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UNKNOWN SOCIAL BANKING: EVIDENCE FROM CENTRAL EUROPEAN COUNTRIES

ABSTRACT

Traditionally, the social effect of banking activity is associated with microfinance. This stream line is started from the 70th of the XX century, when microfinance became the tool of the private entrepreneurship development in Bangladesh due to Grameen Bank lending. At times, the "narrow" social banking, focused on poverty reduction, transformed to the "broad" theory of social banking, which covers so-called ESG factors: ecology, social aspects, governance, including anticorruption, corporate culture, etc. In our paper, we look at social banking wider than microfinance but narrower than the "broad" meaning, focused on the pure social effect of lending. We assumed that banks' lending should somehow affect social indicators. As a driver factor, we took loans to households and studied their impact on unemployment, households' deposits, volume of private payments, and the level of poverty. The database is the Eurostat and ECB dataset on 6 Central European countries for roughly 20 years. In all 6 countries studied, a clear direct relationship was found between the volume of loans granted to households, on the one hand, and their deposits in banks, also the volume of payments of the population, and the inverse relationship between such loans and the level of unemployment and poverty of the population, which means a positive effect on all these indicators. To provide deeper analyses, we propose the model of the universal social taxonomy toolkit. Based on it, it will be possible to compile data on various credit and investment projects and calculate the social effect in terms of sectors of the economy, countries, and regions. Based on such a taxonomy, it is possible to introduce a certain rating assessment of the social effect of credits and investments and stimulate socially friendly financial projects.

Keywords: social banking, loans to households, social taxonomy, ESG factors, unemployment, deposits, investment projects

JEL Classification: G21, O16, Q56, E24

INTRODUCTION

For a long time, the social effect of banking was narrowed to micro-crediting of the poor segments of the population in order to improve their financial state and standard of living. This approach can be interpreted as "narrow" social banking. Over time, the concept of social banking has acquired a wider range of features, which include environmental, ethical, and managerial components. To a certain extent, the "broad" theory of social banking has somewhat lost the nature of its social component - its influence on the citizens' financial well-being and standard of living. Although research in this area is being conducted, the financial indicators that characterize the well-being of society and the channels of influence of the social component of credit activity on these indicators have not yet been clearly defined. Long-term consumer loans to households and commercial loans to businesses contribute to borrowers' receipt of a social impact. If we determine and assess the effectiveness of these channels, it is possible to implement a number of measures to strengthen the social impact of credit activity.

To substantiate the transmission mechanism of social banking, a hypothesis was put forward that household lending affects the level of unemployment, poverty, savings, and payments of the population. The formulated hypothesis was empirically verified on the example of six Central European countries over a long period, about 20 years, depending on the data available on the websites of Eurostat and the European Central

Bank (ECB). According to the study results, a fairly high level of correlation between the above-mentioned indicators was outlined. However, further scientific research into the social effects of banking and identifying the directions of its strengthening requires the formation of appropriate unified statistical arrays, which is proposed in this paper.

LITERATURE REVIEW

In the financial practice of the developed economies, the term “social banking” originated in the early 1950s as an investment in sustainable development without harming the environment (sustainable investing). In 1974, while traveling through Bangladesh, financier Muhammad Yunus (Yunus 2010) concluded that the poor population needed little finance to start their business. Then, as an experiment, he issued several loans in the amount of USD 27 for the manufacture of bamboo furniture. The experiment was successful; therefore, in 1976, he created his own bank, which issued loans to the poor in the amount of USD 20 to 200 for the development of agriculture and home production, which contributed to economic development, employment growth, and poverty alleviation. But since then, social banking has long been, and to a large extent still is, identified with microfinance in its essence. As of 2023, the global volume of microloans was estimated at USD 195.3 billion, received by 142 million borrowers, and increased by 10.1% compared to the previous year. The average volume of a microloan is about USD 13 thousand (McKinley 2025).

One of the first interpretations of the concept of “social banking” was provided by Reifner and Ford (1992): “Social banking is a banking activity aimed at ending poverty”. Scientific studies on the theory and practice of microfinance have covered different continents (Balkenhol et al. 2013, Gupta, and Sharma 2021, Gubert, and Roubaud 2011, Li, Gan, and Hu 2011, Ncanywa, and Getye 2016, Shirazi, and Khan 2009, Salgado, and Aires 2018) with a focus on financial support for private agriculture, women’s employment, and the development of small-scale production. However, in the majority, they identify social banking with microfinance.

Over time, social banking has gained additional features. It is beginning to be associated with environmental banking, sustainable development of society, and not only with poverty alleviation. Today, the emphasis is on considering environmental, social, and management factors as opposed to the standard financial goal of making a profit. In Europe, the Institute for Social Banking was created in 2006 and includes 17 organizations throughout Europe. It defines “social banking” as “banking and related financial services, the main purpose of which is to promote the development of people and the planet today and in the future. First of all, this means simultaneously taking into account the social, environmental, management, and economic consequences of activities at all levels...” (Institute for Social Banking 2024). Consequently, we are not talking exclusively about microfinance and poverty alleviation here. Moreover, synonyms for this concept are given: alternative banking, ethical banking, green banking, sustainable banking, values-based banking, and just banking. Experts identify three key pillars of modern social banking:

1. Responsibility. Social banks act wisely and, first of all, ethically (they strive to achieve a long-term positive social effect). It is the concept of “soft money” or “slow money”.
2. Transparency. Banks that carry out social banking always know what happens to the money they have issued. In addition, they provide their depositors with complete information about which projects their funds are invested in and what results were obtained from their implementation.
3. Sustainable development. Traditionally, banks focus on short-term profit, while social banking aims to develop society, the environment, and individuals on the basis of small projects.

Although approaches to defining the essence of social banking have expanded significantly from microloans (narrow social banking) to taking into consideration ESG components (broad social banking), they do not yet fully reveal the social effect of credit and investment activities. Not only do microloans create a social effect, but large investment loans can contribute to creating new jobs, improving working conditions, increasing employees’ incomes, and developing local communities. On the other hand, consumer loans to households, regardless of their size, create a significant social effect, especially if they are used rationally. One might call them ethical, as opposed to risky operations with cryptocurrencies, gambling, and other unethical areas. It is extremely important to direct consumer loans to the consumption of goods of national production, especially environmentally friendly ones, which ensures sustainable economic development.

