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Theses of the Doctoral (PhD) dissertation

***The attitudes of the inhabitants of Kiskunság  
to financial issues***

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## 1. INTRODUCTION

The topic of my doctoral dissertation was to survey the financial attitudes of the Hungarian population; more precisely, the households in Kiskunság, prepare an analysis based on the data obtained and, moreover, synthesize the literature on the topic with my research objectives drafted. Introduction

The reason for selecting the region was that I had the opportunity to take part in a research in 2011 carried out by Lakitelek Community College that was centred on surveying the financial situation of local people in Kiskunság. The research predominantly examined the credits and savings of the households by revealing facts and collecting data. The topic aroused my interest then and I also participated in processing research data. In addition, I also have personal ties to the region of my examination.

I started research on my own in 2012 whose central part was the examination of the attitude of the public regarding which factors influence the financial decision of a household. The sample included the opinion of 145 persons. After processing the results of the sample, the central research part of my doctoral dissertation was set and carried out in 2016. The objective of the research was to test my hypotheses drafted earlier by using experience with the previous methodology but on a greater number of items.

The objectives of the research are the following.

**C1:** Identify the most important factors that influence the credits and savings of the inhabitants of Kiskunság and examine the future preferences of credit applications and savings.

**C2:** Examine the factors that affect the future preferences of credit applications and savings of the inhabitants of Kiskunság.

My research topic is based on the analysis of three databases by making use of the experience with the previous analyses. These three examinations reflect the timeliness of my topic as they continuously provide areas to be examined and research objectives. Another timely issue is that all the three periods examined can be described by well-discernible financial processes. The impact of the financial crisis that was started in 2007 and affected Europe in 2008 could be felt even in the 2011 survey and this was further examined from a different aspect. In 2016 based on the macroeconomic data the crisis was over, but my research provided precious findings on the financial behaviour of households. The research made up of three stages also made the examination of the changes in the

financial culture possible, which is very important as it can provide information on creating future financial services (savings alternatives, credit opportunities).

Based on the data of the Central Statistical Office (CSO) an increase in household consumption is expected which can be due to excess financial resources that derive from either savings or credit. Accordingly, the literature review of my doctoral dissertation deals with the definition of financial services and then synthesizing the characteristics of savings and credits. To justify financial processes macroeconomic data were collected and interpreted with an objective of illustrating the changes in the savings and credits of the public. In addition to the traditional descriptive statistical analytical methods I also examined what factors to what extent influence the financial decisions and answers of the respondents. The objective was to summarise the findings of previous research and examine their correlations. The analysis of the responses to financial issues and their influencing factors were at the centre of all the three examinations.

The hypotheses were drafted after studying and synthesizing literature.

### **Hypotheses:**

#### **H1. The existence of the credits and savings of the inhabitants of Kiskunság is influenced by the amount of household income to a great extent.**

Based on the examinations carried out in Kiskunság I hypothesized that the greatest role can be contributed to the income situation of the households in using credit and savings services. The inhabitants' credit and savings willingness is not affected by these factors and not to the same extent so that is why it is advisable to separately examine these two areas.

H1a. The prevalence of the *existing savings* of the inhabitants in Kiskunság is heavily influenced by the amount of household income.

H1b. The prevalence of the *existing credits* of the inhabitants in Kiskunság is heavily influenced by the amount of household income.

#### **H2. Based on the credit and savings characteristics the inhabitants in Kiskunság is not homogeneous so characteristically distinguishable consumer groups can be identified.**

H2a. Based on the *characteristics of the preferences of future savings* the inhabitants of Kiskunság is not homogeneous so they can be arranged into statistically well discernible groups.

H2b. Based on the *characteristics of the preferences of future credits* the inhabitants of Kiskunság is not homogeneous so they can be arranged into statistically well discernible groups.

**H3. Education and qualification significantly determines the preferences of the inhabitants of Kiskunság for future credits and savings.**

H3a. Education and qualification significantly influences the preferences of *future savings* of the inhabitants of Kiskunság.

H3b. Education and qualification significantly influences the preferences of *future credits* of the inhabitants of Kiskunság.

**H4. The amount of income significantly determines the characteristics of the preferences of the future credits and savings among the inhabitants of Kiskunság.**

H4a. The amount of income has a significant impact on the preferences of *future savings* of the inhabitants of Kiskunság.

H4b. The amount of income has a significant impact on the preferences of *future credits* of the inhabitants of Kiskunság.

## 2. LITERATURE REVIEW

Literature review starts with the economic interpretation of savings. I thought it very important to incorporate the thoughts of the representatives of Classical and Neoclassical economics. What these theories have in common is that the selection between the present and the future must be considered in the decision making on savings and consumption. The most controversial thought is how to approach income. The definition of income showed significant differences although the representatives of different principles agreed that income plays an important role in the issue of financial instruments.

