What can we learn from Eurosystem Household Finance and Consumption Survey data? – An application to household debt in Slovakia

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This study delivers a stock-taking exercise of household debt in Slovakia. About 27% of all Slovak households hold at least some debt. The rate of homeownership in Slovakia is close to 90% and the highest in the euro area, while the share of indebted households is lowest. The reason for this peculiarity lies in the country's history. Less than 10% of households are mortgage debt holders, and about 20% hold nonmortgage debt. About 15% of total debt holdings are covered by liquid financial assets and about 50% by households' total assets excluding the main residence. When accounting only for the debt of vulnerable households, the share of total debt not covered by households' total assets excluding the main residence lies between about 4% and 15% – depending on the definition used for debt burden measures. In Slovakia, mostly households with relatively young household heads are indebted. Regression analyses show that while self-employed persons and persons with higher education are more likely to hold debt, especially the self-employed are less likely to be vulnerable.

The current crisis has shown that, if it is highly indebted, even a small portion of the population can have a substantial influence on market developments and specifically bank solvency. Problems might occur not only in the case of household defaults, but as soon as households' ability to repay their debt is in question as banks might find it more difficult, in such a case, to refinance their debt. The lack of in-depth knowledge about households' balance sheets and specifically the debt burden of indebted households is in stark contrast to the general necessity to assess financial stability risks arising from household debt.

The Eurosystem Household Finance and Consumption Survey (HFCS) coordinated by the European Central Bank (ECB) is the first attempt to supply central banks and other institutions analyzing financial stability with microdata to analyze households' balance sheets across the euro area (ECB, 2013a; ECB, 2013b).

The first HFCS results have shown a large degree of heterogeneity with regard to debt participation, i.e. the share of indebted households in total households and the level of debt across the euro area. In the same vein, heterogeneity with regard to the debt burden and to measures of household vulnerability is high between different countries but also between different household types within countries. The HFCS was conducted in 15 euro area countries, of which only Slovakia and Slovenia are in Central, Eastern and Southeastern Europe (CESEE). Because of the insufficient sample size for Slovenia, this paper focuses on HFCS data on Slovakia.

In the present study, we examine the prevalence of household debt in Slovakia, characterize indebted households and their debt burden and discuss the relations between assets and liabilities of indebted Slovak households, which are especially important with regard to financial stability risks. Section 1 delivers background

information on the role Slovakia plays for Austrian banks. The main part of the
paper, section 2, is split into two parts. Subsection 2.1 includes descriptive statistics
on the prevalence of household debt in Slovakia and on household debt levels.
In subsection 2.2 we present the distribution of selected debt burden measures. In
Section 3, we examine the shares in total debt held by different sets of vulnerable
households (defined on the basis of the selected debt burden measures) and the
shares in total debt covered by different asset classes. Unlike Messner and Zavadil
(2014), we analyze specific groups of debtors whose financial situation is at risk
and who could potentially pose a threat to the financial system. Furthermore, we
examine the probabilities of holding debt as well as of being vulnerable by using
regression analyses. Section 4 concludes.

1 Background on Austrian banks in Slovakia

At end-2014, the Slovak banking sector comprised 28 banks and branches of
foreign banks. Foreign banks owned 88% of total assets of the Slovak banking
system in H1 2014. All the main foreign parent banks active in CESEE have banking
subsidiaries in Slovakia. Table 1 shows Austrian banks' market share in Slovakia
as at December 31, 2014 (39% of total assets). At the end of 2014, domestic
share capital accounted for 5.6% of total subscribed capital in the Slovak banking
sector. Of a total of nine Slovak credit institutions with domestic share capital,
two banks were 100% domestically owned. The Slovak banking sector is relatively
concentrated, with the top five banks holding 70% of total assets in December
2013. The total assets-to-GDP ratio came to 85% and the deposits-to-GDP ratio
was 57% in December 2014. Domestic credit to the private sector, at 53% of
GDP, remains low by regional standards. The loan-to-deposit ratio is under 100%,
which indicates a deposit-based lending activity. Because of this conservative
funding structure and a focus on more traditional banking activities, the Slovak
banking sector has stayed resilient to the global financial crisis. However, due to
the downturn in the domestic economy and the loss of foreign currency transaction
fees following the introduction of the euro, banking sector profitability has
weakened and asset quality has deteriorated. Profits began to recover in 2010,
enabling banks to increase both capital and liquidity.

Table 1

Austrian banks in Slovakia

Subsidiary	Parent bank	Market share (% of total assets)
Sberbank Slovensko	Sberbank Europe	3
Tatra Bank	Raiffeisen Bank International AG	15
Slovenska sporitelna	Erste Group Bank	20
Wüstenrot stavebna sporitelna	Bausparkasse Wüstenrot	1

Source: OeNB.