Scientific research on “broad” social banking mainly focuses on the impact of consumer lending on the employment rate of the population. For a long time, it was believed that this impact was negative since citizens with loans were in no hurry to work but were looking for high-paying jobs. In particular, Herkenhoff, Phillips, and Cohen-Cole (2015) have shown that the ability to borrow significantly prolongs unemployment durations and raises replacement wages. Donaldson et al. (2015)

concluded that the “vacancy-posting effect implies that high household debt leads to high unemployment, a result that casts light on why labor market recoveries are sluggish after financial crises”.

However, a number of authors note the positive impact of consumer credit on preventing poverty among the unemployed, especially during periods of crisis. Research by Kaplan and Violante (2014) has shown that many households, even those with large amounts of wealth, have very few liquid assets. At the same time, many of those households have significant amounts of credit access. This generates a potentially important consumption smoothing role for consumer credit if 'hand-to-mouth' households lose their jobs (Herkenhoff 2013).

In the context of our further research, it is appropriate to consider the scientific work of Bethune, Rocheteau, and Rupert (2015), who provide a steady state analysis of the way consumer credit affects labor markets through firm productivity, and they found that, through this channel, consumer credit can boost the economy. Across steady states, unemployment and debt limits are negatively correlated. They calibrate the model to the U.S. labor and credit markets and illustrate the effects of an expansion in unsecured debt similar to that seen in the U.S. from 1978 to 2008. Under the baseline calibration, the rise in unsecured credit can account for approximately seventy percent of the long-term average unemployment rate decline.

Fundamental research on this issue was conducted by Kyle F. Herkenhoff (2018), who, based on statistical analysis for 1977-2012, determined that a sharp increase in consumer lending after recessions negatively affected the employment rate and, conversely, a slow increase in consumer lending contributed to social stability: “If credit grows coming out of a recession, this may lead to elevated unemployment in the short run and a slower recovery; this is what I call the expansion effect of credit. On the other hand, households with a larger but constant credit access level may actually respond less to productivity changes. The reason is that with greater long-run levels of credit access, more individuals dissave and enter recessions indebted. With a tighter labor market in a recession, indebted agents avoid default by disproportionately cutting their reservation wages in order to maintain a higher job-finding rate. This force tends to dampen employment volatility over the business cycle, and it is what I call the level effect of credit. Each of these two forces dominates business cycle dynamics, depending on the path of credit access before, during, and after recessions. Regardless of which force wins, households have better self-insurance opportunities and are unambiguously better off”.

Thomas Brzustowski, Nicolas Petrosky-Nadeau and Etienne Wasmer (2018), based on a study of the labor, product, and credit markets of England, Germany, and Spain, concluded that imbalances in the credit and product markets lead to consumer losses and negatively affect the labor market: “In these three countries, goods and credit market frictions play a dominant role in entry costs and account for 75% to 85% of the total entry costs. In the goods market, adverse supply shocks are amplified through their propagation to the demand side, as they also imply income losses for consumers. This adds up to, at most, an additional 15% to 25% to the impact of the shocks. Finally, the speed of matching in the goods and credit markets accounts for a small fraction of unemployment: most variation in unemployment comes from the speed of matching in the labor market”.

Paweł Mikołajczak (2023) deeply investigated social impact bonds (SIB), which are the channels of financing social projects, e.g., in education and employment, and proved that they “have on average higher capital allocated per beneficiary and a longer repayment date”. This scheme is proactive for the US and UK, but not in Central and Eastern European countries. We hypothesize that some other channels of social finance should operate here.

Without focusing on individual economic cycles, in this article, we sought to assess the social effect of consumer lending to households not only through the channel of influence on the unemployment rate but also through the directions of influence on other social components using the example of a number of Central European countries.

AIMS AND OBJECTIVES

The aim of the article is to study the impact of bank lending on the social aspects of the development of society.

To achieve this goal, the study sets out the following specific objectives:

1. To identify and substantiate the main channels of social influence of household lending on macroeconomic and social indicators.
2. To analyze the correlation between loans to households and unemployment rates, deposit volumes, payment activity, and poverty levels.
3. To compare the strength and direction of these relationships across six Central European countries.

4. To propose an analytical framework for assessing and rating the social impact of credit and investment projects.

METHODS

To implement it, we first searched for indicators that could describe this transmission mechanism based on the existing information base. To do this, we examined the indicators of the dataset of Eurostat and the European Central Bank as of September 2024 and calibrated the following:

1. Factors (independent variable):
 - Loans to households (debt on data).
2. Resulting factors (dependent variables):
 - Unemployment rate. Justification: the transmission mechanism is implemented through 2 channels: (1) through an increase in demand, production - employment; (2) consumer loans are issued mainly to the working population. For Poland, we made calculations by considering women and men aged 15-24 and 15-74 years. For other countries, only those aged 15-74 years.
 - Household deposits in banks. Hypothesis: with the growth of consumer lending, the population's resources increase, including for increasing savings.
 - Household payment volumes (vary slightly depending on available statistics for the country). Hypothesis: retail payments depend on consumer credit.
 - The percentage of the population that barely makes ends meet. Hypothesis: consumer credit should help increase people's well-being.

Resultant, i.e., consequential factors in the study characterize mainly one side of the social state of society, - financial well-being. At the same time, the unemployment rate partially describes the level of tension in society.

For factor analysis, the Pearson pairwise correlation regression model was used:

$$r_{xy} = \frac{\sum_{i=1}^n (x_i - \bar{x}) \times (y_i - \bar{y})}{\sqrt{\sum_{i=1}^n (x_i - \bar{x})^2 \times \sum_{i=1}^n (y_i - \bar{y})^2}} \quad (1)$$

where: n is the number of observations, x_i is the value of the observed independent random variable, y_i is the value of the dependent random variable, and r is the pairwise correlation coefficient.

The calculations were tested using the ANOVA program in the EXEL toolkit. As an information base, we chose statistical arrays for some countries of Central Europe: Poland, the Czech Republic, Bulgaria, Hungary, Romania, and Slovakia.

RESULTS

Case of Poland. First, we investigated the steady state between household debt to commercial banks and the unemployment rate for different population groups using the available quarterly data for the period 4Q 2003-1Q 2024, published on the website of the European Central Bank (ECB). The result of the pairwise correlation is presented in Table 1.

