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Abstract

Personal bankruptcy aims to provide a fresh start to debtors. While bankruptcy is often the only solution to financial distress, large spatial distance to affordable legal services may result in its underuse by eligible debtors. Using a large administrative dataset of personal bankruptcies, we study the impact of spatial distance from public Centers for Legal Aid (CLAs) on the regional incidence of personal bankruptcy in Slovakia. We avoid endogeneity by focusing on the increased availability of legal aid controlling for the expected distance from the nearest CLA, which serves as the first contact point in the process of filing for personal bankruptcy in the Slovak Republic. Distance from these legal aid centers has a significant impact on personal bankruptcy rates: the closer the nearest CLA is, the larger the prevalence of personal bankruptcy is in a given municipality. We quantify the impact of service access on personal bankruptcy rates, showing that improved access to free legal aid has both a statistically and substantively significant impact on the use of personal bankruptcy by the public. At the end of the almost 3-year-long period analyzed, municipalities with good access to CLAs had 3.3 bankruptcies more per 1,000 inhabitants than municipalities with weak access to CLAs. This effect is significant, as the average national bankruptcy rate until December 2019 reached 6.3 bankruptcies per 1,000 persons.[1]

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Keywords: personal bankruptcy, insolvency, policy analysis, regional inequalities, spatial access, public services

1 Highlights

- Better geographic accessibility of the Center for Legal Aid ("CLA") to the community increases the average probability of residents to file for personal bankruptcy. Using administrative data from the Slovak Republic covering the 2017-2019 period, we show that this effect is both economically and statistically significant.

- The net effect of good accessibility to the CLA network on residents' personal bankruptcy rates for March 2017-December 2019 was an increase of 3.3 personal bankruptcies per 1,000 residents relative to municipalities with poorer CLA accessibility.

- This effect is quite significant: at the end of 2019, the average national bankruptcy rate in the Slovak Republic was 6.3 personal bankruptcies per 1,000 residents. The proximity to CLAs increased the bankruptcy rate by 52% of the national average.

of Judicial Officers of the Slovak Republic and the Institute of Economic Research of the Slovak Academy of Sciences for the generous provision of data. The paper builds on a previous study in the Slovak language (Domonkos and Hrehová 2021). All the remaining errors are the responsibility of the authors. This project has received institutional support RVO 67985998 from the Czech Academy of Sciences and financial support from the Slovak Research and Development Agency (APVV) Grant No. APVV-17-0551(REDIMB) and Scientific Grant Agency of the Slovak Ministry of Education and of the Slovak Academy of Sciences (VEGA) Grant No. VEGA 2/0143/21.

Š.D and K.H. conceived of the presented idea for the study. Š.D. and K.H. decided on the variables to be included in the statistical analysis and prepared the microdata for the statistical analysis. K.H. developed the methodology and performed the statistical analysis. K.H. validated the analytical methods. Š.D. collected information on the legislation governing personal bankruptcy and its implementation in practice. Š.D. and K.H. wrote the initial draft and revised the manuscript. K.H. is the corresponding author.

- Greater distance from the nearest CLA may prevent eligible debtors from exercising their right to file for personal bankruptcy.
- Our research confirms that good physical accessibility to comprehensive public services is vital for the use of these services by target groups, particularly if the target group comprises marginalized communities.
- During the period of our analysis, the CLA network grew from 28 to 43 offices. Most of this expansion took place towards the end of the observed period, in 2019. According to our estimate, if the Slovak public CLA network had been expanded in 2017, by the end of 2019, approximately three thousand additional personal bankruptcies could have been filed in municipalities that had limited access to CLAs throughout most or all of the observed period.

2 Introduction

In 2017, the Slovak Republic launched a major reform of its personal bankruptcy mechanism. The new legal framework, which entered into force in March 2017, replaced a difficult-to-access and rigid personal bankruptcy program with a system that combines fast fresh-start bankruptcy with low barriers to entry. The reform increased the attractiveness of personal bankruptcy and made it significantly more available to the broad public. The new legislation also established the public Center for Legal Aid (CLA) as the institution accepting all personal bankruptcy applications and submitting them further to the relevant court. Thus, communication with the CLA became a necessary first step in personal bankruptcy proceedings.

We study the impact of spatial access to CLAs on the ratio of personal bankruptcies to the population at the municipal level. For several reasons, good access to CLAs may play an important role in the takeup of personal bankruptcy in a given region. Apart from the importance of CLAs as the key intermediary between

bankruptcy applicants and courts, financially distressed households are also spatially less mobile. We find that spatial access to CLAs has an important role in ensuring effective access to personal bankruptcy. Better spatial access to CLAs increases average bankruptcy rates in a municipality. The net impact of spatial access to CLAs shows that in municipalities with good spatial access to the CLA network (road distance from the nearest CLA below 20 kilometers [12.43 miles]), the bankruptcy rate is larger by 3.3 personal bankruptcies per 1,000 individuals than in similar municipalities that are spatially distant from CLAs (road distance from the nearest CLA more than 40 kilometers [24.85 miles]). This effect represents 52% of the nationwide average personal bankruptcy rate in Slovakia reached by December 2019. Thus, a large distance from the nearest CLA may prevent eligible debtors from filing for personal bankruptcy. Our results point to the importance of spatial access to comprehensive public services for citizens. Without spatial access, such services may remain unused by target groups. In the context of helping highly indebted households, it is critical to offer publicly-financed legal and financial counseling services in locations that are spatially close to potential clients. These services are crucial in countries such as Slovakia, whose judicial system, by 2017, had to grapple with as many as 3.6 million enforcement procedures in a nation of about 5.4 million. In the international context, the importance of accessible legal services to households in financial stress will only grow as a result of the COVID-19 pandemic. Reasons for this include the heavy toll the pandemic has exacted on low-wage sectors, such as the hospitality industry, as well as the limitations on mobility imposed on the population during periods of more serious coronavirus outbreaks.

2.1 Importance of distance to services

Studies show that distance to public services can be a crucial factor determining their use. Nguyen (2000) and Alessandrini, Presbitero, and Zazzaro (2009) link

credit access to the distance to bank branches where the credit allowance decisions are made. Nguyen (2000) finds that bank branch closings lead to a persistent decline in local small business lending, which persists for up to six years. Alessandrini, Presbitero, and Zazzaro (2009) find that the distance to decision-making centers matters in the supply of credit for small firms. Enflo and Karlsson (2018) consider the distance from a mediator as an instrument for mediation in work conflicts. They find that the involvement of a mediator in a conflict resulted in a higher probability of compromise. They also find that mediation was more likely to occur when strikes took place in municipalities with a mediator among the residents.

2.2 Bankruptcy

While lawmakers in the US treat bankruptcy as a means to resolve business failure, legislators in Europe view it more through the lens of social policy. In line with this, most of the recent European personal-bankruptcy reforms have been introduced in reaction to recessions (Niemi-Kiesiläinen 1999). Alleweldt et al. (2013) and Eurofound (2020) monitor over-indebtedness in the European Union and state policies intended to alleviate this problem. Slovakia, together with several of its neighbors from the ranks of Post-Socialist EU member states, has a relatively low proportion of individuals at risk of over-indebtedness in its population. Nevertheless, this figure has been growing, and during times of economic turmoil (e.g. the 2008-2009 financial crisis) reached levels exceeding the EU average (see Alleweldt et al. 2013, p. 44). Increasing the accessibility of personal bankruptcy options has therefore become a popular policy option implemented in a varied group of European countries.[2]

Personal bankruptcy may be thought of as a social insurance program (Dob-

2. Kilborn (2018) lists Slovakia's case as a prime example of lawmakers introducing a personal-bankruptcy system more accessible to debtors and less concerned with possible abuses by bankruptcy filers. Instances of similar policy changes include the 2015 Polish reform and the 2017 Austrian law amendments that tackled high administrative costs and addressed the restrictive requirement to produce a minimum dividend within the bankruptcy proceedings.

bie and Song 2015), whose costs are manifested in the form of a higher equilibrium interest rate. This interest rate reflects the increased risk of debtor default in a lenient personal-bankruptcy legal framework.[3] Keeping such *ex-ante* effects of personal-bankruptcy policies fixed, many studies, e.g. recent ones by Dobbie and Song (2015) and Dobbie, Goldsmith-Pinkham, and Yang (2017), consider the impact of bankruptcy on microeconomic outcomes. Dobbie and Song (2015) and Dobbie, Goldsmith-Pinkham, and Yang (2017) use a compelling identification strategy with random judge assignment to Chapter 13 (repayment plan) bankruptcies in the US. Dobbie and Song (2015) find a positive impact of bankruptcy on debtors' welfare: the enforcement of money judgments through deducting payments from the debtor's wage (wage garnishment) instead of seizing other property and debt forgiveness increase annual earnings, reduce five-year mortality and reduce five-year foreclosure rates. Dobbie, Goldsmith-Pinkham, and Yang (2017) consider the impact of bankruptcy on the financial situation of the debtors and find that Chapter 13 bankruptcy protection reduces financial strain, improves credit scores, increases the probability of being a homeowner, and reduces debt in collection. While this methodology is well suited to study repayment plan bankruptcies, it cannot be used to study the more frequent bankruptcy by asset liquidation, as virtually all valid filings of these bankruptcies are accepted by U.S. courts.

3 The Slovak institutional setting

For the purposes of this analysis, we define personal bankruptcy as debt liquidation for a natural person (consumer). Since March 2017, personal bankruptcy in Slovakia

3. Taking into account that policies allowing debtors to default more easily will translate into higher borrowing costs, such policies cannot be qualified as debtor-friendly in general. The Slovak case is different in that it extended the possibility to default also to debtors who accrued their debts *before* the introduction of the new personal-bankruptcy legislation. However, the loan terms agreed upon before late 2016, when the legislative reform was concluded, could not have reflected the changed risk of borrower default under a more accessible personal bankruptcy framework.

can be implemented either by asset liquidation and protection from further wage garnishment or by setting up a repayment plan. These two forms of bankruptcies are akin to the US Chapter 7 and Chapter 13 proceedings, respectively. Although the legal framework for personal bankruptcy has formally existed in Slovakia since 2005, this legal instrument only became significantly more accessible to the majority of indebted natural persons only after its reform came into effect in March 2017 (Kilborn 2018; Oršula 2019; Spectator 2017).[4] The new legislation allowed people with no-income-no-asset (NINA) to undergo bankruptcy (Oršula 2019). In addition to the repayment plan, bankruptcy through liquidation was introduced, where debts are satisfied only with money obtained from a quick sale of the debtor's current assets. Bankruptcy through asset liquidation, which quickly became the preferred form of insolvency, is thus a typical example of the so-called fresh-start bankruptcy known from Anglo-Saxon countries. Access to bankruptcy has also been improved through curbing entry costs and providing a loan to cover these expenditures to those debtors who have filed for bankruptcy through asset liquidation.

Thanks to the relatively low costs and the removal of legislative barriers, entering the personal bankruptcy process in Slovakia depends mainly on the debtor's decision. The essential condition that every personal bankruptcy filer must fulfill is at least one foreclosure pending against them for more than a year. The bankruptcy petition must be filed through the Center for Legal Aid (CLA), a network of public legal aid offices. The CLA is thus the mandatory first stop in the personal bankruptcy process.[5]

As a result of the 2017 reform, the number of personal bankruptcies has sky-

4. See the original law at https://www.slov-lex.sk/pravne-predpisy/SK/ZZ/2005/7/20161115.html and the 2017 amended version at https://www.slov-lex.sk/pravne-predpisy/SK/ZZ/2005/7/20170301.html.