Literature also stresses that several studies acknowledge, and a lot of surveys support the correlation between income and financial culture. (Béres – Huzdik, 2012) One of the central issues of the Hungarian research on financial culture is the examination of the financial assets used in cash flow. Judging the extent of correlation between financial culture and income is only possible in the long term by considering knowledge on different social supply systems.

In terms of income it was essential that savings should also be considered in the literature review. When discussing savings, the role of income is also important although it does not affect the standard of the financial culture. An important statement is that those with low income level who are likely to have little savings can also have a high standard of financial culture that those with high income. It can also be hypothesized that those with little knowledge of financial culture do not make significant savings even at a high level of income.

The significance of financial culture is also detected in external resources. Financial basics considerable influence the way of thinking in terms of credits and loans and the real assessment of risk taking. (Hung et a., 2009) (Mellan, 1997)

In reviewing the literature on financial services, a new aspect of the relationship between risk taking and the attitude of the population to banking services has been revealed. In this issue the role of income is also significant. Regarding financial assets the more liquid forms of savings are more popular with the public but those with higher income also show a greater diversification of assets used.

So, the empirical research mainly emphasises the significance of income and financial culture. In addition, the individual characteristics such as cultural issues, studying, the opportunities for socialising also play a role and influence financial knowledge as well as the financial decisions made.

Nowadays the examination of financial culture is of high importance for national economies. The extent of the financial knowledge, basics and competences of the public is essential for the nations. Literature stresses that financial skills are not a set of innate abilities, rather, they can be acquired through studying. That is why it is important that the adequate creation of the standards of the financial culture should be ensured by the education systems. (Atkinson – Messy, 2012)

Empirical research also emphasises the key role of financial culture. It is indispensable for improving the financial culture that the factors that influence public decision on financial matters (savings and credits) should be clarified and known in detail. (Table 1)

**Table 1 The theoretical model of the relationship between the theoretical background and the research objectives**

<b>Theoretical background literature and secondary data</b>	<b>Research objectives</b>
The economic approach of savings	Examining the most important financial instruments in Kiskunság
The most important financial services	
The financial attitudes of the public	Analysing the attitudes of the inhabitants of Kiskunság to financial matters
The notion of financial culture	Examining the financial culture of the inhabitants of Kiskunság based on their attitude to the major financial instruments

*Source: author's own editing*

In my dissertation it is important to make a difference between the past decisions of the public on savings and credits and the decisions for the future or even likely desires. Its significance lies in the fact that the individual is improving and due to studying their decisions are influenced by different factors or even the same factors can influence decisions in different ways.

The significance of financial culture is underpinned in regions where the inhabitants live a longer way away from big cities such as rural areas including Kiskunság.



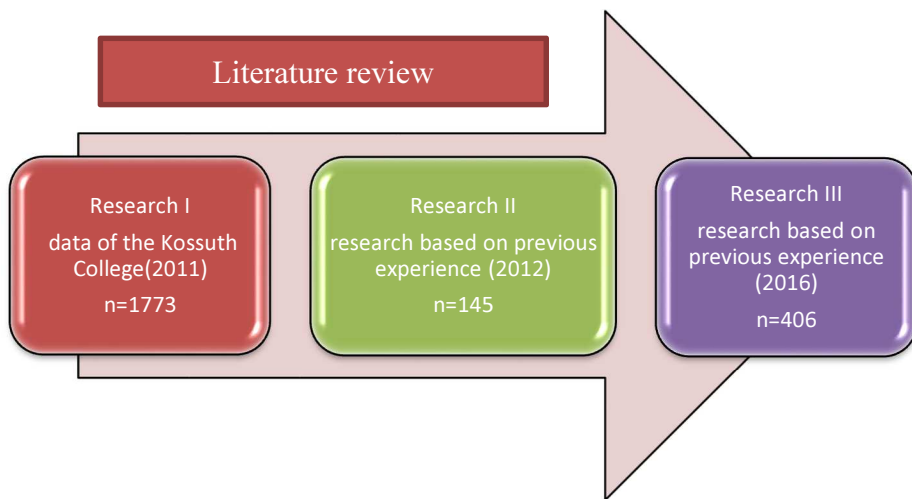
Literature review stressed the importance of the areas drafted when formulating my research objectives. The objectives and the hypotheses are presented in the forthcoming chapters that include the research carried out, the methodology, results and the conclusions and recommendations made on the basis of the findings.