Table 1. Correlation coefficients between household loans and the unemployment rate in Poland. (Source: compiled based on ECB 2024a, Unemployment, Loans granted to households)

Variables	Men	Women	Age 15-25 years	Age 15-74 years
No time lag	-0.89973	-0.906	-0.841	-0.903
Offset between variables for 1 quarter	-0.88826	-0.895	-0.824	-0.892

The data in Table 1 indicate a close inverse relationship between the volume of consumer loans and the level of unemployment. It cannot be unequivocally stated that consumer lending itself makes it possible to reduce unemployment. Still, the presence of their close relationship allows us to state that it is the employed population that can repay the loans taken. Testing the obtained results using the ANOVA program confirmed their high confidential level. Anova Single Factor is presented in Tables 2 and 3.

Table 2. Anova: Summary.

Groups	Count	Sum	Average	Variance
760293	81	39938895.06	493072.7785	53750266804
2.919867	81	668.879964	8.257777333	22.9196925

Table 3. Anova: Results.

Source of Variation	SS	df	MS	F	P-value	F crit
Between Groups	9.84606E+12	1	9.84606E+12	366.3632483	0	3.900236029
Within Groups	4.30002E+12	160	26875133413	-	-	-
Total	1.41461E+13	161	-	-	-	-

We also investigated which type of function most properly describes this cohesion and determined that it is a polynomial function with $R^2 = 0.9916$ (Figure 1).

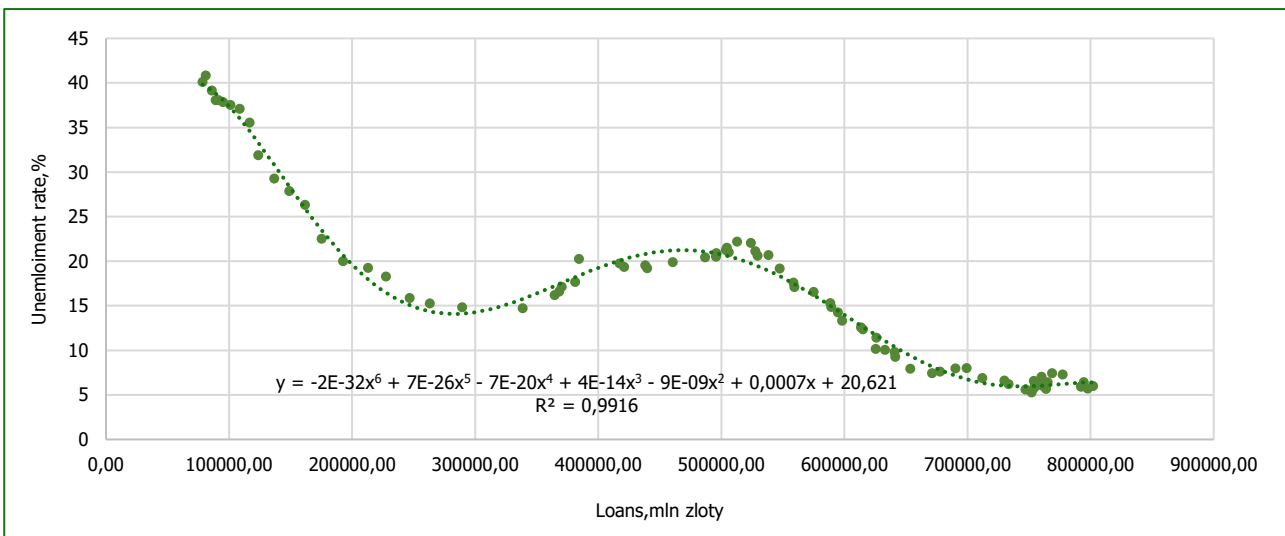


Figure 1. Household loans and unemployment rate in Poland. (Source: compiled based on ECB 2024a, Unemployment, Loans granted to households)

We built a regression model of the steady state between household loans and the volume of their deposits in banks with lags of 1 quarter, i.e., data on deposits are taken 1 quarter earlier than data on loans, 0 quarters, +1, +2, +3 quarters, i.e., data on loans are taken earlier than data on deposits. The results are presented in Table 4.

Table 4. Correlation coefficients between household loans and their deposits. (Source: compiled based on ECB 2024a, Loans granted to households, Deposits placed by households)

Lag	-1 q.	0 q.	+1 q.	+2 q.	+3 q.
Loans\ Deposits	0.93231	0.933485	0.937477	0.941076	0.943822

If the correlation coefficients with increasing the lag are decreased, then it is possible to argue that it was the increase in household deposits that was the driver of its lending. It is true to some extent. However, the data in Table 2 show that the volume of loans changed first, and only then, most closely with a lag of 3 quarters, the volume of household deposits changed in the corresponding direction. That is, consumer lending was more likely the driver of increasing the financial potential of the population than vice versa.

Research into the relationship between the volume of loans to households (the balance of debt at the beginning of the year) and the volume of retail payments in the following year for the period 2004-2021 (ECB 2024a, Loans granted to households, Value of transactions - retail system1) showed a high level of correlation. The correlation coefficient was 0.938282. So, consumer lending had a positive impact on consumer sentiment and the growth of trade turnover.

Based on Eurostat data for the period 2005-2023, the relationship between the volume of loans to households and their poverty level was also analyzed (ECB 2024a, Loans granted to households; Eurostat 2024, Inability to make ends meet - EU-SILC survey). The results of which demonstrated their close relationship. The correlation coefficient was -0.96223 . Figure 2 shows the functional dependence of the poverty level on the volume of consumer loans.