5. The number of persons who consider personal bankruptcy to deal with their debts in collection is difficult to estimate. However, a good indication of the severity of the problem is the fact that, as of March 2017, there were 3.6 million pending foreclosures in Slovakia, and 474,000 foreclosures were initiated in 2016 alone (Paller 2017).

rocketed in Slovakia. From March 2017 to July 2021, nearly 50 thousand personal bankruptcies were initiated according to the public Register of Bankruptcy Filers.[6] Of this pipeline, the courts have managed to complete 42,800 cases as of July 2021. By comparison, in the five years immediately preceding the reform (2012-2016), the number of bankruptcy petitions handled by the courts amounted to 548 (Analytical Center of the Ministry of Justice of the Slovak Republic [AC MS SR], Analytical Center 2016). Thus, an unprecedentedly large number of individuals have undergone bankruptcy since March 2017. This wave of personal bankruptcies took place in a short period characterized by stable macroeconomic conditions until March 2020, when the break caused by the onset of the COVID-19 pandemic occurred. Figure 1 below provides an overview of the evolution of the number of personal bankruptcies over the last decade based on the data presented in the statistical yearbooks of the Ministry of Justice (Analytical Center 2016, 2017, 2018, 2019, 2020).

Using microdata on personal bankruptcies from March 2017 to December 2019, our study evaluates the extent to which the use of personal bankruptcy is conditional on physical proximity to the CLA. The experiment in a broader sense is the unexpected change in bankruptcy law in Slovakia in tandem with the CLA suddenly gaining a new function. The CLAs were concerned with legal aid only and did not function as the necessary first instance in bankruptcy cases prior to the law change in 2017. Thus, while the subsequent expansion had to consider distressed individuals considering personal bankruptcy, the initial location was based on other use cases. While debt legal counseling was involved, personal bankruptcy did not dominate the workload of the CLAs. The experiment in a narrower sense is the difference between the expected distance to the nearest CLA based on a host of available socio-economic and geographic variables and the actual distance to the nearest CLA. Controlling for the expected distance, we look at differences in bankruptcy rates in municipalities

6. ru.justice.sk

that are near and far from the CLA. We assume that the remaining variation in access to the CLA is as good as random.

The bankruptcy rate in municipalities located closer to the CLA was higher, even after controlling for relevant socioeconomic and demographic characteristics. After controlling for other relevant variables, the number of personal bankruptcies filed between March 2017 and December 2019 in municipalities close to CLA offices or counseling centers was higher by approximately 3.3 bankruptcies per 1,000 inhabitants than in municipalities farther from the CLA network.

This net effect of CLA proximity on population bankruptcy rates is both substantively and statistically significant and highlights the importance of CLA accessibility to residents' effective access to personal bankruptcy. Our results show that the physical proximity of public financial counseling services to the population is an essential condition for their use by insolvent citizens. This conclusion also aligns with the existing international literature, which has paid little attention to Central and Eastern Europe so far.

A natural way to look at bankruptcy rates would be bankruptcy per number of distressed individuals. Unfortunately, we do not have access to a direct measure of distress cases among natural persons. Our analysis relies on the assumption that in socioeconomically similar municipalities with similar expected distance to CLAs, the per-capita number of distress cases among natural persons will be similar. Importantly, the indicators used in the comparison of municipalities are, among others, the per-capita number of debtors on taxes and social-security contributions, the per-capita number of distressed households estimated from the 2019 Household Finance and Consumption Survey (HFCS, Household Finance and Consumption Network 2020) and the per-capita number of judicial enforcement procedures in 2020. We also include the proportion of marginalized Roma communities where 27.6 percent of inhabitants experienced debt enforcement procedures, and 13 percent of

inhabitants experienced debt enforcement multiple times (Grauzelová and Markovič 2018, page 66). While these indicators are useful in describing the financial situation of the population, neither of them gives us the number of distress cases *per se*. It is also important to note that the 3.6 million enforcement procedures in 2017 do not translate directly into 3.6 million cases of distressed natural persons who should (or could) undergo personal bankruptcy. Many enforcement procedures are related to legal persons; one legal or natural person can have numerous enforcements and not all enforcements concern large financial amounts that would warrant personal bankruptcy.

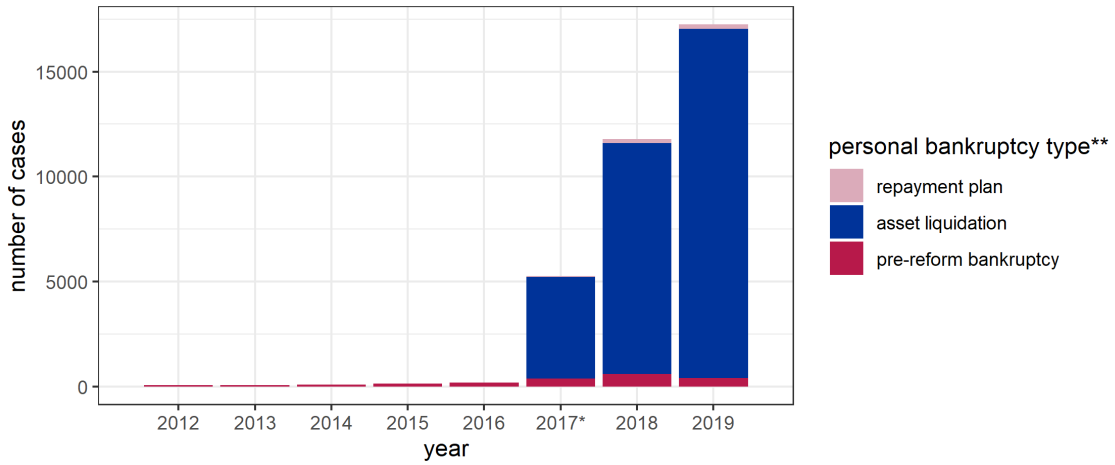

Figure 1: Number of personal bankruptcies (cases), 2012-2019

3.1 The Slovak personal-bankruptcy landscape

The adoption of the sweeping personal bankruptcy reform, which came into force in March 2017, was primarily motivated by a desire to address excessive debt as a serious social problem (Ministry of Justice SR 2016). That legislation was adopted at a time when, according to available data, there were 3.6 million debt collection procedures pending in Slovakia, with nearly half a million new procedures being initiated annually (Paller 2017). Parallel to this development, there was also a

gradual increase in the number of debt collection procedures against particularly vulnerable groups of the population, such as pensioners (Social Insurance Agency 2016). Making fresh-start personal bankruptcy broadly available could thus have contributed to solving the economic and social problems of the population and reducing the burden on Slovak courts. The map in Figure 2 shows the geographical distribution of the bankruptcy rate at the district level from the introduction of the personal bankruptcy reform in March 2017 to the beginning of the COVID-19 pandemic in March 2020. The most important cluster of districts significantly affected by bankruptcies is in the Banská Bystrica region (e.g. districts of Žiar nad Hronom, Banská Štiavnica, Veľký Krtíš, Poltár, Rimavská Sobota, Lučenec). The districts of Svidník, Stropkov, and Medzilaborce in the northeast of the country also showed significantly above-average bankruptcy rates. Conversely, below-average bankruptcy rates are characteristic of several districts in the west of Slovakia (e.g., Senec, Pezinok, Dunajská Streda, Piešťany, Skalica, Malacky and Bratislava districts) and selected districts in the north of the Slovak Republic (Námestovo and Tvrdošín districts).

Note: We evaluate the districts Bratislava I to Bratislava V and Košice I to Košice IV as one geographical unit. This explorative analysis shows that personal bankruptcy is more frequently used in economically less developed regions of Slovakia. In the twelve Least Developed Districts (LDDs), which obtained the status of LDDs at the turn of 2015 and 2016, the number of personal bankruptcies per 1,000 inhabitants at the end of March 2020 was 9.23.[7] The national average achieved by March 2020 was 7.0 cases per 1,000 inhabitants, while this indicator averaged 6.15 in the other 67 districts. Thus, as of March 2020, the bankruptcy rate was

7. The Slovak LDDs constitute a group of economically less developed NUTS4 regions that have consistently suffered from an unemployment rate exceeding the national average by at least 50%. Most of these regions are in Central and Northeastern Slovakia. By contrast, the West of the country, especially the vicinity of the capital city Bratislava, enjoys a more buoyant labor market with higher wages and a significantly lower unemployment rate.

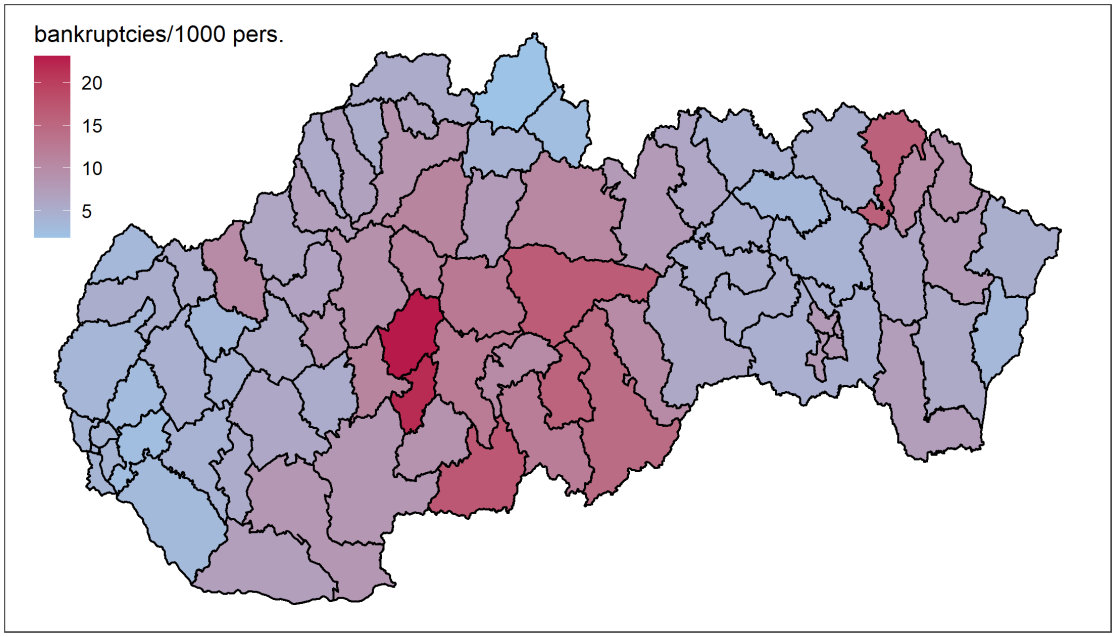

Figure 2: Number of personal bankruptcies per 1,000 inhabitants in districts of the Slovak Republic (March 2017-March 2020).
Source: Authors' elaboration based on micro-data on bankruptcies from the Register of Bankrupts (ru.justice.sk).

approximately 50% higher in the twelve original LDDs than it was in the rest of the country. The difference in the frequency of personal bankruptcies as a proportion of the population is also present when taking into account data from all twenty districts that had LDD status in 2020. However, the difference is more moderate (7.71 personal bankruptcies per 1,000 inhabitants compared to 6.2 in the other 59 districts of the Slovak Republic). These results align with the expectation that those impacted by debt distress are likely to be residents of regions with long-term high unemployment.

Building on the above analysis, Sections 3.2 and 4 address two questions: (i) What is the distance of municipalities with different levels of unemployment and bankruptcy from the nearest CLA? and (ii) What is the statistical relationship between the prevalence of personal bankruptcies in Slovak municipalities and the geographic proximity of CLAs?

3.2 The geographical spread of bankruptcies and the CLA network

Better accessibility to CLAs due to their geographical proximity may play an important role in the prevalence of personal bankruptcy in specific municipalities and regions in Slovakia for several reasons. As mentioned in the introduction, CLAs are the only organization that can file a personal bankruptcy petition with the court on behalf of the bankruptcy filer. At the same time, the bankruptcy paperwork requires personal contact with CLA staff, as the papers must include an overview of the filer's total assets and all debts. If the CLA also provides a loan to cover the advance on the bankruptcy trustee's fees, the documents must also include an agreement signed by the filer to provide this loan. For these reasons, it is virtually impossible to substitute another form of contact for a physical visit to the CLA during the personal bankruptcy process.