### 3. MATERIAL AND METHODS

Nowadays it is inevitable that the researcher should analyse the objectives and hypotheses by using the rich paraphernalia of statistics. If an issue is examined (even) statistically, in most cases quasi-objective decisions can be made among alternatives that base the conclusions and recommendations of the research. This chapter presents the methods used and the databases analysed in addition to descriptive statistics.

#### 3.1. Review of primary databases

The following chapter presents the primary databases used for testing my hypotheses. Three databases that differ in time are used that also supplement one another. Based on the results and the experience of the first research the second and the third were carried out so a separate sub-chapter seems to be justified. (Figure 1)



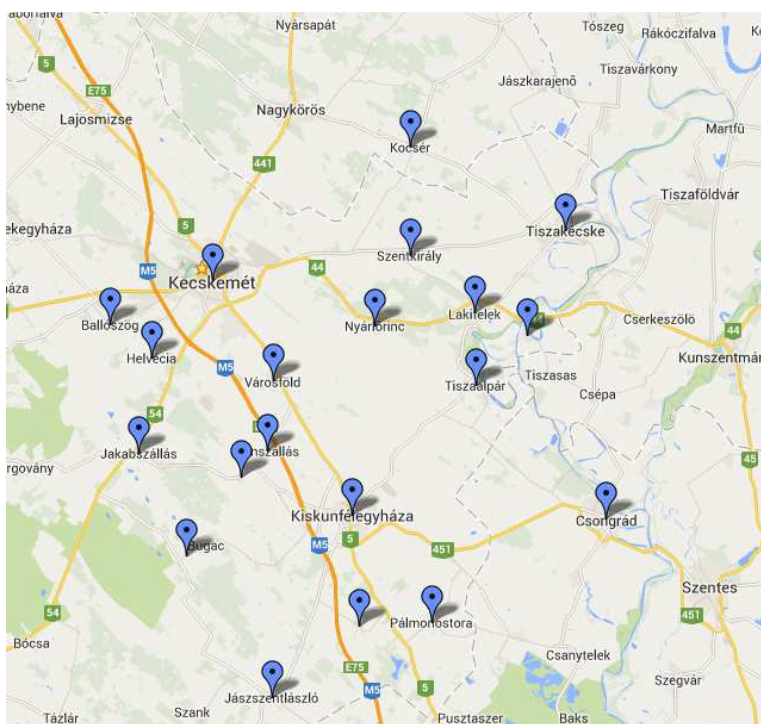
**Figure 1 The process of the research**

*Source: author's own editing*

#### 3.1.1. Research I: Data collected at Kossuth College

Kossuth College was founded by Lakitelek Community College in 2011 with the objective of surveying the financial awareness of the households in Kiskunság led by Professor Katalin Botos with the participation of 130 members including students and teachers of several higher education institutions. The leaders of professional work were the teaching staff and instructors of different universities.

I also joined the research as the lecturer, supervisor and researcher of the legal predecessor of Eszterházy Károly University with 7 students. Partly this was an excellent opportunity to start my series of research as the two weeks spent on the site provided me with excellent experience to carry on working. The basic method of the research was a questionnaire consisting of a standardised part and in-depth interviews. In the questionnaire the savings, credits, financial situation of the respondents and their attitude to other areas were examined in addition to the demographical situation. Stratified sampling was strived on the basis of the regional CSO statistics, so households were consciously included in the research. At the end 1773 households were surveyed. In the case of diversion weighing domicile and age normalised the database. In the case of settlements included in the database the main objective was to examine the financial situations of the households together with the single attitudes from a financial point of view by means of quantitative methods. (Figure 2)



**Figure 2 Settlements included in the Kossuth College research**  
 Source: author's own editing based on the data of Kossuth College

### **3.1.2. Research II: The examination of financial attitudes (2012)**

The first research primarily dealt with the situation of households. The main questions highlighted what the financial situation of the households was and whether they had any savings or credits. In addition to this snapshot I also wanted to carry out deeper analyses. In the first research the factors that affect the savings and credits of households were analysed by stochastic methods. In addition, I also had the intention to carry out quantitative multivariate analyses not only on their existence but also the attitudes and preferences. My second research was started in 2012 with the intention of revealing the respondents' preferences on savings, i.e. how they decide or would decide in connection with their savings. This research differs from the previous ones as here not their real savings were surveyed, rather, the reason for their future decisions. In the research in which the inhabitants of Kiskunság was surveyed from a different aspect, 145 assessable responses were gained, and their answers were examined by means of descriptive statistics, factor analysis and cluster analysis.

