institute of Business Studies,
Department of Finance Management and
Controll

.....
Approved by Head of PhD School

.....
Approved by Supervisor

1. INTRODUCTION

In my research, I analyze the public's long term self-care behavior, the development of state incentives system and the state's influencing role on the households' financial management. During their different life cycles, households make a series of long-term financial decisions. The approach of self-caring is present in individual and family life, but not with the same intensity. We live the global financial world's real estate-based lending crisis. The balance between lending and savings has shifted. The lack of self-control leads the households to consume more than their income, so they reach out for loans (KIM, 2010). While shopping, people are affected by temptation and impulsivity. The lack of self-control has a negative impact on household savings (KARLSSON-GÄRLING-SELART,1997). We need to change the thinking of mankind about loans and savings. In the current situation the role of the state's market monitoring and awareness rising has increased.

1.1. TIMELINESS OF THE TOPIC

The self-caring population delays their purchases, and they often supplement their shopping by borrowing loans. Long-term saving is one of the essential condition for secure loan borrowing. I pay particular attention to personal income tax discount, and the state's aid in building society accounts. I examine the money management of households in different life cycles, how can the state increase the propensity to save by using a variety of incentives, as the balanced household, corporate and financial management is a societal interest, and has a major impact on proper financial knowledge of citizens. In my thesis I examine the households. The role of savings has always been an important area of economics and economic analysis. Today it is an important factor too, since the majority of Hungarian households have more loans then saving, and the repayments of the loans takes a high proportion of the household's net income. This problem is often traced back to inadequate financial literacy, so my research to analyze current issues. Politicians are beginning to recognize, the central role of financial literacy in a well-functioning economy (LUSARDI-MITCHELL, 2009). Savings will reduce the uncertainty and enhance the possibility to be able to live with dignity in retired years (STARR, 2006). Pension saving is influenced by life expectancy (BLOOM et al, 2006). The amount of real estate and pension assets determines the consumer behavior in senior years (BLAKE, 2004). Sefton and his author associates examined the political reforms in pension savings (SEFTON-VEN-WEALE, 2008). High proportion of households do not take care for retirement security (LUSARDI, 2001). Preventing poverty in old age is a social interest. To do this, radical measures are needed. To enhance savings, teaching financial literacy, proper family upbringing, effective functioning of social organizations and broadcast by the media is required (STARR, 2006). Development of human capital and proper quality education is essential, in which the state plays an important role (STIGLITZ, 2013). Fisher and Montalto found the "contingency reserve" and pension-related savings are the motivating factor to increase regular savings significantly. They focused on the need for educational programs. The financial experts and advisory teachers have a prominent role in this topic. We need to emphasize the necessity of savings and households' long-term financial

planning with educational programs (LEE-PARK-MONTALTO, 2000), as household savings are indispensable and they have a direct impact on the economy (HIRA, 1987). Financial education can help the households to become savers, and to be able to plan their financial future for themselves and for their children. Financial education is necessary in schools and workplaces too (HOGART-ANGUELOV, 2003). Many individuals are psychologically unable to save, they are characterized by impatience and lack of self-control and they are only able to think in short term. For them, managing complex financial plans causes a problem (GRAHAM-ISAAC, 2000).

The formation of the financial motivation is a long process, and the result of the behavior can be traced to deep-rooted causes. In addition, as a result of formal education, people become familiar with basic financial concepts and will be able to use them (ALAMIL-SAUPELII, 2012). Financial education must be marked as a political goal, as financial literacy relates to financial proficiency, which increases the savings, which is essential to achieve economic growth. Moreover, the policy for the dissemination of financial literacy will not only increase savings, but it will also affect the diversification of household savings (BECKMANN-HAKE-URVOVA, 2013). Financial literacy is essential throughout the world to ensure a secure retirement. Nevertheless, the financial literacy throughout the world is at very low level, regardless of the development of financial markets in the country (LUSARDI-MITCHELL, 2011). It is true in all countries, that higher educational attainment is strongly correlated with the financial knowledge, but even with the highest level of education, financial literacy generally is on low levels (LUSARDI-MITCHELL, 2011). Many household savings are not sufficient to ensure secure retirement. Policy makers often try to encourage this, in form of tax breaks. Another way is more education of financial literacy (WIENER-DOESCHER, 2008). Further research is needed to examine the relationship between financial education and saving behavior, the relationship between financial education and financial literacy of households and the long-term changes in the financial behavior (COPUR-GUTTER-ERKAL, 2010).

The perception of self-caring should be taught in young age by setting an example and teaching, because developing the individual is very important for households and for the society. In my opinion, experience, practice, upbringing of the family greatly affect the future of our adult behavior, our responsible and irresponsible savings actions. I agree, that parents are primarily responsible for shaping the children's value system. The most important educational role stays for the parents (SZÚCS, 2011), but the parents can be savers in vain if they do not teach their children how to save (COPUR-GUTTER-ERKAL, 2010), but school systems are very important in broadcasting financial and economic knowledge as well. Education changes the way individuals think on finance, so it is important to achieve wider range of financial education (BERNHEIM-GARRETT, 1996). Financial education and social incentive programs can only be successful if the individual has the ability to change domestic settings, preferences, priorities and mindset. More and more households must be convinced to accept those rules, which are designed for increasing the savings (YUH-HANNA, 2010). Those households who are financially better educated, because they have learned financial skills in school, have much greater financial competence (HOGART-ANGUELOV, 2003). Higher financial knowledge pairs with more responsible, conscious financial decisions, so financial literacy has a positive effect on the saving behavior of households (SABRI-MACDONALD, 2010). I would like the research

results to be utilized by helping the large-scale government actions and decision making, as every household needs primary schools to be introduced into teaching financial literacy in daily life (ZSÓTÉR-NAGY, 2012).

1.2. OBJECTIVES OF THE RESEARCH

In preparing this thesis, *I have set two main tasks and three specific objectives* in relation to my research.

During my research the *first task* was to review the economic and theoretical background of relevant national and international literature, the exploration of main factors affecting the savings based on the research of some authors and a description of the related previous major researches in domestic savings.

I meant a major role to changes of personal income tax incentives to encourage savings. *My second task* was to analyze the impact of these changes, emphasizing the voluntary fund payments, the benefits of retirement saving accounts, the personal income tax allowance in housing and insurance. My further goal was to examine, in addition to the personal income tax discount, the long-term investment account and the Start account. In addition, I highlighted the discounts and changes of the building society contract, since it is very important for households to use the related public support more efficient.