In addition to the aforementioned institutional specificities, the likely lower mobility of bankruptcy filers also plays an important role. Bankruptcy filers have a higher risk of material deprivation and economic inactivity than the general population. Low socioeconomic status and low disposable income are, in turn, significant barriers to accessing transport services (e.g., Hine and Mitchell 2001; Roorda et al. 2010; Titheridge et al. 2014; Lucas et al. 2016). The association between low socio-economic status and low mobility has also been confirmed by empirical research based on data collected in Slovakia (Kováč and Hlavatý 2020).[8] Another critical factor is the frequency and quality of transportation connections between materially deprived communities and cities with CLA offices and consultation sites.

Given their small size, Slovak municipalities are an appropriate geographical

8. Moreover, the literature on the use of financial services and its dependence on geographic proximity to prospective clients gives further underpinning for the main hypothesis of this study (e.g., Witte et al. 2015)

unit to use in our analysis. The average Slovak municipality has just below 1,900 inhabitants, while the median municipality has less than 700 inhabitants. In terms of surface, the average Slovak municipality is smaller than 17 square kilometers [6.56 square miles] and thus is among the smallest in the EU (OECD 2018). Moreover, the centroids of these municipalities have been determined using input from the users of the OpenStreetMap database (OpenStreetMap 2022), which generally allows a more useful placement of the centroids in the built-up areas of the municipalities.

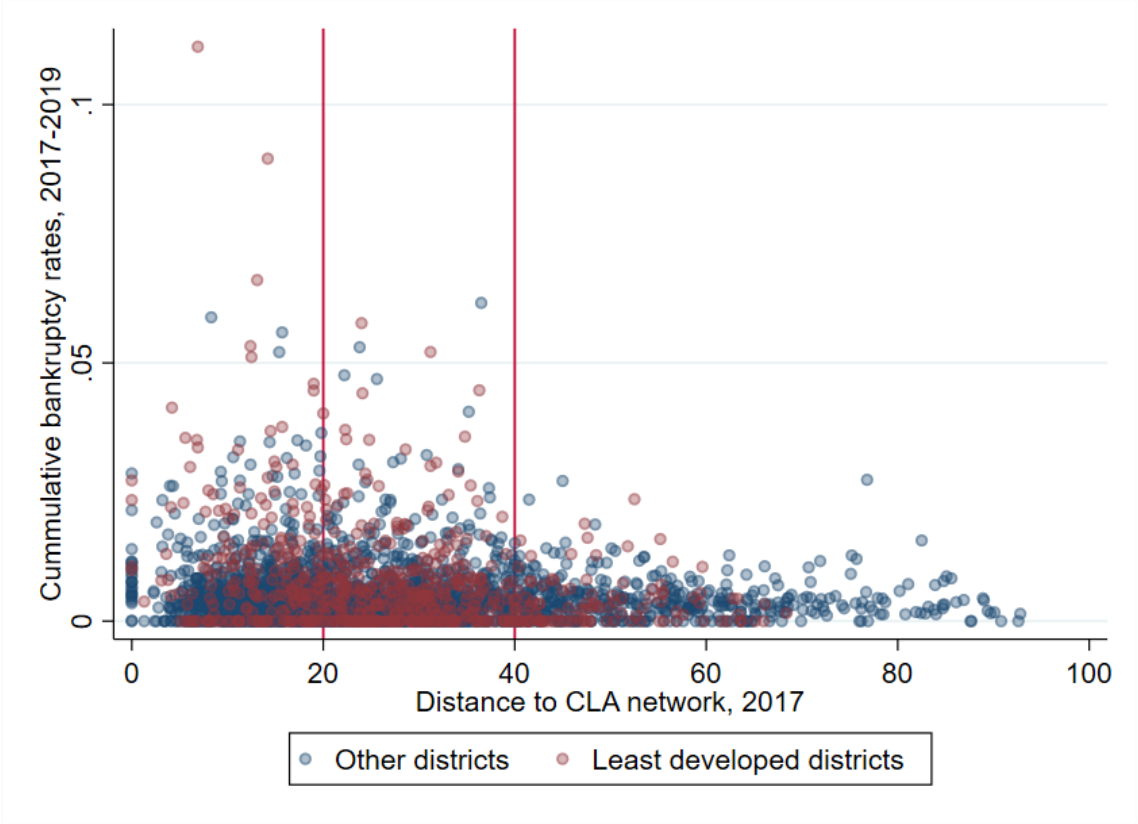

Figure 3: Access to CLA in municipalities, 2019 (km)
Source: Authors' elaboration based on data on the location of CLA offices and sites from the CLA Directorate and data from the Ministry of Transport's Institute of Transport Policy (IDP) on the inter-municipality road distance.

A visual analysis of the relationship between the proximity of the CLA institutional network, the level of economic development of the (micro)region, and the prevalence of personal bankruptcies among the population suggests that some mu-

nicipalities that are in the least developed regions of the Slovak Republic and at the same time were geographically close to the CLA network at the beginning of the period of observation (first quarter of 2017) form small clusters of high bankruptcy rates (see Figure 3). However, the statistical significance of the association between the availability of CLA services and the number of bankruptcies is not identifiable by visual inspection of the data alone. The possible presence of this relationship requires deeper analytical investigation.

As a first insight, we checked the results of a linear regression of bankruptcy rates in a municipality using distance to CLA in kilometers and the control variables reported in Table 1. The distance coefficient corresponds to 0.7 additional bankruptcies per 10 km [6.21 mi] of distance to the nearest relevant CLA workplace per 1,000 inhabitants of the municipality ($p<0.001$). Some of the circumstances specific to Slovakia also allow for a more detailed analysis, as individual municipalities in this country vary considerably in their distance to the nearest CLA office or consultation site. This holds true even among municipalities located in the same broader region, whose economic profile (e.g., unemployment rate) is comparable.[9]

3.3 Distance to the CLA

The extent of the CLA network was characterized by relative stability over time (see Figures 4 and 5), allowing the relationship between the geographic availability of the CLA and population bankruptcy to be sufficiently reflected in the data. There was no expansion of the CLA network until October 2018. Subsequently, in mid-October and November 2018, the CLA network was expanded with consultation offices in Fiľakovo and Giraltovce and CLA offices in Trnava and Tvrdošín. Later in

9. As shown in Figure 4, a fitting example of the heterogeneity of municipalities in the distance to the CLA at the beginning of our observation period (March 2017) are the Dunajská Streda, Komárno, and Galanta districts located in Southwestern Slovakia. There are also significant differences between municipalities in the Kežmarok, Levoča, and Stara Ľubovňa districts in the Northeast, as well as in the districts of Košice-Okolie, Rožňava, and Revúca in the Southeast.

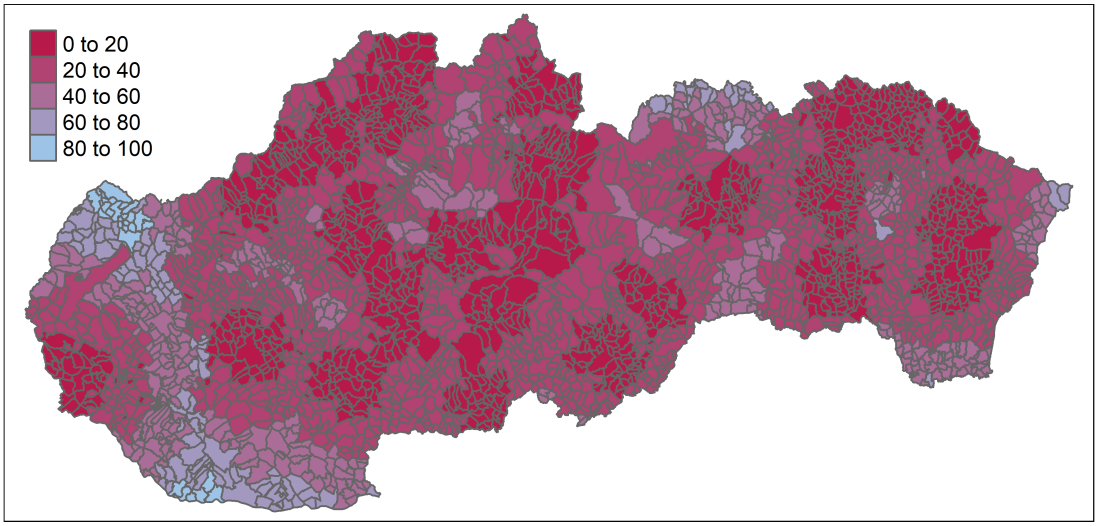

Figure 4: Regional distribution of access to CLA in 2017 [km of road distance]

2019, the CLA network was further expanded by 13 additional units (see Appendix B for more details). The expansion of the CLA network resulted in a gradual decrease in the distance of Slovakia's municipalities from the nearest CLA, which was most significant in Western Slovakia. As shown in Figure 5, at the end of the CLA network expansion process, there remains less diversity in the distance of villages from the nearest CLA unit or office.

Suppose geographic proximity to a CLA is an essential prerequisite for adequate access to personal bankruptcy for residents. In that case, municipalities close to the CLA network will have higher rates of population bankruptcy, even after controlling for the socioeconomic characteristics of towns and villages. At the same time, we can expect most of this difference in bankruptcy rates among the population of municipalities to arise between March 2017 and the end of 2018, when differences in geographic proximity to CLA offices and sites were most pronounced.

For our assessment of the relationship between CLA distance and the prevalence of personal bankruptcy in Slovak municipalities, we created two groups of munici-

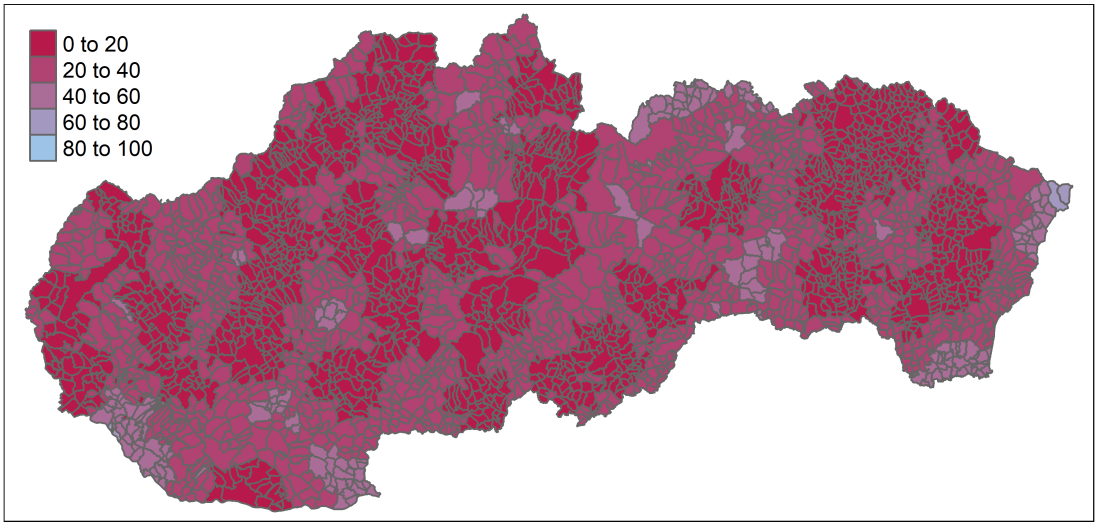

Figure 5: Regional distribution of access to CLA in 2019 [km of road distance]

palities for each month:

We consider municipalities close to the CLA network to be those municipalities whose road distance to the nearest CLA consultation center or CLA office under which the municipality falls was less than 20 km in a given month;[10]

Municipalities remote from the CLA network are those whose road distance from the nearest CLA consultation center or CLA office under which the municipality falls was more than 40 km in a given month.