Chart 1 shows the loan-to-deposit ratios in Eastern European markets. Slovakia has a relatively low and stable loan-to-deposit ratio of about 90%.

Chart 1

Loan-to-deposit ratio
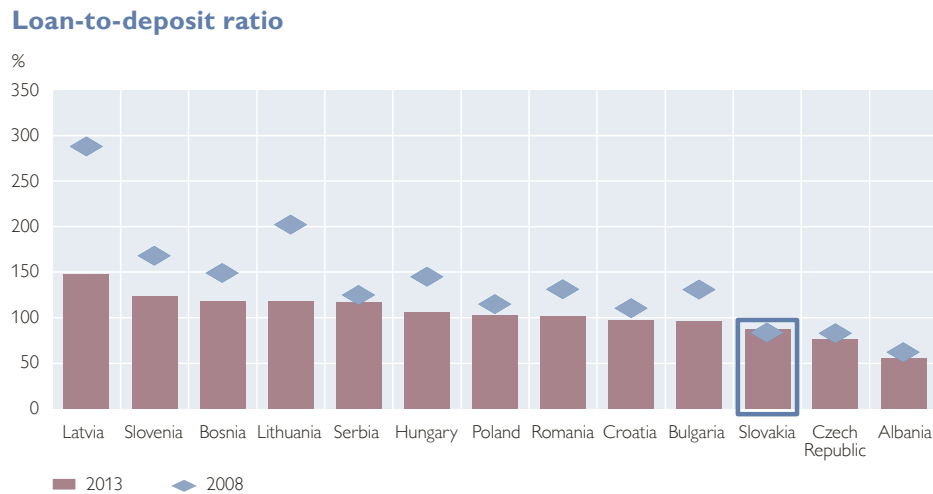
Source: OeNB.

Household sector debt measured as a share of households' disposable income rose sharply in Slovakia between 2004 and 2012, but this ratio still remains among the lowest in the European Union (see chart 2 and chart 3). This can be explained by Slovakia's history of mortgage market developments (for details, see section 3.1).

Chart 2

Households' debt-to-gross disposable income ratio
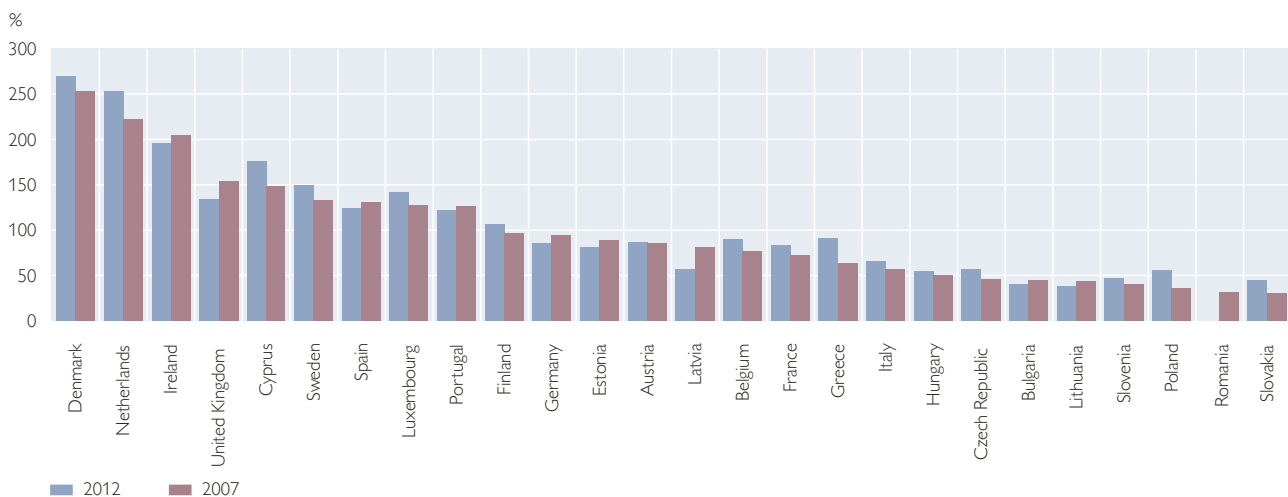
Source: ECB, European Commission.

Note: Gross disposable income adjusted for the change in household setcors' net equity and pension fund reserves.

