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Who is Unbanked? Evidence from Poland

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ABSTRACT

The objective of this article is to identify factors that exert an influence on the problem of unbanking in Poland. The empirical material used for the purposes of the presented study was obtained within the framework of the "Social Diagnosis" research project carried out in 2015 by the Board of Social Monitoring operating at the University of Finance and Management in Warsaw. Factors such as disposable personal income, age, one's level of education, trust placed in commercial banks, place of residence, population, and their social-occupational status had an influence on the propensity to use banking services. Answering the question put forward in the title of the paper, we found that the factors influencing people to remain unbanked were: young age, a low level of education, low income, living in small towns/cities, and lack of trust in commercial banks. The paper contributes to the advancement of research on financial exclusion by providing knowledge on the factors that seem to have an impact on its acceptance on the market in Poland.

KEY WORDS: Unbanked, banking services, financial exclusion

JEL Classification: D14, G21

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1. Introduction

Bruhn and Love (2014) show that access to finances may heavily contribute to alleviating poverty. The author of this paper was inspired to take up the issue of unbanking among the Polish by performing analyses for the purpose of examining the factors that determine the use of online banking. Digital exclusion is a serious problem constituting a fundamental barrier to using online banking (Szopiński, 2016). It is, however, thought-provoking that some people not only do not use online banking, but they do not even use traditional banking at all. They use other, more expensive services, for example, make money transfers at the post office or paying bills at grocery stores that render services for people who do not have a bank account

(Szopiński & Staniewski, 2014). As Siddik and Kabiraj (2018) stated, the level of financial inclusion influences financial stability in many countries. The greater the level of financial inclusion, the lower the probability that financial institutions will become defaulters. The author of this paper has decided to examine the factors that influence the use of banking services. The article's value lies in a review of the new literature and analyzing an issue that has not been examined closely so far, namely the unbanking of Polish people. The analysis was carried out on a large research sample.

The World Bank (2014) considers a person to be unbanked if they do not use or have access to commercial banking services. 62% of adults worldwide have an account at a bank, another type of financial institution or a mobile money provider (Demircukunt, Klapper, Singer, & Van Oudheusden, 2015). The majority of studies on financial exclusion are concerned with the situation of consumers in the United

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States or in developing countries. The circumstances in Poland are considerably different from the ones in the United States, African or Asian countries. There is greater cultural uniformity in Poland (as there are fewer immigrants), and geographical distances are smaller as well. A large number of Poles use the services of non-banking institutions to pay bills (e.g. the post office or supermarkets that offer the possibility to pay utility bills from various providers). Here, people can pay bills for electricity, phone, cable TV, but they are charged more for the money transfer (Szopiński & Staniewski, 2014). In Poland, the percentage of adults using bank accounts was 78% in 2014 (Demirgüç-Kunt et al., 2015). This means that the percentage of unbanked people was over 20% at that time. In comparison, at that time in the UK, the percentage was 3% (Financial Conduct Authority, 2017). The objective of the article is to answer the question: what variables determine the use of bank accounts by Polish consumers?

2. Theoretical Framework

The literature describes two main groups of factors that influence using or not using banking services. The first group are socio-economic factors and the second group comprises the declared motives for using or not using banking services. Exclusion can be voluntary, where a person or business has access to services but no need to use them, or involuntary, for example, due to price barriers, discrimination or insufficient income (Demirgüç-Kunt, Beck, & Honohan, 2008, p. 29). Kempson, Whyley, Caskey, and Collard (2000) described 5 dimensions of financial exclusion: access exclusion, meaning the restriction of access through the processes of risk assessment; condition exclusion, where the conditions attached to financial products make them inappropriate for the needs of some people; price exclusion, where some people can only gain access to financial products at prices they cannot afford; marketing exclusion, whereby some people are effectively excluded by targeting marketing and sales; and the last form of exclusion is called self-exclusion, where people may decide that there is no point in applying for a financial product because they believe they will be refused. Sometimes this is a result of having been refused personally in the past, and sometimes it is because they know someone else who has been refused.

