

# SAVERS' CATEGORIES IN THE FINANCIAL MARKET (BY MEANS OF STATISTICAL METHODS)

Aranka Baranyi <sup>1\*</sup>, Eszter Bakos-Tóth <sup>1</sup>

<sup>1</sup> Institution of Business Sciences, Károly Róbert College, Hungary

---

## Keywords:

saver  
primary research  
factor analysis  
saving habits

## Article history:

Received 31 Jan 2016  
Revised 28 Febr 2016  
Accepted 31 March 2016

---

---

## Abstract

*The objective of our research is to present and analyse how the possibilities and willingness of savings have been with the Hungarian population in 2015.*

*Primary research was carried out to justify the results of the paper and factor, as well as cluster analyses were carried out as a statistical basis to highlight the necessity of the vital role of providing information and creating a proper structure of the service sector.*

---

## 1 Introduction

“Banks borrow money by accepting funds deposited on current accounts, by accepting term deposits, and by issuing debt securities such as banknotes and bonds. Banks lend money by making advances to customers on current accounts, by making installment loans, and by investing in marketable debt securities and other forms of money lending” (wikipedia, 2015).

Banks provide financial services and additional financial services to their clients. Financial services include carrying out the following activities in business life in forint, foreign currency or foreign exchange: accumulating deposits, providing credits and loans, acquiring assets, financial leasing, performing cash flow services, issuing electronic money, warranty/guarantee and managing other banking liabilities (Veres - Gulyás, 2008).

John Maynard Keynes in his General works published in 1936 also mentions the basics of savings theories according to which the more you earn, the more you are able to save. That is the point where the objective or subjective effect comes in. The first group comprises the effects on assets or changes in the exchange rate while the latter one consists of saving purposes such as savings made in pension funds or safety/security (Dedák, 2010).

The future of private pension fund savings is a decisive factor nowadays. The sector managed an asset of more than 3 thousand billion forints of more than 3 million members till 2011. According to the top list of <http://www.azenzem.hu/cikkek/nagyot-hizott-a-nyugdijpenz/2333/> (2015) the yield of 18.5% is in the first place. It is proved that more and more people are beginning to realize that due to favorable taxation and the recently low interest rates it is extremely worth increasing accounts. Several researches have pointed out that improving the financial culture is a must as generally it is true that several financial services and their funding possibilities by the state are not properly known. Researchers have found that households unanimously stress the vital importance of improving financial culture with the Hungarian population (Horváthné - Széles, 2014).

Key competencies in the business world and finance as well as financial culture are a must that have to be developed more intensively by either under institutionalized circumstances (at schools) or non-formal education (Varga et al., 2015).

---

\* Corresponding author. Tel.: +36 37 518 300 / 271  
E-mail address: teszter@karolyrobert.hu

## 2 Material and methods

One of the most important objectives of our research is the assessment of the questionnaires on savings by using the SPSS programme. IBM SPSS Statistics 20 assessment programme was used for processing data. The database was compiled after carrying out interviews through which the saving habits, saving willingness and the knowledge of the respondents could be revealed. Standard interviews were applied so each respondent was given the same set of questioned. The main features of cross-table analyses are that they could be grouped on the basis of the two criteria examined simultaneously as follows:

- Associated correlations: both databases have a nominal or an ordinal scale.
- Mixed correlations: one of the databases contains interval scales while the other has an ordinal scale maximum.
- Correlations: both databases comprise at least interval scales.
- Rank correlations: when both databases can be measured on a variable ordinal scale when compared (Sajtos - Mitev, 2006; Barna, 2015).

“Factor analysis is a statistical method used to describe variability among observed, correlated variables in terms of a potentially lower number of unobserved variables called factors. Factor analysis searches for such joint variations in response to unobserved latent variables” (Wikipedia, 2015; Murthy - Bhojanna, 2010).

## 3 Results of the survey

Our survey was conducted in 2015 and of the total 147 respondents 94 were females and 53 males. Regarding age we can say that the oldest respondent was 67 years old while the youngest was 18. The average age is 31. In terms of qualification 41 of them, i.e. one-third, are currently involved in higher education while 65 already have a degree. On the average, respondents save 20% of their income typically preferring different instruments running for 9 months. Efforts to savings have been shown for 144 respondents. However, most respondents are not fully familiar with the special financial basics.

Although it cannot be expected from everyone, this knowledge should be imparted objectively by the service providers and other institutions concerned. Based on the examination we can state that knowledge is not immerse in any special areas and the respondents only have superficial knowledge about the savings that entitle them to tax allowances and support although these products could be very welcome. The role of efficient communication and promotion would be of vital importance. Interestingly, allowances guaranteed by law do not arouse the interest of the clients to such a great extent than the products promising high returns gained often illegally or in a fraudulent way. Further examinations were directed at risk preferences and group making. An answer was sought whether it is possible to group respondents based on their risk preferences.

