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Exploratory Analysis of European Retail Banking Customers' Preferences in Using Financial Services

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ABSTRACT

Retail banking customers are becoming increasingly versatile, requesting personalized financial products and services, provided in a fast, secure and cost effective manner. On the other hand, financial institutions struggle to gain customers' trust and loyalty by designing new products with new features and putting emphasis on customer centricity. All these on-going changes overlap on the global rapid pace technological innovations such as digitization, artificial intelligence-related technologies which are continuously embedded into the basic, traditional financial products. On this background, the paper attempts to uncover whether there are differences and dissimilarities in the preferences of retail banking customers for relying on a specific banking product. It is performed a comparative analysis of the customers' profile from 30 European countries, based on data extracted from World Bank's set of financial inclusion indicators. The hierarchical cluster analysis indicates which countries exhibit similar patterns of their retail customers' behavior in terms of financial services usage. The profile of retail banking customers in countries from Central, Western and Northern Europe is sophisticated, open to the implementation of technological innovations and digitization into the banking services. Customers in Eastern and Southern Europe countries are more reluctant in relying on digital banking technologies, use to save less and show a preference for using cash instead of debit/credit cards for making payments.

1. Introduction

International organizations such as OECD (2004) have emphasized that financial education will always be an important skill for consumers in helping them at better managing their income and savings. In recent years the importance of financial education or literacy has increased at a rapid pace as a result of financial market developments and demographic, economic and technological changes. Digitization and accessible internet-based solutions have been embedded in the regular banking business, in parallel with the provision of traditional banking services for more conservative customers. However, a more recent analysis performed by OECD (2014) revealed that in many countries the level and quality of households' saving is still insufficient to meet their own long-term financial needs and cope with the risks that they might face. For instance, only 22% of worldwide adults use to regularly save in a formal savings account.

van Rooij et al. (2007) warn that with the passing of time individuals will be increasingly put in charge of their own financial security after retirement. They notice that although the supply of complex financial products has increased considerably, there is still little or no information

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about whether individuals have the financial knowledge and skills to adapt in this new financial environment. The same issue is emphasized by Lumpkin (2010) which argues that increased financial illiteracy will make it difficult for retail consumers to understand and use innovative or digital banking products. Complementary, banks have to develop their employees' skills in order to better know the customer and its financial needs, so as to prevent that retail consumers may apply for unsuitable financial products.

Another concern raised by some studies (Yoong, 2011) is related to the suboptimal financial decisions made by financially unsophisticated consumers who are the most exposed to lasting negative consequences for long-term wealth accumulation and welfare. OECD (2014) adds that it is vital that households' financial assets be used more appropriately in order to spur growth whilst ensuring that households can cope with important long-term risks.

An analysis performed by Finance Watch (2016) agrees that a good background of financial education is an important pre-requisite in the process of empowering individuals for making appropriate financial decisions, but it is not the only issue. There are also subjective, psychological factors that influence individuals' ability to compare banking offers, to understand financial risks and to finally make a suitable decision for saving, borrowing or investing their money. Some examples of attitudes that may blur the decision-making reasoning are: overconfidence in personal ability for doing a profitable investment due to the illusion of being knowledgeable about investment products, impulsivity in making financial decisions, reliance on the advice of banks' sales officers, oversimplified financial decisions due to the impatience in analyzing the manifold banking products and information about them, overconfidence about own probability of experiencing unemployment, illnesses or misfortune. S&P Global Financial Literacy Survey (2015) uncovered that state intervention for designing policies meant to stimulate access to financial services was beneficial as the number of people holding banking accounts and applying for bank loans has rapidly increased.

