

Which borrower in CESEE gets which loan? Evidence from the OeNB Euro Survey

Marc Bittner¹

This paper sheds light on the distribution of three types of retail loans as well as their drivers in ten countries of Central, Eastern and Southeastern Europe (CESEE). Based on data from the OeNB Euro Survey, the study aims at analyzing the characteristics of individuals taking out loans for (1) housing, (2) consumption or (3) education, business or professional activities and other purposes. Logistic regression is used to analyze average marginal effects of a variety of independent variables, such as sociodemographic factors, (economic) attitudes and expectations, trust in institutions, and financial literacy. Identifying and understanding characteristics of borrowers holding certain types of loans may inform the formulation of microprudential policies and thus help promote financial stability. Apart from being married, trusting domestic banks and the EU as well as having an internet connection at home, having earned income is very important for all three types of loans, with the level of personal income impacting on housing loans only. Borrowers' level of education is a key driver of both housing loans and loans for education, business or professional activities and other purposes, and less so of consumer loans. High inflation expectations have a significant impact on consumer loans as well as on loans for education, business or professional activities and other purposes. Depending on the loan type, the number of significant drivers differs greatly.

JEL classification: D12, D14

Keywords: types of loans, key drivers, CESEE, survey data, average marginal effects

This study focuses on factors that influence retail lending in Central, Eastern and Southeastern Europe (CESEE). The factors range from sociodemographic characteristics such as gender, age, education, income, household size (factors most often referred to in similar analyses) to economic attitudes and expectations, trust in institutions and financial literacy. Available for a multiyear observation period, such variables may be derived from the OeNB Euro Survey for ten CESEE countries in which the euro is not an official means of payment. This unique data set enables us to cover – and compare – this CESEE region by applying the same instrument to each country during the same observation period. As a result, we arrive at overall statements about the region. Furthermore, we may not only investigate the drivers of loan growth from a microperspective but also differentiate between types of retail loans. Looking at the determinants of such loans, this study complements macroeconomic analyses that are based on publicly available loan data at the macro-level. Here, a logistic regression model is used that takes all the abovementioned variables into account to obtain a broad, yet detailed picture of factors that may determine who is likely to hold particular types of retail loans. The loan purpose has important implications for macrofinancial stability. Potential risks stem especially from an increase in consumer loans. Such loans typically consist of unsecured products, thus exposing lenders to nonrepayment risks. In the CESEE region, the share of consumer loans is higher than in advanced economies, whereas

¹ Oesterreichische Nationalbank, Foreign Research Division, marc.bittner@oenb.at. Opinions expressed by the authors of studies do not necessarily reflect the official viewpoint of the OeNB or the Eurosystem. The author would like to thank Matthias Enzinger (OeNB) for research assistance and Julia Wörz and Katharina Allinger (both OeNB) for valuable input and advice.

the share of housing loans in total loans is typically lower. Housing loans may be considered relatively safe as they are often backed by collateral. Yet, long-term housing loans also carry risks as they make households more sensitive to interest rate risk and currency risk (Riedl, 2019, pp. 10–12). Several CESEE central banks recently noted that borrowers with consumer loans were somewhat more strongly affected by the COVID-19 pandemic than people holding housing loans. This was evident in the former's higher participation in loan moratoria and/or faster increase in nonperforming exposures or stage 2 classifications (see e.g. Magyar Nemzeti Bank, 2020; Czech National Bank, 2020). Finally, loans taken out for education, business or professional activities can pave the way for higher income levels in the future and thus back a sustainable recovery from the current pandemic. Different loan types have different implications in the household sector; analyzing the broad range of drivers at the micro-level is therefore crucial. Getting a grasp on borrowers' characteristics can make a valuable contribution to formulating microprudential policies and thus help promote financial stability.

In light of rising demand and supply, consumer lending in many EU countries has recorded a significant increase in recent years. Demand has been driven mainly by GDP growth and decreasing unemployment, whereas supply has been fueled by low interest rates and a search for increased margins by banks (EBA, 2020, p. 21). Central and Eastern European countries accounted for the highest figures for consumer lending as a proportion of total lending in the EU. In particular, 20% of Hungarian banks' total lending was toward consumer credit. In this respect, Hungary was followed by Bulgaria (17%), Romania (16%), Slovenia (15%) and Poland (12%) (EBA, 2020, p. 10).

Over the past decades, household debt has risen steadily in most economically advanced societies, which is closely linked to changing patterns of consumption and institutional reforms that have made financial credit accessible to growing segments of the population. Social scientists largely attribute this development to an ever more pervasive consumer society on the one hand, and stagnant income levels in the middle and lower social classes on the other hand. In many countries, homeownership has been on the rise, with mortgage debt gaining traction (Lewin-Epstein and Semyonov, 2016). As to the determinants of taking out a loan, the literature has mainly discussed sociodemographic factors to date.

Using data from the OeNB Euro Survey (see the next section for details) for the period from 2009 to 2017, Hake and Poyntner (2019) explored the question whether interpersonal comparisons affect a household's probability of having a loan. The results support the notion that the relative income position, along with absolute income, has an impact on households' likelihood of having a loan, but this is valid mainly for households above the median of the income distribution. While the impact was shown for almost all components of household debt, the evidence proved strongest for mortgage and car loans. In CESEE countries with a more equal income distribution, interpersonal comparisons turn out to be a weaker predictor of a household's propensity to have a loan (Hake and Poyntner, 2019, p. 75). Results of a study by Rosan and Zauder (2020) suggest a "hump-shaped" age profile of debt participation: households with middle-aged heads are more likely to hold debt as well as higher amounts of debt. Households at the upper end of the income distribution have better access to mortgages. In addition, households whose head is highly educated are more likely to use and have access to secured debt

(Rosan and Zauder, 2020, pp. 29–30). Using data from the 2001 Survey of Consumer Finances, Yilmazer and DeVaney (2005) examined how type and amount of household debt change over the life cycle. Their findings show that the likelihood of holding particular types and amounts of debt compared to total assets decreases with age (p. 285). Other household demographics that have significant effects on the likelihood of holding both secured and unsecured debt and on the respective amounts compared to total assets are household income, being self-employed and being retired. Characteristics such as marital status, race, education, and the number of children living in the household have a negative effect on the likelihood of holding unsecured debt. Overall, people appear to reduce debt as they approach retirement, an adjustment that is consistent with the life cycle hypothesis of savings (p. 301). Bover et al. (2016) show that household members' age and income level are important determinants of debt. The probability of borrowing peaks for cohorts aged thirty-five to forty-four years (Bover et al., 2016, p. 120). A study by Altundere (2014), which draws on data from thirteen European countries that were collected in the second wave of the SHARE project, shows that the incidence of mortgage debt is strongly influenced by having attained high-school and college education and being in employment.