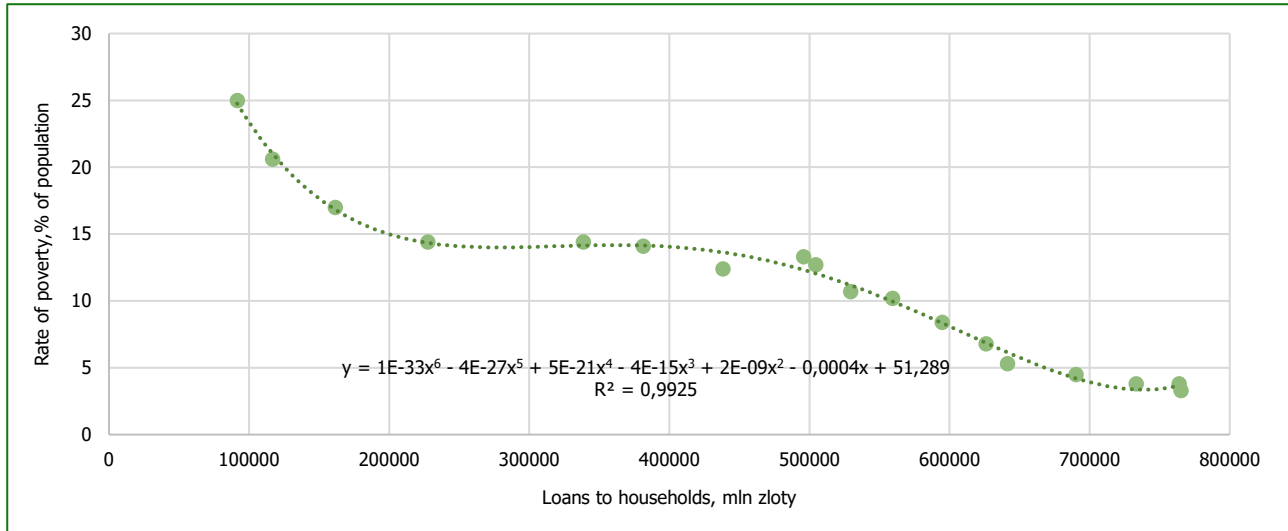


Figure 2. Polynomial function of the correlation of the share of the population that is unable to make ends meet and the volume of loans to households in Poland. (Source: compiled based on ECB 2024a, Loans granted to households; Eurostat 2024, Inability to make ends meet - EU-SILC survey)

Case of the Czech Republic. The social effect of lending to households in the Czech Republic was studied using the same 4 parameters as for Poland: the impact on unemployment, deposits of the population in banks, the volume of payments, and the poverty level. In the process of the study, an assumption was made that the impact of loans to households on the unemployment rate of citizens in the 15-74 age range is identical to that in the country as a whole.

The linear correlation coefficient between quarterly data on loans to households and the unemployment rate (ECB 2024b, Loans granted to households, Unemployment) for the period 1Q 2004-1Q 2024 was -0.84435 , indicating a fairly close feedback relationship between them. We conducted an additional analysis of the configuration of this dependence and identified the polynomial function as the one that most accurately describes it, with a coefficient of determination of 0.8698 (Figure 3).

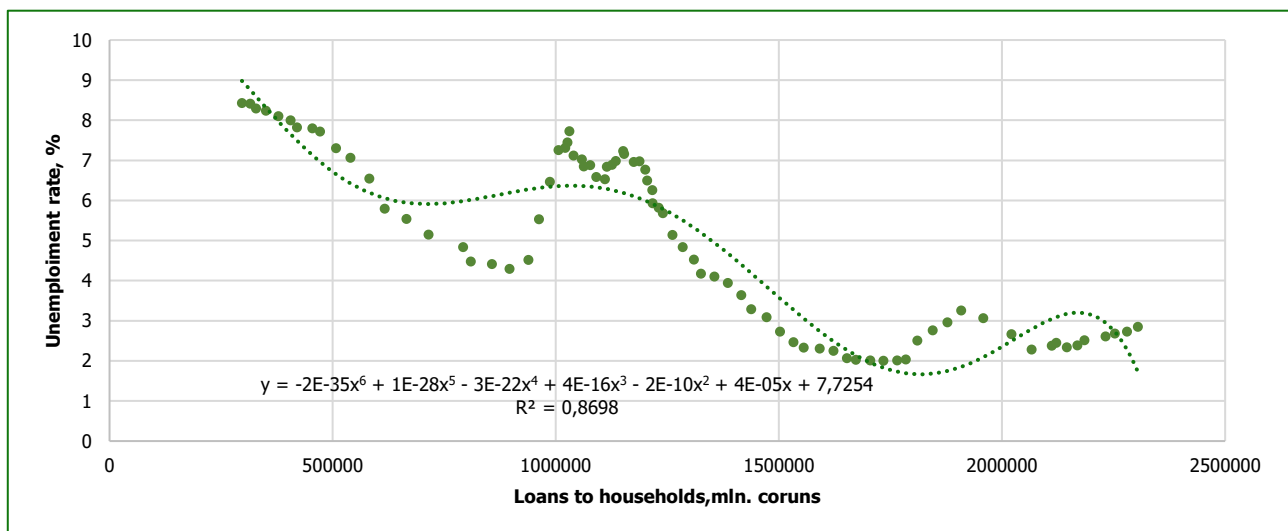


Figure 3. Cohesion of the unemployment rate and household loans in the Czech Republic during Q1 2004-Q1 2024. (Source: Compiled based on ECB 2024b, Loans granted to households, Unemployment)

A direct connection was found between loans to households and deposits placed by the population in Czech banks (ECB 2024b, Loans granted to households, Deposits placed by households). The correlation coefficient was 0.987621. The third pair of indicators was the dynamics of loans to households (the balance of debt at the beginning of the year) and the volume of payments in the corresponding year in the payment system of the Czech Republic for the period 2004-2021 (ECB 2024b, Loans granted to households, Value of transactions - large value payment system 1-from the Czech Republic, Annual). The result of the linear correlation was 0.641579. The fourth pair is household loans, and the share of the population barely making ends meet (Eurostat, 2024), according to the data at the beginning of each year for the period of 2005-2023. The correlation ratio was -0.84664 . Thus, the trends of all social indicators of bank lending to the population in the Czech Republic coincided with the Polish ones.

Case of Bulgaria. For the period 4th quarter of 2006-1st quarter of 2024 (quarterly data), the correlation coefficient between loans to households (ECB 2024c, Loans granted to households, Unemployment) and the unemployment rate was -0.54983 . The correlation coefficient between such loans and household deposits in banks (ECB 2024c, Loans granted to households, Deposits placed by households) for the same period was 0.928033. At the same time, shifting the data on loans by 1 quarter after the data on deposits gives a lower correlation of 0.921071. On the contrary, shifting the data on deposits by 1 quarter after the loans gives a higher correlation of 0.92853. This once again confirms the conclusion that not only did the increase in household deposits contribute to the growth of consumer lending, but to a greater extent, the development of household lending contributed to the improvement of their financial condition and the growth of individuals' funds in bank accounts.