### **3.1.3. Research III: The examination of financial attitudes at the households of Kiskunság (2016)**

More extensive research was carried out in 2016 by making use of the second research again in Kiskunság in the form of electronic and paper-based questionnaires. The results detailed later in the chapter 'Results' have proved that the topic could successfully be examined by means of principle component and cluster analysis. A standardised questionnaire was used for the examinations that was based on literature and served as a good foundation for further examinations. (Tomcsányi, 2000) (Majoros, 2009) The domicile of the respondent was identified in the questionnaire, so the database was cleared and only the relevant respondents were included in the sample. During the research 406 assessable forms were collected. The standardised questionnaire did not only analyse the preferences of savings but also those of credit applications. In addition to the main research questions several demographic and financial issues were analysed whose impact on the financial attitudes of the respondents was also examined.

### **3.1.4. The representativity of databases**

The following can be stated about the databases used in the research. In the first research Kossuth College was striving to carry out stratified sampling which was reflected by the fact that the respondents of the different settlements were surveyed on the basis of a complex plan. The most important points of view include the population of the settlement, and their distribution by age and gender. The sample of 1773 was great enough to carry out deeper analyses. The forthcoming second research of a more modest 145 item number was a focus

group survey on my own in the region with the objective of testing the methodology discussed later. After processing these results the third research was carried out with a greater sample of 406 items. On the basis of the results of the second research the use of multivariate statistical methods and the questions of the topic was decided on a greater simple in Kiskunság while striving for representativity. On the whole, it can be stated that the research, with some financial and human resource constraints, even not a representative one, is an important milestone regarding the item number in the sample, the number of the criteria and the complexity of processing the questions and my results can serve as a very good basis for a greater scale representative research in the future in my opinion.

### **3.2. Methodology**

The methodological chapter below is important to be dealt with in detail to justify the selection of the methods used and their different use for the classical way.

The analyses of the dissertation were carried out by using Microsoft Excel and SPSS statistical programme package. When selecting the analyses and methodology attention was paid to adequate data clearing and structuring. Knowing the organised databases presented earlier, the methods to be used were selected on the basis of the characteristics of the surveyed criteria.

#### **3.2.1. The short presentation of the $\chi^2$ test and the association examinations**

In my dissertation the correlation between the different nominal variables was identified by means of the  $\chi^2$  test. If we examine the relationship between two criteria and they are categoric variables (nominal and/or ordinal scales), the correlation can best be examined by using mainly cross-tab analysis and its strength by association coefficients. The correlation between the two variables can be measured by Pearson's  $\chi^2$  (Chi2) test. If the  $\chi^2$  value *differs from zero*, it signals a correlation between the two variables. (Szűcs, 2004)

After the two categoric variables proved to have a statistical correlation, an association coefficient must be calculated to examine the strength of the correlation. One of the most frequently used measure of the association is Cramer's association coefficient published by Harald Cramer in 1946. (Cramer, 1962)

The indicator basically varies between 0 and 1 and if the value is close to 1, it means a stronger correlation between the two variables.

When carrying out the examinations the fact that sometimes the central question was a nominal variable was considered, e.g. 'Do you have savings?' (yes/no). Although this criterion in this form does not represent any rankings, a rank was set at the examined association correlation examinations in the following way. After Pearson's  $\chi^2$  test showed correlations among the certain categoric criteria, their strength was separately analysed by using Cramer's association coefficient. The indicator is between 0 and 1. It can be stated that where its value is 0.67, the correlation is stronger than in the case of 0.13. In further examinations the rank was set on the basis of Cramer's coefficients and their results were used as statistical weights.

### **3.2.2. The short presentation of the path models**

Path models are generally used for mobility examinations. The path model is practically a series of regression models. It has been examined how the different variables affect certain criteria. In general, the criteria of the model are linked by arrows indicating the direction of connections, so a causal model is created. The main point of the model is that the strength of the different correlations reached by different logical paths is determined so prominent variables are obtained that affect or have a direct or indirect impact on the dependent variable. (Székelyi – Barna, 2008)

However, the path models can only be used for the metric variables. In the case of my database used most criteria are categoric variables so based on the logical structure of the path models a series of crosstab analyses were drafted on categoric criteria.