The first group of socio-economic factors cited by the literature, which determine the use of banking services, are variables directly influencing the consumers' economic situation. The group includes income (Ampudia & Ehrmann, 2017; Bunyan, Collins, & Gianpiero, 2016; Burhouse et al., 2016; Corrado & Corrado, 2016; Devlin, 2009; Fungáčová & Weill, 2015; Gortsos, 2016; Rao & Malapit, 2014; Rhine & Greene, 2013; Tuesta, Sorensen, Haring, & Cámara, 2015), lack of money (Burhouse et al., 2016; Demirgüç-Kunt, Klapper, Singer, Ansar, & Hess, 2018; European Bank for Reconstruction and Development [EBRD], 2017), possession of assets by consumers (Corrado & Corrado, 2016; Christopher, 2015; Djankov, Miranda, Seira, & Sharma, 2008; Fitzpatrick, 2015; Kuchciak, 2013), and working status (Bunyan et al., 2016; Corrado & Corrado, 2016; Rhine & Greene, 2013). Unstable income, even if it is high, contributes to people remaining unbanked (Burhouse et al., 2016). The manner of receiving remuneration also influences the use of banking services. If remuneration is received in cash, employees tend to remain unbanked (Kamran & Uusitalo, 2016; The PEW Health Group, 2010). As Hayashi and Minhas's (2018) analyses demonstrate, no internet access among numerous households with low income additionally increases their likelihood of becoming unbanked. Financial access is significantly higher for individuals who receive wage payments or are employed in the public sector (Deléchat, Newiak, Xu, Yang, & Aslan, 2018). Hence, the author puts forward the following research hypothesis:

H1 – There exists a statistically significant relationship between monthly income and banking services utilization.

The other factor that is most often cited in the relevant literature is the consumer's level of education (Ampudia & Ehrmann, 2017; Bunyan et al., 2016; Burhouse et al., 2016; Devlin, 2009; Djankov et al., 2008; Fungáčová & Weill, 2015; Gortsos, 2016; Kamran & Uusitalo, 2016; Rao & Malapit, 2014; Rhine & Greene, 2013; Tuesta et al., 2015) or financial literacy (Grohmann, Klühs, & Menkhoff, 2018). Having a bank account as a teenager influences the tendency to use one in adulthood (Friedline, Despard, & Chowa, 2016; Friedline & Rautkis, 2014). The author proposed the

following hypothesis on the relationship between education and banking service utilization:

H2 – There exists a statistically significant relationship between one's level of education and their banking services utilization.

Other factors determining the use of banking services are age (Bunyan et al., 2016; Burhouse et al., 2016; Clamara, Peña, & Tuesta, 2014; Devlin, 2009; Fungáčová & Weill, 2015; Gortsos, 2016; Tuesta et al., 2015) and gender (Clamara et al., 2014; Fungáčová & Weill, 2015; Gortsos, 2016; Klawitter & Fletschner, 2011). As Klawier and Fletschner (2011) stated, women's bargaining power, as measured by their share of family earnings, is strongly related to the chances that they will have private accounts and that their families will be banked. In developing countries, women use financial services less often (Deléchat et al., 2018; Gortsos, 2016). Hence, the author put forward the following research hypothesis:

H3 – There exists a statistically significant relationship between age and banking services utilization.

An important factor that has a negative influence on the propensity to use banking services is the fact of living in an under-urbanised area (Clamara et al., 2014; Gortsos, 2016; Kamran & Uusitalo, 2016). Hence, the author put forward the following research hypothesis:

H4 – There exists a statistically significant relationship between place of residence, its population and banking services utilization

In turn, respondents often declare that motives that influence them not to use banking services are lack of trust in financial institutions (Ampudia & Ehrmann, 2017; Boatright, 2011; Burhouse et al., 2016; EBRD, 2017) and lack of privacy (Ampudia & Ehrmann, 2017; Burhouse et al., 2016). The author proposed the following hypothesis on the relationship between trust in financial institutions and banking services utilization:

H5 – There exists a statistically significant relationship between trust in commercial banks and banking services utilization.