Compared to the existing literature, the present study provides insight into a specific region, namely ten CESEE countries that do not use the euro as official currency. In addition, it draws on more diverse variables than just sociodemographic ones to analyze the drivers of different types of retail loans. Including e.g. additional wealth indicators and borrowers' (economic) attitudes, experiences, opinions and expectations results in a much broader picture of potential determinants.

The study is structured as follows: section 1 provides information on the OeNB Euro Survey as the empirical data basis for this analysis. Section 2 highlights the distribution of different types of retail loans in ten CESEE countries; loan types are classified by three purposes: (1) housing, (2) consumption and (3) education, business or professional activities and other purposes. Section 3 analyzes the drivers of these loan types. Specifically, we analyze borrowers' largest, most important loans, using a logistic regression and presenting the average marginal effects in percentage points. The results indicate borrowers' probability of having a particular type of loan based on individual characteristics. Section 4 presents the commonalities and differences regarding the three loan types. Section 5 summarizes and concludes.

1 Empirical data basis: the OeNB Euro Survey

The OeNB has been conducting the OeNB Euro Survey since 2013 to learn more about the use of the euro in CESEE. The survey covers ten countries, namely six EU member states (Bulgaria, Croatia, Czechia, Hungary, Poland, Romania) and four non-EU countries (Albania, Bosnia and Herzegovina, North Macedonia, Serbia). In the annual survey waves, a representative sample of approximately 1,000 individuals per country is polled in a multistage stratified random sampling procedure. The sample is representative of the country's population with regard to

age, gender and region.² The target population comprises residents aged 15 years or older. Interviews are carried out face to face at the respective respondent's home. The OeNB Euro Survey complements aggregate statistics and allows to identify causal relationships.

The annual questionnaire of the OeNB Euro Survey contains a standard set of questions plus focus modules or questions that change every year. The standard questions relate in particular to cash holdings in foreign currencies, savings deposits, portfolio composition, loans taken out and planned as well as an assessment of the economic situation, (economic) expectations and trust in institutions and currencies. The questionnaire is complemented by a wide range of sociodemographic and socioeconomic variables as well as paradata, i.e. interview duration and technique, willingness to cooperate, information on the interviewers and location size (Bittner, 2020).

This study is based on OeNB Euro Survey data collected during the survey waves 2017 to 2019, which include a number of comparable questions related to borrowers' largest, most important loans. Combined with sociodemographic variables and variables on (economic) attitudes and behavior, these micro-level data allow for an in-depth analysis of the drivers behind borrowers' largest, most important loans in CESEE.

2 Descriptive analysis

First, we provide an overview of how selected sociodemographic variables are distributed in the country samples of the OeNB Euro Survey (table 1). This will allow us to better classify the descriptive results later on.

Table 1 shows that the gender and income distributions are very similar across all countries. With regard to the age distribution, note that in Albania, Bulgaria, Poland and Serbia in particular, the share of the young age group (up to 34 years) is above average and that of the age group 60 years and older is below average. As to the level of education, a higher proportion of low-skilled respondents can be found in Bosnia and Herzegovina, North Macedonia, Poland and Serbia, while an above-average number of respondents in Albania, Bulgaria and Hungary report a high level of education. In turn, Croatia, Romania and Czechia are the countries with particularly high proportions in the medium education category.

Second, we explain the procedure for selecting and operationalizing the dependent research variable ("purpose of largest, most important loan"). The survey question "Do you, either personally or together with your partner, currently have any loans that you are still paying off?" was used to identify the share of respondents with loans. The shares for each of the ten countries and three survey waves (2017–2019) form the basis for all further calculations.³

Chart 1 shows the country-specific shares as well as overall shares of respondents who have a loan for each year under observation. The overall share rose slightly from 22% in 2017 to 25% in 2019. When we look at the individual CESEE countries, different patterns become evident. Countries registering the highest

² Data weighting is used to ensure a nationally representative sample for each country; sampling weights use population statistics on gender, age and region and, where available, education and socioeconomic status as well as ethnicity.

³ The resulting overall sample size totals about 30,000 respondents, i.e. some 1,000 respondents per country and survey wave.