### **3.2.3. The short presentation of the factor analysis**

This method was used for identifying different consumer preferences in my dissertation. A factor analysis is practical to analyse the mutual dependent correlations if the connection between variables is examined. In fact, factor analysis is not a single procedure, rather, it means several multivariate statistical procedures. The method is used for reducing a dimension and condensing data during which the number of criteria is reduced and categorised into factors. As a result, not only the number of variables is reduced, and the structure of the database is made simpler but also the structure of the variables can be analysed effectively by means of the principle component analysis. The important objective when using the method is exploring the structure, i.e. identifying the correlation between the variables included in the examination. Before carrying out the principle component analysis data were examined whether factor analysis can be carried out by employing the KMO (Kaiser-Meyer-Olkin) indicator. The KMO indicator is used in cases when we would like to assess whether our

variables are suitable for factor analysis. (Ketskeméthy et al., 2011) The indicator is typically spread between 0 and 1. If  $KMO \geq 0.5$ , data can be accepted for factor analysis. Another precondition is that variables should correlate. (Sajtos – Mitev, 2007)

The factors created while identifying correlations serve as a good basis for further examinations. I also examined the results gained and used them for carrying out multivariate statistical analyses. The components obtained served as a very good basis for running the cluster analysis as they had the characteristics of all the variables included earlier in the examination so characterising the cluster also became simpler.

### **3.2.4. The short presentation of the hierarchical cluster analysis**

The method was used for identifying different consumer groups in my dissertation. Cluster analysis means arranging the different cases in groups. The method is used when a mutually dependent relationship of a database is examined not between the variables, but between different cases (or respondents in questionnaires). Here the objective was to create such relatively homogeneous consumer groups that could be distinguished statistically on the basis of using certain variables.

The examination is successful if the cases of the same group (in my examination, the respondents) have similar values to their group members but the characteristics of the group members differ from the characteristics of the members of other groups. Cluster analysis basically differs from discriminant analysis that we do not possess preliminary information on the group membership of any respondents. Group formation has statistical bases. In cluster analysis several grouping methodologies are available. After analysing my data, I concluded that I would use the centroid method. The centroid method means the distance between the average of the objects. The results are obtained by analysing a dendrogram tree and based on the results the groups can be distinguished finally. (Székelyi – Barna, 2008) Afterwards, by using the obtained groups further stochastic examinations are carried out on the results obtained.

## 4. RESULTS

According to my results new and novel scientific results can be summarised as follows.

***R1 I have pointed out that in the examined region it was not the amount of income that had the greatest effects on the credits and savings of the households in Kiskunság. Other demographical criteria had deeper impacts.***

By using the data of Kossuth College a sample of 1773 items justified my hypotheses. I have hypothesized that when making use of savings and credit services the most profound impact was made by the income of households. Based on the results it can be stated that neither savings nor credits were affected statistically by the income of households in Kiskunság. In the case of savings, it is on the fifth place while in the case of credits it occupies the sixth place. It can also be stated that the income situation of the households does not have a significant impact on the major financial instruments, rather it is age that is the most influential coupled by profession and qualification.

### **The ranking order of the main factors influencing savings**

1. The age of respondents
2. The profession of respondents
3. The qualification of respondents
4. The marital status of respondents
5. Net household income

### **The ranking order of the main factors influencing credits**

1. The age of respondents
2. Employing new banking techniques
3. The profession of respondents
4. The qualification of respondents
5. Main income source of households
6. Net household income

***R2 Based on the preferences of future savings and credit the inhabitants of Kiskunság can be classified into statistically well discernible groups.***

By using the data of my 2012 and 2016 survey the financial attitudes of the inhabitants of Kiskunság were examined by multivariate statistical methods. My objective was to examine the preferences of future savings and credits of the inhabitants in Kiskunság. It has been justified by factor and cluster analysis that based on the savings and credit preferences for the future the population can be divided into statistically distinct groups. My sample of 406 items was divided into four distinctive preference groups for the savings products and five distinctive preference groups for the credit products on the basis of future named after the preferences of their typical attitudes.



**Preference groups in terms of savings products include**                      **Preference groups in terms of credit products include**

1. 'Conscious' (39,16%)
  2. 'Considerate' (32.51%)
  3. 'Risk takers' (12.56%)
  4. 'Risk averse' (9.11%)
- Total of other groups: 6.65%

1. 'Indifferent' (35.47%)
  2. 'Influenceable' (25.62%)
  3. 'Interested' (15,.52%)
  4. 'Unconcerned' (9.85%)
  5. 'Considerate' (7.88%)
- Total of other groups: 5.67%

***R3. In the decision making on future savings and credits by the inhabitants of Kiskunság sometimes information learnt can be pushed into the background in terms of product-related preferences. Personal experience, family patterns and impressions gained from life are dominant that can typically be formed in the long term.***

Based on the preference groups of my examinations it has been concluded that it was not the highest level of qualification that had the greatest impact on the future credit decisions of the inhabitants of Kiskunság. The statistical examinations justified that institutionalised, formal (financial) education is necessary but not enough. The role model of the family and the immediate surroundings cannot entirely be transferred to the institutions.