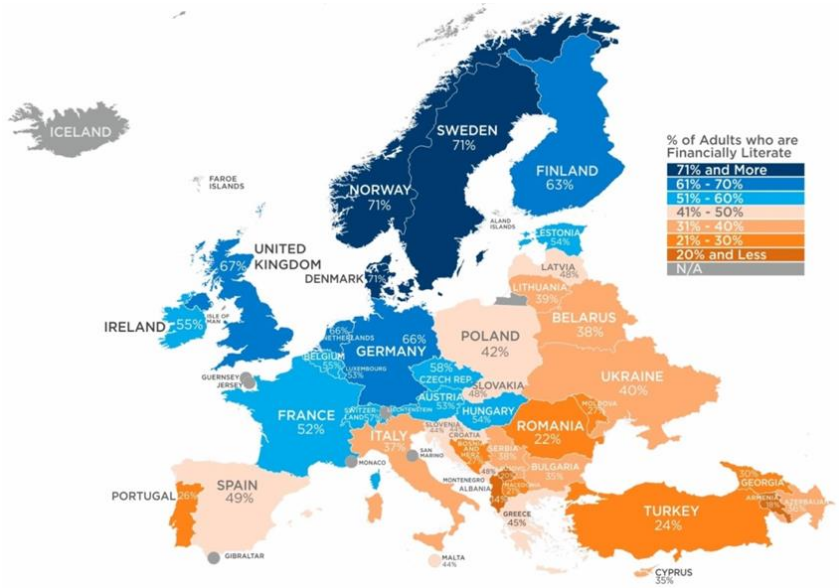

Figure 1. Financial literacy levels across European countries (Source: S&P's Global Financial Literacy Survey (2015)

It can be noticed that European countries exhibit broad heterogeneity in terms of financially literate people, from 14% to over 71% of total population.

Other approaches focused on the study of bank customers' needs and priorities when addressing to a bank. In this regard, a study performed by the Centre for Financial Inclusion (Rhyne, 2018) claims that customer wishes are actually pretty simple, irrespective the level of income earned or the country they live: they want banking services that help them in

accomplishing goals and solve problems. In addition, they highly value a positive experience with their bank, expressed in terms of safety, trust, and understanding.

Another comprehensive study conducted by Accenture (2019) surveyed 47,000 banking and insurance customers across 28 markets in Asia-Pacific, Europe, Latin America, Middle East and Africa, and North America. Their findings show that customers value integrated propositions and tailored offerings designed to meet their core needs, as well as a trustworthy relationship.

Paper's aim is to identify the preferences of retail banking consumers living in European countries, in a comparative fashion. Based on a comprehensive set of indicators illustrating the degree of use of financial products and services, it is applied a statistical method called cluster analysis to perform a classification of countries into homogenous groups, characterized by a high degree of similarity of these indicators. The analysis will reveal those European countries exhibiting a similar profile of banking customers, an indirect outcome being that of signaling the degree of financial inclusion within a given country.

The paper is structured as follows: the second part describes the methodological issues and variables' statistical features. The third part discusses the findings obtained, while the last one concludes.

2. Methodology and Variables Description

The most appropriate method for conducting the investigation of retail customer profile is the Cluster Analysis, an unsupervised exploratory technique meant to uncover latent, hidden patterns or similarities within a large dataset of variables. As Sorensen & Gutierrez (2006, p.7) explain, cluster analysis is a valuable tool to examine complex relations among national characteristics and across countries, without imposing any a priori restrictions on these interrelationships. When these linkages are too complex to be modelled under a single-equation framework, using cluster analysis in order to let the data speak for themselves is a better option. Therefore, cluster analysis acts as a complementary analysis to regression-style approaches.

The main outcome of this method relies on identifying homogenous groups of countries, depicting similar features. The visual representation of this clustering is called dendrogram or hierarchical tree. The analysis is performed through a hierarchical clustering algorithm, countries being successively merged by computing a similarity coefficient (squared Euclidean distance) and selecting a linkage method (Ward's method). The study comprises 30 European countries and has been performed for 2017 year-end data, the list of variables being extracted from World Bank's database titled G20 basic set of financial inclusion indicators. The 10 variables considered as proxy for the financial literacy or usage of financial services by retail customers are illustrated in table 1, accompanied by their descriptive statistics.