10. This 20-kilometer-threshold is based on data suggesting that average commuters using bicycles as a means of transportation can overcome such a distance in one hour. In effect, according to STRAVA's 2021 'Year in Sport' statistical report, their average bicycle user has overcome 26.3 kilometers in just below 78 minutes. This translates to an average speed of 20.2 kilometers per hour (STRAVA 2021). Nevertheless, as part of our robustness analysis, we have tested our results using a variety of thresholds both smaller and larger than 20 kilometers.

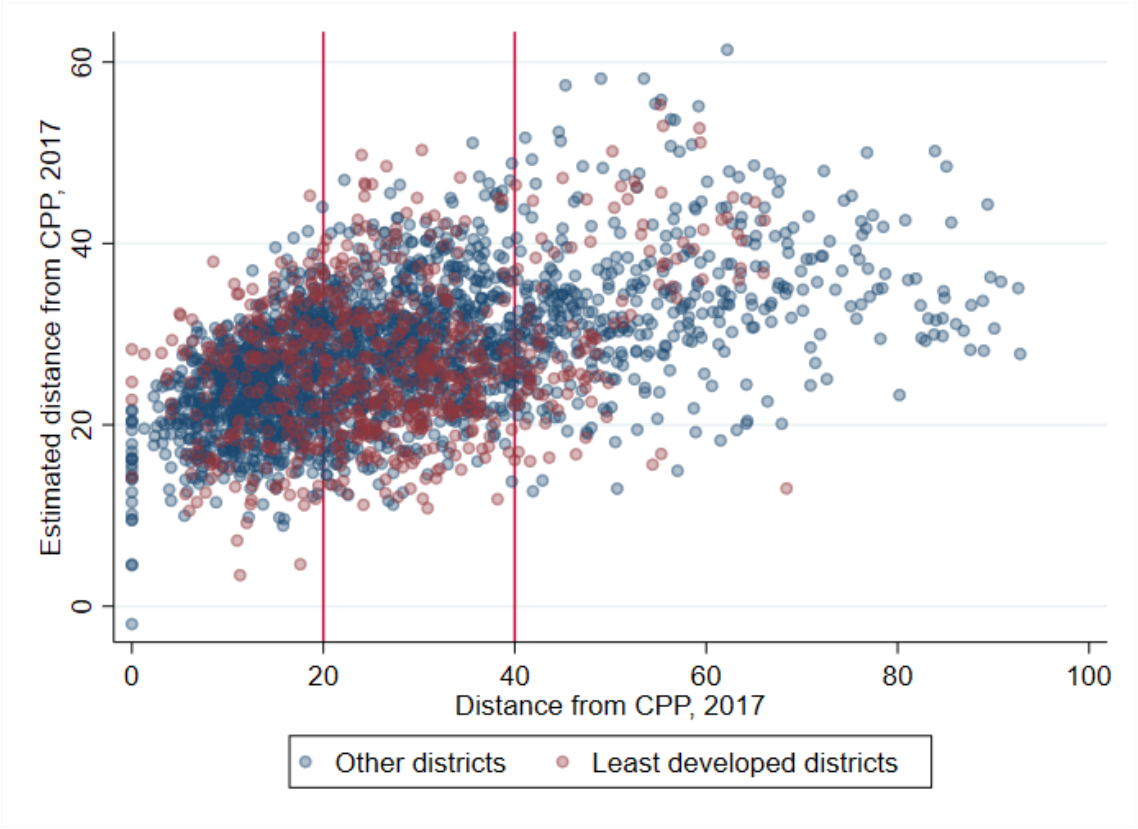

Figure 6: Distance to CLA and predicted distance to CLA
Source: Authors' own creation based on data on the location of CLA offices and consultation sites from the CLA Directorate, data from the Institute of Transport Policy of the Slovak Ministry of Transportation (IDP) on inter-municipal road distance, data from the Bankruptcy Registry (ru.justice.sk) and the list of LDDs.

	January 2017			December 2019		
	Averages		Difference	Averages		Difference
Variable	Far	Near	Near-Far	Far	Near	Near-Far
Distance from CLA	54,517	12,810	-41,707***	46,507	12,574	-33,933***
	(12.359)	(4.773)	(0.426)	(5,705)	(4,854)	(0,424)
Job seeker ratio	0.057	0.066	0.009***	0.076	0.062	-0.013***
	(0.043)	(0.048)	(0.009)	(0.049)	(0.047)	(0.004)
Education: high school and lower	1 696,557	2 229,604	533,047*	1 162,615	2 140,881	978,266*
	(4 024,99)	(6 737,03)	(318,230)	(1 741,34)	(6 292,64)	(519,23)
Tax debtors	0,005	0,005	-0,001***	0,005	0,005	0,000
	(0,004)	(0,004)	(0,000)	(0,004)	(0,004)	(0,000)
Public health insurance debtors	0,023	0,019	-0,004***	0,021	0,020	-0,001
	(0,013)	(0,011)	(0,001)	(0,011)	(0,011)	(0,001)
Public social insurance debtors	0,040	0,035	-0,005**	0,043	0,035	-0,008**
	(0,054)	(0,043)	(0,002)	(0,076)	(0,038)	(0,004)
Financial risk (HFCS)	0,044	0,043	-0,000	0,047	0,043	-0,004***
	(0,006)	(0,007)	(0,000)	(0,007)	(0,007)	(0,001)
Population rate of enforcement procedures, 2020	0,074	0,064	-0,010***	0,082	0,065	-0,017***
	(0,068)	(0,063)	(0,003)	(0,079)	(0,061)	(0,005)
Rate of marginalized Roma communities	4,967	8,772	3,806***	5,581	7,945	2,364
	(13,32)	(18,88)	(0,92)	(12,73)	(17,75)	(1,49)
Material need, promile 2017	25,539	25,847	0,308	41,506	24,364	-17,142***
	(26,620)	(31,487)	(1,591)	(31,436)	(29,604)	(2,559)
Logarithm of population, 2017	6,682	6,676	-0,006	6,394	6,677	0,283***
	(1,111)	(1,240)	(0,064)	(1,105)	(1,209)	(0,103)
Municipal neighbors	5,613	5,916	0,303***	5,365	5,924	0,560***
	(2,027)	(2,186)	(0,113)	(2,051)	(2,172)	(0,186)
Elevation (m)	261,256	325,923	64,667***	274,223	301,586	27,363**
	(183,661)	(157,872)	(8,833)	(229,895)	(153,485)	(13,878)
Travel time to the capital (min)	145,594	186,498	40,904***	197,047	171,924	-25,123***
	(103,181)	(96,552)	(5,235)	(117,499)	(97,648)	(8,554)
Travel time to regional capital (min)	58,649	48,051	-10,597***	77,628	46,760	-30,868***
	(25,773)	(29,444)	(1,502)	(25,959)	(26,916)	(2,307)
Travel time to district capital (min)	22,038	14,295	-7,743***	33,074	14,541	-18,533***
	(12,526)	(6,220)	(0,464)	(14,153)	(6,450)	(0,638)
Median wage (EUR)	613,452	592,558	-20,895***	556,436	608,124	51,688***
	(140,212)	(131,623)	(7,129)	(115,625)	(131,323)	(11,182)
Number of municipalities	524	1 107	2 887	148	1 576	2 887

Table 1: Columns 2 and 5 (*Far*) consist of averages of variables (standard errors in parentheses) for municipalities that were at a given time at least 40 km from the nearest CLA consultation center, or CLA office with jurisdiction over the municipality (further in the text as distance from the CLA network). Columns 3 and 6 (*Near*) include averages of variables (standard errors in parentheses) for municipalities that were at a given time less than 20 km from the CLA network. Column 4 and 7 (*Difference Far-Near*) include the difference between Columns *Far* and *Near* for samples in a given year. Data on public health insurance debtors includes records from the publicly owned health insurance provider *VŠZP* covering approximately 60 % of the entire health insurance market. Sources: Elaboration of the authors based on the analytic dataset (see Table 2 and Data section for sources).

Table 1 shows that more than one-third of municipalities (1,122) were closer than 20 km to a CLA in January 2017. Less than one-fifth of Slovak municipalities (525) were further than 40 km from the CLA. Later, due to the expansion of the CLA network, by December 2019, more than half of the villages (1,593) were closer than 20 km from the CLA, and only five percent of Slovakia's villages (148) were further than 40 km from the CLA. Municipalities with better spatial access in January 2017 have, on average, fewer tax and social-security debtors and lower foreclosure rates. However, they are farther from the capital city and have almost twice the proportion of marginalized Roma communities, are located at a higher elevation, and are closer to regional and district towns. Compared to municipalities with worse access, municipalities with better access at the end of 2019 have more inhabitants with less education than high school, more social insurance debtors, and a higher risk of illiquidity. However, they have fewer residents in material need and are closer to the national capital city, as well as the county and district capitals. The change in the sign of the difference in distance from the capital confirms that the new CLA workplaces that have been built since the last quarter of 2018 have been built mainly in Western Slovakia, which initially had a shortage of CLAs in 2017. It is possible that the CLA network developed until 2017 was optimally spaced given the demand for free legal advisory services, while the 2019 distribution is more responsive to the demand for personal bankruptcy, which also exists in the West of the country. Given these considerable differences, which change over time as CLA sites are added, it would be risky to draw conclusions from a simple comparison of the number of bankruptcies among residents of communities that are distant or close to CLAs. Instead, we evaluate the impact of initial CLA distance on the average number of personal bankruptcies per 1,000 municipal residents. At the same time, we use a statistical approach that allows other socio-economic and geographic characteristics of a given municipality to be considered in the comparison process. We use the

characteristics above to estimate the expected distance to the CLAs. Figure 6 shows the correlation of actual and predicted distance to CLAs. Subsequently, this expected distance is used as a control variable in evaluating the impact of the actual distance of municipalities from the CLA on bankruptcy. This proposed method mitigates the risk that the difference in bankruptcy rates of the population of different municipalities stems from circumstances other than the distance to the CLA itself.

Our analysis will concentrate on the cumulative difference in bankruptcy rates between the municipalities that were (i) close to the CLA network and (ii) far from the CLA network as of early 2017. Given that changes in the distance of municipalities to the CLA only occurred in the last third of the 2017-2019 observation period, the initial distance of municipalities to the CLA is a suitable proxy variable describing proximity to the CLA network.

4 Methods

The experiment that we consider in a broader sense is the unexpected reform of bankruptcy law in Slovakia together with the CLA suddenly gaining a new function. The CLAs were concerned with legal aid and did not function as the necessary first instance in bankruptcy cases prior to the law change in 2017. Thus, while the subsequent expansion had to consider financially distressed individuals considering personal bankruptcy, the initial location was based on other use cases. While debt legal counseling was involved, personal bankruptcy did not dominate the workload of the CLAs. The experiment that we consider in a narrower sense is the difference between the expected distance to the CLA based on a host of available socio-economic and geographic variables and the actual distance to the CLA. Controlling for the expected distance, we look at differences in bankruptcy rates in municipalities that

are near to and far from the CLA. We assume that the remaining variation in access to the CLA is as good as random.

Our empirical strategy is based on the importance of the CLA as a gateway to personal bankruptcy. Given that the Slovak legislation has introduced mandatory debtor representation by the CLA, the proximity of the CLA is also an important prerequisite for accessing personal bankruptcy itself.

Methodologically, we draw inspiration from the econometric work of Powell (1987), which describes the properties of the methodology used, such as its $\sqrt{n}$-consistency and possibility to use a semiparametric regression for the estimation. The method allows us to aggregate the control variables into an index that expresses the expected distance from the CLA, thus avoiding the "curse of dimensionality" in accounting for a multitude of variables.[11]

We use semiparametric regression in Stata as described in Verardi and Debarsy (2012). We first estimate the expected distance from the CLA location with the following equation:

$$distance_i = \beta X_i + \epsilon_i \tag{1}$$

In the above equation, X includes the following variables:

- **municipality population ratios**: low-skilled workforce, share of job seekers, debtors of the Slovak fiscal authority (*Finančné riaditeľstvo Slovenskej Republiky* - FR SR), public social insurance agency (*Sociálna poisťovňa* - SP), and the publicly owned health insurance company (*Všeobecná zdravotná poisťovňa* - VŠZP), low liquidity risk estimated from the HFCS survey, individuals in financial distress in 2020, marginalized Roma settlements, and recipients of Benefit in Material Need[12]

11. We also considered OLS regression with polynomial distance, but the Runge phenomenon (see, e.g., Cheney and Light 2000) would compromise the accuracy of the results. OLS with linear distance from CLA has qualitatively and order-of-magnitude-wise comparable results to our methodology.