Another factor determining the likelihood of utilizing banking services is a person's occupational group. Being retired (Devlin, 2009) or unemployed (Devlin, 2009; Rhine & Greene, 2013) facilitates being unbanked. Physical disability also influences the likelihood of being unbanked. Research by Russell et al. (2011) conducted in Ireland revealed that the proportion of unbanked households whose head of the family is disabled was 52%. Households headed by working-age adults with a disability are more likely to be unbanked or underbanked (McDonald, Conroy, Morris, & Jennings, 2015). The author thus put forward a research hypothesis on the relationship between utilizing banking services and social-occupational group membership.

H6 – There exists a statistically significant relationship between social-occupational group membership and banking services utilization.

Table 1 provides a juxtaposition of the published research results concerning factors contributing to remaining unbanked along with a list of authors of the research from selected countries. It is clearly visible that studies on financial exclusion are usually concerned with two groups. The first comprises Anglo-Saxon countries and the second concerns developing countries.

3. Method

The aim of the paper is to identify and quantify the variables determining the use of banking services in Poland. For this, the author of the article analyses data from the "Social Diagnosis 2015" research project carried out by the Board of Social Monitoring operating at the University of Finance and Management in Warsaw. The author analyzed the responses gathered during the latest, 2015 edition of the project. Households in Poland and all of their available members over 16 years of age were examined with two separate questionnaires. In line with the initial assumption, surveys conducted as part of the Social Diagnosis are panel studies: every several years the interviewers come back to the same households and people.

The first survey was undertaken in 2000 and the next survey three years later. The subsequent two surveys were carried out every two years. The study is always conducted in March, which serves to reduce

Table 1. Juxtaposition of factors contributing to consumers remaining unbanked in selected countries

Country	Factors contributing to unbanking	Authors
Argentina	young age, low level of education, low income	Tuesta et al., 2015
Bosnia & Herzegovina	lack of money, another family member already having a bank account	Babajić, Okičić, & Jukan, 2018
China	low income, low level of education, being a woman, old age	Fungáčová & Weill, 2015
Georgia	low income, low levels of financial literacy, lack of trust towards financial institutions	Babych, Grigolia, & Keshelava, 2018
Ireland	old age, being unemployed, disability, low level of education, low income, being a single parent	Russell et al., 2011
Mexico	low level of education, lack of assets	Djankov et al., 2008
Pakistan	no education, living in rural areas, remuneration paid in cash	Kamran & Uusitalo, 2016
Peru	young age, living in rural areas, being a woman	Clamara et al., 2014
UK	young age, low income, low level of education, being retired or unemployed, living in social housing, single household	Devlin, 2009
UK	young or old age	Financial Conduct Authority, 2017
USA	low income, problems with finding a job, race and ethnicity, level of education, and marital status	Rhine & Greene, 2013
USA	disability of the head of the family	McDonald et al., 2015
USA	young age, unstable income, low level of education, low income	Burhouse et al., 2016
USA	low level of Internet activity	McHenry, Goldberg, Lewis, Carlson, & Mehta, 2017
USA	low level of assets in a household	Ampudia & Ehrmann, 2017

the problem of seasonality. Since 2009, the survey was prolonged until mid April owing to the large size of the sample. Professional interviewers from the Central Statistical Office (GUS) collected data in March and April 2015. The project takes into account all the significant aspects of the life of Poland's individual households and their members, both the economic (i.e., income, material wealth, savings, and financing) and the not strictly economic aspects (i.e., education, medical care, problem solving, stress, psychological well-being, lifestyle, engagement in the arts and cultural events, use of new communication technologies, and many others). The analyses only include responses to selected questions concerning the use of financial services. The number of households that underwent analysis amounted to 26,766, and the number of household

members is 84,478. Estimations do not take into account data from the respondents who did not answer all the survey questions. The analysis of the factors determining the use of banking services uses a selection of variables, such as the age of the respondents, their level of education, trust in banking services, monthly net income, size/population of their place of residence and their social-occupational group status.

