

An Estimation of the Magnitude and Spatial Distribution of Usury Lending*

Nedim Márton El-Meouch – Zita Fellner – Anna Marosi – Beáta Szabó – Ákos Urbán

In parallel with financial deepening, attention is increasingly being paid to the segment of the population that is not involved in formal financial intermediation. Some of these households typically have poor income situations, and therefore, due to their low creditworthiness, their demand for credit remains unmet. In our study, for the first time in the Hungarian academic literature, we attempt to estimate the magnitude of the spread of usury lending. Domestic responses to the Eurostat Survey on Income and Living Conditions were used to determine the order-of-magnitude of vulnerable, and thus potentially affected households. Based on our results, the proportion of Hungarian households that – due to their financial and housing conditions – are so vulnerable that they may be exposed, at least on an ad-hoc basis, to the risk of usury lending, can be estimated at between 3 and 13 per cent. In order to identify areas where usury lending is believed to be rife in the local community, we used as a basis the intersection of settlements lagging behind due to their economic-housing underdevelopment and districts with low (formal) credit penetration, based on the aggregate data from the Hungarian Central Statistical Office and the Central Bank of Hungary. The areas most affected by usury lending may be the country border settlements in Borsod-Abaúj-Zemplén, Szabolcs-Szatmár-Bereg and Hajdú-Bihar counties. This result is also supported by the regional distribution of available official statistics on criminal usury.

Journal of Economic Literature (JEL) codes: D14, E26, E51, O17, R20

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1. Introduction

Following the global financial crisis, borrowing by the domestic household sector hit rock bottom in 2012, but since then we can talk about increasingly expansive credit issuance, which has affected both housing loans and consumer loans. However, the expansion of new loans was long offset by repayments of loans taken out before the crisis, and consequently the nominal credit-to-GDP ratio only began to increase in 2018. As the credit cycle progresses, with the cyclical deepening of financial intermediation, more and more attention is being paid to those segments of the population that are not yet involved in financial intermediation provided by the formal institutional system (i.e. do not use any services of the financial intermediation system).

The strata which are outside the realm of the banking system typically either have low incomes or cannot present verifiable income at all, and are thus not considered creditworthy under the current macroprudential (debt cap) regulations.¹ Their lack of involvement is, on the one hand, a constraint on financial deepening in the long run and, on the other hand, it can cause acute social problems, as they do not enter the scope of either financial supervision or consumer protection. Due to their worse financial status, the demand for external funding for liquidity purpose may be increasingly present among these households, possibly through the use of informal channels. The most common manifestation of this in Hungary is usury lending, which is a short-term debt taken from a private person. It has typically an unrealistically high interest rate compared to credit market conditions.

Since usury lending is a legally prohibited activity, the recognition of its size at the level of the national economy is limited: neither creditors, nor debtors talk about it in surveys for statistical purposes, and “contracts” are not recorded in an accessible way.² Our research, therefore, was focused on examining the population *potentially* exposed to non-bank financial intermediation. Determining the volume of *actual* involvement encountered insurmountable methodological obstacles. For the order-of-magnitude estimation, we used domestic responses to the Eurostat Survey on Income and Living Conditions (EU-SILC). As to the spatial delimitation, the settlement-level data from the Hungarian Central Statistical Office (HCSO) and the district-level data from the Central Credit Information System (CCIS) were used.

The study is structured as follows: In *Section 2*, we present the aggregate data on the basis of which unmet credit demand can be identified in Hungary today, complemented by the main findings of the Hungarian academic literature on usury

¹ For debt cap rules in force, see *Annex 1*.

² The ways of receiving information in which the issue is approached by anthropological methods and fieldwork are also limited; moreover, in the case of these qualitative, local studies, research ethical dilemmas also arise in connection with the publication of the results (*Durst 2017*).

lending and two significant barriers to connection to the banking system: lack of institutional trust and of access to services. This is followed by two sections that present the data and methods used in the research, as well as the results. First, *Section 3* provides an order-of-magnitude estimation of vulnerable households potentially exposed to ad hoc usury lending, and then *Section 4* provides an estimation of the spatial location of widespread usury lending that is rife in the local community. The latter results are validated by crime statistics. Finally, we summarise the main findings as well as the possibilities and limitations of further research.

2. Background – Sources of unmet credit demand based on official statistics and academic literature

According to the information provided by the Hungarian Central Statistical Office (*HCSO 2017*), the establishment of internationally standardised indicators of poverty and, in a broader sense, of social exclusion (*Laeken indicator system*) dates back to the 2000s. In this process, it has become a common view that, in addition to income, dimensions of exclusion, such as material well-being or the labour market situation, fundamentally determine the quality of life. Based on these, partial indicators capturing the proportion of those at risk of poverty or social exclusion (*AROPE*) are:

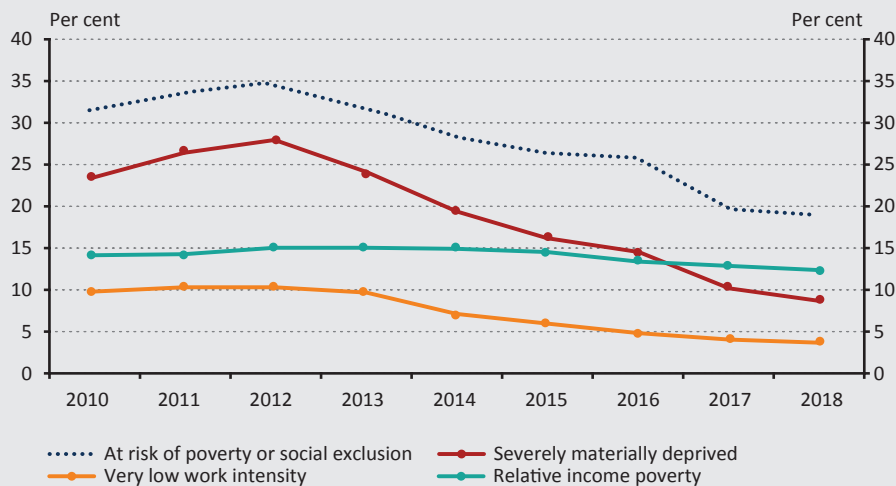
1. proportion of people living in relative income poverty,³
2. proportion of people living in severe material deprivation,⁴
3. proportion of people living in households with very low work intensity (poverty at work).⁵

Based on the latest data for 2018 (*HCSO 2019*), in Hungary, the proportion of the relative income poor is 12 per cent, the proportion of people living in severe material deprivation is 9 per cent and the proportion of households with very low work intensity is 4 per cent – as a result of this, the proportion of those at risk of poverty or social exclusion in Hungary is 19 per cent (*Figure 1*).

³ Relative income poor: those with incomes below the relative poverty line. Relative poverty line: 60 per cent of the median national equivalent net household income in a given year. (In 2018, in the case of a single-person household, HUF 1,120,000 per year, in the case of 2 adults with 2 children, HUF 2,351,000.)

⁴ If at least four of the following nine points are true, then the household can be identified as deprived: 1. cannot afford to face unexpected expenses; 2. incapable to afford paying for one week annual holiday away from home; 3. cannot afford to pay their rent, mortgage or utility bills; 4. cannot afford a meat, chicken or fish meal every other day; 5. cannot afford to keep their home adequately warm. For financial reasons, the household is forced to give up 6. the washing machine, 7. the colour television, 8. the telephone, 9. the car for personal use.

⁵ Very low work intensity: working-age members of the household spend less than 20 per cent of their potential working time at work.