The third pair of indicators is the volume of loans to households at the beginning of each year and the growth of card payments for the corresponding year (ECBc, Loans granted to households, Annual growth rate of the total value of card payments, sent from: Bulgaria). For the period 2007-2023, the correlation coefficient was 0.873231. The fourth pair is loans to households and the share of the population unable to make ends meet (Eurostat 2024), according to data at the beginning of each year for the period 2006-2023. The correlation coefficient is very high -0.95812 . The polynomial function demonstrates a high level of coefficient of determination, approaching 100% (Figure 4).

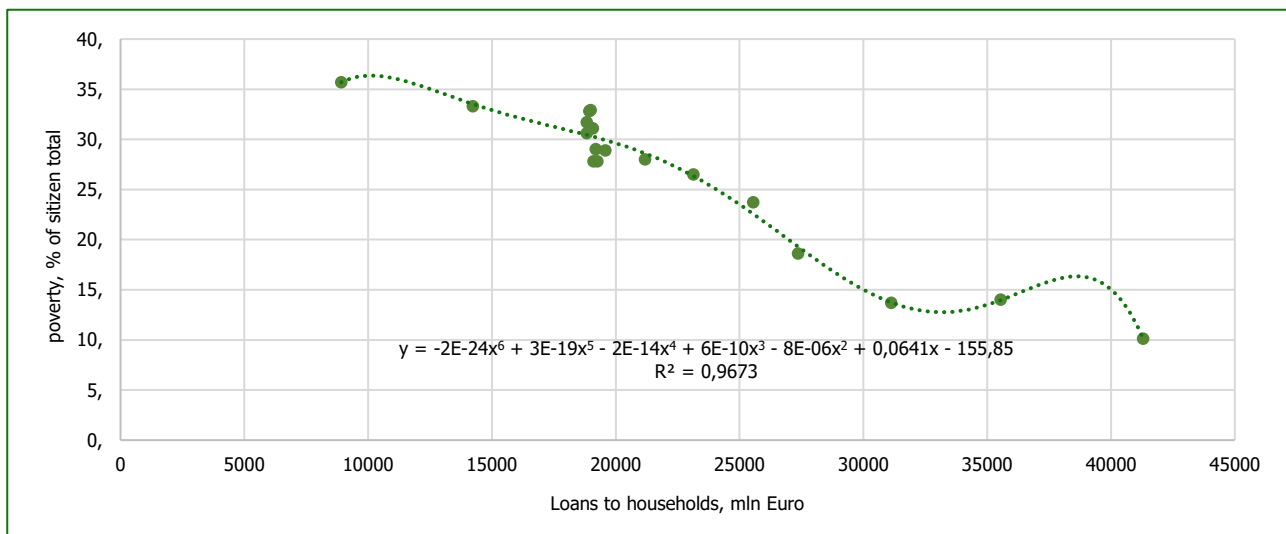


Figure 4. Polynomial function of the correlation of the poverty level on the volume of loans to households. (Source: compiled based on ECB 2024c, Loans granted to households; Eurostat, 2024)

Case of Hungary. A correlation analysis was conducted between household loan debt (ECB 2024d. Loans granted to households; Unemployment) and the population aged 15-74 unemployment rate for the period 4Q.1998-2Q.2024 (quarterly data). The correlation coefficient was -0.5315 . The second pair includes loans to households and their funds in banks (ECB 2024d, Loans granted to households, Deposits placed by Households) for the same period. The correlation coefficient was 0.957352. The third pair consists of loans to households at the beginning of the year and the volume of transactions in the retail system 1 in the same year (ECB 2024d, Loans granted to households, Value of domestic transactions - retail system 1 - from Hungary), for the period 2000-2021. The correlation coefficient was 0.975816. The fourth pair is loans to households and the poverty rate at the beginning of each year for 2005-2023 (Eurostat 2024). The correlation coefficient was -0.79312 . This dependence is most accurately described by a polynomial function (Figure 5).

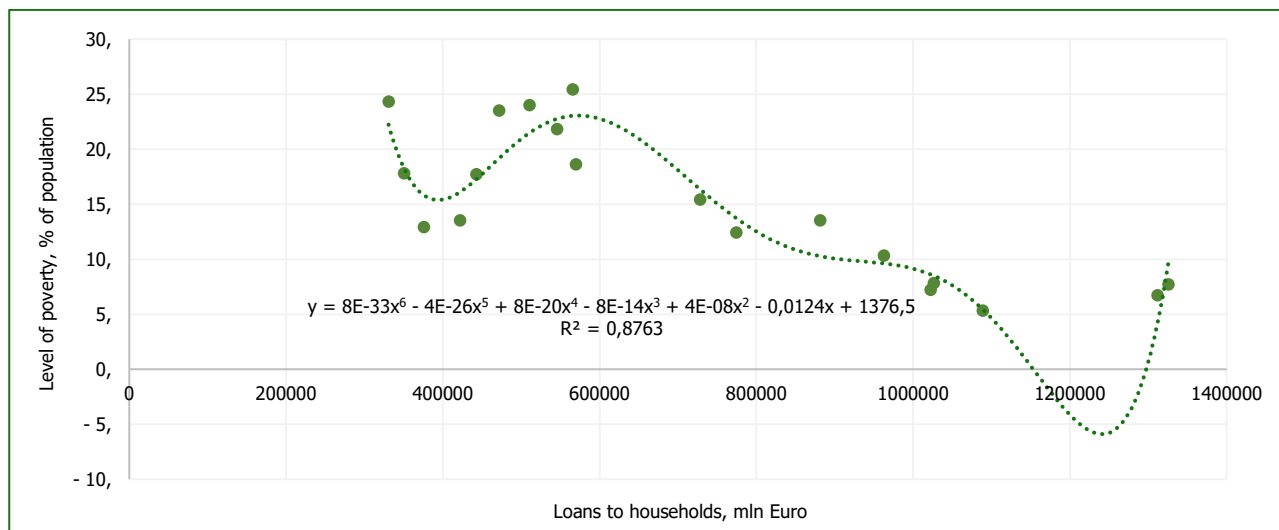


Figure 5. Steady state of the share of the population's inability to make ends meet in Hungary and household loans for the period 2005-2023. (Source: compiled based on ECB 2024d, Loans granted to households; Eurostat 2024)

Case of Romania. The relationship between loans to households and the unemployment rate (ECB 2024e. Loans granted to households, Unemployment) in this country for the period 1Q.2007-1Q.2024 turned out to be quite moderate, the linear correlation coefficient was -0.50301 . However, with a polynomial function, this cohesion is much closer, and the coefficient of determination R^2 was 0.7322 (Figure 6).