Men constitute 47.6% of the respondents and women 52.4%. 22.5% of the respondents were 24 years old and younger, while 15.6% are between 25 and 34 years old. People between 35 and 44 years old constitute 13.8% of the respondents. The next group comprises people between 45 and 59 years old (19.4% of the respondents). People who are 60–64 constitute 7.6%, and those over 65 years old constitute 21.2% of the

Table 2. Proportions of respondents who declare using banking services in each income bracket

Bracket	No income	up to 1,500	1,501 – 2,000	2,001 – 3,000	3,001 – 4,000	4,001 – 5,000	5,001 – 6,000	Above 6,000
N	1100 _a	5635 _b	3235 _c	2708 _d	911 _e	321 _{e,f}	153 _{d,f}	202 _e
%	41.9	67.9	86.6	93.2	96.7	97.0	93.3	98.1

Note. Each subscript letter denotes a subset of brackets whose proportions did not differ from each other at a level of statistical significance of 0.05. Source: Own calculation on the basis of the Social Monitoring Council (2015). Social Diagnosis: Integrated database. Retrieved from <http://www.diagnoza.com>

respondents. The mean age of the respondents is 44. Respondents with primary or lower education constituted 20.4% of the sample, while individuals who have completed middle school or vocational school constituted 31.6% of the sample. Respondents with secondary education constituted 28.5% of the sample, and individuals with a high school education or higher were 19.5% of the sample. The mean monthly net income of the respondents amounted to PLN 1,876.07 and the median income was 1,500 PLN, which equals about EUR 350. Regarding trust placed in commercial banks, 40.5% of the respondents declared that they trusted such banks, 26.8% claimed they placed no trust in commercial banks, and 32.7% had no opinion on this topic. 74% of the respondents declared using banking services.

Concerning place of residency, 42.7% percent of the respondents live in rural villages, 12.8% of the respondents live in towns with a population of under 20,000, 19.1% live in towns between 20,000 and 100,000 inhabitants, 7.7% live in cities between 100,000 and 200,000 residents, 8.9% live in cities between 200,000 and 500,000 residents, and 8.7% live in cities with over 500,000 people. 9.2% of the respondents were public sector workers, while 21.3% of the sample included private sector workers. Private entrepreneurs constituted 3.3% of the sample, farmers 5.3% of the sample, retired people and pensioners 28.2% of the sample, school and university students 16.1% of the sample, while unemployed people constituted 16.6% of the sample.

4. Results

The first hypothesis concerns the relationship between monthly net income and the utilization of banking services. Each respondent gave their available income

as a number. The Mann-Whitney's U test was used for verifying the hypothesis. The results confirmed the statistically significant relationship between monthly net income and banking services utilization ($Z = -50.127$, $p < 0.0001$, $r = 0.361$).

In order to examine the direction of the relationship between these variables, the author divided the incomes declared by the respondents into brackets. The neighboring categories were compared using the Z-test in order to check if there were statistically significant differences between them when using banking. Table 2 presents the dynamics of the increase in the percentage of users of banking along with an increase in income. We are observing a systematic increase in the percentage of users of banking services until the group of people earning 3001-4000 PLN inclusively. At this point, income stops being differentiated from being banked or not banked because of the ceiling effect. Here, income categories for which the same subscript letters do not differ in terms of being banked or un-banked. If the letters are different, the observed differences are statistically significant.

The next hypothesis concerns the relationship between the level of education and banking services utilization. The respondents' education was measured on a four-level scale: 1. primary education and lower, 2. vocational education/middle school, 3. secondary education, and 4. high school and above. Using the Mann-Whitney U test, a statistically significant relationship between the level of education and banking services utilization was found ($Z = -55.132$, $p < 0.0001$, $r = 0.372$). Hypothesis 2 was thus confirmed. Table 3 shows the proportions of respondents who declare utilizing banking services, broken down by their level

Table 3. Proportions of respondents declaring banking services utilization among people on different education levels