Factor analysis was prepared alongside the examined components by using the SPSS programme. In the analysis we tried to create two factors. The least important aspect for the investors is the possible attachment of the selected financial instrument to insurance. There can be several reasons for it. On the one hand, it might not result in returns in the short term and also this service can be selected on its own not necessarily banded to savings. Another least preferred point is that savings should secure part of the annual income. Regarding savings the most preferred criteria of the respondents were safety and capital protection.

A correlation matrix of Table 1 presents how the single factors are interrelated and how strong their correlation is.

*Table 1. Correlation matrix*

<i>Examined components</i>	1	2	3	4	5	6	7	8	9
1. safety	1.000	.437	.627	.575	.218	.520	-.046	.209	.098
2. profit	.437	1.000	.323	.399	.342	.405	.108	.202	.183
3. free of risks	.627	.323	1.000	.611	.420	.535	.167	.391	.247

4. capital protection	.575	.399	.611	1.000	.325	.623	.028	.287	.053
5. adds to annual income	.218	.342	.420	.325	1.000	.533	.395	.394	.431
6. guaranteed returns	.520	.405	.535	.623	.533	1.000	.144	.395	.220
7. linked to insurance	-.046	.108	.167	.028	.395	.144	1.000	.408	.376
8. guaranteed by the state	.209	.202	.391	.287	.394	.395	.408	1.000	.258
9. accessible within a year	.098	.183	.247	.053	.431	.220	.376	.258	1.000

n=147 / Source: authors' compilation based on the questionnaire

Factors that show relative correlations are presented in Table 1 on the basis of the examined components. Based on them, further examinations were carried out which also included KMO and Bartlett tests. The condition of factor analysis is that variables should correlate as strongly as possible. In the present case the null hypothesis of the Bartlett test can be rejected as the significance level is lower than 0.05, i. e. variables could be used for factor analysis (Sajtos-Mitev, 2006).

The Kaiser-Meyer-Olkin (KMO) criterion is one of the most important indicators to decide how fit variables are for factor analysis. As KO is greater than 0.5 factor analysis can be carried out. The Bartlett test also states Sig. 0.000. The number of factors can also be determined based on the cumulative percentage of variance, i.e. a proper number of factors must be created to reach a minimal cumulative variance level (Sajtos - Mitev, 2006).

The two factors could keep 60% of the information, which just meets the minimum requirements so they are acceptable (Sajtos - Mitev, 2006).

The first factor includes those who prioritise safety. The second is made up by those who expect extra services in addition to financial services, especially savings (Figure 1, Figure 2, Figure 3). Cluster analysis was applied to find out how the opinions of the respondents differed regarding preferences. In the case of three clusters two respondents are grouped in one cluster while six other form another group and 139 respondents belong to the same group.

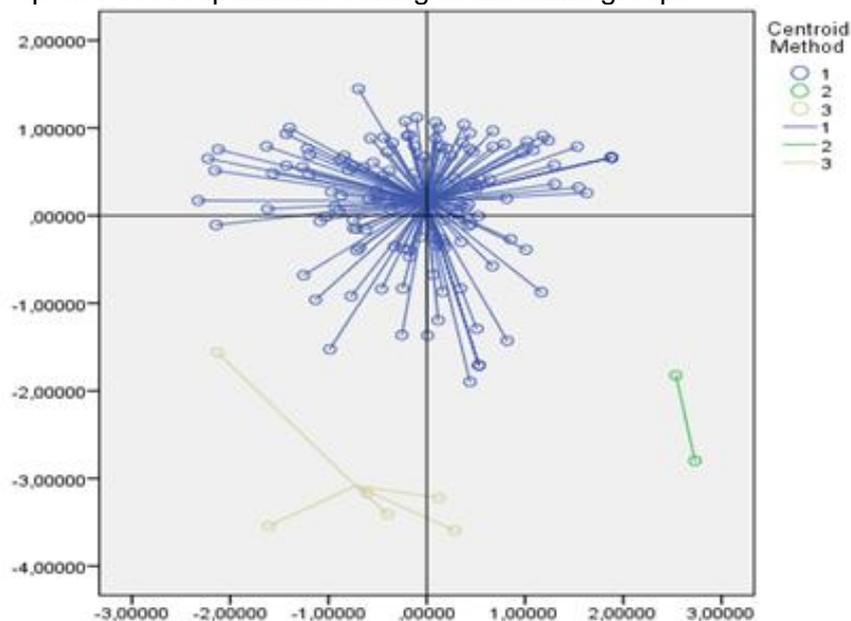


Figure 1. Forming clusters I

x axis = plus service, y axis = safety / n=147 / Source: authors' compilation based on the questionnaire

That is why it can be interesting to divide the majority in the middle so that further clusters were created. As a result, a total of seven groups were made.

