Project proposal

By Iskander Sergazin, Tomaily Tatiana, Sprina Mayya

1 Introduction

Credit is important for household development, by taking credits individuals increase their purchasing power, borrowing from their future income expectations. It is often difficult to accumulate large sums of money, under such circumstances banks come in handy by offering credits. In recent years, Russia has seen an increase in the debt burden of households, thus, it is especially important to investigate this economic tool within Russia. High debt load within the general population can lead to serious economic scenarios, that is why it is crucial to identify factors that influence credit behaviour of Russian households. Understanding the rationale behind household debt may provide insights for credit institutions, enabling them to offer relevant financial products. Additionally, governments can use this information to establish helpful social programmes.

When analysing the consumer lending behaviour, it is essential to consider microeconomic factors influencing households. This paper proposes econometric tools for analysing the influence of different factors on debt value of the households in Russia. As the study object, the households of Russia are analysed on the HSE RLMS household data, of the last 6 waves starting from 2017. The preprocessed dataset contains 1751 data points and 10 independent variables. The dependent variable is ‘debt_value’ (F14.9) which is the total credit debt that a household owes.

We first review the literature on related studies, then cover the research plan. The reasoning behind the chosen model and hypothesis will then be addressed in the third section. There will be some visualisations and a discussion of the data in the next chapter. The model then will be proposed with appropriate tests, investigating some potential problems and covering them. Ultimately, the results interpretation, and compatibility with the original hypothesis will all be discussed in the final chapter leading us to the conclusion.

2 Literature review

In [1] Strzelecka et al identify and assess the socio-economic determinants of indebtedness in a region of Poland. They conduct significance tests to determine whether microeconomic factors influence debt acquisition of households. The main findings of this study indicate that location of the household, residential unit ownership and average monthly income per person are the major factors influencing household debt. In our study we will try to incorporate a subset of similar variables into our model.

In [2] authors conducted the research on determinants of households’ credit behaviour at the micro level in Russia based on RLMS-HSE data. For the logistic model, the data was generated for 2006, 2008, 2021 and 2014 and was used to determine whether there are credit payments or not. They have found that loan borrowings are more often found in working high-income families with children. The hypothesis that individual characteristics like gender, age, education level are important were not confirmed, meanwhile the variables of household behaviour significantly affect the credit activity. That is why, in our research we have decided to use only household factors that have more influence as it was indicated in the discussed article.

[3] is another study conducted on RLMS data to describe credit behaviour of Russian households. Similarly to previous papers it builds logit and probit models to determine probability of credit engagement using household size, location, etc. However, it additionally incorporates such factors as computers and high-speed Internet. This decision to include smaller modern personal belongings proved to be significant for the period from 2010 to 2019. This pushed us to study the effect of internet presence in the household, also, by reading the article we understood that there was a possible shift in the pattern after the pandemic and decided to investigate it further.

3 Research plan

This research will use data from an RLMS survey to analyse the factors influencing the accumulated credit-debt value of a household. We plan to take a closer look at the collected dataset by looking at statistics and variable distributions.To achieve the objective of the research a regression model will be constructed using ten dependent variables. This model will cover financial and social characteristics, which might influence the propensity of a household incurring extra debt. After regression construction we will interpret the coefficients of each independent variable to understand their significance and impact on the household credit-debt.

We will then evaluate our model by measuring the goodness of fit through the R-squared and adjusted R-squared statistics and conducting an F-test for the general significance of the model. What is more, we will study whether it is more appropriate to study credit debt value in before pandemic and after pandemic years separately or together by using a Chow-test.

When conducting this research there is a strong possibility of violating Gauss-Markov Theorem which could influence the consistency or efficiency of our estimators. We will thus investigate these violations by firstly conducting the White test for Heteroskedasticity, then we will calculate the VIF scores and correlation and investigate multicollinearity within our regressors, lastly we will perform the appropriate tests for endogeneity. In case any of the aforementioned issues are present we will propose alternative regression models integrating solutions for these issues, such as the Robust Errors for heteroskedasticity; doing nothing in case of multicollinearity; and 2SLS if endogeneity is detected.

4 Expected results

Independent variable	**Hypothesis on the influence**
Status (multinomial variable, showing town/rural etc.)	It is assumed that the influence of town, PGT and rural areas is negative with respect to ‘oblastnoy center’. It is explained by the fact that usually quite big cities are considered as centers, thus, people there have larger incomes and may take more credits. Difference is greater for PGT and rural areas.
Income per person (derived variable received by dividing income by person)	The higher the income of the individual, the more money a household is able to take in credit, because of bank rules. Thus, greater income should lead to greater debt.

Market value of a house	A more expansive house market value either means that the mortgage is more expensive or that the household is wealthier (thus, can take more credits). In any case, the effect on credit is positive.
Housing-living space	A larger house indicates that the household is wealthier. Hence, greater credits can be taken and the effect is positive.
Helping parents (binary)	If one does not help a parent, then the debt value is lower as it does not strain the financial situation of the person.
Medicine spendings in last 30 days	If one has high medical spendings, then the influence of the variable is expected to be positive, as it also puts a pressure on finance.
Whether have dacha, house, apartment or land (binary)	If there is no land bought (either apartment or dacha), the individual does not have to pay a mortgage, so the effect of the variable is negative.
Child support fee costs (attendance at schools, tutors)	If one has higher costs of child support, then the higher the credit value might be.
Average unpaid housing bills in last 3 month	In case bills are unpaid, the family is likely short on money and have reason for taking credit. Hence, greater unpaid bills leads to a greater credit.
Internet	If there is no internet in the household, the effect is expected to be negative. Presence of the Internet describes attitude to modern innovations and inclination to taking money in debt.

References

[1] Agnieszka Strzelecka, Danuta Zawadzka (2020). Why Households Borrow Money? Socio-Economic Factors Affecting Households Debts: A Model Approach, European Research Studies Journal Volume XXIII Special Issue 2, 820-839

[2] L.I. Nivorozhkina Et Al (2019). Determinants of Households' Credit Behavior in Russia, International Journal of Economics and Business Administration Volume VII Special Issue 2, 270-279

[3] Kadochnikova A.I. Analysis of the trends and determinants of credit and saving behavior of households in the Russian regions. *Russian Journal of Economics and Law*. 2021;15(4):661-675. (In Russ.)https://doi.org/10.21202/2782-2923.2021.4.661-675. EDN: RUKQTT