Figure 1**Share of population at risk of poverty or social exclusion**

Source: HCSO (2019)

By socio-demographic factors, the *HCSO (2019)* notes that younger people, those with up to primary education, the unemployed, households with children (especially single-parent households), those living in villages, the Roma minority, and, on a territorial basis, the residents of Northern Hungary region are more at risk of poverty or social exclusion.

Those living in severe material deprivation – because of their very poor situation – would obviously seek to end it by increasing their consumption if they had the opportunity to do so. At the same time, households facing borrowing constraints may come from among those characterised by very low work intensity and income poverty, as they may lack sufficient and verifiable income for bank borrowing in this segment. Accordingly, these are the strata which has an unmet credit demand vis-a-vis the formal financial intermediary system, and therefore resort to informal or even illegal interpersonal lending.

2.1. Findings of the academic literature

The patterns of cash management of people living in poverty differ significantly from the behaviour of other social groups, as they have access to other tools, which also necessarily means more limited space for opportunities. According to

Gosztonyi (2018), Frits Bouman⁶ created the context in which the financial transactions of the poor are embedded, which, he believes, are characterised by small-scale approach (low amounts of credit coupled with low incomes, savings), high risk, and strong relationship dependency.

Due to their specific cash management, low-income households are typically weakly connected to the traditional financial intermediation system: they contact informal financial intermediaries when necessary, one of the most significant forms of which is usury. The term usury refers to loans granted on an informal basis for which the debtor has to pay disproportionately high interest. In colloquial usage, it is still described as “money with interest”, referring to the extremely high interest portion of the loan product.

In economically underdeveloped areas, the main source of income for households is social transfers. Unemployment and the number of inactives are typically high. The additional income, which represents 22–24 per cent of their total income, comes from casual work, such as farm work, construction, scrap-iron and wood collection, or fruit and mushroom picking (*Messing – Molnár 2011*). Due to their low income levels, these households are financially extremely vulnerable, and therefore, an unexpected expenditure can jeopardise a family’s livelihood. In this position of vulnerability, they are forced to take out usury loans. On the one hand, these households typically do not have a banking relation, and on the other hand, their family and friends live in similarly difficult conditions, and so in most cases, in the absence of alternative solutions, they choose to take out usury loans.

Seminal foreign authors on the topic, *Collins et al. (2009)*, point out that informal financial intermediation adversely affects clients in several ways compared to the formal institutional system. For example, market liquidity is unpredictable, there is no consumer protection regulation, trade secrets are not taken into account, there is a lack of contractual transparency and, consequently, local norms and trust play a greater (almost exclusive) role than the market.

In most cases, the individuals lending usury are local inhabitants who lend with a maturity of 1–2 months at interest rates of 50–100 per cent. The transaction is not recorded in writing, and aggression is also used above a certain amount (about HUF 50,000) in the collection of claims. The usurer is definitely trying to collect the debt, but does not aim to fully recover his claim. It is important for him to maintain a dependency relationship (*Béres – Lukács, 2008*). Those affected by usury typically live in large families (more than 4 people per household), in poor housing conditions, with poor public utilities and limited access to transportation

⁶ Bouman, F. (1990): *Informal Rural Finance – An Aladdin’s Lamp of Information*. *Sociologia Ruralis*, 30(2): 155–173.

services. They are characterised by low levels of education and persistent, long-term unemployment (*Hüse et al. 2008*).

Usury is typically justified by one-off exceptional expenses (e.g. cost of medicines, home renovation), but it is also common for money to be used to meet basic needs, in which case the usury loan has to be re-borrowed from time to time. In addition, the causes include funding addictions (alcohol, gambling). Seasonality can also be observed in usury lending, namely, much more debt is accumulated in winter, which decreases significantly in summer. This phenomenon is strongly related to casual work opportunities and the heating season (*Gosztonyi 2018*).

In Hungary, the vast majority of usury borrowers are Roma, but several studies show that this is not determined by ethnicity, but rather by the unfavourable situation (*Messing 2006, Béres – Lukács 2008, Messing – Molnár 2011, Gosztonyi 2018*). Poverty, therefore, determines usury, so efforts to eliminate it should potentially focus on eradicating poverty.

The population potentially affected by usury, thus, comes from the poor strata, where acute emergencies often develop. In these cases, fast-access, possibly continuously renewable borrowing plays an important role. This brings us to the question of what causes broad social groups to be excluded from the financial intermediation system. Before income constraints, we briefly examine two factors that explain the lack of banking relations: the willingness and ability constraints of financial inclusion.

2.2. Two potential components in the lack of banking relation: trust and access

In Hungary, about 25 per cent of the population does not have a banking relation, i.e. they do not have a bank account,⁷ and therefore, they cannot make use of the opportunities provided by financial products, interest-bearing savings and credit. There may be a number of reasons behind this, which can be broken down into factors of willingness (trust) and ability (access).

Public trust in the banking system was undermined around the world by the 2008 financial crisis. Nevertheless, according to the World Values Survey's research in 60 countries conducted between 2010 and 2014, more than half of the population in many countries trusts banks. Although Hungary did not participate in this research, significant regional differences can be seen, which can provide an indication of the international positioning of the domestic situation. The highest level of trust characterises the Far East, followed by African and Middle Eastern states, then South America, Australia and the United States and at the end of the row are the European countries participating in the survey (*Figure 2*). Thus, in international comparison,

⁷ Based on 2017 data from the World Bank Global Findex Database.

Hungary is probably one of the countries characterised by low trust in the banking system. Nevertheless, according to a 2019 survey by the Central Bank of Hungary (Magyar Nemzeti Bank, MNB), one quarter of the Hungarian population generally does not trust banks at all (Figure 3).