My first objective is to create a theoretical model based on gathering and processing secondary information, regarding household saving decisions.

My second objective is to assess the domestic saving decision making behaviour, by primary research, using representative questionnaires. I aim for a thorough examination of the role of the state in the impact of household savings.

My third objective is to categorize Hungarian households based on their saving habits and the main characteristics of financial culture, since the household's behavior of financial affairs may be different for different household types.

Based on these objectives I set up, the following main hypotheses:

H1. Geographical location of the residence basically determines the Hungarian households' savings habits.

I assumed that in Hungary the households' saving habits are not regionally consistent. There is a difference between the regions according to economic development. I wondered if this also extends to the household financial habits. Accordingly, the tests were completed not only based on the total national pattern, but it is further divided to regions and the analysis and the comparison was carried out by regions too. Due to the size of Hungary, it is a single-pole country, so in the capital's catchment area, the income relations are different and the level of education is higher, compared to the other regions. As a result, the savings habits also differ, as the region is better informed on the subject of investment savings.

H2. Hungarian households can be classified into different types, due to their financial decisions.

As shown in the pre-research, households are classified into different types, due to their financial decisions, therefore I assume that a research with larger number of elements, also confirms the same result. According to my third objective, I would like to recognize the types of households in Hungary, to understand and to distinguish the typical financial behaviors and attitudes.

H3. The types of Hungarian households - according to the type associated with the classification of financial decisions - represent regionally differentiated rates.

After I examined the existence and number of different types on national level, I also plan to examine whether these types, their number and their ratio point to differences from region to region.

H4. Government regulations affect the long-term savings of the population in Hungary.

According to the second objective, I also examine if the state is capable to, and if so with what extent can it influence the long-term savings in Hungary, using taxes, tax breaks and incentives for state support functions.

H5. The practical usefulness of financial education is necessary in Hungary today.

I count on that the survey justifies, that the state can influence those households, who have more financial knowledge, so the state can influence less efficient, if the households lack of proper financial skills. In my opinion, the Hungarian households often feel a lack of practical knowledge of financial literacy, therefore it is important to consider teaching this, even in elementary school age. However, there is an increasing demand for this among the adult population.

2. SUBJECT AND METHOD

During my research I followed a predetermined logical sequence. I began my dissertation with the overview of economic theories related to the topic, from relevant domestic and foreign authors, and I acquainted the recent domestic saving related researches, I examined the Hungarian households' saving, as the aim of my research is on this area. Then I worked on the theoretical background of income tax, then I examined the closely related laws of each topic, especially the changes in tax laws, then, I made an analysis in connection to this and based on secondary data. In my secondary research I analyzed and used the annual reports of the Hungarian National Bank, the National Tax and Customs Office, the Financial Supervisory Authority, Central Statistical Office and the Association of Hungarian Insurers. During the processing of the literature, it turned out that the authors, KEYNES, 1965; MODIGLIANI, 1988; and FRIEDMAN, 1996 know, that the combined effects of more factors are influencing the households' financial saving decisions. However, different factors have different influence, and the factors do not influence with the same intensity of saving habits in each individual household. Therefore, in my primary research I look for the answer if I could allocate households with different saving habits in Hungary. If so, my goal then is to determine what are the characteristics of these households, what factors can influence the behavior of their savings. I focus on that government incentives are able to influence the financial decisions of different types of households, as it appeared in more theories, that state tax policy may influence savings, as KEYNES, 1965; and MANKIWI, 2005; also wrote. In addition the level the quality of financial literacy of the population and is also significant, since the saving literatures (LUSARDI-MITCHELL, 2009, 2011; COPUR et al., 2010; BÉRES-HUZDIK, 2012; ZSÓTÉR-NAGY, 2012; BÉRES et al., 2013; BOD, 2013 and LABRI, 2013) give priority to the importance of financial literacy. Consider all these, with quantitative research methodology I made a questionnaire survey on households (not individuals) in which I compiled my goals listed above. The questionnaire survey was implemented in two phases, where I asked the households about their saving habits and about the structure of their financial assets.

The participation in the research was without prior selection, was anonymous and voluntary.

Before the first survey I set up the following main hypotheses:

H1: Hungarian households can be classified into different types, with based on their financial decisions,

H2: The government's influencing role is appreciated as important and it influences the households' saving decisions.

I chose these hypotheses, because I was convinced, that households make their financial decisions using different methods. I therefore assume that if I list the same group of like-minded households more of these groups can be distinguished from each other. This was confirmed by several literature: MODIGLIANI, 1988; FÁBIÁN et al., 1999;

BUTELMANN-GALLEGO, 2001; JAPPELLI-PISTAFERRI, 2000; BASIT et al., 2010; BECKMANN et al., 2013 és STIGLITZ, 2013.

I chose my second hypothesis, because I was curious if the state can affect some of the Hungarian households, if so how much of influence does it mean.

I assumed that the thinking, attitudes and knowledge of finance to households greatly affect this as well.

Exploratory research

The first primary research was carried out in the 2012, spring, which I meant to be an exploratory research. I set the testing of the questions and examinations as an aim before the realisation of my later research with a bigger element number. 578 households were sampled from Hungary. Preparation of the questionnaire was made on-line interface. The online questionnaire was complemented with paper form questionnaires, in order to reach those targets, who I could not reach by computers.

Later, with the larger numbers of element of my research, the same method was used.

Comprehensive research

Prior to the second questionnaire survey questionnaire was modified based on past experience. In many cases, due to the complexity and ease of processability, it has been simplified, however, the past 17 variables was increased to 24. One reason for this was that, firstly, the need to develop financial literacy was divided into three parts: I distinguished elementary school, vocational high school and adult target, what the research of ERSTE-IMAS 2012. confirms. My opinion is that financial subjects should be taught in primary schools, since this age group has to accommodate this knowledge. In this fast-paced world, more and more knowledge, skill level required they must apply this ability in later life. On the other hand I concretized state tax incentives. Thus, their influence can be reflected separately. In fact I was wondering if I ask them not only about the general state tax incentive influence, will their opinion change? Based on the exploratory research the State Tax Incentives on households has only moderate ability to influence. The medium results also indicate that in general they did not understand the question, and thus the value of the medium scale was ticked.