***R4. In connection with the preferences of future credits and savings of the inhabitants of Kiskunság the household income is not the most determining factor.***

For this result the consumer preference groups gained were also used. The statistical correlation was very weak between the statistically discernible groups and future savings while in terms of credits it did not exist at all. Consequently, it can be stated that for lower income households both the security and flexibility of the financial product are important to be able to meet the demands of repayment easily.

In my research four hypotheses were drafted which were statistically analysed. After obtaining the results a fifth result was formulated which embraces my 2011-2016 research experience.

***R5. On the basis of the 2011, 2012 and 2016 research results carried out in Kiskunság it has been proved that the factors affecting the existence of credits and savings and the preferences of future products are nearly the same. They are slowly changing characteristics of the population that can hardly be altered, formed and influenced.***

To sum up the findings of my research it can be stated that regarding the credit and saving preferences it is not the amount of household income that counts the most. My analyses have proved that the set of factors that influence credits and savings are approximately the same; i.e. the characteristics of the population (personal experience, family patterns, and impressions from life (tacit knowledge) that can typically be formed, shaped and influenced slowly and consciously.

**Table 2 The new and novel scientific results of the research (1)**

Objectives	Hypotheses		New and novel scientific results
<p><b>C1.</b> Identify the most important factors that influence the credits and savings of the inhabitants of Kiskunság and examine the future preferences of credit applications and savings.</p>	<p><b>H1.</b> The existence of the credits and savings of the inhabitants of Kiskunság is influenced by the amount of household income to a great extent.</p>	<p><b>H1a.</b> The prevalence of the <b>existing savings</b> of the inhabitants in Kiskunság is heavily influenced by the amount of household income.</p>	<p><b>E1.</b> In the examined region it was not the amount of income that had the greatest effects on the credits and savings of the households in Kiskunság. Other demographical criteria had deeper impacts.</p>
		<p><b>H1b.</b> The prevalence of the <b>existing credits</b> of the inhabitants in Kiskunság is heavily influenced by the amount of household income.</p>	
	<p><b>H2.</b> Based on the credit and savings characteristics the inhabitants in Kiskunság is not homogeneous so characteristically distinguishable consumer groups can be identified.</p>	<p><b>H2a.</b> Based on the <b>characteristics of the preferences of future savings</b> the inhabitants of Kiskunság is not homogeneous so they can be arranged into statistically well discernible groups</p>	<p><b>E2.</b> Based on the preferences of future savings and credit the inhabitants of Kiskunság can be classified into statistically well discernible groups.</p>
		<p><b>H2b.</b> Based on the <b>characteristics of the preferences of future credits</b> the inhabitants of Kiskunság is not homogeneous so they can be arranged into statistically well discernible groups.</p>	

*Source: author's own editing*

**Table 3 The new and novel scientific results of the research (2)**

Objectives	Hypotheses		New and novel scientific results
<p><b>C2.</b> Examine the factors that affect the future preferences of credit applications and savings of the inhabitants of Kiskunság.</p>	<p><b>H3.</b> Education and qualification significantly determines the preferences of the inhabitants of Kiskunság for future credits and savings.</p>	<p><b>H3a.</b> Education and qualification significantly influences the <b>preferences of future savings</b> of the inhabitants of Kiskunság.</p>	<p><b>E3.</b> In the decision making on future savings and credits by the inhabitants of Kiskunság sometimes information learnt can be pushed into the background in terms of product-related preferences. Personal experience, family patterns and impressions gained from life are dominant that can typically be formed in the long term.</p>
		<p><b>H3b.</b> Education and qualification significantly influences the <b>preferences of future credits</b> of the inhabitants of Kiskunság.</p>	
	<p><b>H4.</b> The amount of income significantly determines the characteristics of the preferences of the future credits and savings among the inhabitants of Kiskunság.</p>	<p><b>H4a.</b> The amount of income has a significant impact on the <b>preferences of future savings</b> of the inhabitants of Kiskunság.</p>	<p><b>E4.</b> In connection with the preferences of future credits and savings of the inhabitants of Kiskunság the household income is not the most determining factor.</p>
		<p><b>H4b.</b> The amount of income has a significant impact on the <b>preferences of future credits</b> of the inhabitants of Kiskunság.</p>	

*Source: author's own editing*

**R1.** In the examined region it was not the amount of income that had the greatest effects on the credits and savings of the households in Kiskunság. Other demographical criteria had deeper impacts

**R2.** Based on the preferences of future savings and credit the inhabitants of Kiskunság can be classified into statistically well discernible groups.