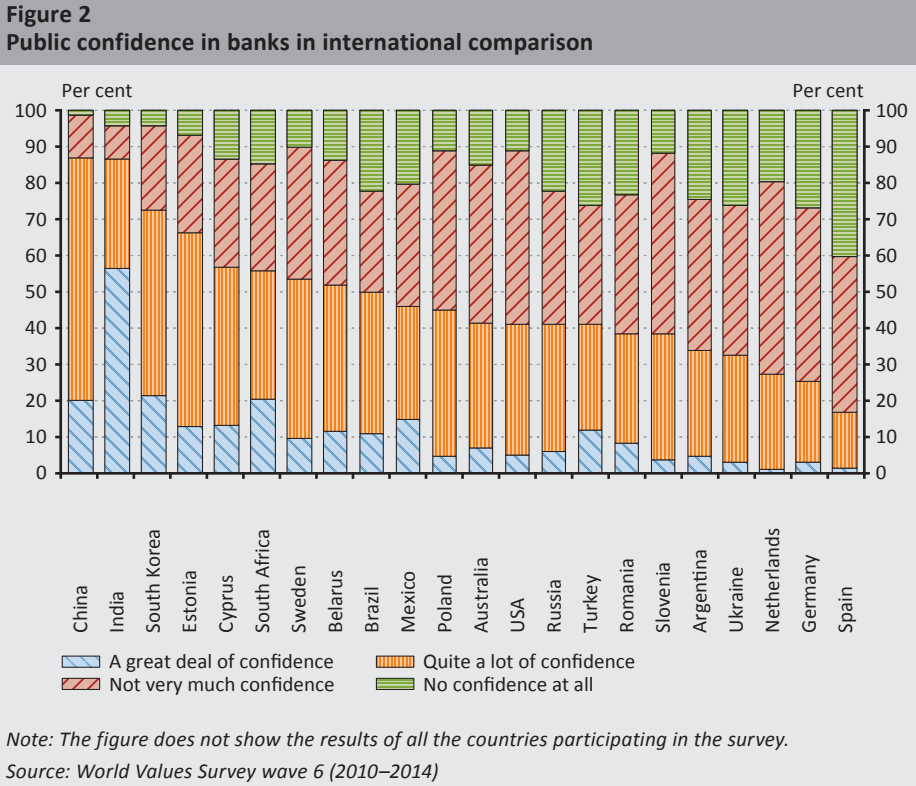
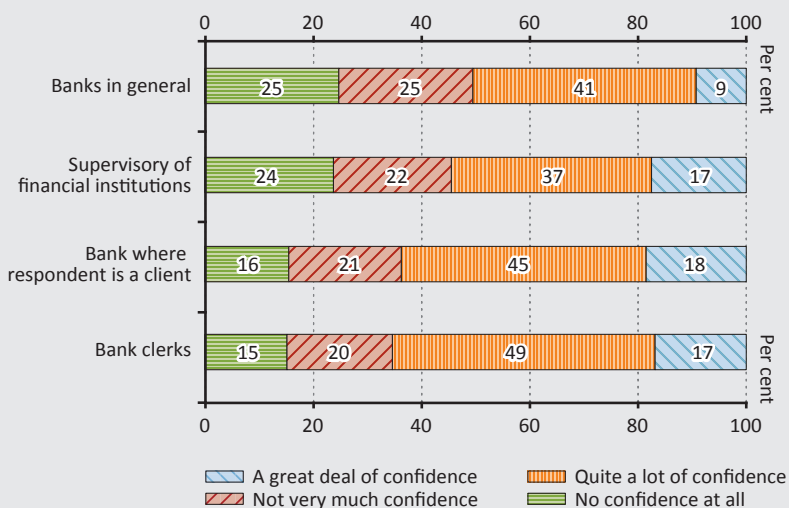


Figure 3
Public confidence in certain actors of the financial system in Hungary



Note: Data were collected in February 2019. Opinion poll by CAPI method, based on a questionnaire survey of 1,000 randomly selected people among the Hungarian adult population.

Source: MNB, Századvég survey

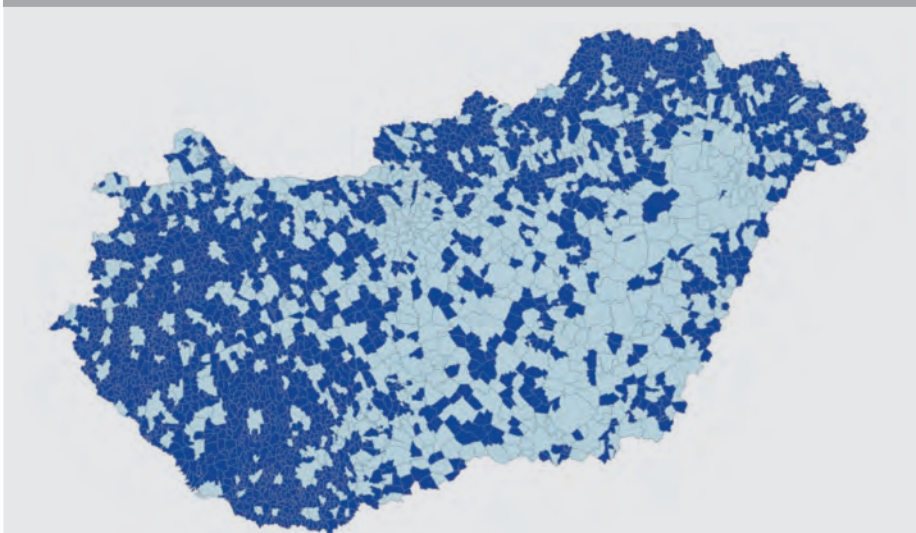
Also based on this survey we know that general institutional trust in the banking system is the lowest among the elderly, among those with primary education and in the Northern Great Plain region.

With regard to access to the banking system, it is worth noting that currently there are few ATMs in operation that allow both cash withdrawals and cash deposits. Thus, if a person, who does not receive their income on a bank account, wishes to be a customer of a bank in connection with savings or loan repayments, then administration and regular payment for them can be done by visiting the nearest bank branch.⁸ Therefore, access to the financial institutional system is indicated in the context of whether at least one bank or savings cooperative has a branch in a given settlement.

⁸ Alternatively, a Posta bank account opened at the Hungarian Post Office (Magyar Posta) could also be used, but this can be managed in person only at 230 post offices. Although according to the HCSO (2018), 76 per cent of the population frequently uses the Internet and 54 per cent of them are used to banking online, currently at least the first borrowing requires personal presence. Fully online solutions are mostly available for existing customers.

Based on this, significant spatial inequalities emerge. Overall, 78 per cent of Hungarian settlements do not have a branch, but while in Central Hungary and at the Southern Great Plain access is provided almost everywhere, in Northern Hungary and Veszprém, Somogy, Zala and Vas counties access is only possible in the largest cities. This also means that, especially in the Western and Southern Transdanubia region, but also in Nógrád and Borsod-Abaúj-Zemplén counties, it can be a significant problem that, while rural transport infrastructure is not flexible enough to reach larger settlements, no financial infrastructure is built locally (*Figure 4*). Instead of setting up bank branches, which significantly increase the operating costs of banks, in these areas the improvement of access to finance could be promoted not only by the spread of digital, cashless solutions, but also by the whitening of the economy, which, however, goes beyond the scope of the present study.

Figure 4
Location of settlements with bank branches



Note: Settlements shown in dark blue are those where no bank or saving cooperative has a branch (based on December 2019 data).

Source: MNB

In the following, we present the results of our order-of-magnitude and spatial estimation regarding the Hungarian population potentially affected by usury lending. It is important to emphasise that the order-of-magnitude estimation refers to the proportion of households potentially affected by usury due to vulnerability, at least on an ad-hoc basis, while the spatial estimation is focused on settlements where usury lending is likely to be more widespread based on the aggregate data

of settlements and districts. In the absence of direct data sources, our study only covers indirect estimations, and therefore, our possibilities for validation are limited.

3. Magnitude of the population potentially affected by usury – based on micro-level data

Since no specific data are available for financially vulnerable groups potentially exposed to informal financial intermediation, to identify the target group we used the European Union Survey on Income and Living Conditions (SILC), which was conducted with the participation of 8,142 Hungarian households.⁹ The survey contains questions relevant to our study, as they include, among other things the size and structure of income and expenditure,¹⁰ relative financial status, living conditions (housing conditions), financial conditions (existence of loans), as well as banking relation (existence of bank account).

First, we identified those households for which the declared expenditures exceed the declared incomes (*negative income gap*), as in their case, there is a high likelihood of demand for – primarily liquidity – loans. In the case of 34 per cent of the households in the sample, a monthly deficit can be observed in this sense. At the same time, given that households are likely to overstate their expenditures but understate their incomes, we also found it necessary to examine additional vulnerability indicators.

On the basis of intuition and literature experience, the following factors were selected from the indicators included in the survey to determine vulnerability:

- (1) The household cannot afford an unexpected expense amounting to HUF 70,000 and pay it using its own resources.
- (2) None of the household members has a bank account.
- (3) In the preceding twelve months of the data collection, the household has been in arrears – i.e. has been unable to pay rent / utility bills / mortgage payments on time – due to financial difficulties, two or more times.
- (4) – (5) The subjective income situation of the household is unfavourable (two indicators): 1) The household is able to make ends meet, namely, to pay for its usual necessary expenses with great difficulty or with difficulty, and 2) it places its own income situation in the lower three deciles.