Table 1

Selected sociodemographic distributions by country

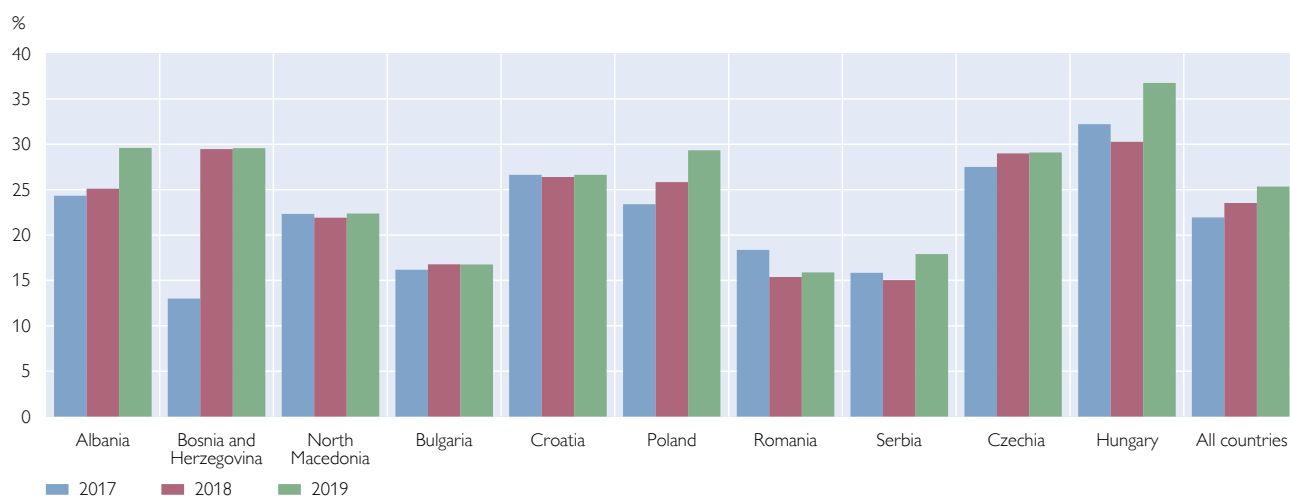
	Gender		Age			Education			Income		
	Male	Female	Up to 34 years	35–59 years	From 60 years	Low	Medium	High	Low	Middle	High
	%										
Albania	49.5	50.5	34.3	49.6	16.1	9.1	56.5	34.4	35.2	33.7	31.1
Bosnia and Herzegovina	48.6	51.4	29.0	45.7	25.3	30.9	57.6	11.5	35.1	33.1	31.8
North Macedonia	49.7	50.3	34.5	44.6	20.9	24.7	56.6	18.7	34.5	35.0	30.5
Bulgaria	48.0	52.0	22.4	44.0	33.6	11.6	65.1	23.3	34.5	35.1	30.4
Croatia	47.7	52.3	26.4	43.8	29.8	8.9	73.5	17.6	35.0	33.0	32.0
Poland	47.4	52.6	30.3	45.6	24.1	22.4	61.7	15.9	34.2	33.5	32.3
Romania	48.2	51.8	26.1	44.4	29.5	2.4	78.2	19.4	34.9	34.0	31.1
Serbia	48.1	51.9	29.0	44.8	26.2	30.6	52.4	17.0	34.8	32.4	32.8
Czechia	49.2	50.8	25.0	46.4	28.6	6.7	80.1	13.2	33.6	34.4	32.0
Hungary	46.9	53.1	23.3	44.1	32.6	13.3	65.4	21.3	33.9	35.0	31.1

Source: OeNB Euro Survey 2017–2019.

Note: Respondents answering “don’t know” or “no answer” have been excluded.

Chart 1

Respondents who have a loan



Source: OeNB Euro Survey 2017–2019.

Note: Respondents answering “don’t know” or “no answer” have been excluded.

percentages in 2019 are Albania, Bosnia and Herzegovina, Poland, Serbia and Hungary. Only one country (Romania) saw a decrease in the observation period. In North Macedonia, Bulgaria, Croatia and Czechia, there were hardly any changes over time.

Macrodata from the wiiw (EIB, 2019, p. 119) show that, from 2017 to 2019, the growth rates of loans to the private sector remained clearly positive throughout the region, except for negative growth rates in Albania in the fourth quarter of 2018 and in Croatia in the fourth quarter of 2017. At the end of 2019, the highest growth rates were posted by Hungary (+13.1%; given a continuously strong

increase since 2017), Serbia (+8.9%) and Bulgaria (+7.4%), while the lowest value was recorded by Croatia at +3.9%, albeit with an increasing trend over time. In Albania, the negative trend of 2018 turned clearly positive again (+6.6%). According to the CESEE Bank Lending Survey (EIB, 2019, p. 10), demand for loans and credit lines continued to go up in the region, which marked the fourteenth consecutive increase.

An additional set of questions is introduced in the OeNB Euro Survey by the statement “I would now like to ask you some questions about your largest, most important loan.” Here, the following question is key: “What is the purpose of this loan? I/we took out the loan to finance...”. Respondents may choose one item⁴ from these options: (1) my/our current main residence, (2) another house or apartment, (3) consumption goods (furniture, traveling, household appliances, etc.), (4) a car, (5) education, (6) a business or professional activity, or (7) other.

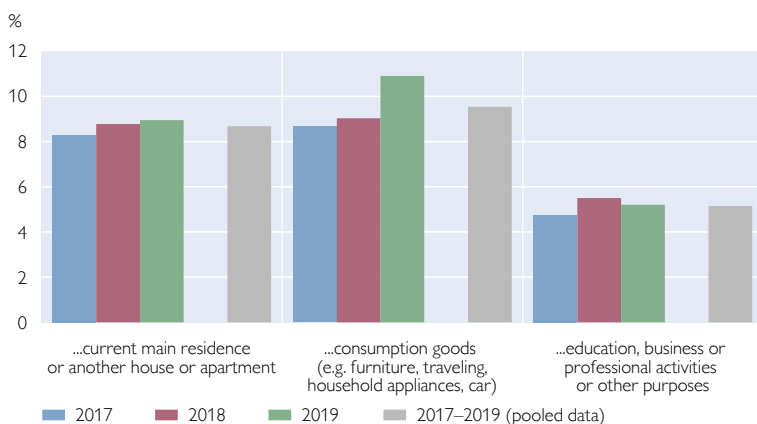
We used this question to calculate the shares of borrowers taking out their largest, most important loan for different purposes. We defined three purposes: (1) “housing”, which consists of the items “my/our current main residence” and “another house or apartment”; (2) “consumption,” which comprises the items “consumption goods (furniture, traveling, household appliances, etc.)” and “a car”; and (3) “education, a business or professional activity or other” (in the following “other” purposes or loans). This way, we ended up with approximately three equal groups for statistical analysis. As an investment in personal development, loans for education and business or professional activities serve similar goals, which is why the aggregation seems legitimate.

Analyses of the 2017–2019 OeNB Euro Survey data show that 8.7% of the respondents in the CESEE region have a housing loan as their largest, most important loan, 9.5% a consumer loan and 5.1% a loan for other purposes (chart 2). The shares of respondents whose largest, most important loan is a housing loan rose only marginally. Consumer loans saw a stronger increase between 2018 and 2019. Other loans registered only little change, with a small peak in 2018.