The comprehensive research questionnaire survey was carried out between 2012 November and 2013 May. The incomplete questionnaires were not evaluated. A total of 278 questionnaires were not evaluable. The sample consisted of 4,106 households. That's because on the basis of census data, in 2011 there were 4,105,708 households in Hungary. I realized a representative survey by county and type of settlement. I chose this point of view, because not only regionally (county, region), type of settlement but also discrepancies between the financial literacy, the savings habits, and public aspects of their suggestibility. Based on the sampling, I can examine the financial habits of households in different regions, as it's been mentioned in H1 hypotesis.

Processing method

I used for processing questionnaires Microsoft Excel spreadsheet program and SPSS 14.0 software. The SPSS software package is for the analysis of complex issues. After I recorded the hand-completed questionnaires manually in the electronic system, as a first step I imported the data to Microsoft Excel, where I completed the necessary transcoding, then I copied the encoded data to the SPSS program, after making the necessary adjustments.

During the test, I tried to find the answer, that how can the examined households be divided into groups and the saving habits of the groups, what are the main characteristics of their saving related thinking. First, I used univariate statistical methods - especially average, mode, median and standard deviation - in the analysis. They are designed, that based on the information summarized in typical primary image position to formulate, because statistical data in large quantities is difficult to understand (JÁNOSA, 2011).

I have tried to depict graphically the statistical data and the results of the research the in dissertation with figures and tables, because the information displayed and demonstrations is an important tool, which makes it easier to draw conclusions (KERÉKGYÁRTÓ et al., 2009). The figures and tables were made in Microsoft Excel, Microsoft Word and SPSS 14.0. I constructed combination table too, which is characterized by the two criteria are grouped according to the studied population (JÁNOSA, 2011). For better clarity and distinctness I gave the same color to the same household types, and regions in my figures and tables.

In addition to the univariate statistical methods I examined the multi-factor relationship quality with the Cramer's association coefficient, since you can better understand the phenomenon, if you examine not only itself. Many factors can affect the development of test criteria. The Cramer association coefficient shows the close relationship (JÁNOSA, 2011).

In both exploratory and comprehensive research I used cluster analysis, and discriminant analysis.

With the help of factor analysis the information derived from the data, it allows the joint consideration of multiple criteria. It is used for the characterization of complex phenomenon. This method is based on the relationship between the variables, and in each of the variables, variables are artificially produced, that extracts them to factors (JÁNOSA, 2011). It aims to establish groups of variables within which the variables are correlated (KERÉKGYÁRTÓ et al., 2009).

The application of factor analysis was checked on the basis of Kaiser-Meyer-Olkin (KMO) criteria. If the Kaiser-Meyer-Olkin (KMO) value is below 0.5 the factor analysis can not be performed because of the inadequate level of correlation between the variables.

Bartlett's test also helped me in the decision. If the Bartlett test's significance level is less than 0.05, then it means, the variables that are suitable for factor analysis, since there is a correlation between them (KERÉKGYÁRTÓ et al., 2009).

After checking the terms of the factor analysis, I determined the number of factors with the help of Scree Plot Figure. The Scree Plot Figure depicts the eigenvalues in order of the factors. The x-axis shows the number of the factors, the y-axis shows the eigenvalues. The eigenvalues shows that how many times a factor is in relation to the information content per unit of containing variable information (JÁNOSA, 2011).

After the completion of the factor analysis, I made correlation analysis of K-centered cluster, in which the variables on the financial culture were analyzed using ANOVA table. I used Kendall's agreement coefficient to determine, to know how much the surveyed household agree on the factors, that influence their decision on savings. It also helped to define the number of clusters. The purpose of the cluster analysis is the segmentation of the population elements so, that the difference in groups is as small as possible and the difference between groups is as big as possible. Within the clusters of the segment members are similar to each other, but differ from other group members (SZŰCS, 2004). Based on the variables I created homogeneous groups, in which properties of the member of the group are close to each other, that is similarity is maximal within the group. Not too low, not too high, to enter number of clusters is not practical, it does not lead to adequate results. In the cluster analysis, the target is the creation of types (JÁNOSA, 2011). In my case, using this method I planned to classify types of Hungarian households based on their attitudes and decisions to save. After determining the types of households discriminant analysis was performed. With the help of discriminant analysis each clusters are also illustrated. The discriminant analysis is a multivariate method, which it can establish, what are the variables, that distinguishes the groups formed during the cluster analysis. Finally, I determined, that in the cluster analysis what was the percentage of group of households could be classified correctly.

I created a text cloud, using <http://www.wordle.net/create>, based on comprehensive research questionnaire response. Specific answers of the questions were highlighted, and illustrated visually. The font size shows the importance of words and the frequency of occurrence shown in the figure (PETHŐNÉ NAGY, 2009).