⁹ Data for 2016 recorded in 2017.

¹⁰ Time management for the income and expenditure side was different: income was household income for 2016, whereas expenditures were for “an average month”, in the assessment of which the months closer to the survey could have been given more weight.

(6) The household lives in unfavourable housing conditions: there is no indoor flush toilet in the dwelling, or it is shared; or there is no shower unit or a bathtub in the dwelling, or it is shared; or they are unable to keep their home adequately warm; or there is no running water in the dwelling.

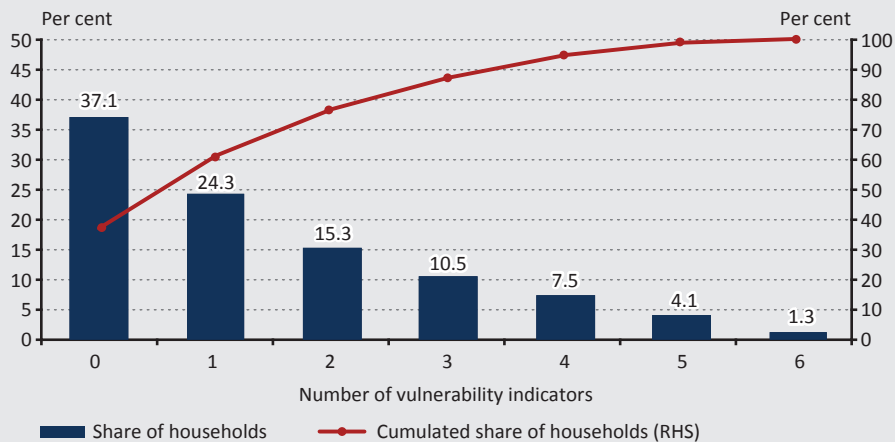
Based on the individual indicators, a mixed picture emerges: 9 to 42 per cent of the sample can be considered vulnerable (*Table 1*). According to the lack of bank account, which is a particularly important factor for our analysis, a large proportion (28 per cent) of the respondents are unbanked. Lack of payments due to financial difficulties occur in the smallest proportion, because presumably, one of the top priorities is that the household does not have housing-related debt. Difficulty in making ends meet, however, shows an unexpectedly high rate of 42 per cent frequency in the sample, but this may also be accompanied by a tendency to an overly negative perception.

Table 1	
Proportion of vulnerable households in the sample according to the individual indicators	
Vulnerability indicators	Proportion of vulnerable households in the total sample (%)
Household has been in arrears – i.e. has been unable to pay rent / utility bills / mortgage payments on time – due to financial difficulties, two or more times	8.9
Household lives in unfavourable housing conditions	12.9
Household places its own income situation in the lower three deciles	18.4
None of the household members has a bank account	28.3
Household cannot afford an unexpected expense amounting to 70,000 HUF and pay it through its own resources	33.9
Household is able to make ends meet, namely, to pay for its usual necessary expenses with great difficulty or with difficulty	41.9

Source: Calculations are based on EU-SILC data

In our view, however, the disadvantageous situation shown by an indicator *in itself* does not necessarily mean that the household is vulnerable. We believe that the likelihood of vulnerability increases in parallel with the increase of the number of vulnerability characteristics. Consequently, we looked at how the households in the sample are distributed according to the number of vulnerability indicators that characterise them (*Figure 5*). At least one of the vulnerability indicators appears in 63 per cent of the households, and then with the increase of the number of indicators the share decreases.

Figure 5
Distribution of households by number of vulnerability indicators



Note: $N = 8,139$.

Source: Calculations are based on EU-SILC data

The next step was to determine which households should be considered vulnerable according to the *number* of vulnerability indicators, i.e. how many vulnerability indicators must *co-exist* in order for a given household to be considered vulnerable. To determine this, we went back again to the academic literature: we examined the expenditure structure of vulnerable households, for which the survey provided an adequate basis, as it contained data by main expenditure category. For households grouped by the number of vulnerability indicators, *Table 2* presents the median of the ratio of the given expenditure category within total expenditures.

Table 2
Typical share of household expenditures (per cent) by the number of vulnerability indicators

Number of vulnerability indicators	Food	Alcohol, cigarettes	Clothing	Housing costs	Health	Transportation	Communications	Culture	Education	Catering services
0	23.2	2.6	3.4	23.6	3.9	12.4	7.3	5.0	1.8	4.8
1	27.2	3.3	2.6	27.0	5.4	11.2	7.0	3.9	1.5	4.9
2	28.5	3.5	2.1	29.6	5.6	9.4	6.3	3.4	1.4	5.4
3	28.6	4.6	2.0	30.2	5.9	8.4	6.1	3.5	1.4	5.7
4	31.0	4.4	1.8	31.0	5.3	5.2	5.8	3.6	1.2	4.8
5	33.5	6.5	1.7	31.7	5.6	4.5	4.8	3.4	0.7	4.7
6	31.8	7.2	1.2	36.3	4.3	4.9	4.3	4.2	0.9	6.2

Note: For households grouped by the number of vulnerability indicators, we present the medians of the ratio of the given expenditure category within the total expenditure.

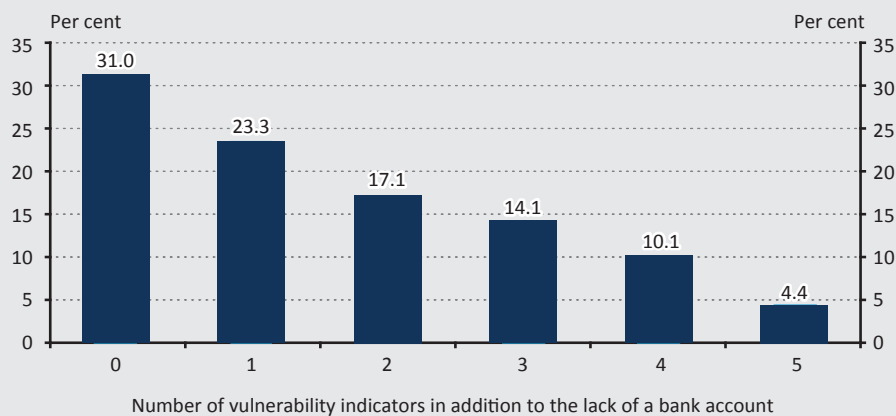
Source: Calculations are based on EU-SILC data

On the one hand, the results confirm what is set out in the academic literature. It is apparent that the more vulnerable a household is, the larger the share of expenditures it spends on food, alcohol, tobacco and housing, with a subsequent reduction in the share of clothing and especially transportation expenditures. On the other hand, they also provide an indication, according to the number of vulnerability indicators, as to between which groups we should draw the line regarding households considered vulnerable. In the case of food and transportation expenditure category indicators, which we consider crucial, it can be seen that, disregarding the differences between households without a vulnerability indicator and those with one vulnerability indicator, the largest change in expenditure shares appears among the households characterised by three and four vulnerability indicators. Consequently, under these criteria, households that can be considered to be in a disadvantageous position according to at least *any* four of our six vulnerability indicators were considered vulnerable. These households make up 13 per cent of the total sample. As a conservative estimate, we also examined households that additionally have a *negative income gap*, as we assume that they are likely to be even more disadvantaged financially. Defined in this way, 4.3 per cent of the households are vulnerable.