Chart 3 shows the relative distribution of the largest, most important loans by purpose. In Bulgaria, Romania and Serbia, 50% of the largest, most important loans are consumer loans. This type of loan also plays a dominant role in Bosnia and Herzegovina (44%) as well as in North Macedonia (38%). In Croatia and Czechia, by contrast, housing loans account for the highest shares in relative terms (47% and 46%). In both Poland and Hungary, housing and consumer loans amount to similar shares of around 40%. Only in Albania are the shares for all three loan purposes

Chart 2

Respondents whose largest, most important loan is a loan for...



Source: OeNB Euro Survey 2017–2019.

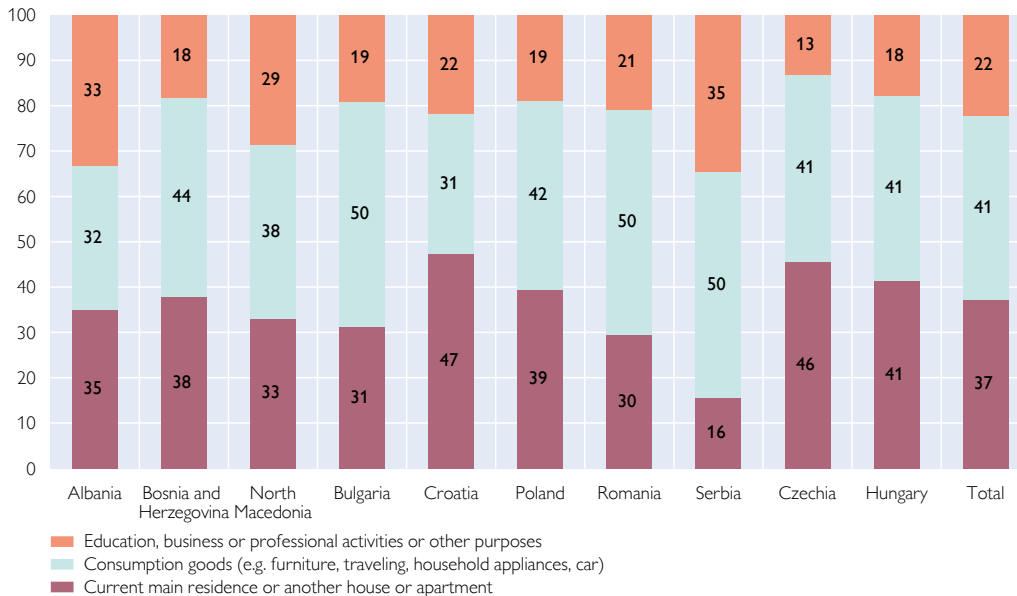
Note: Respondents answering “don’t know” or “no answer” have been excluded.

⁴ Single punch question allowing only one answer.

Chart 3

Purpose of largest, most important loan

% of respondents who have a loan



Source: OeNB Euro Survey 2017–2019.

Note: Respondents answering “don’t know” or “no answer” have been excluded.

about equal. Across all ten countries, the share of consumer loans totals 41%, followed by housing loans (37%) and other loans (22%).

The survey data for each individual wave (2017, 2018, 2019) show that the overall shares for the three loan types hardly vary (slight decreases over time for housing and other loans, slight increases for consumer loans). At the country level, we see, for example, that the relative importance of housing loans was declining in both Bosnia and Herzegovina and Croatia, while the loan portfolio showed a shift toward consumer loans in Bulgaria, Croatia and Romania at the end of the observation period. With regard to other loans, the shares declined over time, especially in Bulgaria, Poland and Serbia.

3 Multivariate analysis: results of a logistic regression

To analyze the key drivers for taking out a (largest, most important) loan, we use the method of logistic regression, i.e. a statistical model with a logistic function to model a binary dependent variable. The dependent variables for this analysis are binary measures. Each respondent is characterized as being a person whose largest, most important loan is (1) a housing loan or not, (2) a consumer loan or not, and (3) a loan for other purposes (education, business or professional activities and other purposes) or not.

The independent variables we use are not limited to sociodemographic characteristics, but cover also attitudes, opinions, experiences and expectations. Variable availability and comparability across all three OeNB Euro Survey waves between 2017 and 2019 were an important prerequisite. We accounted for potential overlaps of individual variables (high internal correlation), using statistical measures of

association. We checked collinearity for the non-sociodemographic variables, integrating the most valuable ones into the regression model. We tested different versions of the model to guarantee that we use the model with the highest explanatory value.

To gain a broader data basis for the logistic regression, we pooled the data available for the three survey waves of 2017, 2018 and 2019. Plus, to maximize the number of observations (as a prerequisite for results of highest statistical validity), we put the focus of the multivariate analysis on the CESEE region as a whole, i.e. the ten CESEE countries in which the OeNB Euro Survey is conducted, and not on the country level.⁵

Based on the results of the logistic regression analysis, the core indicators for this study are the average marginal effects, given in percentage points, which – on the basis of predicted values and their differences⁶ – indicate by how many percentage points the probability of having a loan of one of the three types differs in the presence of a certain characteristic (e.g. “woman”) compared to a reference group (characterized by the absence of this characteristic, e.g. “man”). A positive (negative) proportion means that the examined characteristic has a positive (negative) effect on taking out a loan.⁷

The following subsections present the average marginal effects (in percentage points) for the whole sample of the ten countries over the period 2017–2019 (charts 4 to 6). This allows us to draw conclusions about the size of the effects that the independent variables have on borrowers’ likelihood to have one of the three loan types as their largest, most important loan. The charts show the average marginal effects of all the variables with a significant influence (at the 0.05 level).

3.1 Housing loans

According to Eurostat, the CESEE EU countries covered in this study, i.e. Romania, Croatia, Hungary, Bulgaria, Poland and Czechia, recorded very high owner-occupied housing rates in 2018, of at least 75% each (and even 96% in Romania).⁸ OeNB Euro Survey data presented by Beckmann et al. (2019, p. 84) showed that high ownership rates (above 80%) also apply to the four non-EU countries in CESEE under review (Albania, Bosnia and Herzegovina, North Macedonia and Serbia). In 2015, Beckmann et al. pointed out that the high levels of owner-occupied housing in the region go back to the privatization or restitution process at the beginning of transition⁹, but in part they also resulted from a lack of rental housing. Furthermore, according to that study, mortgage financing was more prevalent in the CESEE EU countries than in the non-EU Western Balkan countries, possibly because credit markets are more developed in the former (Beckmann et al., 2015, p. 28).