3. RESULTS

3.1. SECONDARY RESEARCH RESULTS

3.1.1. CREATING A THEORETICAL MODEL ABOUT THE INFLUENCING FACTORS OF HOUSEHOLD SAVINGS

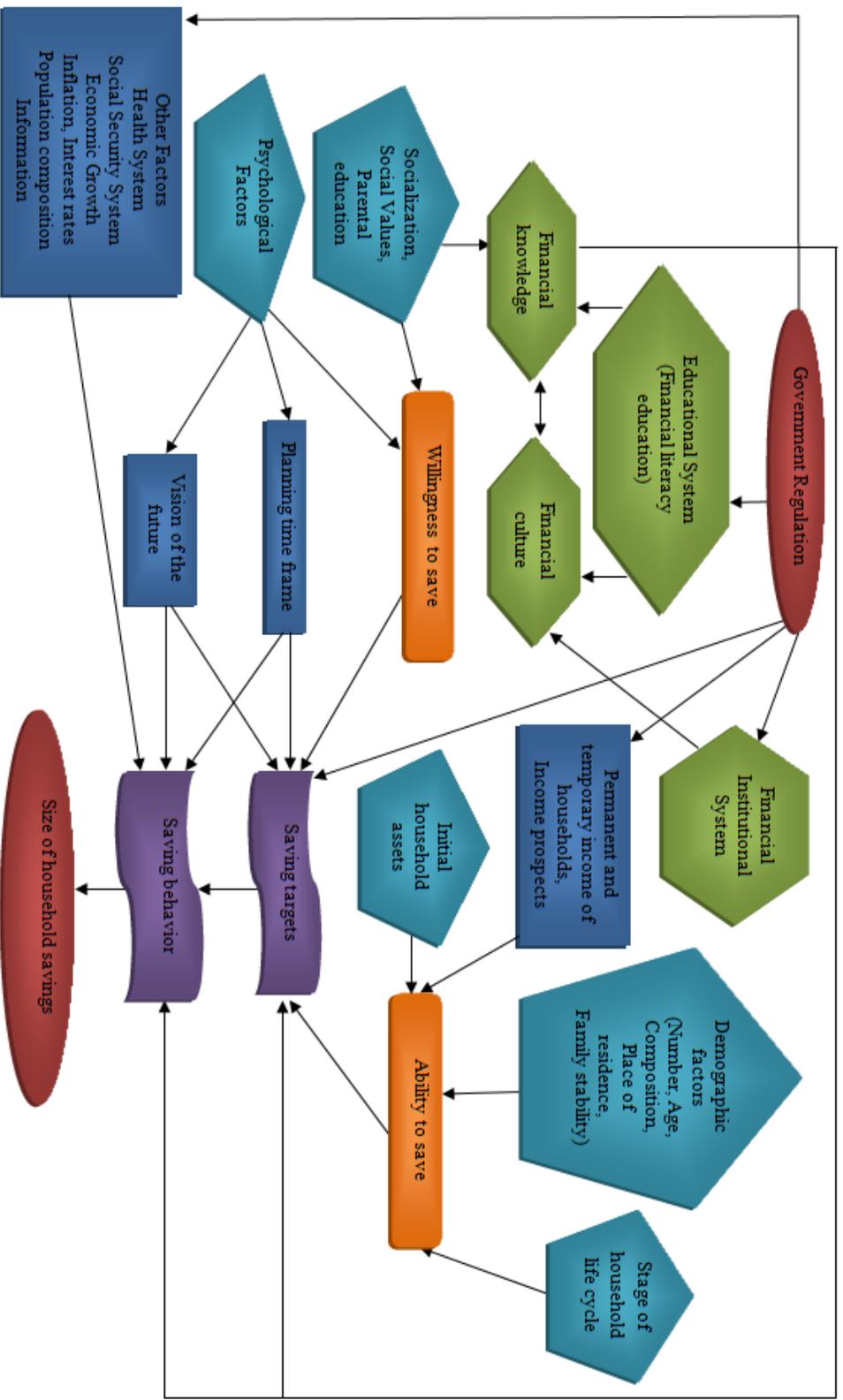
The theory of savings has been processed by several national and international literatures. With these taken into account, as a result of my first goal, to summarize the theories, I created figure 1. When I created my model of saving, my primary goal was to make a more complex and more complete description of the factors, which are affecting savings, with the correlations taken into account.

When creating the model that point was that, the state is directly and indirectly has an effect on the factors influencing the savings, hereby onto the households' savings. In the chapter of theories, I strived to display the theory of Keynes, Friedman's life cycle hypothesis, and Modigliani's permanent income hypothesis, and many other authors's opinion about the factors influencing savings.

I considered Kasilingham's and Jayabal's (2011) figure also, which distinguished saving capability of saving willingness. According to them, the determining factor of savings is propensity and not ability. I didn't make a distinction between these two, since they also depend on the combined effect and strength of many factors. I highlighted both with orange color. In my own model, I tried to indicate the combined effects of saving potentials and factors affecting the propensity to save on saving purposes, savings behavior and eventually on the magnitude of savings. In my opinion, individuals and households can be classified and characterized by their propensity to save and their financial behavior.

I made a distinction between controllable and non-controllable factors. The non-controllable factors are shown as pentagonal, light blue figures. The title of my dissertation: „The effects of state regulations on the population's long term savings” also refers to the process shown in the model. As a starting factor I marked „government regulation” and as the final product I picked „size of household savings.” With the color green I marked the financial system, the financial education and the financial knowledge. The role of government regulation has an enormous influence and social responsibility through the households' saving goals and saving behavior.

Because saving goals and saving behavior are affected by the many factors that I listed and illustrated, these units are marked in purple in my model, as they are equally important, as it is a featured coefficient of the savings decision process. The controllable factors are shown blue in the figure, so I could separate them from other factors.



1. figure: Model: Factors influencing the household savings
 Source: Own research

3.1.2. THE EFFECTS OF PERSONAL INCOME TAX LAW CHANGES

During my research, I also examined, how personal income tax allowances developed, how durable are they, and how they can influence long-term self-reliance. These changes were mainly caused by the appearance of various tax breaks, continuous changes in tax system and possible sudden disappearance of tax types. The tax rate and the tax allowances are influenced by the combined effects of factors each year. Changes in tax breaks creates uncertainty in long-term financial, saving decisions. Tax incentives can greatly affect the average tax burden of income within the consolidated tax base.

3.2. QUANTITATIVE RESEARCH RESULTS

3.2.1. EXPLORATORY RESEARCH RESULTS

According to the results of my research, households can be classified into several groups, which are not known by the previous literature. As a group forming criterion, finance knowledge, foresight, willingness to self-care and financial responsibility will be displayed. The type of households are defined by the combination of these non-unified ratios. Even though, I did not assume, what results are expected in the cluster analysis, I was not suprised by the results of the features of households. What I didn't expect was the influencing state instruments, which affect household saving are on a less than medium level, meaning they don't use this option, or they don't recognize, that it exists. This is also refers, that mostly the "Conscious Self-carer, with financial literacy" segment indicates the role of the state influencing little harder, compared to the other segments. Based on the results, it can be stated, that the households in the sample consider the role of the goverment nearly identical, almost regardless of the degree of their financial literacy. This problem is worth further study as well. In the course of the research hypotheses, H1 hypothesis is accepted, and I consider it justified, since the cluster analysis clearly shows different financial behavior of households, and I reject the H2 hypothesis, since the role of the state is characterized by medium and low levels of perception of each of the clusters.

3.2.2. A COMPREHENSIVE SURVEY RESULTS

In the analytical examination of clusters I found, that the clusters have similar properties to the clusters occurred during the exploratory research. Accordingly, I considered it appropriate to keep the former designations.

Cluster 1: Wishing to self-care

They consider the needs for financial security of households the least important, but even in their case this value is high 4,64. They know the financial products well, and they are modearately trying to take advantage of various tax incetives. The 2. „*Lives for today*” cluster's members think, that it is more important to them to archive financial knowledge. 29% of surveyed households included.

Cluster 2: Lives for today

They have the least confidence in the future state pension, but they do not do anything about it. The average value is only 1,93 on 5 grade scale. Nevertheless, they are the least familiar with some of the potential savings. The use of state tax incentives is uninteresting for them. However, they consider the importance of financial security. They consider teaching financial skills is only moderately necessary. It is less important to them, as for the other cluster members. In my opinion, this is a kind of disinterest, since they do not know the options for each tax benefits, thus they do not make use of these, so they do not consider it important, for the new generation will be able to study these in the classroom. 19% of surveyed households included.