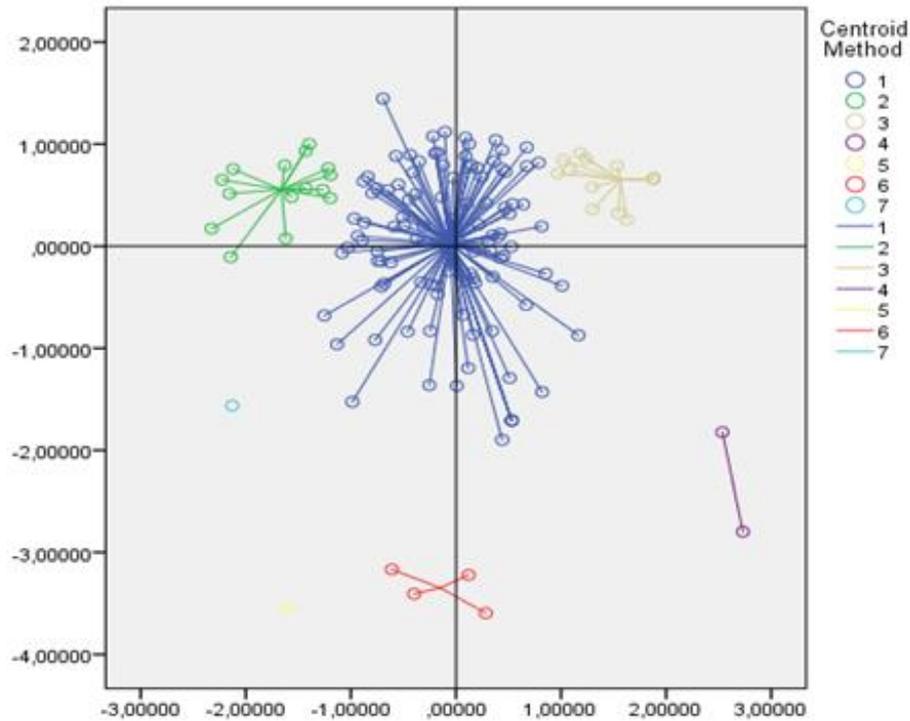


Figure 2. Forming clusters II

x axis = plus service, y axis = safety / n=147 / Source: authors' compilation based on the questionnaire

If we disregard the last four groups, then the part in the middle can be divided into three clusters in all of which safety is important but even the respondents requiring extra services to different extents are discernible. After identifying the individual respondents the single groups can be characterised and possible distorting replies can be sorted out.

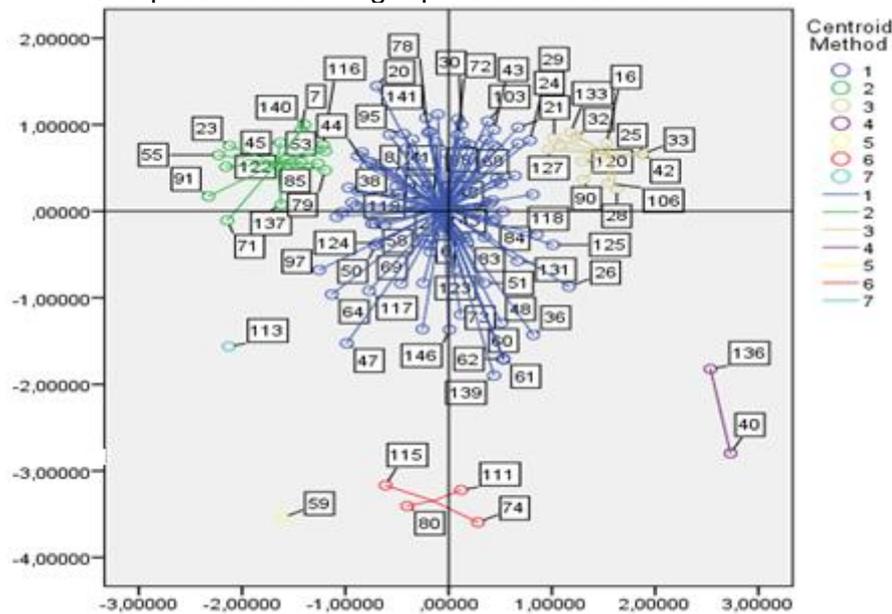


Figure 3. Forming clusters III

x axis = plus service, y axis = safety / n=147 / Source: authors' compilation based on the questionnaire

The main point in analysing was breaking down the group in the centre as the majority of the respondents could be found there.