⁵ See table 2 for details on the independent variables used and the statistical results of the logistic regression (regarding the three types of loans) for the whole observation period (pooled data 2017–2019).

⁶ Marginal effects can be interpreted as the percentage by which the dependent variable increases or decreases if – assuming all other variables to be constant – the respective characteristic of the explanatory variable applies instead of the reference category (Apel and Fertig, 2009, p. 20).

⁷ For an example of the application of this method, see WIFO/Prospect (2015, pp. 22–28).

⁸ https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Archive:Housing_statistics.

⁹ After the fall of the communist regimes, many tenants were offered the option of buying the dwellings at a low price. See <https://www.oecd.org/els/family/HM1-3-Housing-tenures.pdf>.

Table 2

Results of the logistic regression: all ten CESEE countries, pooled data 2017–2019

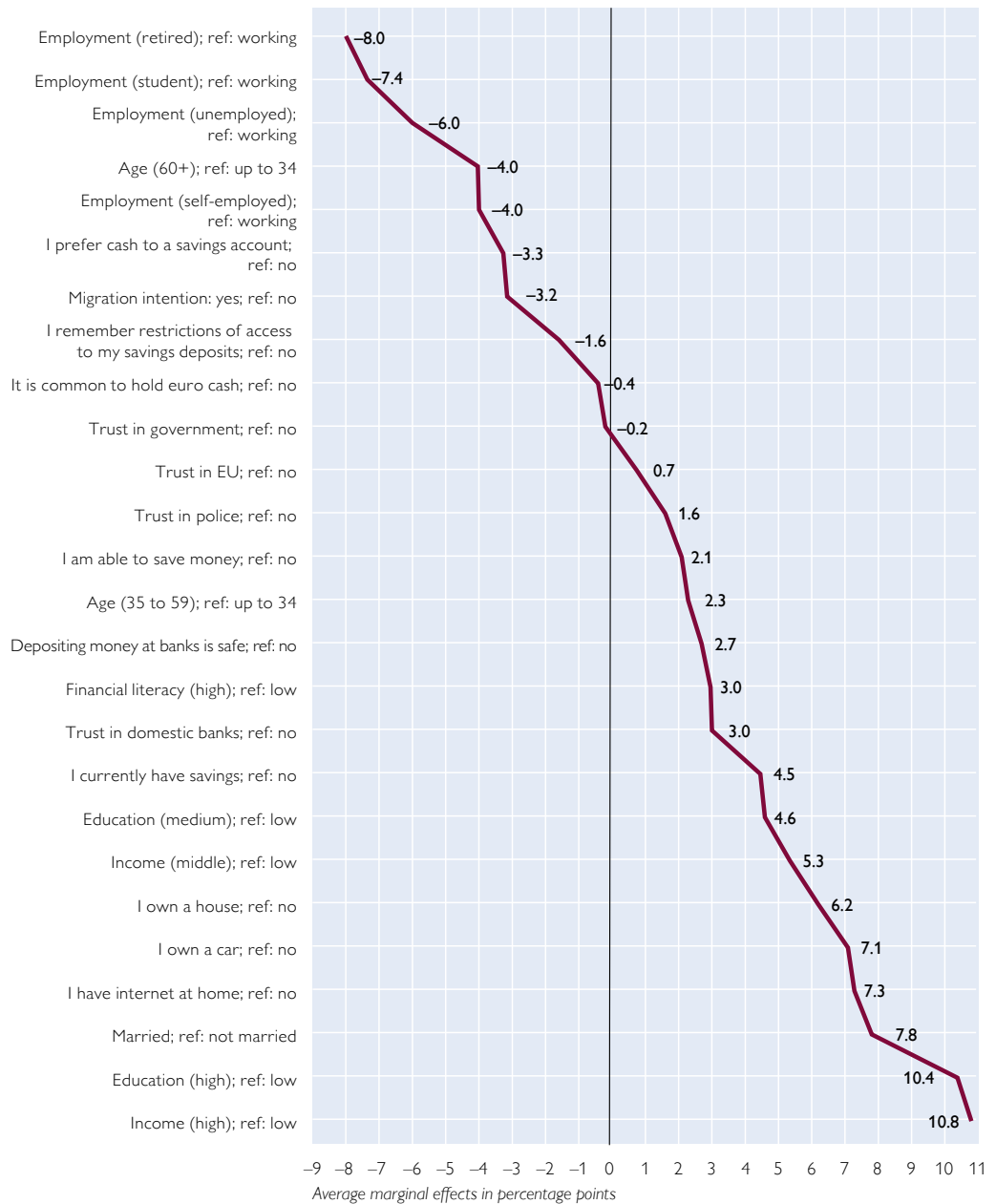
	Housing loan	Consumer loan	Loan for other purposes
Quality of the model			
n total	29,638	29,638	29,638
n loan	2,578	2,840	1,527
Nagelkerke R	0.133	0.067	0.036
% explained cases	91.3	90.4	94.8
P-values of the independent variables			
Wealth indicators			
Income	<i>0.000</i>	0.229	0.091
I am able to save money	<i>0.036</i>	<i>0.000</i>	<i>0.000</i>
I currently have savings	<i>0.000</i>	0.703	<i>0.014</i>
I own a house	<i>0.000</i>	<i>0.000</i>	0.101
I own a car	<i>0.002</i>	<i>0.000</i>	0.537
I have internet at home	<i>0.000</i>	<i>0.000</i>	<i>0.000</i>
Condition of dwelling	0.933	<i>0.000</i>	<i>0.000</i>
Sociodemographic variables			
Gender	0.294	0.904	0.500
Age	<i>0.000</i>	0.849	0.134
Marital status	<i>0.000</i>	<i>0.000</i>	<i>0.000</i>
Size of household	0.122	0.023	0.071
Education	<i>0.000</i>	0.625	<i>0.000</i>
Financial literacy	<i>0.010</i>	0.061	0.354
Employment	<i>0.000</i>	<i>0.000</i>	<i>0.038</i>
Attitudes			
I prefer cash to a savings account	<i>0.000</i>	0.635	<i>0.000</i>
Readiness to take risks in financial investments	0.059	0.583	0.478
Migration intention	<i>0.003</i>	0.610	<i>0.039</i>
Trust in government	<i>0.000</i>	0.553	0.778
Trust in police	<i>0.002</i>	0.223	<i>0.008</i>
Trust in domestic banks	<i>0.009</i>	<i>0.000</i>	<i>0.009</i>
Trust in foreign banks	0.164	0.149	0.197
Trust in EU	<i>0.000</i>	<i>0.004</i>	<i>0.010</i>
Expectations, opinions, experiences			
Financial situation of household will improve	0.252	0.069	<i>0.003</i>
Economy of country will improve	0.975	0.156	0.163
Prices will strongly increase	0.386	<i>0.001</i>	<i>0.000</i>
Euro will be stable and trustworthy	0.196	0.589	0.966
Local currency will be stable and trustworthy	0.636	0.306	<i>0.047</i>
Depositing money at banks is safe	<i>0.003</i>	0.124	<i>0.031</i>
It is common to hold euro cash	<i>0.002</i>	0.083	<i>0.000</i>
I remember periods of high inflation	0.715	0.158	<i>0.000</i>
I remember restrictions of access to my savings deposits	<i>0.011</i>	0.090	<i>0.047</i>