Given that our analysis focuses on which households are outside the realm of banking system, we also examined how the number of vulnerability indicators is distributed among the households *without a bank account* (that is 28 per cent of the *total* sample) (*Figure 6*). In this case as well, those households with at least four vulnerability indicators were considered vulnerable (one of these indicators, by definition, is the lack of bank account). We found that around 29 per cent of those without a bank account, i.e. 8 per cent of the *total* sample, are in the group of those who are potentially exposed to usury lending, at least on an ad-hoc basis. Taking the common intersection with the *negative income gap* as the lower limit, we arrived at a figure of 3 per cent of the households. It should be emphasised, however, that even though a household is vulnerable, we have no information on its specific financial coping strategy (family, friends, employer loan, usury).

Thus, using the European Union Survey on Income and Living Conditions with respect to the order-of-magnitude of the Hungarian population potentially affected by usury lending, we concluded that 3–13 per cent of the Hungarian population is exposed to this risk, which, due to the high costs, can easily lead to spiralling debt problems, based on the academic literature. In the following, we present a spatial estimate of potential impact, based on a different data source.

Figure 6
Distribution of households without a bank account according to vulnerability indicators



Note: N = 2,305. In the figure, zero represents the proportion of households without a bank account for which no other vulnerability indicator exists. In the figure, 1 represents the proportion of households without a bank account for which, in addition, there is precisely one vulnerability indicator.

Source: Calculations are based on EU-SILC data

4. Areas potentially affected by usury – based on aggregate data

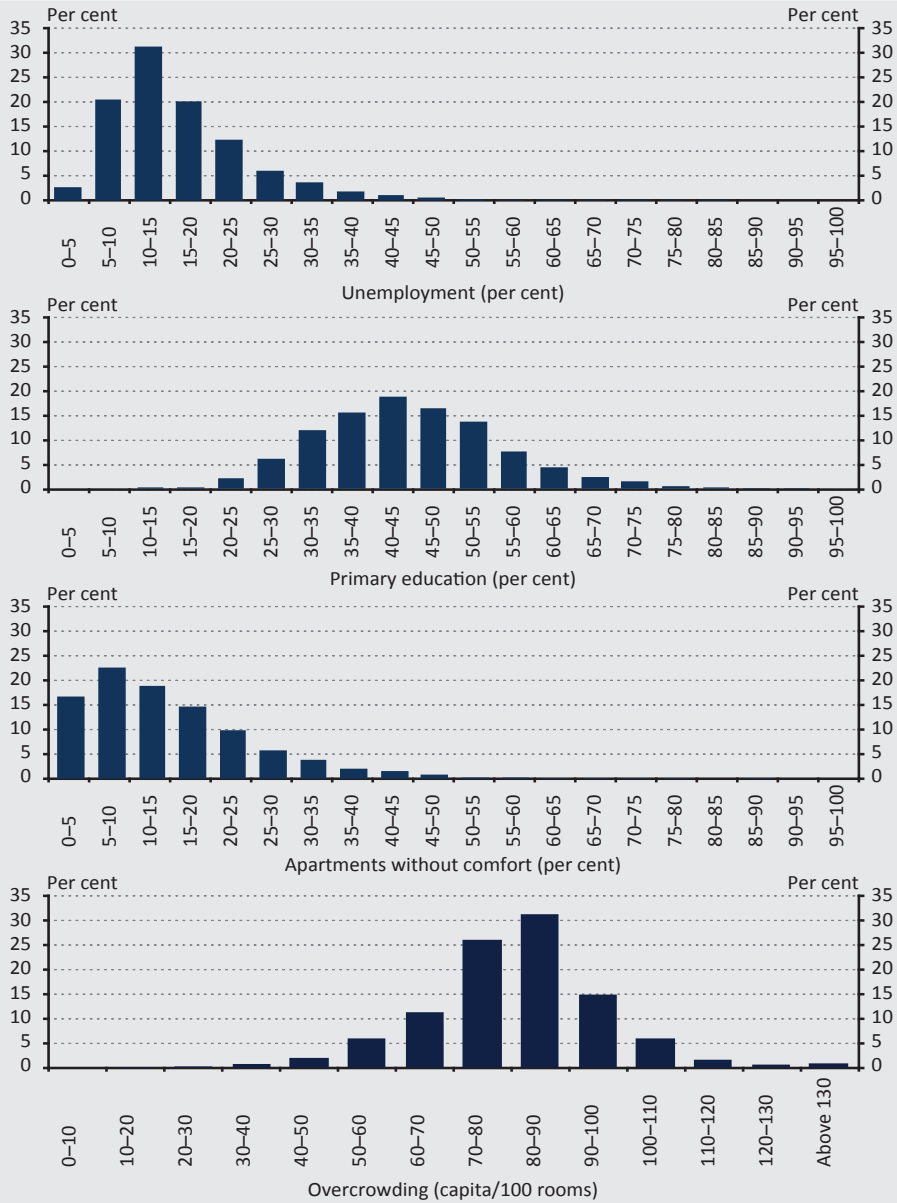
In Hungary, the standard of living of the population is geographically heterogeneous. For this reason, in order to map informal lending, it is necessary to identify areas where there are limited opportunities to contact financial institutions. Our research examines the existence of banking relation, focusing on the most underdeveloped areas of the country, as the lack of banking relation may be one of the elements of the emergence and widespread use of usury lending in a given area.

For measuring economic underdevelopment, we considered four factors:

- Unemployment rate (%): the number of unemployed in relation to the number of unemployed and employed persons.
- Proportion of those with primary education (%): the number of people with no more than primary education in relation to the adult population.
- Proportion of apartments without comfort (%): proportion of apartments that have at least one living room and kitchen, but do not have a bathroom and indoor flush toilet; water and electricity are not provided and heating is only possible on an individual way.
- Overcrowding (persons / 100 rooms): Number of residents per 100 rooms to measure crowded housing conditions.

These indicators were prepared on the basis of settlement-level data from the 2011 census (Figure 7), and therefore they can be considered somewhat outdated. At the same time, due to their completeness and data quality, they can be suitable sources for measuring economic underdevelopment, all the more so because in less than a decade probably only a few settlements have significantly changed their relative status.

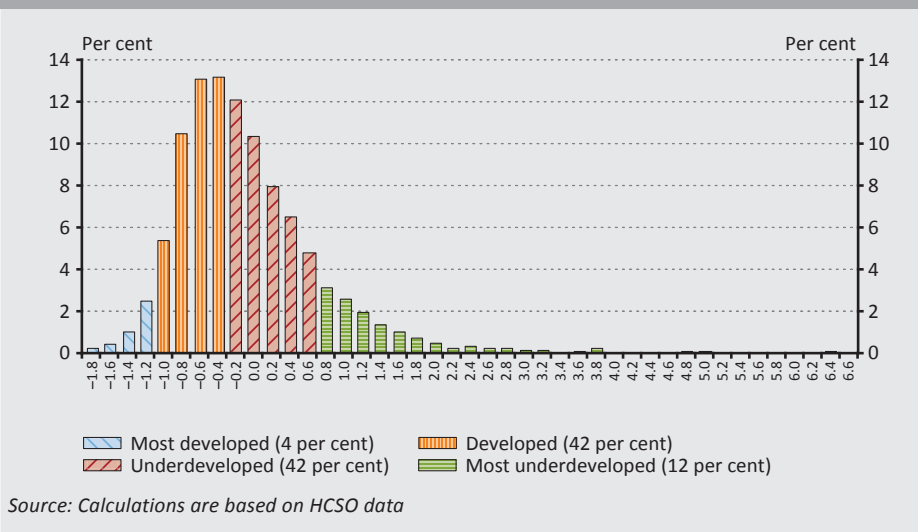
Figure 7
Distribution of underdevelopment indicators by settlement