Table 1.
Main descriptive statistics

	No. of obs.	Minimum	Maximum	Mean	Std. Deviation	Skewness	Kurtosis
Account (% age 15+)	30	57.75	99.92	91.45	9.97863	-1.745	3.371
Account (% age 60+)	30	46.34	100.00	89.86	14.91762	-1.765	2.259
Account, income, poorest 40%	30	37.83	100.00	87.76	14.58049	-1.915	4.059
Borrowed from a financial institution in the past year	30	11.19	72.15	39.81	16.30614	.160	-.690
Made or received digital payments	30	47.23	99.39	87.98	12.12005	-1.628	3.146
Made payment using a mobile phone or the internet	30	10.74	85.12	48.17	20.64745	.077	-.625
Main source of emergency funds: savings	30	22.18	76.85	51.28	15.00896	-.469	-.685

Saved at a financial institution	30	12.66	79.33	45.33	16.77348	-.099	-.444
Used a debit or credit card to make a purchase in the past year	30	25.89	95.69	74.88	18.37707	-1.060	.455
Used a mobile phone or the internet to check account balance in the past year	30	12.26	88.84	54.13	20.50718	-.217	-.305

Source: author, based on SPSS

Valuable information is provided by standard deviation statistic, which measures the dispersion around mean of the values recorded by each indicator. A high level of standard deviation signifies increased heterogeneity of data, the presence of extreme values in the sample of observations. This is the case for all indicators considered, the highest spread being recorded by two indicators: payments made using a mobile phone or the internet and usage of mobile phone or the internet to check the account balance. The maximum and minimum statistics confirm this broad variability of data. Skewness and kurtosis statistics show that no indicator exhibits a normal distribution.

3. Findings and interpretation

Before conducting the cluster analysis, all variables have been standardized. The main outcome of the cluster analysis is represented by a visual plot called dendrogram (see figure 2) that summarizes in an easy to understand manner the successive merging of countries into similar groups.