Source: Author's calculations based on OeNB Euro Survey data.

Note: Figures in italics denote significance at the 0.05 level.

Compared with the other two loan types, housing loans have by far the largest number of (significant) influencing variables. Chart 4 shows that the following characteristics have a significantly high positive effect on the chances of having a housing loan as the largest, most important loan ($p \leq 0.05$): a high income increases a person's chances of having a housing loan by +10.8 percentage points compared with people with a low income. The results for education-related loans are similar: having attained a high level of education increases a person's probabil-

Probabilities of having a housing loan¹



Source: OeNB Euro Survey 2017–2019.

Note: Respondents answering “Don’t know” or “no answer” have been excluded. All values significant at the 0.05 level. “Ref” stands for reference category.

¹ Reading example for charts 4–6: the average marginal effects of the income variable on having a housing loan is +10.8 percentage points, which means that a high income would increase the likelihood of having a loan by +10.8 percentage points compared to the reference category “low income.” A higher age (60 years and older) decreases the likelihood of having a housing loan by –4.0 percentage points compared to respondents who are up to 34 years old.

ity of having a loan of this type by +10.4 percentage points.¹⁰ Moreover, being married likewise increases a person's chance of having a housing loan, with the probability being +7.8 percentage points higher. Digitalization and personal ownership also seem to be of great importance: if someone has internet access at home, owns real estate or a car, the chances of having a housing loan increase by +7.3, +7.1 and +6.2 percentage points, respectively. Other variables significantly increasing the probability of having a housing loan are savings (+4.5 percentage points)¹¹, trust in domestic banks and high financial literacy (+3.0 percentage points each), higher age (35–59 years: +2.3 percentage points), trust in police (+1.6 percentage points) and trust in the EU (+0.7 percentage points).

On the negative side, not being employed significantly reduces a person's chances of having a housing loan. This is true for retired persons (–8.0 percentage points), students (–7.4 percentage points), unemployed persons (–6.0 percentage points), and even for self-employed persons (–4.0 percentage points). Other factors that decrease the probability of having a housing loan are greater age (60 years and older: –4.0 percentage points), a preference for using cash over having a savings account (–3.3 percentage points), a migration intention (–3.2 percentage points) or restricted access to savings deposits (–1.6 percentage points).

3.2 Consumer loans

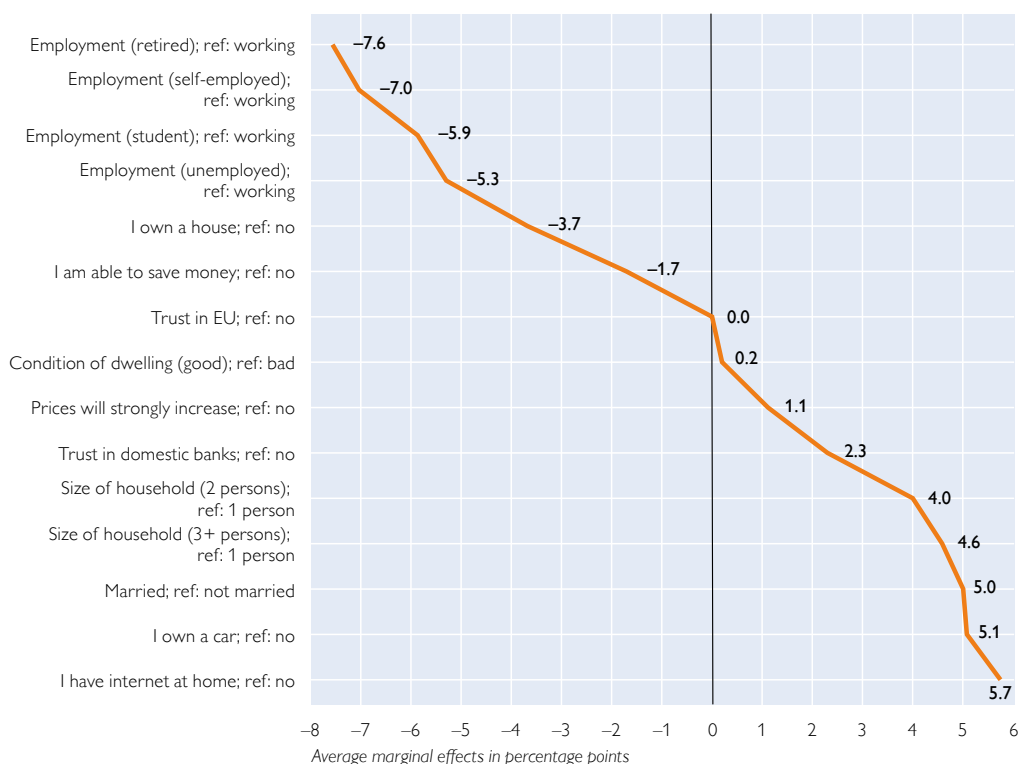
The number of independent variables that have a significant influence on loans is lowest for consumer loans – relative to the other two loan types (chart 5). Also for consumer loans, significantly ($p \leq 0.05$) high positive effects on the probability of having this type of loan as the largest, most important loan are found for having internet at home (+5.7 percentage points), owning a car (+5.1 percentage points), being married (+5.0 percentage points) and household size (three persons vs. one person: +4.6 percentage points; two persons vs. one person: +4.0 percentage points). Furthermore, trust in domestic banks (+2.3 percentage points) and high inflation expectations (“prices will strongly increase”: +1.1 percentage points) significantly increase the chances of having a consumer loan.