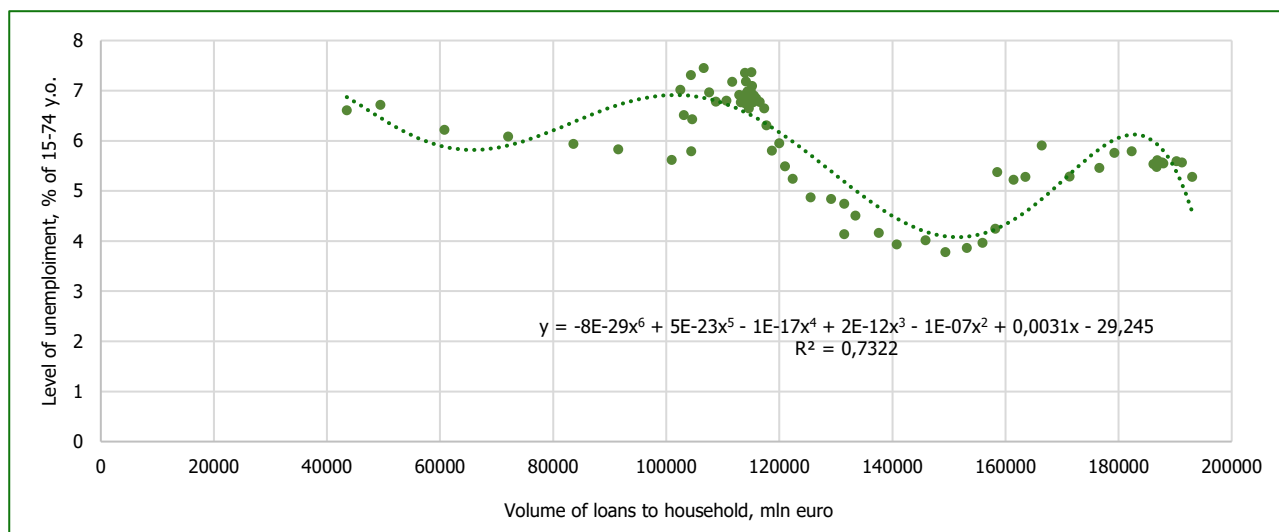


Figure 6. Correlation of the unemployment rate and loans to households in Romania under a polynomial function. (Source: compiled based on ECB 2024e, Loans granted to households, Unemployment)

The correlation coefficient between loans to households and their funds in banks (ECB 2024e, Loans granted to households; Deposits placed by households) was 0.967438 , and for transfers of funds (ECB 202 4e, Loans granted to households, Value of credit transfers from Romania) in annual terms for the same period was 0.789262 . Even closer, but inverse, as it should be, was the relationship between the volume of loans and the poverty level of the population (Eurostat 2024). The correlation coefficient was -0.79152 . That is, the above-mentioned indicators of the impact of retail lending on social processes had the same vector as in the other countries studied.

Case of Slovakia. For the period 1Q 2004-1Q 2024, the level of linear correlation between the volume of loans to households (ECB 2024f, Loans granted to households, Unemployment) and the unemployment rate in Slovakia was -0.87293 . At the same time, the level of connection between these indicators based on the polynomial function was even higher ($R^2=0.9273$), Figure 7.

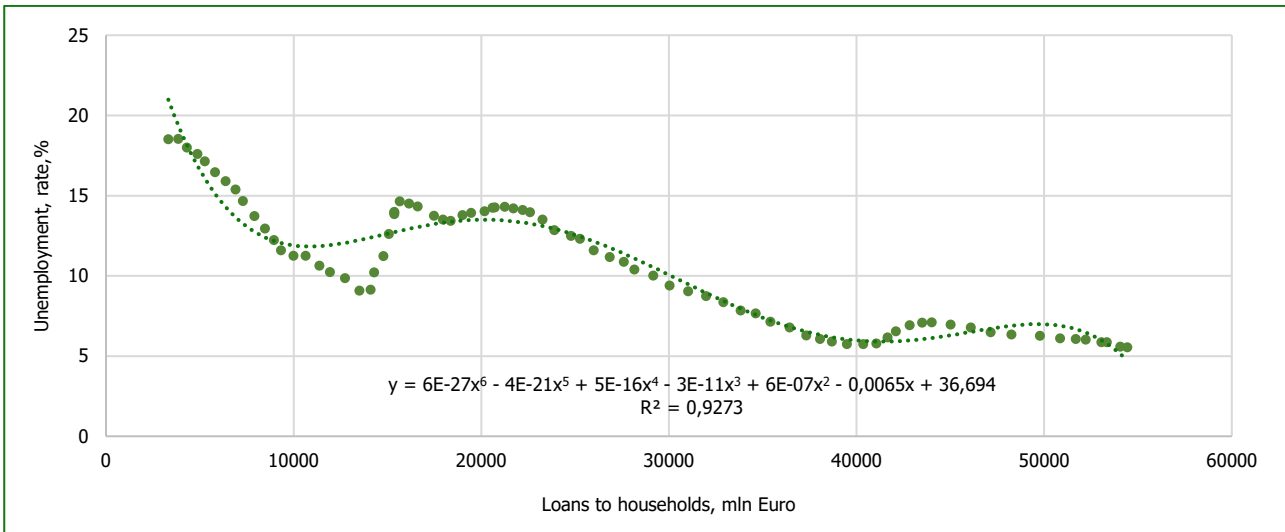


Figure 7. The relationship between loans to households and the unemployment rate in Slovakia. (Source: compiled based on ECB 2024f, Loans granted to households, Unemployment)

The steady state of loans to households and their deposits in banks (ECB 2024f, Loans granted to households, Deposits placed by households) was even closer. In a linear configuration, the correlation coefficient for this period was 0.991816. There is also a significant direct relationship between loans to households and the volume of retail payments (ECB 2024f, Loans granted to households, Value of credit transfers-retail system 1-from Slovakia) in annual terms for the period of 2009-2021 years. The linear correlation coefficient was 0.983771. A close inverse relationship has also been found between household credit and the poverty rate of the population, many of whom hardly make ends meet (Eurostat 2024). The correlation coefficient for the period 2005-2023 was -0.67064 .