Chart 3

Slovak households' debt-to-gross disposable income ratio

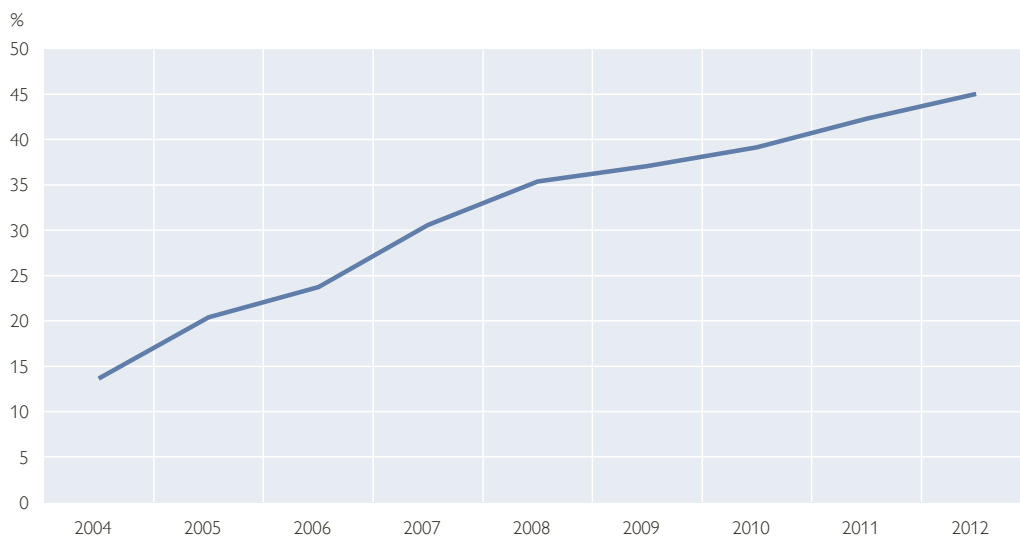*Source: ECB, European Commission.*

Note: Gross disposable income adjusted for the change in household sectors' net equity and pension fund reserves.

Aggregate data do not tell us much about credit risk as they hide the joint distribution of the main risk elements (e.g. households' debt level, debt servicing capacity and collateral).

2 Household-level microdata

We use data from the Slovak HFCS, which is part of the euro area-wide effort to gather household-level micro data on finance and consumption; as such, it is a representative household-level survey that covers the entire balance sheet of households in Slovakia. In particular, it covers various types of loans, e.g. mortgage loans collateralized with the respective household's main residence or with further real estate (reported separately), all types of nonmortgage loans and all types of assets (real and financial assets) households hold. In this analysis, we use most of the information about the liability side of households' balance sheets from the HFCS, whereas for (real and financial) wealth levels and total household income[2] we use only basic information. Sociodemographic information about Slovak households allows us to gain a deeper understanding of the general background of indebted Slovak households.

In Slovakia, an income quota sample scheme was used for the HFCS with stratification based on 8 Slovak regions and 5 municipality-sized groups (altogether 40 strata). Each stratum was attributed to randomly selected municipalities, in which households were chosen by a random walk. The sample covers all households that are neither homeless nor living in an institution (like homes for the elderly or the military). In total, the final net sample consists of 2,057 households. Data from the

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[2] *Household income is measured as gross income and is defined as the sum of labor and nonlabor income of all household members. Labor income is collected for all household members aged 16 and older. Data on other income sources are collected at the household level.*

population register on age, gender, region, household size and housing status were used to establish post-stratification weights, leading to a total of 1.9 million households represented in the survey, implying a mean weight of 929.

Partial response refusal (missing observation, "don't know" and "no answer" responses for specific questions) is corrected by using a Bayesian-based multiple imputation procedure with chained equations. This technique achieves consistent estimates taking into account the uncertainty of imputations. Thus, the results presented in this study are based on all five implicates of the imputations: Following the literature (see e.g. Rubin, 2004), we calculate separate statistics (proportion, mean, median, etc., denoted as S_i) for every implicate $i=1,...,5$ and take the average so that the final estimate is given by

$$S = \frac{1}{5}\sum_{i=1}^{5} S_i.$$ (1)

To calculate standard errors, we use replicate weights $r=1,...,R$ (see e.g. Wu and Rao, 1988, and Wu et al., 1992). Using replicate weights accounts for the additional uncertainties arising from the complex design of the survey and from multiply imputed values, such that total variance is given by

$$T = W + \left(1 + \frac{1}{5}\right)B,$$ (2)

where $W = \frac{1}{5}\sum_{i=1}^{5} U_i$ is the within variance $U_i = \frac{1}{R-1}\sum_{r=1}^{R}(S_{ir} - \overline{S}_{iR})^2$ in a given implicate i averaged over all five implicates, S_{ir} is the statistics S_i calculated for implicate i using replicate weight r, $\overline{S}_{iR} = \frac{1}{R}\sum_{r=1}^{R} S_{ir}$ is the average of S_{ir} over all R replicate weights, and B is the variance between implicates, i.e. $B = \frac{1}{4}\sum_{i=1}^{5}(S_i - S)^2$.