Like in the case of housing loans, not being employed accounts for the most significant negative influence on having a consumer loan, as is evidenced by retired persons (–7.6 percentage points), self-employed persons (–7.0 percentage points), students (–5.9 percentage points) and unemployed persons (–5.3 percentage points). Other factors that significantly decrease a person's probability of holding a consumer loan are owning a house (–3.7 percentage points) and the ability to save money (–1.7 percentage points).

¹⁰ When comparing a medium income or a medium level of education with the respective lowest category, we find similar significant correlations, albeit at a somewhat lower level (chart 4).

¹¹ Variables with similar characteristics (the “belief that depositing money in banks is safe” or the “ability to save money”) show similar, but slightly lower effects (chart 4).

Probabilities of having a consumer loan



Source: OeNB Euro Survey 2017–2019.

Note: Respondents answering “Don’t know” or “no answer” have been excluded. All values significant at the 0.05 level. “Ref” stands for reference category.

3.3 Other loans

In the case of other loans – for education, business or professional activities and other purposes, the effects of the independent variables are much lower in general than for housing or consumer loans (chart 6). The most important significant positive drivers of a person’s chances of having a loan of this type are a high level of education (+2.1 percentage points), being married (+2.0 percentage points) and having internet at home (+1.7 percentage points). Having experienced high inflation in the past, agreeing with the statement that euro cash is common in the country as well as trust in domestic banks significantly increase the probability of having a loan for other purposes (+1.5 percentage points each). A few other variables also show small positive effects of around +1.0 percentage points.

Like with housing and consumer loans, lack of employment significantly reduces the probability of having a loan for other purposes. This concerns students (–1.3 percentage points) and retired persons (–0.4 percentage points) in particular. Other factors with a significant negative effect are the ability to save money (–1.5 percentage points), living in a dwelling in good condition (–0.9 percentage points), a preference for holding cash over having a savings account (–0.9 percentage points) and personal savings (–0.5 percentage points).

Chart 6

Probabilities of having another loan



Source: OeNB Euro Survey 2017–2019.

Note: Respondents answering “Don’t know” or “no answer” have been excluded. All values significant at the 0.05 level. “Ref” stands for reference category.

4 Understanding the drivers of loans: commonalities and differences

Only five factors significantly impact all three types of loans examined in this study: (dependent) employment, being married, trust in domestic banks, trust in the EU and having internet at home. Taking out an official loan usually requires that a person be employed. This is corroborated by our analysis. Moreover, a high level of trust in banks plays an important role given that banks tend to be the first point of contact for a loan request of any kind. Married people are more likely to take out a loan – on the one hand, this may be due to having better options to secure a loan thanks to joint liability and, on the other, to a greater range of potential

collateral compared with one-person households. The ability to use the internet from home is an indicator of higher digital literacy, as it allows people to obtain better information about loans as such and about the intended purchases for which a loan is taken out.

Owning a car (as an indicator of a certain degree of wealth) has a significant effect on both housing and consumer loans. For both housing and other loans, in turn, the following factors are relevant: higher education, the belief that depositing money in banks is safe, trust in police and a preference for cash over a savings account. While education is of secondary importance for the more vague category of consumer loans, a higher level of formal education helps deliberately choose to take out a housing loan or a loan for education, business or professional activities and other purposes.

Only one factor turned out to be significant for both consumer and other loans: the expectation that prices will increase strongly over the next year. This may cause people to rush to buy consumer goods, and take out a loan to this end. In light of the statistical results, this also seems to be true for other loans, while it is less relevant for housing loans.

Higher income (often a prerequisite for banks to grant a loan) has a significant influence on housing loans. Interestingly, income does not play a significant role for consumer loans or loans for other purposes.

Additional factors impacting on housing loans are being of middle age (35–59 years), owning real estate (which can serve as collateral), having savings and being able to save money as well as high financial literacy and a lack of interest in emigration. That these variables are significant does not come as a surprise: people in the middle of their working life tend to earn an income high enough for taking out and qualifying for larger loans such as housing loans. The same holds true for people who have savings and are able to save, which allows them to sustainably service a long-term loan. People having acquired a certain level of financial knowledge are less likely to fall into potential credit traps. Also, people financing a home purchase with a housing loan are not or less likely to have migration intentions than people without any long-term obligations in their home country and who have not built or bought their own home there.

Factors that are only significant for taking out consumer loans are a large household size of at least three persons and the absence of real estate ownership. Multiperson households usually need to buy more consumer goods for daily use, and sometimes have to do so on credit. Owner-occupied housing, in turn, is often financed by mortgages and leaves little room for taking out further loans.

Some of the independent variables used in the logistic regression are only significant for loans for education, business or professional activities and other purposes: having no current savings, having experienced periods of higher inflation, believing that it is very common in the country to hold euro cash, intending to migrate and living in a dwelling in poor condition. The two most straightforward factors are lack of savings, which necessitates borrowing, and the intention to migrate, which often serves an educational purpose or a career change.