Education level	Primary education and below	Vocational education/ middle school	Secondary education	High school and above
<i>N</i>	1,726 _a	4,710 _b	5,459 _c	4,352 _d
%	46.0	66.4	83.5	95.1

Note. Each subscript letter denotes a subset of education levels whose proportions do not differ from each other at a level of statistical significance of 0.05. Source: Own calculation on the basis of the Social Monitoring Council (2015). Social Diagnosis: Integrated database. Retrieved from <http://www.diagnoza.com>

Table 4. Proportions of respondents in each age group who declare utilizing banking services

Age group	Below 24	25-34	35-44	45-59	60-64	65+
<i>N</i>	1,136 _a	2,422 _b	2,935 _c	4,801 _d	1,793 _e	3,178 _f
%	45.2	84.7	88.2	82.7	79.8	60.8

Note. Each subscript letter denotes a subset of age groups whose proportions do not differ from each other at a level of statistical significance of 0.05. Source: Own calculation on the basis of the Social Monitoring Council (2015). Social Diagnosis: Integrated database. Retrieved from <http://www.diagnoza.com>

of education. There exists a positive relation between education level and utilization of banking services.

Hypothesis 3 concerns the relationship between the respondents' age and their banking services utilization. Using the Mann-Whitney *U* test, a statistically significant relationship between the respondents' age and their likelihood of utilizing banking services was confirmed ($Z = -4.646$, $p < 0.0001$, $r = 0.031$). Table 4 presents the proportions of respondents in each age group who declare using banking services. As can be seen, the lowest proportion of unbanked respondents is in the group below 24 years of age. Hypothesis 3 was thus confirmed.

Hypothesis 4 concerns the relationship between the population size of the respondents' place of residence and their use of banking services. Using the Mann-Whitney *U* test, a statistically significant relationship between the population of the place of residence and banking services utilization was found ($Z = -25.280$, $p < 0.0001$, $r = 0.170$). Table 5 shows the existence of a unidirectional relationship

between the population size of the respondents' place of residence and their using banking services. Hypothesis 4 was thus confirmed.

The next hypothesis concerns the relationship between the consumers' trust in commercial banks and their use of banking services. Using the Chi-square test, a statistically significant relationship between trust in commercial banks and banking services utilization was found ($\chi^2 = 1754.837$; $df = 2$; $p < 0.0001$; Cramer's $V = 0.283$). Hypothesis 5 was thus confirmed. Table 6 shows the proportions of respondents who declared utilizing banking services broken down by their declared trust in commercial banks. The greatest proportion of respondents utilizing banking services was in the group declaring trust in commercial banks. On the other hand, the lowest proportion was in the undeclared group.

The final hypothesis concerns the relationship between social-occupational group status and banking services utilization. Using the Chi-squared test, a statistically significant relationship between social-occu-

Table 5. Proportions of respondents who declare utilizing banking services depending on the population of their place of residence

Population of place of residence	Cities with 500,000 citizens and above	Cities between 200,000 and 500,000 citizens	Cities between 100,000 and 200,000 citizens	Towns between 20,000 and 100,000 citizens	Towns below 20,000 citizens	Villages
<i>N</i>	1,307 _a	1,412 _b	1,186 _b	3,128 _c	1,959 _d	7,279 _e
%	87.5%	82.9%	85.0%	79.8%	74.9%	67.0%

Note. Each subscript letter denotes a subset of groups whose proportions do not differ from each other at a level of statistical significance of 0.05. Source: Own calculation on the basis of the Social Monitoring Council (2015). Social Diagnosis: Integrated database. Retrieved from <http://www.diagnoza.com>

Table 6. Proportions of respondents among people trusting and not trusting commercial banks who declare using banking services

Trust in commercial banks	Yes	No	No opinion
<i>N</i>	7,763 _a	4,170 _b	4,251 _c
%	88.0	71.1	59.1

Note. Each subscript letter denotes a subset of groups whose proportions do not differ from each other at a level of statistical significance of 0.05. Source: Own calculation on the basis of the Social Monitoring Council (2015). Social Diagnosis: Integrated database. Retrieved from <http://www.diagnoza.com>