12. This benefit provides minimum financial aid to households in poverty. Approximately 2.6%

- **other variables**: log(Population); number of neighbour municipalities; geographical elevation of the municipality; travel time to the nearest regional, district and capital city; median wage.

These variables were chosen to represent the socio-economical and geographic situation in the municipalities that could plausibly influence the decision about the location of CLAs.

We then estimate the impact of the initial distance to the closest CLA location on the bankruptcy rate, estimating the following equation:[13]

$$bankruptcy\ rate_{it} = f(\widehat{distance}(X_i)) + \gamma_t access_i + \nu \tag{2}$$

The predicted distance to the CLA is represented by $\widehat{distance}(X_i)$. We allow the functional form of the influence of the predicted distance to be flexible, using the semi-parametric regression. Index i stands for the municipality and index t refers to the months from Jan 2017- Dec 2019. $Bankruptcy\ rate_{it}$ refers to cumulative bankruptcy rates from Jan 2017 to a given month. To show the results, we plot coefficients γ_t and their respective confidence intervals in graphs to show the evolution of the cumulative effect of initial CLA access on bankruptcies. In our main specification, we define $access_i$ as 1 if the CLA is closer than 20 km and 0 if the CLA is farther than 40 km.[14] Other definitions of access that we substitute in robustness sections include minutes of minimal travel time by public transport and distance to the CLA in km. In the robustness section, we report tests with several different distance threshold combinations.

In order to compute the confidence intervals of the effect, we use bootstrapping. We bootstrap the whole 2-step process 100 times. Using this procedure, we calculate

of the Slovak population received financial assistance from this program in 2019.

13. We use semipar function in Stata 14 to estimate the equation.

14. For the remaining municipalities, this indicator is undefined.

three kinds of confidence intervals: bias corrected, percentile and normal distribution based confidence intervals. These intervals do not change the qualitative results and therefore in this paper we show only the bias corrected confidence intervals.

5 Data

To study the incidence of bankruptcies, we use various administrative, commercial and publicly available datasets. We aggregate bankruptcy counts from the publicly available bankruptcy registry at ru.justice.sk. The data consist of 38,101 individual personal bankruptcies from March 2017 until March 2020. The total number of cases in the register for this period is 38,360 cases. In 259 cases (about 0.86% of all observations), we could not identify one of the key variables. 65 records were of duplicated persons. Including them only once with the earliest date of bankruptcy recorded does not influence our results.

The main explanatory variable, distance between a given municipality's central point (see subsection 3.2) and the nearest CLA, is calculated using data from the Institute of Transportation Policy of the Ministry of Transport and Construction of the Slovak Republic.

We combine data from the Center for Legal Aid with administrative unemployment and social benefit data and data from the Slovak Statistical Office from the 2011 census.[15] We construct social benefits data as follows: The proportion of Benefit in Material Need (*Dávka v hmotnej núdzi*, BMN) recipients equals the number of BMN recipients divided by municipal population. We construct the job seeker ratio as the number of registered unemployed divided by the working age population of the municipality.

The share of low-skilled on the population is calculated as the proportion of job

15. Hlavac, Marek. 2016. "Census 2011 in the Slovak Republic - Data Set." Slovak Data Project, 9 August 2016.

seekers with schooling lower or equal to high school. Tax debtors, Public health insurance debtors and Public social insurance debtors have been obtained from the database of the Slovak Credit Bureau CRIF. Municipality-level data on the municipal number of enforcement procedures in 2020 has been obtained from the Chamber of judicial officers of the Slovak Republic, marginalized Roma settlements from the Atlas of Roma communities,[16] and material need recipients are taken from the administrative data of the Central Office for Labor, Social Affairs and Family (*Ústredie práce, sociálnych vecí a rodiny*). Population, the number of neighbouring municipalities, elevation of the municipality, travel time to the nearest regional, district and capital city and municipality type are provided by Vladimir Bačík. Detailed information on these data can be found in Bačík (2010, 2012) and Bačík and Klobučník (2015). The median wage is aggregated from the administrative data of the Social Insurance Agency. Low liquidity risk is estimated from the HFCS survey[17] in the following way: We regress the indicator of illiquidity of a household on household size (population is used as municipal equivalent), number of members in age groups 0-34, 35-44, 45-54, 55-64, more than 65, number of pensioners, number of unemployed and number of females. The coefficients from this regression were used with the respective census variables to calculate the estimated number of risky households for each municipality. This number was divided by population to calculate the estimated ratio of risky households.[18]

16. For more information on the Atlas of Roma communities, see the webpage of the Ministry of Interior (https://minv.sk/?atlas-romskych-komunit-2019).

17. For more information about the HFCS survey, see Household Finance and Consumption Network 2020.

18. Using logit or linear regression to calculate this control variable does not change the results of our analysis.

6 Results

Let us first look at the association between CLA availability and bankruptcy rates. This association does not consider the ways in which CLA location may correlate with regional poverty. The red line in Figure 7 shows a crude relationship between the trajectory of cumulative bankruptcy rates and CLA availability during 36 months after the reform of bankruptcy law. The graph compares "good access" municipalities closer than 20 km from the nearest relevant CLA location with "worse access" municipalities further than 40 km from the nearest CLA. The comparison shows a substantial difference in bankruptcy rates associated with access to CLA. The difference emerges after a short period of adjustment. Towards the end of the studied period, about two years after the reform, the municipalities with better access to CLA faced 2.8 bankruptcies more per 1,000 individuals. This is a large difference in comparison to the country average of 6.3 bankruptcies per 1,000 persons reached by December 2019. The major CLA expansion in February 2019 seems to correlate with reductions in the slope of cumulative bankruptcy rate differences.[19]

Next, we show the results adjusted for the expected distance to CLA in kilometers. These results show the impact of CLA availability on top of the socio-economic and geographic factors that we used to predict CLA distance. The blue line in Figure 7 shows the estimate of the net effect of CLA access on bankruptcy prevalence in municipalities. When we account for a non-parametric function of the expected distance from CLA based on a range of socio-economic variables, CLA access shows a positive effect on the bankruptcy rate. Before the reform started to be implemented, there is no difference in bankruptcy rates based on CLA access, because the total number of bankruptcies was negligible. Toward the end of the studied period, end of 2019, we estimate the cumulative effect of access on bankruptcies at 3.3 bankruptcies per 1,000 individuals. This effect is both economically and statis-

19. Timeline of the expansions is summarized in Appendix B.

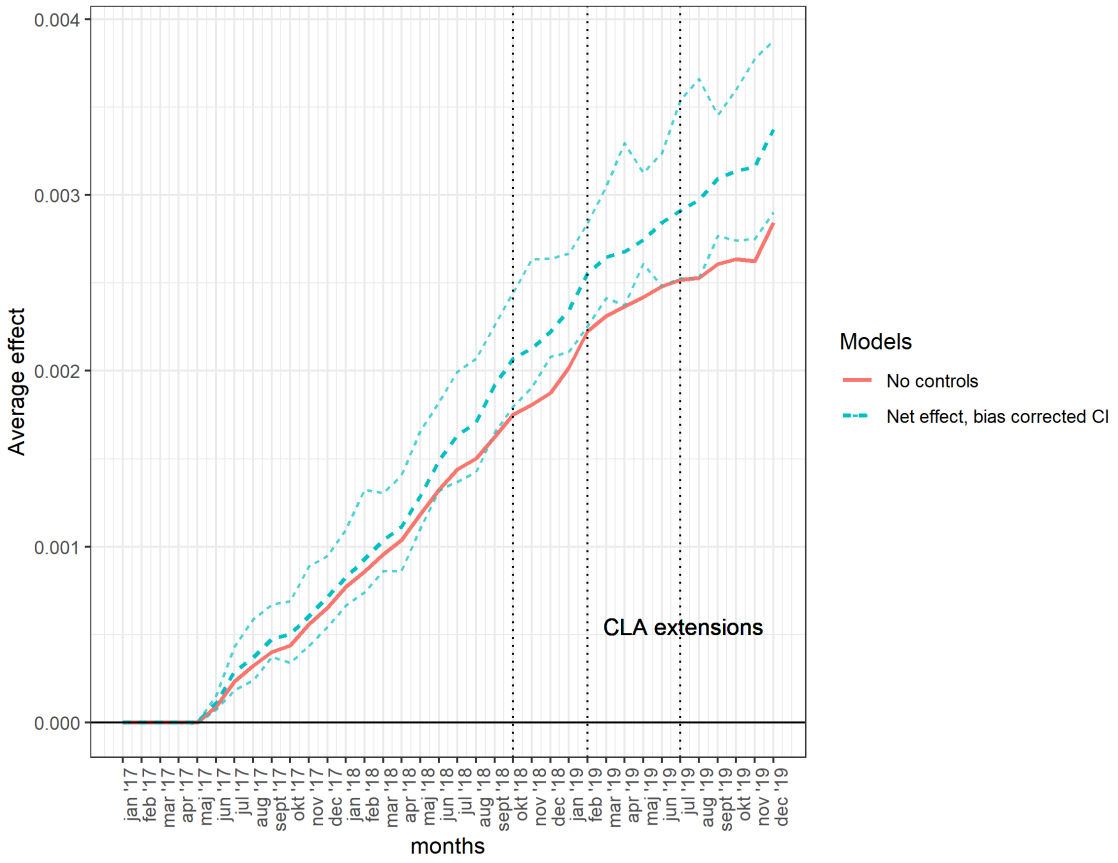

Figure 7: Correlation and net effect of better access to CLA (20 km vs 40 km) with cumulative bankruptcy rates

tically significant at the level of 0.05. The effect is 52 percent of the state mean of 6.3 bankruptcies per 1,000 individuals.[20] The thick line in Figure 8 shows the mean effect estimate while the thinner lines correspond to the different 95% confidence intervals generated by bootstrapping.

The economic significance of the effect can also be illustrated by the following exercise: If we imagine that in 2017 all the municipalities with "worse access" would have better access instead, due to some consultation centers being opened, the estimate of total additional bankruptcies would be around 3,000 bankruptcies in the period of 2017-2019.