5 Summary and conclusions

In this study, we examined the drivers of retail loans taken out for one of three purposes: (1) housing, (2) consumption, and (3) education, business or professional activities and other purposes, based on 2017–2019 survey data coming from the OeNB Euro Survey that covers ten CESEE countries. To begin with, the analysis revealed that housing loans have by far the largest number of significant drivers compared with the other two loan types. As a case in point, earned income proves to be a key factor for taking out any of the three types of loans, while the level of personal income only impacts on housing loans. Furthermore, characteristics such as being married, having trust in domestic banks and in the EU as well as having an internet connection at home significantly increase the likelihood of taking out a loan of all three categories. The level of education is less important for consumer loans, but appears to be a key driver for both housing loans and loans for education, business or professional activities and other purposes. High inflation expectations have a significant impact on both consumer loans and other loans. Moreover, we identified characteristics that are only significant for one of the loan types. For instance, housing loans are more prevalent in the middle age group (35–59 years; a period in which a corresponding level of professional income is most probable), among individuals owning real estate (collateral), among people with current savings and who report an ability to save (ability to also sustainably service a long-term loan), individuals with high financial literacy (good risk assessment) and who do not intend to emigrate (close and enduring connection to the home country). Factors that are only significant for consumer loans are a large household size (need to buy more consumer goods for daily use) and the absence of real estate ownership. Out of several variables exclusively significant for other loans, the two most intuitive are lack of savings (which necessitates borrowing) and the intention to migrate (often serving an educational purpose or a career change).

The data collected in the OeNB Euro Survey offer diverse variables that could influence individuals in CESEE in taking out different types of loans. They include not only sociodemographic characteristics, but also information on economic attitudes, expectations, trust in institutions and financial literacy. Hence, our analysis resulted in a comprehensive picture of potential determinants and their importance. Apart from offering interesting insights from a scientific point of view, our study provides some policy-relevant takeaways. First, the importance of a high income level, current savings and the ability to save (for having a housing loan) as well as the importance of disposing of earned income (for all three loan types under investigation) suggest strong interrelations between macroeconomic, redistribution and microprudential policies for financial stability. From a macro-financial point of view, a higher share of consumer loans may be regarded as risky if these loans are repaid out of current income and not backed by secured products. The descriptive analysis showed that the shares of consumer loans increased strongly in several CESEE countries (Albania, Bulgaria, Croatia, Poland, Serbia and Czechia) between 2018 and 2019. While housing loans in general can be considered safer in this respect, housing loans with higher maturities bear risks as households' income paths may be subject to change (impressively demonstrated by the COVID-19 pandemic) besides being more sensitive to interest rate risk and currency risk. According to the OeNB Euro Survey data, especially Bosnia and Herzegovina and North Macedonia saw their shares of housing loans rise between

2017 and 2019. Second, well-considered loan decisions driven by long-term goals are strongly related to a high level of education (the data show this for housing loans and for loans for education, business or professional activities and other purposes) as well as to pronounced financial literacy (in the case of housing loans), with both factors potentially lowering the risk propensity of the borrower. In contrast, the propensity of having a consumer loan is not correlated to (financial) education. Furthermore, our analysis provided evidence for the significant influence trust in both domestic banks and the EU has on borrowers to take out any loan regardless of its purpose. Trust in institutions as a prerequisite for a stable society ensures consumption and investment also via loans and will thus help strengthen the economic system in times of weak economic activity.

References

- Altundere, M. B. 2014.** The Relationship Between Sociability and Household Debt. In: ADAM AKADEMÍ, Cilt 4/2 2014. 27–58.
- Apel, H. and M. Fertig. 2009.** Operationalisierung von „Beschäftigungsfähigkeit“ – ein methodischer Beitrag zur Entwicklung eines Messkonzepts. In: Zeitschrift für Arbeitsmarktforschung 42. 5–28.
- Beckmann, E., A. Hildebrandt and K. Jäger-Gyovai. 2015.** Current risks in the CESEE residential property market: evidence from the OeNB Euro Survey. In: Focus on European Economic Integration Q3/15. OeNB. 26–38.
- Beckmann, E., C. Hainz, W. Pyle and S. Reiter. 2019.** Homeownership and housing finance patterns one generation after the fall of communism. In: Focus on European Economic Integration Q4/19. OeNB. 79–101.
- Bittner, M. 2020.** Der Euro Survey der Oesterreichischen Nationalbank (OeNB). Eine seit 2007 einzigartige Datenerhebung in Staaten Zentral-, Ost- und Südosteuropas. Sozialwissenschaftliche Rundschau (60. Jg.) Heft 2/2020. 226–239.
- Bover, O., J. M. Casado, S. Costa, P. Du Caju, Y. McCarthy, E. Sierminska, P. Tzamourani, E. Villanueva and T. Zavadil. 2016.** The Distribution of Debt across Euro-Area Countries: The Role of Individual Characteristics, Institutions, and Credit Conditions. In: International Journal of Central Banking. June. 71–128.
- Czech National Bank. 2020.** Risks to financial stability and their indicators.
- EBA (European Banking Authority). 2020.** Consumer Lending in the EU Banking Sector. Thematic Note. EBA/REP/2020/11. March.
- EIB (European Investment Bank). 2019.** CESEE Bank Lending Survey. Autumn 2019.
- Hake, M. and P. Poyntner. 2019.** Household loans in CESEE from a new perspective: the role of income distribution. In: Focus on European Economic Integration Q2/19. OeNB. 75–93.
- Lewin-Epstein, N. and I. M. Semyonov. 2016.** Household debt in midlife and old age: A multinational study. In: International Journal of Comparative Sociology 57(3). 151–172.
- Magyar Nemzeti Bank. 2020.** Financial Stability Report. November.
- Riedl, A. 2019.** Household debt in CESEE economies: a joint look at macro- and micro-level data. In: Focus on European Economic Integration Q1/19. OeNB. 6–28.
- Rosan, M. and K. Zauder. 2020.** Which Loans do We Take? A Micro-Level Analysis of Croatian Households' Debt Participation. Croatian National Bank Working Papers W-61.
- WIFO/Prospect. 2015.** Arbeitsmarktferne Personen – Charakteristika, Problemlagen und Unterstützungsbedarfe. Preliminary final report. Vienna.
- Yilmazer, T. and S. A. DeVaney. 2005.** Household debt over the life cycle. In: Financial Services Review 14. 285–304.