Table 7. Proportions of respondents among social-occupational groups who declare using banking services

Social-occupational group	Public sector workers	Private sector workers	Private entrepreneurs	Farmers	Pensioners	School and university students	Unemployed
<i>N</i>	2,433 _a	4,723 _b	800 _a	1,200 _c	5,021 _d	513 _e	1,538 _f
%	96.9	89.4	95.6	82.2	66.7	33.7	54.9

Note. Each subscript letter denotes a subset of age groups whose proportions do not differ from each other at a level of statistical significance of 0.05. Source: Own calculation on the basis of the Social Monitoring Council (2015). Social Diagnosis: Integrated database. Retrieved from <http://www.diagnoza.com>

pational group and banking services utilization was confirmed ($\chi^2 = 3612.307$; $df = 6$; Cramer's $V = 0.406$). Using banking services was the lowest in the group of school and university students. Hypothesis 6 was thus confirmed.

5. Discussion

The results concerning the influence of income on banking services utilization are in line with the results of Tuesta et al. (2015) from Argentina, Fungáčová and Weill (2015) from China, Rhine and Greene (2013)

from the US, as well as Babych et al. (2018) from Georgia. Next, the results on the relationship between education and banking services utilization are in line with the results by Tuesta et al. (2015) from Argentina, Russell et al. (2011) from Ireland, Djankov et al. (2008) from Mexico, Kamran and Uusitalo (2016) from Pakistan, and Devlin (2009) from the UK. The results on the relationship between age and banking services utilization are in agreement with those of Tuesta et al. (2015) from Argentina and Clamara et al. (2014) from Peru. As shown in the Results section, it is mostly young people and students who do not use banking services. However, the results of the current study are in contrast to those by Fungáčová and Weill (2015) from China or Russell et al. (2011) from Ireland. These authors identified older people as the dominant unbanked group.

The current research also shows the likelihood of banking services utilization to be greater in public rather than private sector employees. This difference is statistically significant. In the aforementioned study in Pakistan, employees who were paid in cash used banking services less often (Kamran & Uusitalo, 2016). In Poland, a substantial proportion of employees are paid off the record, in other words, “under the table.” In 2015, this group numbered 2 million people. Aside from the amount specified in the contract, these employees receive an additional one-third of their monthly wage “under the table” (Popiołek, 2015). Many private entrepreneurs lower the costs of employment in this way. By paying their employees without disclosure, they lower the costs of social security which they have to pay to the Social Insurance Institution (Zakład Ubezpieczeń Społecznych). On the other hand, employees paid in cash often have no motivation to open a bank account.

6. Contribution

As Kuchciak (2013) claims, financial exclusion and excess indebtedness are both the cause and consequence of poverty and social exclusion. The movement toward digital financial services will accelerate financial inclusion (Lewis, Villasenor, & West, 2017). This paper contributes to the development of research on using banking services by providing knowledge on the factors which seem to have an impact on its acceptance in the Polish market. In Poland, research on the factors

influencing the adoption of banking services is lacking. Apart from the study entitled “Social Diagnosis,” there was no other large-scale research that would allow analyzing, among others, the factors exerting an influence on the use of banking. If it had not been for the large sample, a statistical analysis of the factors determining the use of banking in Polish society would not have been possible. Answering the question put forward in the title of the paper, we found that the factors influencing people to remain unbanked were: being under 24 years old, a low level of education, living in small towns/cities, and lack of trust in commercial banks.

7 Limitations and Further Research

The author used secondary data obtained in the “Social Diagnosis” study organized and conducted every two years by the University of Finance and Management in Warsaw. The tools used on a biennial basis since 2000 for the purpose of examining various aspects of Polish people’s lives may not be altered. The number of aspects taken into account in the study did not allow us to further explore other questions concerning using banking services. The use of banking was merely one of the aspects examined in the “Social Diagnosis” project. Therefore, the author believes there is a need to designing an in-depth study that would only be oriented at studying the use of banking by natural persons and households.

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