20. The association between CLA availability and bankruptcy rates is biased downwards 15% from the improved estimate.

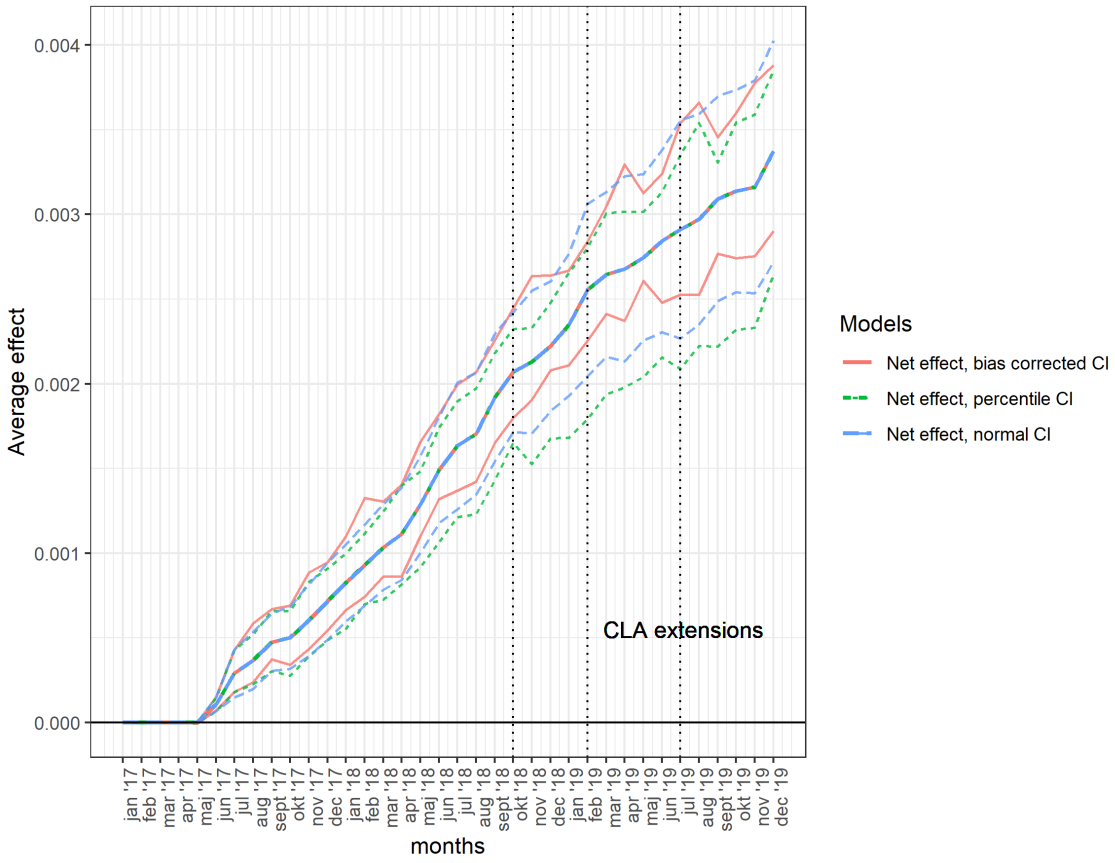

Figure 8: Correlation and net effect of better access to CLA (20 km vs 40 km) with cumulative bankruptcy rates

These results suggest a possible unrealized demand for bankruptcies from June 2017 until January 2019 in municipalities with worse CLA access when the cumulative differences between good and worse access municipalities were growing.

6.1 Distance from the CLA expressed as a continuous variable in kilometers

We also looked at the impact of accessibility using distance in kilometers expressed as a continuous variable, i.e. without creating a near and far group of villages. We control for the expected distance in kilometers. The advantage of this approach is that we use all municipalities for the purpose of the analysis. In this analysis, we find

an increasing effect of initial distance from the CLA on total bankruptcy rates. At the end of the period (December 2019), the difference amounts to 0.7 bankruptcies per 1,000 inhabitants for every 10 km of distance of the municipality from the CLA. As can be seen in Figure 9, this is a statistically significant effect. When converted to the interval used in the main part of the analysis, this result would indicate a difference of 1.4 bankruptcies per 1,000 inhabitants. This difference is smaller, which is understandable since such an analysis includes municipalities with very small differences in CLA availability, which reduces the estimate.

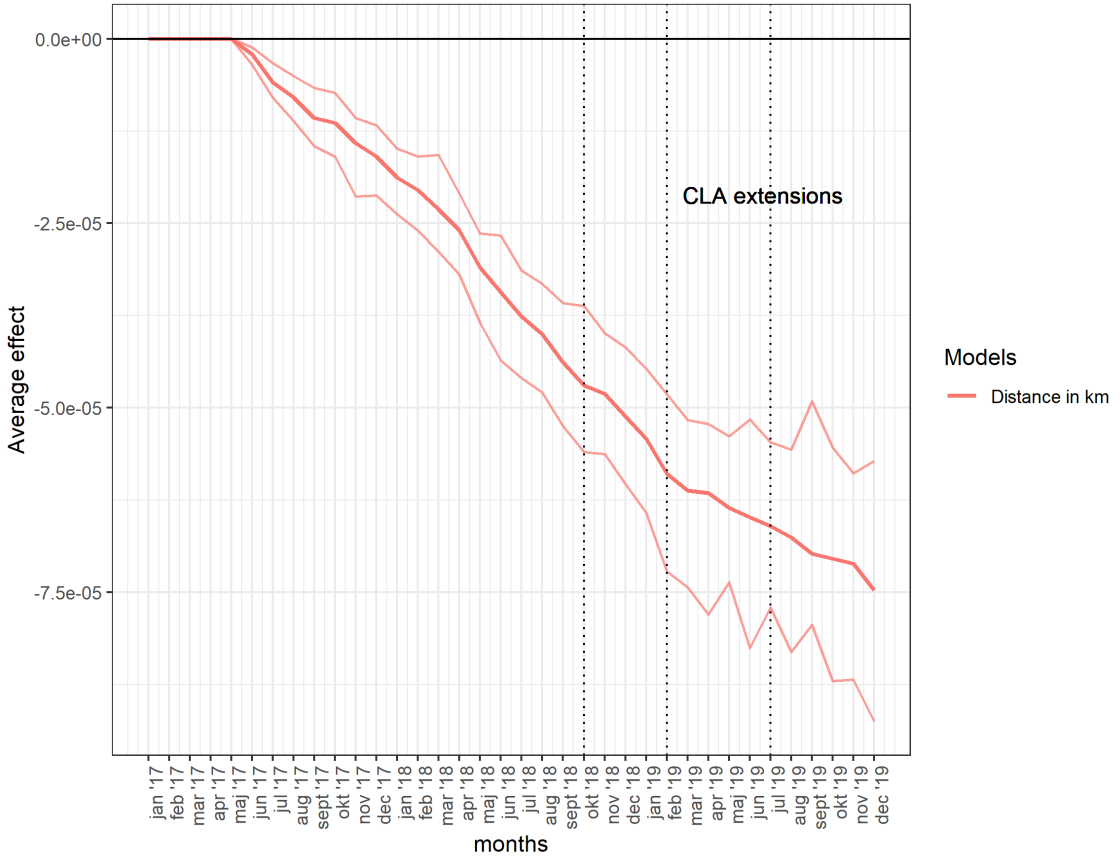

Figure 9: Net effect of distance to CLA (in km) on cumulative bankruptcy rates in municipalities

Our results are robust to specification changes including various definitions of CLA access (other road distance thresholds, access by public transport and distance in kilometers), different samples selected for analysis, and is also confirmed by a

placebo check. The next section shows these robustness results.

7 Robustness

7.1 Alternative access specifications

Our definition of access is based on a choice of access thresholds. In the following section, we show that the results from July 2017 until December 2019 are robust to changes in this definition. Our main results are robust to comparisons of 10 vs 40 km, 30 vs 40 km, 20 vs 30 km and 20 vs 50 km, as shown in Figure 10. When comparing the effect sizes, their confidence intervals largely overlap, with the exception of the closer than 20 km vs farther than 30 km.

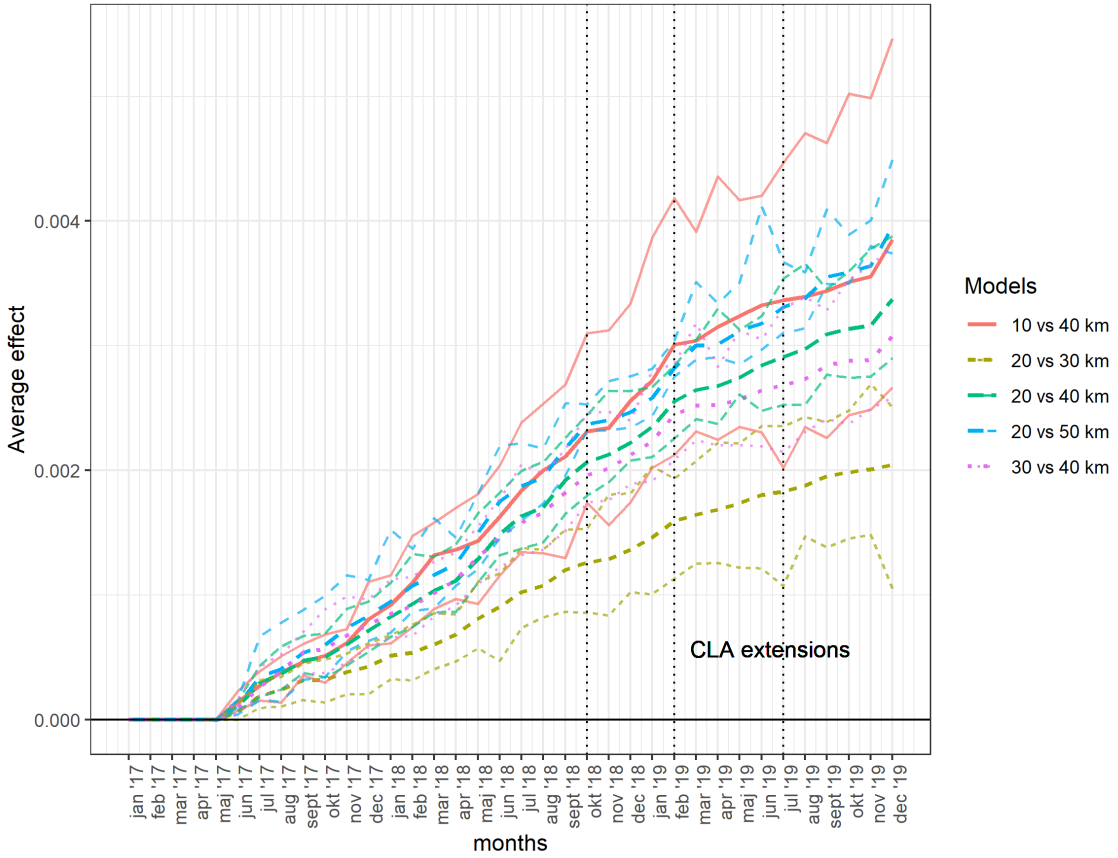

Figure 10: Net effect of better access to CLA (different thresholds) on cumulative bankruptcy rates

Furthermore, we obtained matrices of minimal and mean travel times with the use of public transport. Our main result of a substantial and statistically significant effect holds using good access defined as less than 20 minutes of minimal travel time and worse access as more than 40 minutes of minimal travel time. Figure 11 shows the evolution of the differences in cummulative bankruptcy rates. Minimal travel time shows a large average effect of access to CLA with public transport. When traveling to CLA, which is only necessary once to sign the documents, it is likely to use the fastest available connection, represented by minimal travel time. Mean travel time may be less relevant, which explains the lower effect estimate and a lower bound of the confidence interval touching the zero effect line.