Note: The horizontal axis shows the value bands of the variable in question.
Source: HCSO

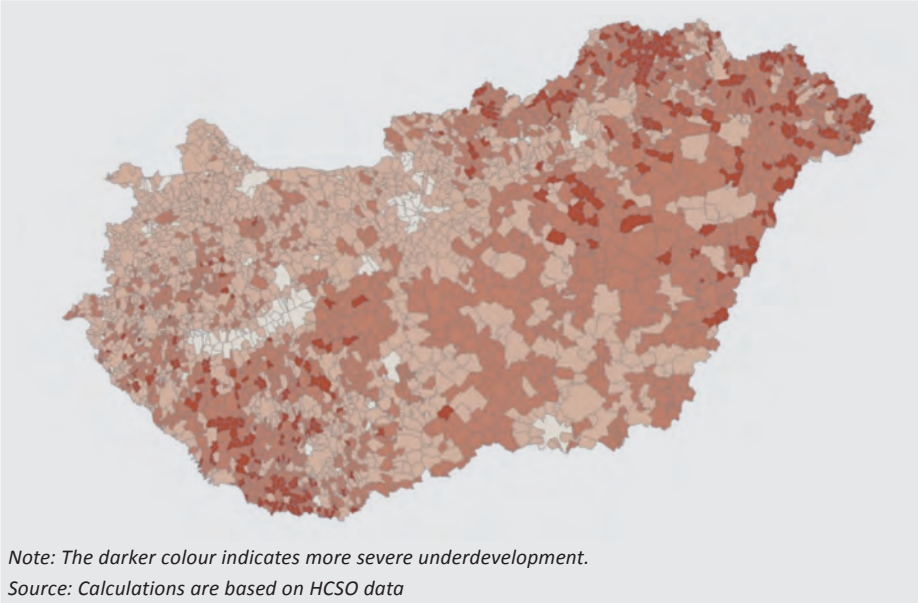
After standardisation (which was performed to eliminate the order-of-magnitude and dispersion deviations), the above four indicators were averaged, thus obtaining the value of economic-housing underdevelopment per settlement (*Figure 8*). The indicator thus obtained is a number without a unit of measurement, which is intended to indicate the relative state of development of the settlements. From the constructed economic-housing underdevelopment index, we formed four categories for which we used as a basis the larger changes seen in the frequency distribution of the indicator. In fact, we delimited the most developed and least developed settlements on the assumption that these groups can also be well distinguished from other settlements in terms of its cardinality. Thus, we identified the most underdeveloped 12 per cent of Hungarian settlements, where on average economic and housing conditions are the worst.

Figure 8
Distribution of Hungarian settlements in terms of economic-housing underdevelopment



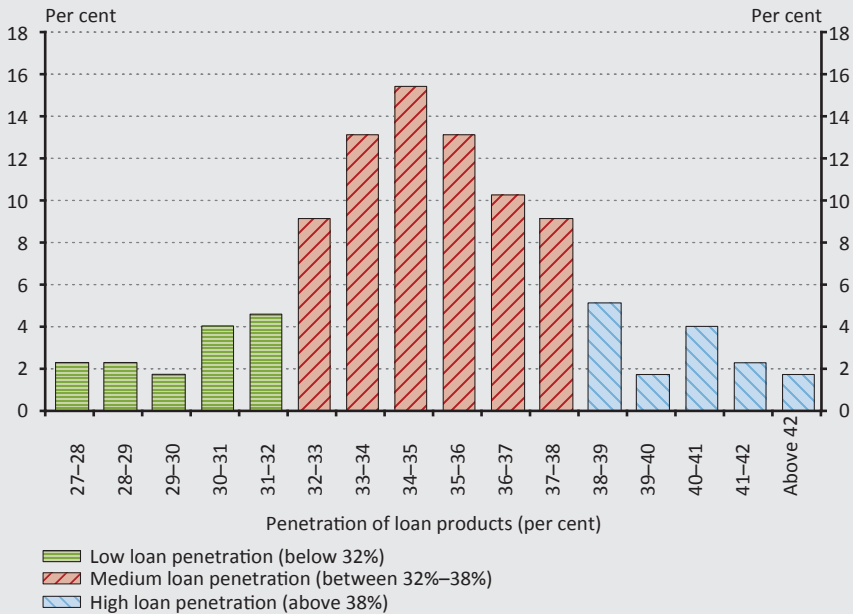
Based on the spatial location of the settlements, we can see that the most disadvantaged settlements in terms of economic-housing underdevelopment are located in Northern Hungary, Hajdú-Bihar and Jász-Nagykun-Szolnok counties, as well as in the Southern Transdanubia region, whereas the majority of settlements in the Western Transdanubia region and in Central Hungary have the most favourable relative status (*Figure 9*). Based on the economic-housing underdevelopment index, 7 of the 10 poorest settlements are located in Borsod-Abaúj-Zemplén county, and especially the tiny settlements of Cserehát are affected by the problem of deprivation caused by low education, employment and income.

Figure 9
Relative extent of economic-housing underdevelopment in Hungarian settlements



In addition to the poor economic conditions, the exposure to usury lending is also due to the fact that the area is not sufficiently channelled into the realm of the banking system, and therefore, “formal” loan penetration is low. In order to take this into account in the analysis, we used data from the CCIS to determine the proportion of persons with loans at the end of 2018 relative to the total adult population at the district level (these data are not available at the settlement level). Loan penetration was considered low in districts where less than 32 per cent of the population had a loan (*Figure 10*).

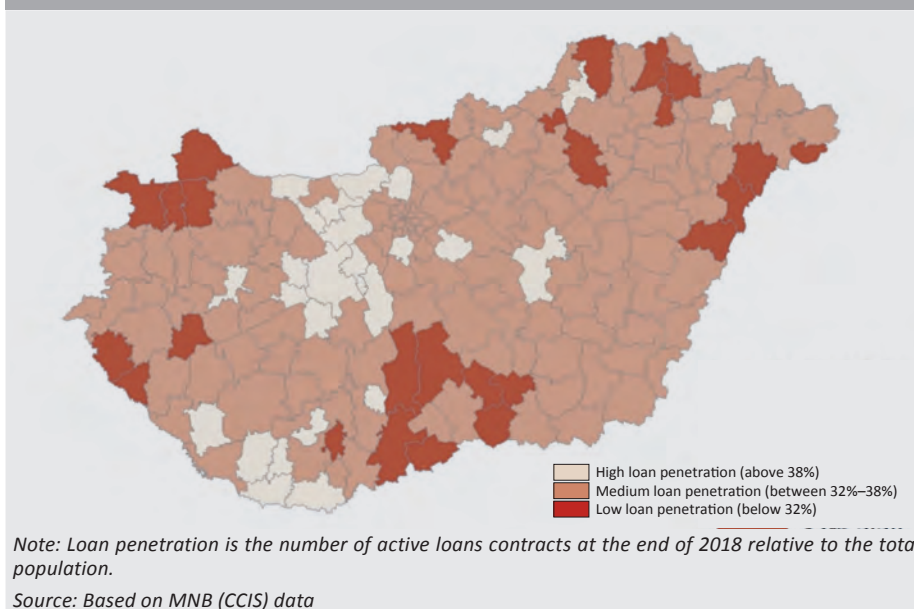
Figure 10
Distribution of Hungarian districts by loan penetration



Source: Based on MNB (CCIS) data

Loan penetration is not directly related to economic underdevelopment: in Baranya, one of the most underdeveloped counties, there are districts that belong to the group with the highest loan penetration. In a county comparison, low loan penetration occurs in both the most underdeveloped (Borsod-Abaúj-Zemplén) and the most developed (Győr-Moson-Sopron) districts (*Figure 11*). Low loan penetration characterising both developed and underdeveloped districts can be explained by the fact that, while wealthy households can achieve their investment and consumption purposes without loans (and those with euro income near the western border can now also do so with the help of Austrian banks), those living in deprivation do not have access to bank loan products in the absence of banking relation and declared job (for low loan penetration districts, see *Annex 2*).