Cluster 3: Conscious Self-carer, with financial literacy

The state is able to influence them the most with tax reliefs, during their savings decisions, although they trust the most, that later state pension will cover their needs. However, the value of their case is very low too (the average value of 2.61564 on 5-point scale). They also urge the need to develop financial literacy, although they are most familiar with the variety of savings products and the associated tax benefits and state aids. They do everything for themselves and for their family members to achieve financial security. 29,6% of surveyed households included.

Cluster 4: Self-carer, without financial literacy

For them, financial security is the most important. Less than, the 3. „*Conscious Self-carer, with financial literacy*” cluster members, but the future of their children, housing and taking care of retirement years are very important for them. Nevertheless, they have very low financial literacy however, they realize, how important it is to develop the financial skills in primary school (4,09). Although they are not familiar with the various financial options, they seek to take advantage of the tax benefits (3,77-4,05). 22,4% of surveyed households included.

4. EVALUATION OF THE HYPOTHESIS

EVALUATION OF THE HYPOTHESIS 1: GEOGRAPHICAL LOCATION OF THE RESIDENCE BASICALLY DETERMINES THE HUNGARIAN HOUSEHOLDS' SAVINGS HABITS.

When I set up my first hypothesis, I assumed, that saving habits differ in the capital and its vicinity, due to higher income, higher education and better information gathering. The saving related primer research responses showed average values, meaning, households that live in different regions think about financial problems similar to the average value of the national response. Despite the capital and Pest county has the most average monthly income, and in the Central Hungarian region has highest the income per capita, their savings are not higher than the other regions. Considering all these, I reject the first hypothesis. Also, I have found differences in the type of settlements. Although the village households represent national rates, the capital city and the county capitals hold the most members from cluster 3 and 4. Here, the lowest percentage of cluster 2 is present. In contrast, the cities under 50000 person mostly consists of households in cluster 2 and cluster 4. The cluster 3 types of households have the lowest rate.

EVALUATION OF THE HYPOTHESIS 2: HUNGARIAN HOUSEHOLDS CAN BE CLASSIFIED INTO DIFFERENT TYPES, DUE TO THEIR FINANCIAL DECISIONS.

The second hypothesis was proved on the basis of the results of my research. Four household types could be distinguished from each other in Hungary, based on the attitudes and financial decisions related to savings as I proved both in my exploratory and comprehensive primary research. I found, that different households can be classified and characterized in Hungary according to their savings behaviour and propensity. They are named as follows: 1. "Conscious Self-carer, with financial literacy"; 2. "Self-carer, without financial literacy "; 3. " Wishing to self-care"; 4. "Lives for today".

EVALUATION OF THE HYPOTHESIS 3: THE TYPES OF HUNGARIAN HOUSEHOLDS – ACCORDING TO THE TYPE ASSOCIATED WITH THE CLASSIFICATION OF FINANCIAL DECISIONS – REPRESENT REGIONALLY DIFFERENTIATED RATES.

In the third hypothesis, I examined, if the number differs or whether they show differences in their rates in some regions as the number of households approved in hypothesis 2. During my research, I have concluded, that the types of households are present in each region and the breakdown by region shows deviation per cluster. Usually the " Conscious Self-carer, with financial literacy" or the "Wishing to self-care " types of households lives in the highest proportion in each region, except in the Western Transdanubian region, where after the " Wishing to self-care" types, the second biggest number are represented by the " Self-carer, without financial literacy" cluster members. During my research, I concluded, that basically geographical location of the residence doesn't determine the population's saving habits (I rejected the first hypothesis), but what is important, the numbers of household represented with different attitudes on financial matters. Compared to the original domestic regional rate to the Central Hungarian region has more "Conscious

Self-carer, with financial literacy" and the "Wishing to self-care" households. The Central Transdanubia and Southern Transdanubia stands out in the "Lives for today" with high ratio comparing to other counties. In the West Transdanubian region with the biggest numbers are "Self-carer, without financial literacy" and with the least are the "Conscious Self-carer, with financial literacy" type of households. Although in the region of Northern Hungary the most households are "Self-carer, without financial literacy" type, in contrast, it has the least amount of "Lives for today"'s ratio. I experienced the same thing in the Southern Great Plain region. The Northern Great Plains region shows the smallest difference compared to the national rate, so this region resembles the distribution of household types according to the national data. On this basis these, the third hypothesis was proved.

EVALUATION OF THE HYPOTHESIS 4: GOVERNMENT REGULATIONS AFFECT THE LONG-TERM SAVINGS OF THE POPULATION IN HUNGARY.

After collecting the laws and their changes, which can influence the population long-term savings, I have analyzed these changes and concluded, that the changes to the laws related to each savings has an impact on household saving decisions. Based on the results of a comprehensive research it can be stated, that government regulations can influence the population's long-term savings in Hungary, especially the „Conscious Self-carer, with financial literacy” household types. Considering figure 8. it becomes clear, that the state is able to influence the households' financial knowledge, so the proportion of previously distinct types of households can change over time, which demonstrates the effect on the retail savings in Hungary, by the long-term effectiveness of government regulation. Accordingly, I proved my hypothesis 4.

EVALUATION OF THE HYPOTHESIS 5: THE PRACTICAL USEFULNESS OF FINANCIAL EDUCATION IS NECESSARY IN HUNGARY TODAY.

The fifth hypothesis has been partially proved by the acceptance of the hypothesis 4, because for the state, to be able to effectively influence more and more households, to increase their savings with a variety of state incentives, teaching the practical uses of finance in Hungary is needed. During two primary research, I examined, that today, according to the respondents is there a need for teaching economy, financial literacy in Hungary. Based on the results of the comprehensive and exploratory research, the examined households have low financial knowledge, however, by their own admission, they feel, that self-caring is a behavior, which can be learned. Each of the four household types think, we should focus on teaching secondary school students, but the development of the skills of the adult population is important too. However, it has become clear that we have considered it necessary for the overall development of the students' financial literacy. In respect to the facts above, the fifth hypothesis was proved.

5. CONCLUSIONS AND RECOMMENDATIONS

In welfare states the taxpayer has rights to access information, so the taxpayers obtain up to date information on the operation of the tax system, which, of course, without adequate proficiency in financial matters will be only one set of encoded data. To avoid this, the most important thing is the taxpayers' rights, that they have sufficient knowledge concerning their tax affairs regarding their activities (NEMEC-WRIGHT, 2000). I completely agree with this, because it's useless to develop an appropriate system, for encouraging long-term savings, if the adult members of the households don't know the system's advantages, but even if they do, they can't apply them, as they are financially under-qualified, it's complicated for them to effectively see through all the benefits.