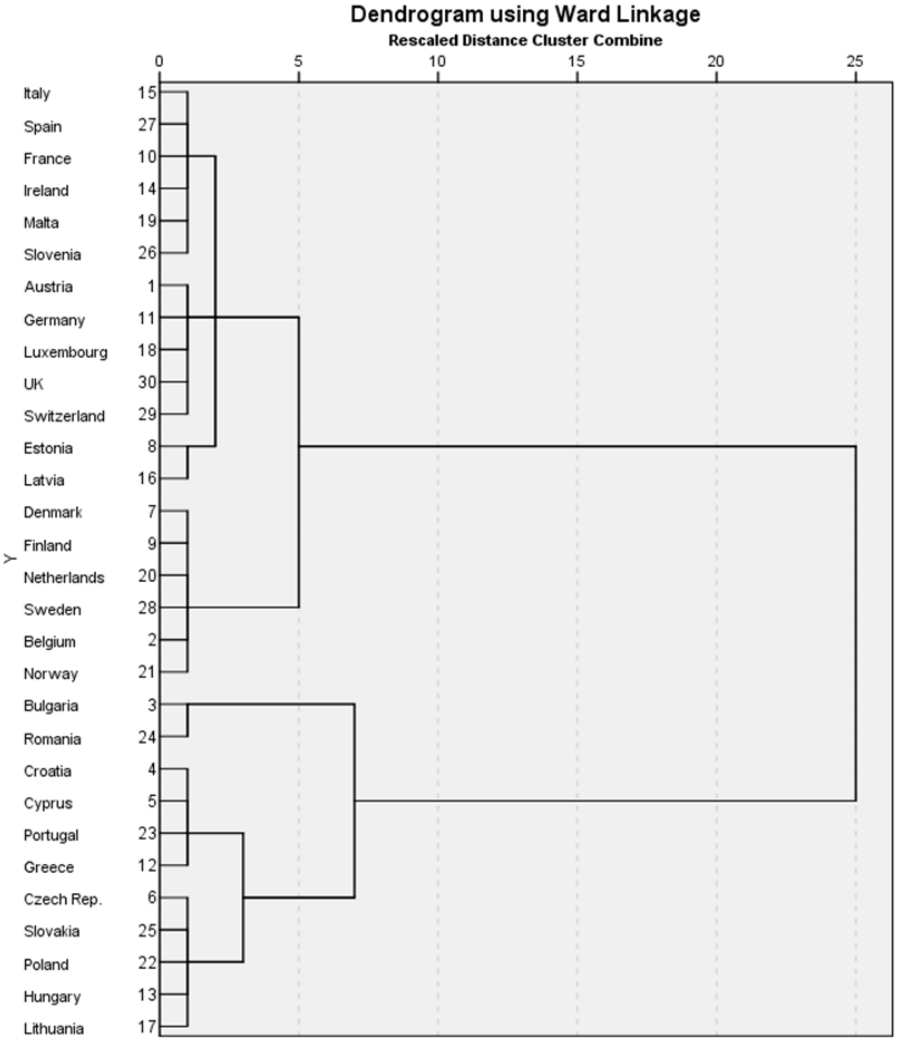

Figure 2. Hierarchical tree (Source: author, based on SPSS)

According to the clustering algorithm, the more lately a country enters the hierarchical tree, the more dissimilar it is compared with the previous ones. In order to benefit from a closer, in-depth look at countries' intrinsic features, it had been analysed only the clusters formed in the lowest distance interval (0-5), as depicted by figure 2.

The clustering obtained comprises four homogenous groups and illustrates in a visual snapshot the presence of heterogeneity between European countries. To gain an insight into the specific features of each cluster, one has to rely on initial financial indicators' values at end-2017. Thus, the clustering obtained records the following characteristics:

- The first cluster gathers most European countries from Central, Western and Northern Europe. The overwhelming part of retail banking customers in these countries (between 93 and 98%) holds a current account (irrespective they are young or elderly), even the poorest 40% of population holds a current account in proportion of 88-98%. People in these countries exhibit the highest willingness for borrowing from financial institutions, record above average levels of money saved and of preference to rely on savings in case of emergency. The same increased, above average preference appears when relying on debit/credit cards for purchases, on digital payments or in using internet banking to regularly check the account balance.
- Countries included in the second cluster depict the highest values in terms of all indicators considered, with only one exception: borrowed amounts, which anyway range above the sample average. This finding suggests that people is routinely relying on banking services, both basic and new, internet-based ones and has the highest degree of financial literacy and financial inclusion among any other European country.
- The third cluster is composed by only two countries: Romania and Bulgaria, which persistently record the lowest values in terms of all the financial indicators considered. As previous studies revealed, these countries witness poor financial literacy levels and low usage of financial services, especially of the internet-based ones. The present analysis confirms once again that no visible developments have occurred in rising the financial literacy and inclusion of residents.
- The last cluster gathers countries mainly from Central and Southern Europe, which exhibit below average values for all the considered indicators. This finding opens the way towards further improvements of financial inclusion.

4. Conclusions

The findings indicated the presence of heterogeneity between European countries, some of them being in a catch-up process (countries in group 4) whiles others (countries in group 3) needing structural reforms, the design of appropriate, tailor-made policies and strategies for increasing people' financial inclusion and more involvement of financial institutions in explaining and promoting the use of financial services. Thus, the overall picture is mixed as 19 out of 30 European countries record high levels of all financial inclusion indicators, while the remaining ones fluctuate at levels below sample's average.

Two countries, Romania and Bulgaria, formed a separate cluster suggesting that their features are increasingly dissimilar from any other country.

Therefore, we can conclude that the profile of retail banking customers in countries from Central, Western and Northern Europe is sophisticated, open to the implementation of technological innovations and digitization into the banking services. On the other hand, customers in Eastern and Southern Europe countries are more reluctant in relying on digital banking technologies, use to save less and show a preference for using cash instead of debit/credit cards for making payments.

Consequently, when designing new financial products or improving the features of existing ones, banks have to take into account not only basic analytics such as age and income level, but to understand their preferences and financial behavior and to provide tailor-made financial

solutions for various typologies of customers (individuals, high net worth individuals, start-ups, SMEs, large corporates). An additional suggestion comes from Pilcher (2016) which claims that banks should be aware also on the level of financial savviness and respectively digital savviness held by actual and potential customers. This will help them in advertising and channeling adequate financial products (traditional or digital) to proper segments of customers.

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