In-depth studies of the social aspect of credit relations and making management decisions based on them require the formation of the necessary statistical base. If a certain statistical database is beginning to form regarding the environmental aspect of investment and credit activities, then its social aspect is not sufficiently disclosed. In particular, investments and loans can contribute to the creation of new jobs, improving working conditions and safety of employees, increasing their wages, releasing new and/or increasing sales of existing products, especially consumer goods, and generating other social effects.

Currently, social standards and a social taxonomy should be realized at the level of the European Union, which should be consistent with the ESG concept. After all, without a minimum social standard, it will be difficult to form rating scales according to which a social rating of credit institutions will be provided. Social taxonomy is a necessary tool for the unification of terminology and the definition of basic elements, in particular, social groups, institutions, norms, and values. Implementation of social standards and social taxonomy will serve as a basis for further development of investments and long-term business loans, which conceptually may have the following format (with example, Table 5).

Table 5. Social taxonomy of investment projects. Note: Example. Loan 1 million, currency USD, term 3 years, rate 5%, sector of the economy: energy.

№	Social impact	Borrower/investee	Business partners
1	Actual number of jobs, units	200	100
2	Number of jobs after project implementation, units	220	110
3	Costs for improving working conditions and safety, USD thousand	100	0
4	Share of costs to the project value, %	10	0
5	Average salary before the project, USD thousand/month	2	1.5
6	Average salary after the project, USD thousand/month	2.1	1.6
7	Output of consumer goods prior to project implementation, USD thousand per month.	2000	1000
8	Output of consumer goods after project implementation, USD thousand per month	2200	1100
9	Other social effects (specify)		

Based on such or a similar table, it is possible to compile data on various credit and investment projects and calculate the social effect in terms of sectors of the economy, countries, regions, and the world as a whole. Based on such a taxonomy, it is possible to introduce a certain rating assessment of the social effect of credits and investments by forming certain criteria. There can be many approaches here, from letters to digital ratings. In this case, some priority weights can be given to indicators. For example, for the indicators of the growth rate of jobs, salaries, and the share of expenses for working conditions, we will determine the significance, which will be 0.2 each, and for the release of new products, it is 0.4. In this case, the share of expenses for working conditions (10% in our example) will be equalized to the coefficient of 1.10. Then, the integral coefficient of the social effect (Ks) of our conditional project will be as follows:

$$K_s = 0.2 \times ((220+110)/(200+100)) \times 0.2 \times 1.1 \times 0.2 \times ((2.1+1.6)/(2.0+1.5)) \times 0.4 \times ((2200+1100)/(2000+1000)) = 1.09$$

The social rating scale can be as follows: >1.1 - A; 1.05-1.099 - B; 1.0-1.049 - C; < 1 - D. However, a more accurate scale can be formulated based on actual project data. Such an assessment can be given not only to individual projects, but also in the sectoral and regional sections of the credit and investment process. In our example, the project receives a social rating of B. It is also possible to take into account the expertise of independent social experts, especially for large projects, which can change (increase or decrease) Ks, for example, by 0.1 or another fixed figure, taking into account other factors, such as the importance for the development of the local community.

Based on the social rating of projects, it is also possible to introduce a system of social incentives. This may involve compensating a part of the interest by the state, reducing taxes, easing regulatory requirements for projects with an A rating, and, vice versa, taking restrictive measures for projects with a D rating.

In all 6 countries studied, a clear direct relationship was found between the volume of loans granted to households, on the one hand, and their deposits in banks, the volume of payments of the population, and the inverse relationship between such loans and the level of unemployment and poverty of the population, which hardly makes ends meet. The generalized results of the correlation analysis are presented in Table 6.

Table 6. Coefficients of linear correlation between the volume of loans to households and performance indicators.

Indicator	Poland	Czech Republic	Bulgaria	Hungary	Romania	Slovakia
Unemployment	-0.903	-0.844	-0.550	-0.532	-0.503	-0.873
Deposits	0.933	0.988	0.928	0.957	0.967	0.992
Payments	0.938	0.642	0.873	0.976	0.789	0.984
Poverty	-0.962	-0.847	-0.958	-0.793	-0.791	-0.671

Although the level of correlation is quite significant in all countries, it varies depending on the country. This indicates that this issue requires further research, including the examples of Western European countries with a long history of market economies. Identification and measurement of the social effect of loans and direct business investments will make it possible to strengthen their role in the harmonious development of society, overcoming poverty and inequality.

DISCUSSION

The obtained empirical results confirm a stable and statistically significant relationship between household lending and key social indicators – unemployment, household deposits, payment activity, and poverty. In all six analyzed Central European countries, household loans show a positive contribution to financial well-being: an increase in credit volume is directly associated with higher deposit levels and more active payment behavior, while an inverse relationship is observed with unemployment and poverty rates. This suggests that household credit functions not only as a financial instrument but also as a social mechanism that strengthens household resilience and overall welfare.

The identified relationships confirm the dual nature of credit activity. On the one hand, lending provides households with liquidity, stimulating consumption and payment circulation; on the other hand, it indirectly promotes employment growth and reduces social tension by increasing demand for goods and services. This interaction forms a feedback mechanism in which economic and social indicators reinforce each other, contributing to a sustainable improvement in living standards.

When comparing these results with previous empirical and theoretical studies, the findings differ from those emphasizing the negative effects of credit expansion on labor markets. In particular, Herkenhoff, Phillips, and Cohen-Cole (2015) and Donaldson et al. (2015) demonstrated that excessive consumer indebtedness can prolong unemployment periods by raising

reservation wages and discouraging quick re-employment. In contrast, the results of this study align with Bethune, Rocheteau, and Rupert (2015), who showed that consumer credit can enhance productivity and employment through firm-level mechanisms, and with Kaplan and Violante (2014), who emphasized the stabilizing role of credit in smoothing household consumption during crisis periods. Therefore, in Central European economies – where financial markets are less speculative and household debt levels remain moderate – the so-called “level effect” of credit (as defined by Herkenhoff, 2018) tends to dominate the “expansion effect,” fostering social stability rather than increasing cyclical volatility.