In my dissertation I concluded, the state can't influence long-term goals equally, whether it is the tax relief, or non-refundable state aid. It turns out that the geographical location of each household is not the main determinant of saving behavior. The major determinant is their financial attitudes. The type classification is a major determining factor, so in one hand it is the state's ability to influence in form of tax benefits, in the other hand is how the households recognize different forms of savings. These two factors explain 40.435% of the knowledge and saving habits of households, and they take financial decisions on the basis of these. However, it also became clear, that the state is not equally able to influence each household types, that I defined and characterized.

The economic models emphasize that the decision-maker is well-informed and rational. I think, this is the root of the problem. **This is currently not implemented in Hungary.** The majority of the adult population never learned financial, economic knowledge in school and many of them haven't during their adult life. The authors, Agoston Kolos-Kovacs (2007) also define, the individual may not be able to properly decide their short- and long-term interests. Banyar-Meszaros (2004) also emphasize this. According to them, the state must force individuals to make saving decisions, because who is not able to take care of their financial matters, won't have any future retirement saving, what will create political tensions. What they emphasize is that, a multi-pillar system is a better solution, than a one-pillar system, due to the better distribution of risks. I agree with the multi-pillar solution, but I don't agree with forcing the savings on people. I think the current incentive system is good, but it just can not function effectively, because the individuals, the households are not able to use and take advantage of the tax incentives system. I urge the deployment of compulsory finance education, similarly, with the other specialist subject, in primary schools.

I concluded, that in the public related savings, **the use of state tax breaks and aids have two hindering factors.** This is knowledge and confidence. We must teach people how to handle money in the young age. This can help both the knowledge and the development of trust.

In my opinion, which was confirmed during my research, **there is a need for primary schools to introduce teaching practical financial skills**, as it is in great need for every household to know this for themselves and to the society as well.

In this fast-paced world, we can not expect the parents, that they shall have the only responsibility, to teach their children the basic financial and economic concepts, especially

that they did not learn earlier in the school desk and often they are not adapted to this constantly changing, developing world. Likewise, we don't let Hungarian people to be, illiterate in IT and foreign language, in the same way we can not afford it either in the field of finance. I can not understand, that there is such an important area, what no one can ever avoid in their lives, why can't it get enough attention already in primary education. I am thinking of the concept of gross pay and net pay, state tax revenues, responsibilities and major public spending. The general sales tax and the concept of personal income tax, use your credit card and internet banking, the dangers of credit card, the role of pensions and family allowances, the corporate income and expense, and the concept of profit, etc. We should call attention to the importance of family budget planning. But until they don't know what it means, and are not able to think about how to achieve short and long term goals, to plan revenue and expenditure, it won't arise as a deficit and demand. During my research I found out that Hungarian households have formulated their claim, that they would like at least their children to learn these skill through the school system, although many adults also require this type of education.

The existence and absence of the financial knowledge makes it clear, how important the state's role is, at the same time, we can also see, that the business, financial organizations need to engage in an active role in preventing the spread of financial illiteracy. I think, as long as teaching basic economic, financial literacy is not compulsory in the Hungarian school system, this will be a strange, incomprehensible, encrypted subject for the people. The state also will be unable to exert sufficient influence over a large part of the Hungarian households. They can not be convinced, that long-term savings must be started as soon as possible, such as saving for a house, or for the security of retirement, what is supported by the form of additional state aids and tax reliefs. However, the majority of households have no idea that this even existed, but if they happen to have heard of it, they don't know what it means and especially do not know and understand, what they should do in order to benefit from the discount. In this point of view, the topic becomes utterly irrelevant.

I suggest the practical uses of financial education to be introduced in primary schools in the seventh and eighth class.

6. NEW SCIENTIFIC RESULTS

1. I created my own model of savings from various theories and research, highlighting the role of government regulations on savings. In addition to the presentation of complex factors that affect savings, I considered correlations too. In my model (Figure 1) I indicated both the saving capability and all factors that influence the propensity to save, and the combined effect of these on savings purposes, the savings behavior and ultimately the magnitude of savings. I made a distinction between controllable and non-controllable factors.

2. I listed the tax benefits related to savings in a table from 1995 and the changes occurred in state aid law in Hungary. I pointed out that the legislative changes relating to certain savings has an impact on the household saving decisions and the state prefers self-reliance in the form of tax reliefs.

3. My quantitative methods have proved (Factor analysis, K-centered cluster analysis, discriminant analysis), that individuals and households in Hungary can be characterized and categorized by the tendency of their saving behaviour. Hungarian households could be classified into four types, based on their saving habits. These different types of households are named as follows:

- 1. " Conscious Self-carer, with financial literacy"**
- 2. " Self-carer, without financial literacy"**
- 3. " Wishing to self-care"**
- 4. " Lives for today".**

Households have less confidence in state pension, but the "Conscious Self-carer, with financial literacy" type is the most familiar with these investment options, and they can be influenced by a variety of state funding opportunities. They are followed by the "**Self-carer, without financial literacy**" type, who, although are trying to make use of some of the tax benefits, but they know little about them, so they can't take the advantage of a wide range of supports. The "**Wishing to self-care**" household's characteristics, that they recognize and use these opportunities in a moderate level, but even they consider the development of financial literacy as a priority. From the "**Lives for today**" the conscious finance behavior and the foresight rolls off. They do not know and do not find this topic important, although 64.4% of them encourages financial education for high schools and vocational high school students.

4. I found, that the geographical location of the residence does not determine the Hungarian households' savings habits.

The average values of my primary research responses slightly differ from the national data. In this way, it was found, that households living in each region have similar thoughts of finance comparing to the national data.

5. I have demonstrated, that there is a difference between household saving habits of different settlements. I defined and quantified, that different type of households are regionally differentiated in Hungary, based on their financial attitude.

While the households in villages represent the national rates, until in the capital city and the county capitals consist mainly the "Conscious Self-carer, with financial literacy" and the "Wishing to self-care" households. In contrast, the towns under 50.000 person contain mostly "Lives for today" and the **"Self-carer, without financial literacy"** households. Both the distribution of households by type of savings in each region, both the distribution by region shows deviation per cluster, even in the breakdown of counties disparities persist. I concluded, that the geographical location of the residence does not determine the Hungarian households' savings habits, but the proportion they represent in each region, the number of households with different attitudes on financial matters.