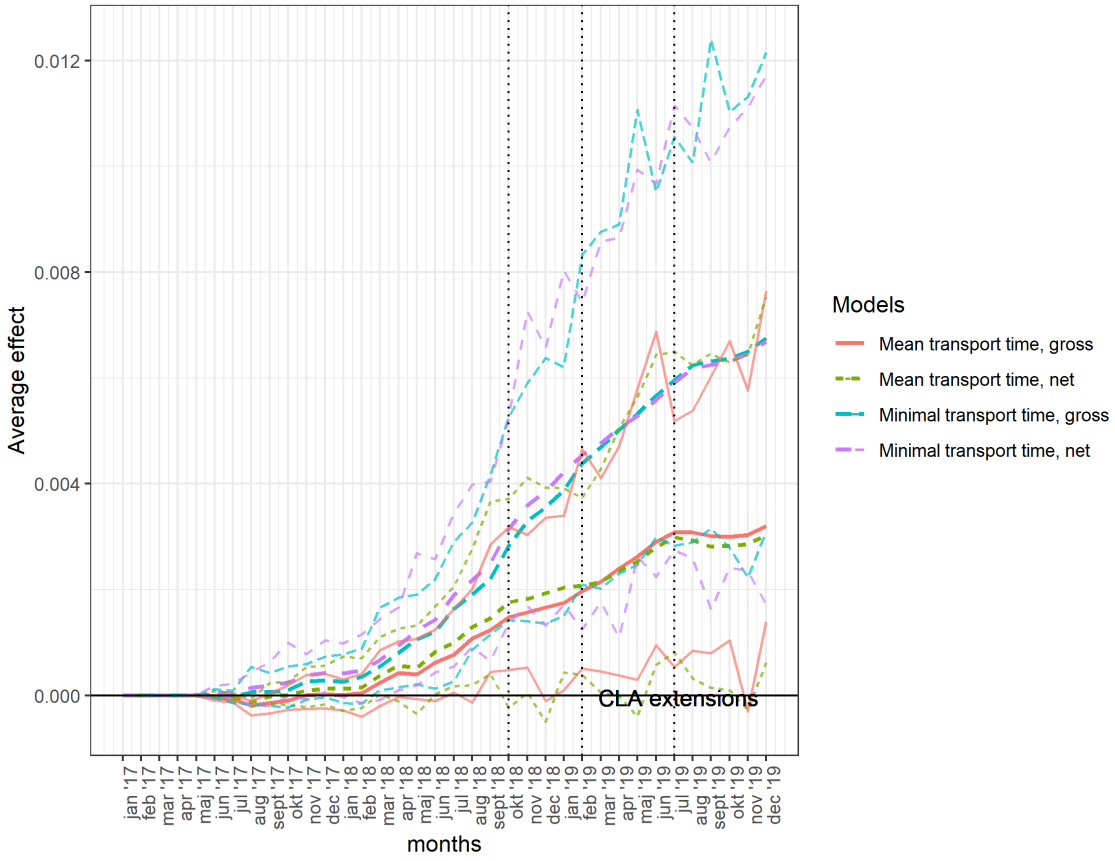

Figure 11: Net effect of better access to CLA (20 min vs 40 min travel time using public transport) on cumulative bankruptcy rates

7.2 Robustness to sample selection

Figure 12 compares the main result with different sample selections and a placebo estimate.

7.2.1 Removing municipalities farther than 60 km from the CLA

Our findings could potentially be driven by outlier municipalities. To mitigate this concern, we restrict the sample to municipalities that are closer than 60 km to the nearest relevant CLA. The resulting mean and confidence interval shown in Figure 12 is very similar to the main specification.

7.2.2 Removing municipalities with changes in access

One may be concerned about the changes in sample composition as more and more municipalities improve their access to the CLA. We run the same regressions with a smaller sample of municipalities with no change in access. Results are shown in Figure 12. Our main result of persistent impact of access on bankruptcies holds in this sample. However, the effect size in this sample is smaller and the confidence intervals are wider. While we assume the initial CLA placement to be exogenous conditional on the expected distance, the subsequent CLA extensions probably concentrated in municipalities that were farther from the CLA at the beginning. Thus this sample has a lower variability in CLA distances.

7.2.3 Placebo check: random assignment of CLA locations

Fewer municipalities remain without access to CLAs every year[21] and one may be concerned as to whether small sample bias could be driving some of our results. We decided to test whether our results could be replicated with virtual placebo CLAs,

21. In January 2017, there were 472 municipalities farther than 40 km from the CLA. In December 2019, only 187 municipalities remained farther than 40 km.

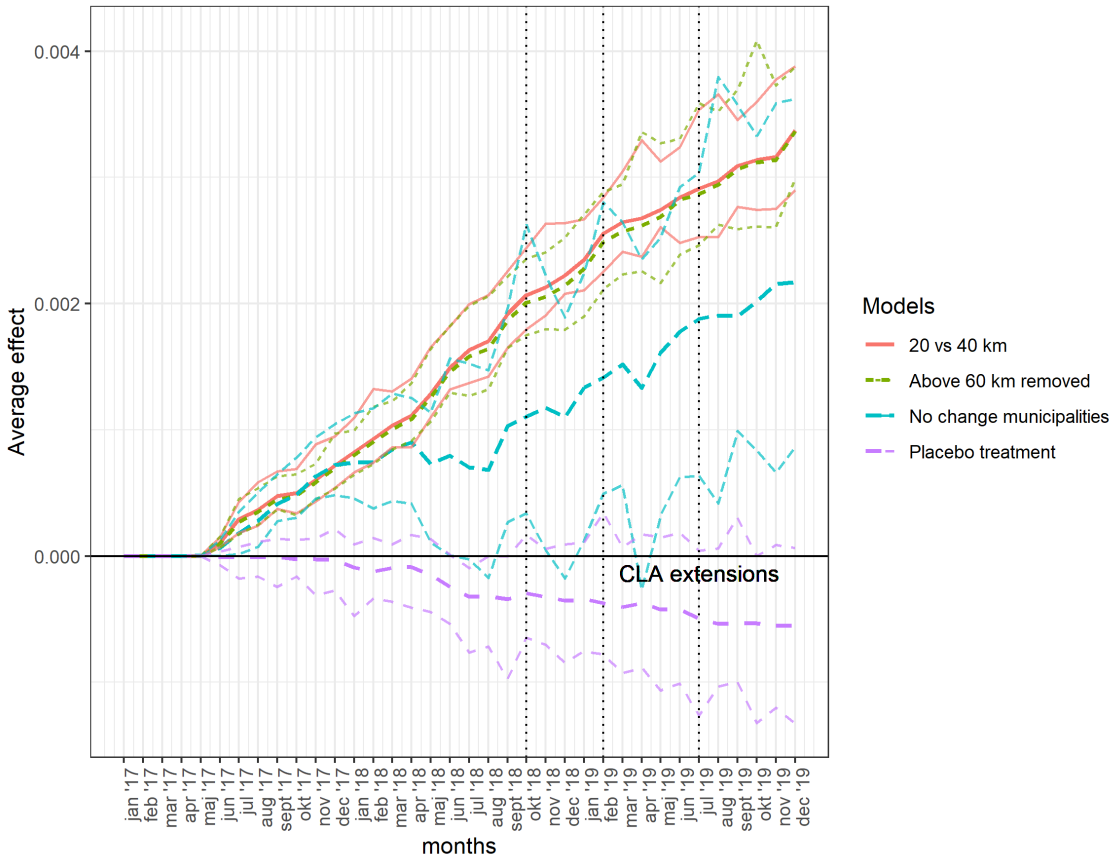

Figure 12: Robustness checks

built with a random probability each month. Each month we randomly improve CLA access in each municipality with poor access with a probability 0.01. Figure 12 shows the results of our exercise. The placebo results are a magnitude smaller than the main results and not statistically significant.

8 Conclusions

The geographical proximity of the nearest CLA is an important prerequisite for the effective availability of filing for personal bankruptcy. In communities that were already close to the CLA network in early 2017, the number of personal bankruptcies per capita was higher during most of the period from March 2017 to December 2019 than in communities located far from the CLA network. The difference between

municipalities that had good access to the CLA network and municipalities far from the CLA network peaked at 2.8 bankruptcies per 1,000 residents in December 2019.

Even after the gradual expansion of the CLA network, differences in the cumulative bankruptcy rate of the population persist, which is consistent with the argument about the importance of geographic proximity to the CLA. At the end of December 2019, the net effect of initial CLA availability on the cumulative bankruptcy rate was 3.3 bankruptcies per 1,000 residents. The described estimate of the impact of CLA proximity on bankruptcy represents the so-called net effect that we obtained after accounting for social and economic differences between the municipalities compared.

However, it is possible that our results represent a phase-in effect of the reform because the sample of the filers included many who accumulated debts a long time before the personal bankruptcy reform. For these debtors, the possibility of formal bankruptcy probably did not enter the interest rate calculation. As the legal institution of personal bankruptcy and new locations of CLA become more widely spread, we expect the impact of the initial distance to the CLA on cumulative bankruptcy rates to gradually weaken.

A simple estimation based on these results shows that there would have been approximately three thousand more personal bankruptcies over the 2017-2019 period in municipalities that were far from the CLA network (distance from the CLA above 40 km) if the accessibility of CLA offices and sites had been significantly better (distance from the CLA below 20 km). This estimate does not include the potential scope to meet the unrealized demand of the population for personal bankruptcy even in those villages that were more than 20 km but less than 40 km away from the nearest CLA.

The positive effect of geographic proximity to CLAs on the availability of personal bankruptcy is present even though CLAs provide information both by phone and e-mail. Thus, our findings suggest that for comprehensive counseling services

for citizens, the physical accessibility of counseling centers is a prerequisite for the effective availability of such a service to the target group. In the Slovak context, the network of Labor, Social Affairs and Family Offices, which, thanks to their mission, naturally come into contact with people with financial difficulties, can make a significant contribution to increasing the availability of debt counselling to indebted households. The foundations for the inclusion of employment offices in the provision of similar types of services to the public were laid with the launch of the National Programme 'Free Debt Counselling' (Ministry of Labour, Social Affairs and Family SR 2021), which aims to intervene at a stage before the debtor is threatened with bankruptcy. We recommend that debt counselling, in an appropriate scope and content, should become part of the services offered by the Labor offices.

While our research was limited to a period preceding the COVID-19 pandemic, the lessons drawn are highly relevant for the international community of policy-makers seeking to avert the negative social consequences of the COVID-19 pandemic. This crisis not only increased the financial vulnerability of large sections of the global population, but one of the key strategies used to mitigate its effect includes limiting the mobility of the public. Given these circumstances, the importance of providing accessible legal services to vulnerable population groups will only grow in the future.

Future research on bankruptcy could be improved by making data on CLA outreach activities among the local population more accessible. Data on CLA activity may play an important role in determining the extent to which their services are used, but at the moment, to our knowledge, data on the intensity and quality of outreach activities of individual CLAs are not available (Analytical Center 2021). This would also be useful to disentangle the limiting factors of information access and cash-flow costs of travel.

In addition to efforts to identify and break down institutional barriers related to addressing the situation of heavily indebted households, it is also important to

evaluate the success rate of such programs, measured e.g. by the (re)integration of borrowers into the labor market. To estimate the net effects of undergoing personal bankruptcy or debt counselling on various outcome indicators, it is essential to establish a good data base on the frequency of individuals affected by foreclosures and structured micro-data on bankruptcy filers. In addition to basic demographic characteristics of clients, these should also include information on their social situation as well as on significant changes in it. Data of this magnitude would make it possible to assess the degree of the effectiveness of these policies and, where appropriate, their positive budgetary impact.

Spatial proximity is an important aspect of accessibility to personal bankruptcy for the overindebted population. After considering the socio-economic factors, by December 2019, spatial proximity increased cumulative bankruptcy rates in comparison to spatially distant municipalities by 3.3 bankruptcies per 1,000 inhabitants.

We estimate that if all municipalities had been close to CLA since the beginning of 2017, the number of personal bankruptcies could have been increased by about 3,000 during the 3 year period of 2017-2019.

We find this effect of geographical proximity even though CLA offers email and telephone communication. This highlights the importance of personal contact with legal aid centers in the process of filing for bankruptcy.

A host of robustness checks support the effect of spatial distance, whether we consider road distance with various cutoff points, or travel times using public transport.

Appendix A Data sources

Description of the variable	Source	Type
Monthly bankruptcy rate in municipalities	MoJ (Ministry of Justice)	continuous
Distance of municipality from the closest CLA	CLA, IDP (Ministry of Transport)	continuous
Ratio of at most high school educated job seekers in a municipality	UoZ (register of job seekers)	continuous
Ratio of college/university educated job seekers in a municipality	UoZ (register of job seekers)	continuous
Job seekers / active age population	UoZ, RFO (register of job seekers)	continuous
Material need recipients /1000 inhabitants	ÚPSVaR	continuous
Ratio of tax, health insurance (VSZP), social insurance debtor counts on municipal population	CRIF-Slovak Credit Bureau	continuous
Logarithm of population	Slovak Statistical Office	continuous
Ratio of estimated risky households on population	HCFS, Census 2011, own calculations	continuous
Ratio of marginalized Roma settlements	Atlas of Roma communities	continuous
Population rate of enforcement procedures, 2020	Chamber of judicial officers of SR	continuous
Number of neighboring municipalities	Bačík, PRIF UK	continuous
Elevation	Bačík, PRIF UK	continuous
Travel times to the nearest regional, district and capital city	Bačík, PRIF UK	continuous
Municipality type (city district, city, village)	Bačík, PRIF UK	categorical
Median wage	Social Insurance Agency	continuous

Table 2: Sources of the analytical dataset

Appendix B List of new CLA locations with opening dates, 2017-2019

- Fiľakovo, Giraltovce – 18.10.2018,
- Trnava (office), Tvrdošín (office) – 01.11.2018,
- Trebišov – 23.01.2019,
- Galanta, Senica, Martin – 01.02.2019,
- Topoľčany, Malacky, Bánovce nad Bebravou, Komárno (office) – 18.02.2019,
- Skalica – 01.04.2019,
- Rožňava – 01.06.2019,
- Stará Ľubovňa – 17.07.2019.