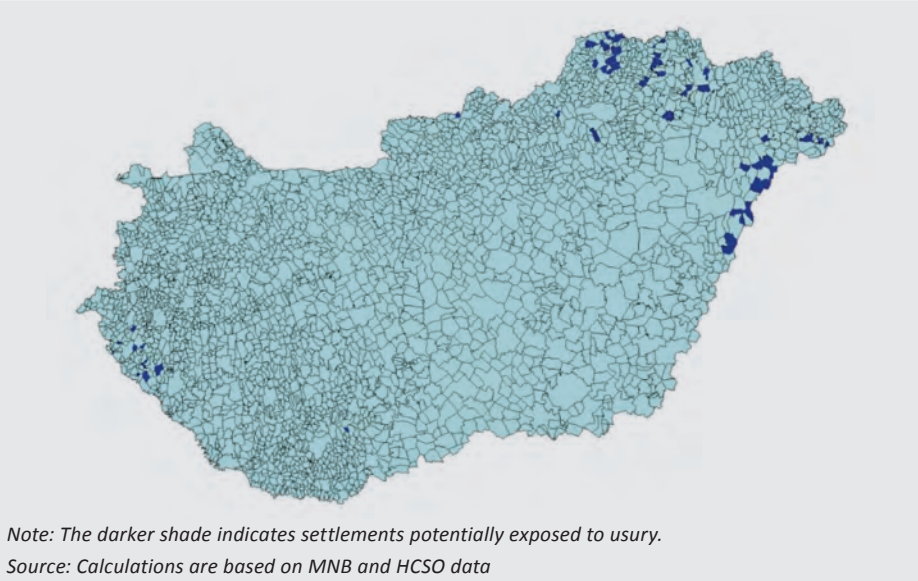
Figure 11
Loan penetration in Hungarian districts



Based on all of this, economic-housing underdevelopment and loan penetration should be taken into account jointly, as they together identify the areas potentially affected by usury (*Figure 12*). These areas are therefore those where the economic-housing underdevelopment index is above 0.8 and, at the same time, the loan penetration indicator is less than 32 per cent. The majority of the 64 settlements thus produced are located in Borsod-Abaúj-Zemplén county. After that, Szabolcs-Szatmár-Bereg, Zala and Hajdú-Bihar counties are represented on a smaller scale, along with Baranya, Nógrád and Heves counties with 1 settlement each. Only one of the 64 settlements has a bank branch, which – for the reasons mentioned in *Section 2* – may also be a necessary condition for lack of connection with the formal financial intermediary system. These settlements, which are presumably more interwoven with the local community, and thus on the whole are more exposed to usury, are home to about 40,000 people, representing 0.43 per cent of the total population.¹¹

¹¹ This does not mean that there is no usury lending in the more developed settlements, as it also occurs in large cities, even in Budapest, but these settlements, due to their aggregate development indicators, are not included in the results of such a macro approach estimate.

Figure 12
Estimation results settlements exposed to usury lending



Our possibilities for direct backtesting to validate our spatial results are limited, but based on crime statistics, we can get some indication in this regard.

The crime of usury as a criminal offence entered into force on 1 March 2009.¹² According to the available data, the number of – reported – crimes of usury was rather limited until 2011, however, this may not only be due to the actual low incidence of violations (*Figure 13*). This is also suggested by the fact that between 2011 and 2012, the number of registered crimes of usury increased significantly, more than tripled, which may have been partly due to the tightening of usury regulations in 2011: indeed, *Act CXXXIV of 2011 amending various laws related to usury* enhanced the punishment for criminal usury and also expanded the scope of punishable offences.

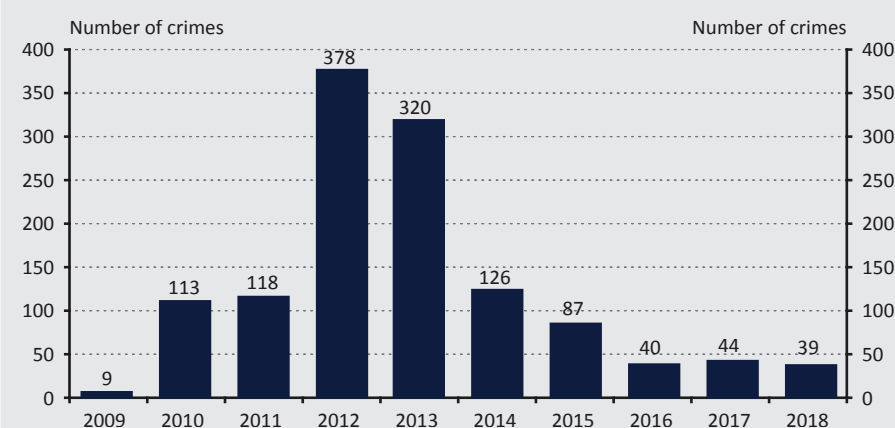
Until the amendment of the law, the crime of usury was deemed to exist if someone took advantage of the victim’s needy situation, by contracting a deal in a business pattern that contained particularly disproportionate consideration, the fulfilment of which exposed the victim or his / her relative to serious or further deprivation. *Business pattern* in this wording meant that the perpetrator is engaged in criminal

¹² See *Act IV of 1978 on the Criminal Code, Section 330/A, modified by Act CXV of 2008*. In addition to the Criminal Code, civil law also regulates usury: since its entry into force in May 1960, the Civil Code has stated that a usury contract shall be deemed to exist if, at the time of concluding the contract, the contracting party stipulates a conspicuously disproportionate advantage, knowing and exploiting the situation of the other party.

activities of the same or similar character to generate profits on a regular basis. Due to that clause, however, a person who entered into an agreement containing particularly disproportionate consideration on a single occasion was not punishable. Following amendment of the law, the perpetrator became punishable even if he / she committed the above offence *only once*. Another enhancement is that while previously the offence committed in a business pattern was punishable by imprisonment for up to three years under the law, following the amendment *even a five-year* prison term can be prescribed. It also facilitates the detection of crimes that the court can *mitigate* the punishment *in an unlimited way* if the perpetrator reports the crime of usury to the authority before it becomes known to the authority.

From 2013, the number of registered crimes of usury started to decline again, as in that year the Commissioner for Fundamental Rights called on the government to set up a complex crisis management service (*Office of the Commissioner for Fundamental Rights, 2013*).¹³ At the same time, the improvement is partly statistical and can be traced back to the emergence of newer, less clear forms of usury (e.g. food usury, see *Béres, 2015*).