6. I proved, that the state is able to influence the households' financial literacy through the educational system, thus it can influence their behavior, their magnitude of savings.

At present, few people know about and even fewer use those potential savings, in Hungary, which include personal income tax allowance, or other public funding opportunities. 28,71% of them takes into account the possibility of tax allowances through their saving decisions. In the result of the extensive research I found, that the state had a moderate influence on the households, in form of tax benefits. At the same time, I concluded, that each of the four household types can be influenced by government incentives in various forms. The „Conscious Self-carer, with financial literacy” types can be influenced the most (4,15-4,25), then the „Self-carer, without financial literacy” cluster’s (3,76-4,05) members. The „Wishing to self care” can be less influenced (2,74-2,98), the „Lives for today” had the least amount of influence by these opportunities (1,79-2,12). I have proved by the results of the comprehensive research, that although the average values are mediocre, households' financial decisions are not equally influenced by the variety of public assets. The state can achieve efficient distribution of financial knowledge through the education system. In this way the state will be able to classify each household types, and influence them in long-term, because the „Conscious Self-carer, with financial literacy” type has the only appropriate financial skills necessary for saving their decisions now. If the state can raise the number of „Conscious Self-carer, with financial literacy” cluster, the Hungarian households will make better financial decisions, and they will be more financially conscious.

7. I demonstrated, that the majority of households consider it necessary to develop the financial literacy, especially among secondary school students and high school students. The development of financial skills is a priority in the adult population. It became clear, that the development of financial literacy in Hungary for elementary school students has been considered necessary. Each of the four household types believe, that the practical utilization of financial literacy education is important for each of the three target groups.

7. SUMMARY

The examination of the state role was my emphasized aim in the look of the effect it has on the households' savings: the state's long-term politics in motivating the population to save, the law regulation of the state supports and the analysis of the population's long-term saving habits, its inclination and the exploration of its contexts. I concentrated on the state stimulation of the voluntary domestic savings, particularly the effects of tax reliefs which can be enforced in the personal income tax and the benefits of the Home Savings and Loan Association's contract. In Hungary, personal income tax is a payment liability since 1988. In my dissertation, following the theoretical summary of savings, I examined the discounts of the personal income tax and how the state is able to influence the households' long-term financial decisions. In order to make the decision-makers to be able to effectively influence the households, we must first understand the factors affecting their savings. For this purpose and to facilitate this, I created my own theoretical model. On the basis of this, it can be clearly seen, that the state regulation has an effect on the magnitude of the domestic saving through a complex system. The financial system, education system, changes in household income, incentives to encourage savings, state aids and a variety of other factors can influence the ability to save, the saving aims, the saving behaviour and finally the size of domestic saving. Another important factor is the propensity to save, what rather is an individual psychological factor and is influenced by the parental and societal values, the socialization process and the parental education. During my research I distinguished four different types of households, based on their financial attitudes. In my opinion, the state participation affects the proportion of each type too. Subsequent studies will be able to demonstrate that the „Conscious self-caring, with financial knowledge” cluster's ratio will rise significantly among Hungarian households as that age group reaches adulthood, who studied basic financial knowledge from the 7th grade of primary schools. I would like to do this for future research and hope, that I can do it during my active life.

Paying attention to our long-term self-catering has an even bigger significance on the time of the present monetary crisis. Obtaining credit is under more restrictive conditions, but the general public became more cautious. The savings, ensuring the own resources became more important again. However, financial culture of the people is inadequate. The people's attitude of self-reliance and the responsible long-term thinking is missing. I think it has never been more important to anticipate as today. With my thesis I would like to draw your attention to the importance of self-care, awareness, information gathering and financial clairvoyance. My goal is to awaken the need for own effective, long-term financial plans for households. It is important for me that more and more households think with caution in relation to their financial affairs. To this I consider it necessary, that primary education should display the practical uses of financial education, because there is a growing need for households to manage their own financial assets.

8. THE AUTHOR'S MAIN PUBLICATIONS

Published articles in Scientific Journals

Scientific Journal articles published in Hungarian language, with foreign-language summary

1. **HORVÁTHNÉ KÖKÉNY A.** – HORVÁTH M. – SZÉLES ZS. (2013): Az állam befolyásoló szerepe a megtakarításokra és a pénzügyi kultúrára, Társadalomkutatás, Akadémiai Kiadó, 31. évfolyam, 4. szám, 443-462 pp. ISSN 0231-2522
2. **HORVÁTHNÉ KÖKÉNY A.** (2012): Jelen és/vagy jövő, azaz a megtakarítások dilemmája, Hitelintézeti Szemle: 2012/Különszám, 101-110 pp. ISSN 1588-6883
3. **HORVÁTHNÉ KÖKÉNY A.** – BÁLINT Á. – CSAJBÓK R. – KOMLÁTI L. (2013): Pénzügyi tervezés a különböző életciklusokban, In: *Economica, A Szolnoki Főiskola Tudományos Közleményei*, 2013. Különszám, 5-15 pp. ISSN 1585-6216
4. **HORVÁTHNÉ KÖKÉNY A.** – BÁLINT Á. – KULCSÁR P. – ORAVECZ G. (2012): Lakossági megtakarítások ösztönzése, In: *Economica, A Szolnoki Főiskola Tudományos Közleményei*, 2012. Különszám, 61-70 pp. ISSN 1585-6216
5. BÁLINT Á. – **HORVÁTHNÉ KÖKÉNY A.** – NAGY R. (2012): A megtakarítások elméleti és gyakorlati kérdései, In: *Kitekintés – Perspective, Magyar-román-szlovák periodika, Tudományos és kulturális Folyóirat, Szent István Egyetem, Gazdasági, Agrár- és Egészségtudományi Kar, Békéscsaba, 2012., 154-159 pp. ISSN 1454-9921*
6. **HORVÁTHNÉ KÖKÉNY A.** (2011): Merre tart az ingatlanpiac? In: *Körös Tanulmányok, Szakmai periodika, Szent István Egyetem, Gazdasági kar, Békéscsaba, 2011., 48-53 pp. ISSN 1589-908X*
7. **HORVÁTHNÉ KÖKÉNY A.** – MÁTÓ N. (2011): Állami részvétel az otthonteremtésben, In: *Economica, A Szolnoki Főiskola Tudományos Közleményei*, IV. új évfolyam, 11. szám, 44-56 pp. ISSN 1585-6216
8. **HORVÁTHNÉ KÖKÉNY A.** (2009): Lakástakarékpénztári megtakarítások előnyei, In: *Economica, A Szolnoki Főiskola Tudományos Közleményei*, 2009/2, 73-80 pp. ISSN 1585-6216