References

Alessandrini, Pietro, Andrea F Presbitero, and Alberto Zazzaro. 2009. "Banks, Distances and Firms' Financing Constraints." *Review of Finance* 13:261–307. https://doi.org/10.1093/rof/rfn010. https://academic.oup.com/rof/article/13/2/261/2886495.

Alleweldt, Frank, Senda Kara, Robert Graham, Elaine Kempson, Sharon Collard Personal, Bernadette Kamleitner, De Muynck, et al. 2013. *The over-indebtedness of European households: updated mapping of the situation, nature and causes, effects and initiatives for alleviating its impact – Part 2: Country reports.* Technical report. www.civic-consulting.de.

Analytical Center, Ministry of Justice SR. 2016. *Statistical yearbooks, Archive 1999-2016.* https://www.justice.gov.sk/stat/statr.htm.

———. 2017. *Štatistická ročenka 2017, Statistical yearbook 2017,* September. http://web.ac-mssr.sk/statisticka-rocenka-2017/.

———. 2018. *Štatistická ročenka 2018, Statistical yearbook 2018.* http://web.ac-mssr.sk/statisticka-rocenka-2018/.

———. 2019. *Štatistická ročenka 2019, Statistical yearbook 2019.* http://web.ac-mssr.sk/statisticka-rocenka-2019/.

———. 2020. *Štatistická ročenka 2020, Statistical yearbook 2020.* http://web.ac-mssr.sk/statisticka-rocenka-2020/.

———. 2021. *Analýza vplyvov právnej úpravy oddlženia fyzických osôb v súlade so zákonom č. 377/2016 Z. z., ktorým sa mení a dopĺňa zákon č. 7/2005 Z. z. o konkurze a reštrukturalizácii.* https://web.ac-mssr.sk/wp-content/uploads/2021/analyzy_komentare/20210902_Sprava_oddlzenie.pdf?fbclid=IwAR3LduOUr02mprMfMyq-ARYdmDmTVP030BSHt9loCnyDmw0lSBjqDab3T8k.

Bačík, Vladimír. 2010. "Websites of Municipalities in the Slovak Republic." *Geographia Cassoviensis* 4 (1): 11–15.

———. 2012. "Google API a ich využitie pri tvorbe internetovej stránky obcí Slovenskej republiky." *Geografia Cassoviensis,* 5–10.

Bačík, Vladimír, and Michal Klobučník. 2015. "Population distribution by selected road network elements-comparison of centroids, geocoded addresses, built-up areas and total areas on the example of Slovak communes." *Bulletin of Geography. Socio-economic Series,* no. 28, 7–20.

Dobbie, Will, Paul Goldsmith-Pinkham, and Crystal S. Yang. 2017. "Consumer bankruptcy and financial health." *Review of Economics and Statistics* 99, no. 5 (December): 853–869. ISSN: 15309142. https://doi.org/10.1162/REST_a_00669.

Dobbie, Will, and Jae Song. 2015. "Debt Relief and Debtor Outcomes: Measuring the Effects of Consumer Bankruptcy Protection." *American Economic Review* 105 (3): 1272–1311. https://doi.org/10.1257/aer.20130612. http://dx.doi.org/10.1257/aer.20130612.

Domonkos, Štefan, and Kristína Hrehová. 2021. *Blízka pomoc sa ráta Vplyv dostupnosti Centier právnej pomoci na bankrotovosť.* Technical report. Bratislava: Inštitút sociálnej politiky, December. www.employment.gov.sk/isp%20https://www.employment.gov.sk/files/slovensky/ministerstvo/analyticke-centrum/analyticke-komentare/komentare_2022/blizka_pomoc_sa_rata.pdf.

Enflo, Kerstin, and Tobias Karlsson. 2018. "From conflict to compromise: the importance of mediation in Swedish work stoppages 1907 - 1927." *European Review of Economic History,* no. 23, 268–298. https://academic.oup.com/ereh/article/23/3/268/5137440.

Eurofound. 2020. *Addressing household over-indebtedness.* Technical report. Luxembourg: Publications Office of the European Union. https://doi.org/10.2806/826227. www.eurofound.europa.eu.

Grauzelová, Táňa, and Filip Markovič. 2018. *Príjmy a životné podmienky v marginalizovaných rómskych komunitách: Vybrané ukazovatele zo zisťovania EU SILC MRK 2018.* Národný projekt Monitorovanie a hodnotenie inkluzívnych politík a ich dopad na marginalizované rómske komunity. 1–80. Bratislava: Úrad splnomocnenca vlády SR pre rómske komunity. ISBN: 9788096997190.

Hine, Julian, and Fiona Mitchell. 2001. "Better for everyone? Travel experiences and transport exclusion." *Urban studies* 38 (2): 319–332.

Household Finance and Consumption Network. 2020. *The Household Finance and Consumption Survey: Methodological report for the 2017 wave.* Technical report. ECB Statistics Paper.

Kilborn, Jason J. 2018. "The Rise and Fall of Fear and Abuse in Consumer Bankruptcy: Most Recent Comparative Evidence from Europe and beyond." *TEx. L. REv.* 96:1327.

Kováč, Lukáš, and Patrik Hlavatý. 2020. *Ako sa „hýbeme": Mobilitné správanie obyvateľstva.* https://www.mindop.sk/ministerstvo-1/doprava-3/institut-dopravnej-politiky/publikacie/komentare/ako-sa-hybeme-mobilitne-spravanie-obyvatelstva.

Lucas, Karen, Giulio Mattioli, Ersilia Verlinghieri, and Alvaro Guzman. 2016. "Transport poverty and its adverse social consequences." In *Proceedings of the institution of civil engineers-transport,* 169:353–365. 6. Thomas Telford Ltd.

Ministry of Justice SR. 2016. *Analýza sociálnych vplyvov vládneho návrhu zákona, ktorým sa mení zákon č. 7/2005 o konkurze a reštrukturalizácii.*

Ministry of Labour, Social Affairs and Family SR. 2021. *Zámer národného projektu NP Bezplatné dlhové poradenstvo.* Technical report. Bratislava: Ministry of Labour, Social Affairs and Family. https://www.partnerskadohoda.gov.sk/data/files/4697_oplz_2021_05_27_zamernp_bezplatne-dlhove-poradenstvo.pdf.

Nguyen, Hoai-Luu Q. 2000. "Are Credit Markets Still Local? Evidence from Bank Branch Closings." *American Economic Journal: Applied Economics* 2019 (1): 1–32. https://doi.org/10.1257/app.20170543. https://doi.org/10.1257/app.20170543.

Niemi-Kiesiläinen, Johanna. 1999. "Consumer Bankruptcy: Market Failure or Social Problem?" *OSGOODE HALL LAW JOURNAL* 37 (1,2): 473–503. http://www.nbrc.gov/reportcont.html.

OECD. 2018. *Key data on Local and Regional Governments in the European Union.* Paris: OECD. https://www.oecd.org/regional/EU-Local-government-key-data.pdf.

OpenStreetMap. 2022. *OpenStreetMap provides map data for thousands of web sites, mobile apps, and hardware devices.* Accessed March 9, 2022. https://www.openstreetmap.org/about.

Oršula, Dávid. 2019. "Slovakia." In *A Guide to Consumer Insolvency Proceedings in Europee.* Edward Elgar Publishing.

Paller, Miroslav. 2017. *Statement by the President of the Slovak Chamber of Judicial Officers. Professional seminar "Aktuální otázky exekučního práva ve světle posledních legislativních změn a v komparaci s novou slovenskou právní úpravou".* https://www.youtube.com/watch?v=IRmrFKH1jjQ.

Powell, James L. 1987. *Semiparametric estimation of bivariate latent variable models.* Working Paper, University of Wisconsin SSRI Research Paper 8704. Wisconsin: Social Systems Research Institute University of Wisconsin. https://ageconsearch.umn.edu/record/292689/files/uwmad-0040.PDF.

Roorda, Matthew J, Antonio Páez, Catherine Morency, Ruben Mercado, and Steven Farber. 2010. "Trip generation of vulnerable populations in three Canadian cities: a spatial ordered probit approach." *Transportation* 37 (3): 525–548.

Social Insurance Agency. 2016. *Ústredie Sociálnej poisťovne informuje.* https://www.socpoist.sk/aktuality-dochodcovia--pozor-na-pozicky--pocet-exekucii-dochodkov-stale-rastie/48411s62695c.

Spectator. 2017. *Number of personal bankruptcies skyrocketing in Slovakia,* September. https://spectator.sme.sk/c/20654869/number-%20of-%20personal-%20bankruptcies-%20skyrocketing-%20in-slovakia.html.

STRAVA. 2021. *Year in Sport 2021.* Technical report. https://1n4rcn88bk4ziht713dla5ub-wpengine.netdna-ssl.com/wp-content/uploads/2021/12/YIS-2021-Press-Book-United-States.pdf.

Titheridge, Helena, Roger L Mackett, Nicola Christie, D Oviedo Hernández, and Runing Ye. 2014. "Transport and poverty: a review of the evidence."

Verardi, Vincenzo, and Nicolas Debarsy. 2012. "Robinson's square root of N consistent semiparametric regression estimator in Stata." *The Stata Journal* 12 (4): 726–735.

Witte, Taylor, Eric A DeVuyst, Brian Whitacre, and Rodney Jones. 2015. "Modeling the impact of distance between offices and borrowers on agricultural loan volume." *Agricultural Finance Review.*

Abstrakt

Cílem osobního bankrotu je nabídnout dlužníkům nový začátek. Zatímco bankrot je často jediné řešení finanční nouze, velké vzdálenosti k dostupné právní pomoci mohou vést k podužívání osobního bankrotu dlužníky, kteří na něj mají nárok. S využitím velkého datového souboru správy osobních bankrotů na Slovensku zkoumáme vliv vzdálenosti od veřejných Center právní pomoci (CPP) na lokální počty osobních bankrotů. Problému s endogenitou se vyhýbáme tím, že se zaměřujeme na růst dostupnosti právní pomoci a očekávanou vzdálenost od nejbližšího CPP využíváme jako kontrolní proměnou. Využití služeb CPP představuje první a nezbytný krok v procesu vyplnění žádosti o osobní bankrot. Vzdálenost od CPP má významný vliv na četnost osobních bankrotů. Čím blíže nejbližší CPP je, tím vyšší je výskyt osobních bankrotů v dané obci. Kvantifikujeme vliv dostupnosti služby na četnost osobních bankrotů a ukazujeme, že lepší dostupnost má statisticky i prakticky významný vliv na využívání osobních bankrotů. Na konci téměř 3letého analyzovaného období měly obce s dobrou dostupností CPP o 3,3 bankrotu na 1000 obyvatel více než obce se špatnou dostupností center. Tento efekt je prakticky významný, jelikož průměrná míra osobních bankrotů do prosince 2019 dosahovala 6,3 bankrotu na 1000 obyvatel.

Klíčová slova: osobní bankrot, insolvence, analýza politiky, regionální nerovnosti, prostorová dostupnost, veřejné služby

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