From a methodological perspective, several authors cited in this paper have proposed partial frameworks for analyzing social or impact finance, but none have developed a comprehensive quantitative model comparable to the universal social taxonomy toolkit presented in this study. For instance, Mikołajczak (2023) examined social impact bonds (SIB) as instruments for financing education and employment projects, focusing on capital per beneficiary and repayment structure. While this approach also aims to measure social outcomes, it remains limited to specific schemes and lacks macro-level integration. Reifner and Ford (1992) earlier introduced the concept of “banking for people”, establishing a normative link between lending and poverty reduction, but without a measurable evaluation system. Similarly, the Institute for Social Banking (2024) defined principles of ethical and sustainable banking, emphasizing responsibility, transparency, and long-term development, but did not propose an operational mechanism for comparative social assessment.

In contrast, the universal social taxonomy toolkit proposed in this research combines economic and social dimensions into an integrated framework. It incorporates quantitative indicators – employment, wages, improvement of working conditions, and consumer goods production – together with qualitative social outcomes such as poverty reduction and community welfare. The model enables calculation of a Social Efficiency Coefficient (Ks) and introduces a rating system for credit and investment projects (from A to D), which can serve as a foundation for incentive mechanisms such as state interest compensation, tax benefits, or regulatory preferences for high-rated (A-class) projects. This approach goes beyond descriptive ESG criteria and offers a quantitative taxonomy applicable at project, sectoral, regional, and national levels.

CONCLUSIONS

The study found a statistically significant relationship between household lending and key social indicators – unemployment, household deposits, payment activity, and poverty – across six Central European countries. These findings provide empirical support for the hypothesis that credit to households generates not only economic but also measurable social effects.

The main channels of social influence of household lending were identified and substantiated. Loans to households act as a transmission mechanism that connects financial activity with social outcomes: higher credit availability stimulates payment turnover, increases household deposits, and contributes to poverty reduction by maintaining consumption levels and employment.

The correlation analysis revealed a strong and consistent relationship between the studied indicators. In all countries, lending to households demonstrated a direct relationship with deposits and payment activity, and an inverse one with unemployment and poverty. The strength of this correlation varies across countries due to differences in market maturity, labor market flexibility, and social protection systems, yet the direction remains stable, confirming the positive social role of credit.

Cross-country comparison proved that the social impact of credit activity depends on institutional development and household financial behavior. The countries with more diversified banking sectors (e.g., Poland, Slovakia) demonstrated higher coefficients of correlation, which suggests stronger feedback between credit dynamics and social welfare.

The study proposed a universal social taxonomy toolkit – a methodological innovation that enables quantitative assessment and rating of the social effects of credit and investment projects. Unlike prior approaches that were limited to qualitative ESG dimensions, this model introduces the Social Efficiency Coefficient (Ks) and allows comparative evaluation of projects, sectors, and regions by their social impact. This toolkit may serve as a foundation for designing incentive mechanisms – such as state interest subsidies, tax benefits, or regulatory preferences – to promote socially responsible finance.

The scientific novelty of this study lies in the empirical proof of the consistent positive linkage between household lending and social welfare indicators across Central Europe, and in the development of a quantitative framework that bridges financial and social dimensions through a universal taxonomy.

Future research directions include the expansion of this model to incorporate behavioral and demographic variables (such as financial literacy, gender, or age structure of borrowers), the inclusion of time-lag analysis, and the application of the toolkit to Western European and developing economies to validate its universality.

ADDITIONAL INFORMATION

AUTHOR CONTRIBUTIONS

All authors have contributed equally.

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CONFLICT OF INTEREST

The Authors declare that there is no conflict of interest.

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МАЛОВІДОМИЙ СОЦІАЛЬНИЙ БАНКІНГ: ДАНІ КРАЇН ЦЕНТРАЛЬНОЇ ЄВРОПИ

Традиційно соціальний ефект банківництва пов'язують із мікрофінансуванням. Цей напрям зародився в 70-х роках ХХ століття, коли мікрофінансування стало інструментом розвитку приватного підприємництва в Бангладеші завдяки кредитуванню банком Grameen Bank. Із часом «вузький» соціальний банкінг, зосереджений на зниженні рівня бідності, трансформувався в «широку» теорію соціального банкінгу, яка охоплює так звані фактори ESG: екологію, соціальні аспекти, корпоративне управління включно з антикорупційними заходами, корпоративною культурою тощо. У дослідженні автори розглядають соціальний банкінг ширше, ніж мікрофінансування, але вужче, ніж його «широке» трактування, зосереджуючись на суто соціальному ефекті кредитування. Зроблено припущення, що банківське кредитування певним чином впливає на соціальні показники. Як чинник впливу автори обрали кредити домогосподарствам і дослідили їхній вплив на рівень безробіття, обсяг депозитів домогосподарств, обсяг приватних платежів і рівень бідності. Базою даних слугували статистичні матеріали Eurostat і ЄЦБ щодо шести країн Центральної Європи за приблизно 20 років. У всіх шести країнах було виявлено чіткий прямий зв'язок між обсягом кредитів, наданих домогосподарствам, з одного боку, та їхніми депозитами в банках, а також обсягом платежів населення і зворотний зв'язок між такими кредитами та рівнем безробіття й бідності, що свідчить про позитивний вплив на всі ці показники. Для глибокого аналізу автори запропонували модель універсального інструментарію соціальної таксономії. На її основі можна буде узагальнювати дані щодо різних кредитних та інвестиційних проєктів і розраховувати соціальний ефект у розрізі секторів економіки, країн і регіонів. Така таксономія дає змогу запровадити певну рейтингову оцінку соціального ефекту кредитів та інвестицій і стимулювати фінансові проєкти, дружні до суспільства.

Ключові слова: соціальний банкінг, кредити домогосподарствам, соціальна таксономія, фактори ESG, безробіття, депозити, інвестиційні проєкти

JEL Класифікація: G21, O16, Q56, E24