***+R5. On the basis of the 2011, 2012 and 2016 research results carried out in Kiskunság it has been proved that the factors affecting the existence of credits and savings and the preferences of future products are nearly the same. They are slowly changing characteristics of the population that can hardly be altered, formed and influenced.***

**R3.** In the decision making on future savings and credits by the inhabitants of Kiskunság sometimes information learnt can be pushed into the background in terms of product-related preferences. Personal experience, family patterns and impressions gained from life are dominant that can typically be formed in the long term.

**R4.** In connection with the preferences of future credits and savings of the inhabitants of Kiskunság the household income is not the most determining factor.

**Figure 3 The new and novel scientific results of the research (3)**  
*Source: author's own editing*

## 5. CONCLUSIONS, RECOMMENDATIONS

The topic of my doctoral dissertation was to survey the financial attitudes of the Hungarian population; more precisely, the households in Kiskunság, prepare an analysis based on the data obtained and, moreover, synthesize the literature on the topic with my research objectives drafted.

**R1.** In the examined region it was not the amount of income that had the greatest effects on the credits and savings of the households in Kiskunság. Other demographical criteria had deeper impacts.

I have hypothesized on the basis of my examinations in Kiskunság that the most profound impact on the major financial instruments was not made by the income of households, rather, other factors like age or qualification. As the income situation is less determining it can be stated that households of different income in Kiskunság can have similar opinions on financial matters and this should also be considered by the banking sector when creating and selling products.

I have statistically proved that based on the 2011 survey in the settlements of Kiskunság the income situation of the households only had a 7-percent impact on saving, which assigns it the fifth place in the cumulated frequency ranking order of the affecting factors. Of the factors that influence financial matters age is the first followed by profession, qualification, marital status and finally, income situation. These factors make up 54%, which have a decisive impact on the household decisions made on savings.

Again, it was statistically proved in my research in Kiskunság that income is the sixth in the line of factors that affect credits. It can statistically be justified that the income situation of the households does not have the most profound impact on the major financial instruments.

Based on the 2011 examination in Kiskunság I have concluded that of the factors influencing savings primarily it is age (12%), profession of the respondents (11%), qualification and marital status (9-9%, respectively) have an impact so it does not have anything to do with household income. Based on these factors the sub hypothesis is accepted.

In the case of credits regarding factor weights household income is the sixth in the ranking order preceded by age, the use of modern banking devices. profession, qualification and the main income source of the household. Based on these factors the sub hypothesis is accepted.

The analyses of the first stage of my research are based on such data sets that provide information on the current situation of households that determine financial attitudes. I also thought it important to examine such a data set in

contrast with typical research methods that processes criteria of households such as what they individually consider important in financial attitudes even regardless the current financial situation. The pilot database was compiled on the basis of the 2012 survey. The methodological application of this database was proved while testing but the results obtained were not used in responding to my research questions due to the low number of items although they have some things in common with the results of the 2016 survey. To ensure the success of my research a new survey was carried out in 2016 by using the methods presented earlier hoping that the previous item number would result in a database with a representative item number. The survey of 2016 resulted in 406 assessable questionnaires in the examined region and by processing these data such a database was obtained that was used to respond to the next research question.

**R2.** Based on the preferences of future savings and credit the inhabitants of Kiskunság can be classified into statistically well discernible groups.

By using multivariate statistical methods, I proved that based on their attitudes to major financial instruments the inhabitants of Kiskunság can be arranged into homogeneous and well determined consumer groups. Based on the *results it can be stated that* the inhabitants can be divided into groups with different consumer needs on statistical bases. Regarding these groups not exactly the universal banking services of today will be stressed in the future. Banks should consider consumer needs and they must tailor their products to the given requirements. Regarding the inhabitants of Kiskunság characteristically discernible groups have been distinguished in terms of both credit applications and savings attitudes. Five groups of well discernible and separate consumer behaviour could be formed in credit applications and there were four groups with quantifiable characteristics in savings so, consequently, this hypothesis is accepted.

Furthermore, the financial attitudes of the inhabitants in Kiskunság were analysed. The Hungarian population is said to decisively have short term savings, i.e. they prefer liquid banking products. In addition, the rural population tends to have their savings in cash. In 2016 another survey was made to examine financial attitudes whose data were examined to respond to my research question. The survey was carried out among the inhabitants of Kiskunság where the attitudes of the households to savings and credit applications were examined. Based on the findings of the examination we can state that on the basis of their way of thinking the households do not form a homogeneous group. The analysis of the examined pattern justified that respondents think in different ways, so they can be classified into different groups by means of statistical methods. Regarding savings the households made up six distinct groups. The greatest proportion of households belonged to the conscious thinkers. The number of those who are considerate is also significant. It can be concluded that nearly three quarters of the households