Figure 13
Number of crimes of usury registered



Source: Prosecution Service (2018), Ministry of Interior Criminal Statistics System

¹³ "Under current practice, victim assistance includes enforcement of the victim's interests, providing instant financial aid as well as legal aid. However, it is a general experience that, due to strict legal rules, victims of usury cannot receive either instant financial aid or compensation. The service can typically assist them with information. In order to increase the effectiveness of victim assistance, the Commissioner, therefore, proposed that the Minister of Public Administration and Justice in cooperation with the Minister of the Interior and the Minister for Human Resources initiate the establishment of a *crisis management service to assist victims of criminal usury in a complex way (...)*" (*Office of the Commissioner for Fundamental Rights 2013: p. 63*).

In order to validate our results, we compared the regional distribution of registered crimes of usury with the spatial distribution of potential involvement revealed on the basis of our own research (Table 3). The distribution of reported crimes shows a similar picture to what we found. Based on the officially registered data, similarly to our results, Borsod-Abaúj-Zemplén and Szabolcs-Szatmár-Bereg counties have the highest involvement: 28 per cent of the crimes of usury registered between 2013 and 2018 took place in the former county and 19 per cent in the latter one, while 53 per cent of the 64 settlements we identified are in Borsod county and 17 per cent are in Szabolcs county. In our research, however, we also identified 10 settlements in Zala as exposed to usury, but the official crime statistics do not show the county involvement. By contrast, according to crime statistics, Jász-Nagykun-Szolnok is the third most affected county, while according to our research, none of the potentially affected settlements with the lowest loan penetration and the most significant economic-housing underdevelopment are located in this county. In the fourth place is Hajdú-Bihar county, which is also in line with our settlement-level results, and therefore, the absence of Jász-Nagykun-Szolnok county is likely to be due to the obsolescence of settlement-level underdevelopment data.

County	Total number of crimes of usury registered between 2013 and 2018	Distribution of crimes of usury registered between 2013 and 2018 (%)
Borsod-Abaúj-Zemplén	183	27.9
Szabolcs-Szatmár-Bereg	122	18.6
Jász-Nagykun-Szolnok	66	10.1
Hajdú-Bihar	64	9.8
Nógrád	50	7.6
Pest	37	5.6
Bács-Kiskun	26	4.0
Budapest	22	3.4
Heves	21	3.2
Békés	19	2.9
Somogy	18	2.7
Komárom-Esztergom	8	1.2
Csongrád	6	0.9
Baranya	5	0.8
Veszprém	4	0.6
Fejér	3	0.5
Vas	2	0.3
Győr-Moson-Sopron	0	0.0
Tolna	0	0.0
Zala	0	0.0

Source: Prosecution Service (2018), Ministry of Interior Criminal Statistics System

5. Conclusions

Overall, based on our results, we estimate the proportion of vulnerable households at between 3 and 13 per cent by setting an estimation band. In other words, according to our estimate, in Hungary, out of 4 million households – as reported in 2016 – the number of households that, due to their vulnerability, may be exposed to informal financial intermediation and may create potential demand for such financial services is between 113,000 and 523,000. However, in the absence of direct data, the extent of usury lending is difficult to measure, and therefore in our analysis we mapped the possible order-of-magnitude of the problem.

Based on the data at the settlement and district level, we also made an estimate of which settlements usury lending may be widespread in. Our results show that settlements in Borsod-Abaúj-Zemplén, Szabolcs-Szatmár-Bereg and Hajdú-Bihar counties close to the country border may be affected. The involvement of these areas is in line with the county-by-county breakdown list of crime statistics.

More detailed research on usury lending is hampered by a number of factors. Due to its hidden nature, administrative data collection is not carried out by definition, and the debts are registered informally by the lenders. Due to the spatial concentration indicated by the academic literature, the illegality of lending activity and the intimidation used as a workout strategy, even the quantitative questionnaire surveys cannot give a real picture of the role of usury lending in Hungary. The studies in the academic literature use qualitative methodological tools: interviews, focus groups, and participatory action research are used to map the ways of money management and acquiring funding in a given settlement.

Over the longer term, the credit demand of the household exposed to informal lending cannot be met by the bank credit market; this is not possible due to the prudential regulation and the business model. Before taking measures to eliminate usury lending, the regulator needs to map the circumstances and motivations of those involved through on-site research, as a stronger reduction of usury by legal means alone will not provide a solution regarding the funding needs of those who resort to it. Given that this range of the population can be considered vulnerable in several respects, policy steps to eradicate the problem should include targeted territorial and housing subsidies as well as promoting access to financial services, in particular through digital channels, and financial education.

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Annexes

Annex 1: Development of debt cap rules in Hungary

In order to mitigate the risks arising from household excessive indebtedness, the Magyar Nemzeti Bank's *Decree No. 32/2014. IX. 10.* (debt cap rules) that entered into force on 1 January 2015, limited the maximum size of the debt service-to-income ratio (DSTI) and the loan-to-value ratio (LTV) in household lending by financial intermediaries.

The debt cap rules are to be applied when determining the instalments of debt arising from non-business credit, loan and lease contracts required for individuals. The DSTI limits the maximum debt service burdens that may be undertaken when taking out a new loan in the given proportion to the customers' regular income, thereby reducing customer indebtedness. When calculating, the amount of the monthly instalment shall be divided by the amount of the proven monthly net income. In the case of co-debtors, the proven monthly net incomes can be added together. The loan-to-value ratio (LTV) limits the maximum amount of credit that may be taken up relative to collateral (real estate value) in the case of secured loans (such as mortgage loans).

Levels of domestic DSTI and LTV limits

		HUF	EUR	Other currency
DSTI	Monthly net income below HUF 400,000	50%	25%	10%
	Monthly net income at least HUF 400,000	60%	30%	15%
LTV	For mortgage loan	80%	50%	35%
	For auto loan	75%	45%	30%

Note: Applicable from 1 January 2015 to 1 October 2018.
Source: MNB

From 1 October 2018, the MNB, in order to encourage the expansion of mortgage lending with longer interest rate fixation periods, amended the debt cap rules by the *MNB Decree No. 29/2018. VIII. 21.* Under the new regulation, debt service-to-income ratios differentiated by interest rate fixation period have been determined.

Debt service-to-income ratio by interest rate fixation period

Monthly net income	Interest rate fixation period		
	Less than 5 years	At least 5 years but less than 10 years	At least 10 years or fixed for the whole term
Below HUF 400,000 (HUF 500,000 from 1 July 2019)	25%	35%	50%
At least HUF 400,000 (HUF 500,000 from 1 July 2019)	30%	40%	60%

Note: Applicable since 1 October 2018.
Source: MNB

Borrowers with a higher level of income will still be allowed to borrow with higher monthly instalments due to their higher debt repayment capacity. From 1 July 2019, considering also to the increase in wages, the Decree allows to undertake higher instalments at or above HUF 500,000 of monthly net income (*MNB Decree No. 24/2019. VI. 26.*).

Annex 2: Districts with low penetration of loan products by county

Bács-Kiskun Bácsalmás Baja Kalocsa Kiskőrös Kiskunmajsa	Győr-Moson-Sopron Csorna Kapunár Mosonmagyaróvár Sopron
Baranya Pécsvárad	Hajdú-Bihar Derecske Nyíradony
Borsod-Abaúj-Zemplén Edelény Gönc Mezőkövesd Sárospatak Tokaj	Heves Bélapátfalva
Csongrád Kistelek Mórahalom	Nógrád Balassagyarmat
	Szabolcs-Szatmár-Bereg Csenger Nyírbátor
	Zala Keszthely Lenti Letenye

Source: MNB