## 4 Conclusion

Our purpose was to give an insight into the changes of the savings habits and willingness of the Hungarian population. To this end, both primary and secondary data were used.

On the basis of the sample savers who prioritized safety in the present and the future could be separated. At the same time, however, another important issue is that not only should financial services have one characteristic, but savers' requirements should also be managed and covered in a complex way, which can be an important point in creating financial services in the future.

To sum up, respondents can be grouped into two factors. On the one hand, those who prefer safety whose preferred criteria are capital protection, safety, free of risks and guaranteed returns. On the other hand, the second group is made up by those requiring extra services saying that it should be linked to insurance, accessible within a year, guaranteed by the state and it should also be added to annual income. Financial service providers have to fight for obtaining new customers and keep the old ones but one thing that is much more important is to have and regain the clients' trust.

## Acknowledgment

Finally, we wish to express our gratitude to Dr. Tamás Novák and Krisztina Pesti for their support in creating and analyzing the database.

## References

- [1] Barna I.: Bevezetés a kvantitatív adatelemzésbe (SPSS). <http://mondi.web.elte.hu/kereszttabla-elemzes.pdf>, download: 2015. 05.09.
- [2] Dedák I. (2010): Makroökonómia. Elmélet és Gazdaságpolitika. Saldo Kiadó, Budapest, p. 21-48.
- [3] Horváthné Kökény A. – Széles Zs.: Mi befolyásolja a hazai lakosság megtakarítási döntéseit? Pénzügyi Szemle 2014/4, p. 457-475.
- [4] Kékesi Zs. - Kóczyán B. (2014): Miben takarít meg a lakosság? [http://www.portfolio.hu/gazdasag/miben\\_takarit\\_meg\\_a\\_lakosság.201294.html](http://www.portfolio.hu/gazdasag/miben_takarit_meg_a_lakosság.201294.html) download: 2015.02.15.
- [5] Murthy, S. N. – Bhojanna, U. (2010): Business Research Methods. 3rd edition. Excel Books, 512 p. ISBN: 978-81-7446-820-8
- [6] Sajtos L. - Mitev A. (2006): SPSS kutatási és adatelemzési kézikönyv. Alinea Kiadó, Budapest, 245-282. p.
- [7] Varga E. –Boda H.– Bárdos I. K. – Palšová L. –Szira Z (2015): The examination of students' relevant personal competencies in higher education in Hungary. Skúmanie relevantných osobnostných kvalifikácií študentov vo vysokoškolskom vzdelávaní v Maďarsku. [http://www.vuepp.sk/ep\\_nove.php](http://www.vuepp.sk/ep_nove.php) download: 2015.06.30.
- [8] Veres J. - Gulyás É. (2008): Bankszámvitel. Alinea Kiadó, Budapest, .p. 283.
- [9] A pénzügyi tranzakciós illetékről szóló 2012. évi CXVI. törvény (Pti.)
- [10] <http://www.mnb.hu/Statiztika/statiztikai-adatok-informaciok/adatok-idosorok> download: 2015.03.03.
- [11] <http://www.oba.hu/hu/betvedelem> download: 2015.05.10.
- [12] <http://www.azenzem.hu/nyugdijam/magannyugdij/> download: 2015.03.03.
- [13] <http://www.azenzem.hu/cikkek/itt-a-penzterek-toplistaja/2341/> download: 2015.02.13.
- [14] [http://www.portfolio.hu/vallalatok/penzogy/bazel\\_csak\\_latszolog\\_javult\\_a\\_bankok\\_tokehelyzete.185696.html](http://www.portfolio.hu/vallalatok/penzogy/bazel_csak_latszolog_javult_a_bankok_tokehelyzete.185696.html) 2013. június 24. download: 2015. 04.18.
- [15] [http://www.portfolio.hu/gazdasag/miben\\_takarit\\_meg\\_a\\_lakosság.201294.html](http://www.portfolio.hu/gazdasag/miben_takarit_meg_a_lakosság.201294.html) download: 2015. 03.21.
- [16] [http://www.portfolio.hu/gazdasag/miben\\_takarit\\_meg\\_a\\_lakosság.201294.html](http://www.portfolio.hu/gazdasag/miben_takarit_meg_a_lakosság.201294.html) download: 2015. 03.20.
- [17] <https://en.wikipedia.org/wiki/Banking> download: 2015. 03.20.
- [18] [https://en.wikipedia.org/wiki/Factor\\_analysis](https://en.wikipedia.org/wiki/Factor_analysis) download: 2015. 03.20.