make conscious and well-established decisions on savings. A bit more than one tenth of the respondents would be willing to take some risks in connection with savings but the proportion who would not take any risks in their savings is also similar. It is important to note, however, that several researches measure the attitude to financial instruments by considering the current situation of the saver as the starting point, i.e. whether they have savings and credits or not. In my survey both in connection with the data collection and the analysis of the database I regard it important to examine the relationship of the households to the financial products and the attitudes that affect their willingness to savings and credit applications regardless their income level. Based on the results of the analysis the groups of households classified by their attitude were examined. By analysing clusters, they were compared to the other demographic criteria of the households. It was concluded that the households do not by all means have any opportunities to select a financial product that meets their requirements. It can be stated that the current income level of the households (their savings and credit level) is less relevant in judging how advanced their level of financial culture is.

**R3.** In the decision making on future savings and credits by the inhabitants of Kiskunság sometimes information learnt can be pushed into the background in terms of product-related preferences. Personal experience, family patterns and impressions gained from life are dominant that can typically be formed in the long term.

**R4.** In connection with the preferences of future credits and savings of the inhabitants of Kiskunság the household income is not the most determining factor.

As highlighted by previous research, the credit and savings preferences of the households are obviously affected by the age, qualification, type of domicile (county seat, town/city, village) and the income situation of the respondents. The extent of these effects was analysed by using the methodology. My analyses were partially justified by my previous research findings. When analysing the impact of age on savings we can find that the significance level of the F-test is higher than the significance of 5 percent used in social sciences. However, when interpreting effects, it can be stated that they have a weak impact on the attitude of the inhabitants. Based on the F-test household income has a significant impact on savings. However, qualification is not significant based on the significance level of Cramer's V test. Age significantly influences credit application attitudes, but such a correlation cannot be detected in connection with the income level of households. Again, correlation with qualification is statistically weak so this hypothesis was not accepted. So, my hypothesis is partly justified as although age affects the savings and credit application willingness of households but the type of domicile regarding qualification and income does not only partially. In



my opinion institutionalised (formal) financial education is necessary but not adequate. The role model of the family and the immediate surroundings cannot entirely be transferred to the institutions.

In my research four hypotheses were drafted which were statistically analysed. After obtaining the results a fifth result was formulated which embraces my 2011-2016 research experience.

**R5.** On the basis of the 2011, 2012 and 2016 research results carried out in Kiskunság it has been proved that the factors affecting the existence of credits and savings and the preferences of future products are nearly the same. They are slowly changing characteristics of the population that can hardly be altered, formed and influenced.

To sum up the findings of my research it can be stated that regarding the credit and saving preferences it is not the amount of household income that counts the most. My analyses have proved that the set of factors that influence credits and savings are approximately the same; i.e. the characteristics of the population (personal experience, family patterns, and impressions from life (tacit knowledge) that can typically be formed, shaped and influenced slowly and consequently.

As a summary, the following **recommendations** can be made on the basis of my results.

On the basis of my findings it can be concluded that the population may be divided into groups with different consumer needs statistically. The consumer needs of these groups are not by all means likely to be met by the current universal services of the banks in the future. Banks need to cater for consumer needs and it is of vital importance that different range of products must be offered to groups of population with different consumer needs. The compulsory surveys (e.g. MiFID test) mostly enquire about the basic financial knowledge and situation of the clients. A very important factor could be **providing information by the financial service providers** as the financial attitudes of potential clients totally differ. It is essential to inform clients with detail who could make responsible short term and/or long term financial decisions in the future.

Balázsné (2008) in her study thinks that *the financial culture of the Hungarian population is a cause for concern* and the most important task of the forthcoming period is the development of financial culture. For this task the cooperation between the state and the banking sector should be inevitable and the damage and losses due to inadequate knowledge should not be transferred to households. The

bad customs of long decades can only be broken by teaching financial basics to the new generation of the future.

Another important conclusion of my research was that the knowledge gained in formal education might be pushed into the background. In decision making it is personal experience, family patterns and impressions from life (tacit knowledge) were dominant that can typically be formed and shaped in the long term. In my opinion institutionalised (formal) financial education is necessary but not adequate. The role model of the family and the immediate surroundings cannot entirely be transferred to the institutions. The task of improving financial culture should not be assigned to a separate segment in the case of the young, rather, **cooperation between the educational institutions and the family environment is necessary**. In the past few years the issue of teaching financial basics at schools has been aroused but if we include the family, the financial knowledge is also imparted to the parents and students may also involve them when financial decisions are made. Trainings should be centred on competences and not only one but more generations, and age groups should be targeted as in the case of students the role model that they bring from home also influences their decisions to a great extent.

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