Scientific Journal articles published in foreign language (Hungarian Edition)

1. **HORVÁTHNÉ KÖKÉNY A.** – SZÉLES ZS. – HORVÁTH M. (2013): Cluster analyzes of households' saving habits, *Regional Business and Studies, Kaposvár University, Vol 5. No 1-2., 1-9 pp. (angol) ISSN 2061-2311*

Scientific Journal articles published in foreign language (Foreign Edition)

1. **HORVÁTHNÉ KÖKÉNY A.** – HORVÁTH M. (2014): Cost management in practice of households and companies during the crisis in Hungary. International Journal of Business Management and Research, Vol 41., Issue 1., 1124 – 1128 pp., ISSN 2051 - 4281
2. HORVÁTH M. - **HORVÁTHNÉ KÖKÉNY A.** – PAKAI K. (2013): Risks in supply chains. International Journal of Management and Business Studies (IJMBS), Vol 3., Issue 4., 27 – 30 pp., ISSN: 2230-2463,
3. BÁLINT Á. – **HORVÁTHNÉ KÖKÉNY A.** (2013): Saving Habits of Hungarian College Students, European Scientific Journal, Vol 9. No 34. 83-92 pp., ISSN: 1857-7881

Published Scientific Conference Presentation with full extent

Published abroad, Hungarian-language edition, with foreign-language summary

1. **HORVÁTHNÉ KÖKÉNY A.** (2011): Az önkéntes nyugdíjpénztári befizetések utáni személyi jövedelemadó kedvezmény változásai és ezek hatása a lakosság hosszú megtakarításainak ösztönzésére, In: Sapientia Erdélyi Magyar Tudományegyetem Gazdaság- és Humántudományok Kar, Üzleti Tudományok Tanszék, Gazdasági és Üzleti kihívások a Kárpát-medencében, Nemzetközi Konferencia, 2011. május 6-7., Csíkszereda, Konferencia kiadvány: 266-276 pp. ISBN 978-606-8052-52-6

Published in Hungary in foreign language

1. **HORVÁTHNÉ KÖKÉNY A.** (2011): The effects of the state regulation for the real estate market, Állami szabályozás az ingatlanpiacon, In: Erdei Ferenc VI. Tudományos Konferencia, 2011. augusztus 25., Kecskeméti Főiskola, I. kötet: 285 - 289 p., ISBN 978-963-7294-98-3
2. **HORVÁTHNÉ KÖKÉNY A.** – SZÉLES ZS. (2010): The changes of the insurance tax allowance in the act CXVII of 1995 on personal income tax and its effects on motivating the long term saves of population, A személyi jövedelemadó törvény biztosítási adókedvezményének változásai és ezek hatása a lakosság hosszú távú megtakarításának ösztönzésére, "6th International Conference for Young Researchers", Nemzetközi Konferencia, Szent István Egyetem, Gödöllő, 2010. október 4-6., 122-128 pp., ISBN 978-963-269-193-0

Published in Hungary in Hungarian-language, with foreign-language summary

1. **HORVÁTHNÉ KÖKÉNY A.** – BÁLINT Á. – KULCSÁR P. – ORAVECZ G. (2012): A háztartások pénzügyi döntései: Gondoskodjunk a jövőnkéről, Magyar és Világtudomány Napja XVI. Konferencia, 2012. november 15., Szolnoki Tudományos Közlemények IX., Szolnok: MTESZ, CD kiadvány 16., 20-27 pp., ISSN 2060-3002
http://www.szolnok.mtesz.hu/sztk/kulonszamok/2012/cikkek/2012-03-Horvathne_Kokeny_Annamari_es_a_tobbiek.pdf
2. **HORVÁTHNÉ KÖKÉNY A.** (2011): Egészségpénztári számla hatékonyan, In: Erdei Ferenc VI. Tudományos Konferencia, 2011. augusztus 25., Kecskeméti Főiskola, I. kötet, 280-284 pp. ISBN 978-963-7294-98-3
3. **HORVÁTHNÉ KÖKÉNY A.** (2010): A személyi jövedelemadó törvény lakáscélú adókedvezményének változásai és ezek hatása a lakosság hosszú távú pénzügyi döntéseire, Magyar és Világtudomány Napja XIV. Konferencia, 2010. november 20., Szolnoki Tudományos Közlemények VII., Szolnok: MTESZ, CD kiadvány 14., ISSN 2060-3002
http://www.szolnok.mtesz.hu/sztk/kulonszamok/2010/cikkek/Horvathne_Kokeny_Annamaria.pdf
4. **HORVÁTHNÉ KÖKÉNY A.** (2009): A lakástakarékpénztári törvény és változásának hatásai, Magyar és Világtudomány Napja XIII. Konferencia, 2009. november 12. Szolnoki Tudományos Közlemények VI., Szolnok: MTESZ, CD kiadvány 13., ISSN 2060-3002
http://www.szolnok.mtesz.hu/sztk/kulonszamok/2009/cikkek/Horvathne_Kokeny_Annamaria.pdf

Résumé published in Hungarian-language

1. **HORVÁTHNÉ KÖKÉNY A.** (2010): Változtatások a szabályozásban a hitellel rendelkezők válságos helyzetének enyhítésére, In: A Szolnoki Főiskola Konferenciája „TUDOMÁNY HATÁROK NÉLKÜL”, azaz a „VÁLSÁGJELENSÉGEK ÖSSZEFÜGGÉSEI A GAZDASÁGBAN ÉS A TÁRSADALOMBAN” a Magyar Tudomány Ünnepe rendezvénysorozat keretében, 2010. november 16., Rezümékötet: 15 p., és CD kiadvány

Notes

1. **HORVÁTHNÉ KÖKÉNY A.** (2009): Banküzemtan, Tantárgyi kalauz. Szolnoki Főiskola, Szolnok, 177 p., ILIAS Távoktatási Információs Rendszer, www.szolf.hu
2. **HORVÁTHNÉ KÖKÉNY A.** (2009): Tutori kalauz a Banküzemtan távoktatási tananyaghoz, Szolnoki Főiskola, Szolnok, 11 p., ILIAS Távoktatási Információs Rendszer, www.szolf.hu