Throughout the study, we use the Canberra reference person, who is chosen according to the international standards of the so-called Canberra Group (UNECE, 2011), which uses the following sequential steps to determine a unique reference person per household: 1) determining household type,[3] 2) determining the person with the highest income, 3) determining the eldest person in the household (see ECB, 2013b).

2.1 Household debt in Slovakia

Household debt across Europe is to a high degree shaped by different institutional settings such as housing market policies but also by history itself. This partly explains the varying degrees of homeownership and also the varying degrees of household indebtedness. Table 2 shows the share of euro area households owning their main residence (HMR) as well as the shares of indebted households and mortgage and nonmortgage debt holders.

[3] Determined by 1) one of the partners in a registered or de facto marriage, with dependent children, 2) one of the partners in a registered or de facto marriage, without dependent children, and 3) a lone parent with dependent children.

Table 2

Prevalence of main residence ownership and household debt across the euro area

	Households owning main residence	Households holding debt	Households holding mortgage debt	Households holding nonmortgage debt
All	60.1	43.7	23.1	29.3
BE	69.6	44.8	30.5	24.2
DE	44.2	47.4	21.5	34.6
GR	72.4	36.6	17.5	26.1
ES	82.7	50.0	32.5	30.7
FR	55.3	46.9	24.4	32.8
IT	68.7	25.2	10.8	17.8
CY	76.7	65.4	44.8	47.9
LU	67.1	58.3	38.8	36.9
MT	77.7	34.1	15.6	25.2
NL	57.1	65.7	44.7	37.3
AT	47.7	35.6	18.4	21.4
PT	71.5	37.7	26.7	18.3
SI	81.8	44.5	14.1	38.9
SK	89.9	26.8	9.6	19.9
FI	67.8	59.8	×	×

Source: ECB, HFCS report on the results from the first wave.

It reveals that, compared to other euro area countries, Slovakia has the highest degree of homeownership, while its share of indebted households is lowest. The reason for this peculiarity lies in the country's history: During the communist era (i.e. before 1990), a housing market de facto did not exist in centrally planned Czechoslovakia. Households could either construct their own house (mainly in the rural areas) or rent a state- or cooperative-owned flat (mainly in towns). After 1990, with political and structural changes proceeding, household-occupied flats could be legally transferred into the ownership of households for an affordable and rather symbolic price. A modern mortgage market, however, only started to develop several years after the fall of communism (Messner and Zavadil, 2014).

Given this historical background, we do not only find high homeownership and low mortgage debt participation in Slovakia in general, but also that debt market participants are relatively young, which will be shown in the subsequent section.

2.1.1 Debt participation and debt level

To illustrate the basics of the risks vulnerable households pose to financial stability, we provide information on the socioeconomic structure of Slovak households, their debt participation and debt levels. As can be seen from the first column in table 3, we find that almost half of Slovak households have one to two members, with the majority of reference persons being middle-aged, having completed secondary education and being regularly employed.

The subsequent columns in table 3 provide the information on households' participation in different types of debt (total debt, mortgage debt and nonmortgage debt). The last two columns show the median volumes of households' mortgage and nonmortgage debt. Slovak households participate only modestly in the debt market: Just slightly over one-quarter of Slovak households hold any debt, 10% have outstanding mortgage debt, collateralized by a piece of property, and

twice as many have noncollateralized debt, such as consumer loan debt or credit card debt. The median values of mortgage and nonmortgage debt differ substantially, since the former covers long-term investments, while the latter is intended to flexibly finance short-term consumption needs.

The first panel of table 3 shows that debt participation increases with household size up to a certain threshold and decreases again as households become larger. For historical reasons (see section above), debtors in Slovakia are relatively young. While 42% of the 25 to 34 year-olds have accumulated debt, only roughly 15% of the 55 to 64 year-olds are debt holders. The picture is similar for mortgage debt, where the highest debt participation can be found among 25 to 44 year-olds. At a higher age, people have partially or fully paid off their debt, which results in negligible debt participation and lower median debt levels. When comparing the

Table 3

Socioeconomic characteristics of indebted households in Slovakia

|	Share in total house-holds	Share (%) of households with			Median value (EUR) of	
		Debt	Mortgage debt	Nonmort-gage debt	Mortgage debt	Nonmort-gage debt
Total		26.8	9.6	19.9	25,000	1,000
Household size						
One household member	23.1	11.2	4.0	7.9	n	515
Two household members	23.8	19.4	6.7	13.8	22,600	1,000
Three household members	20.4	36.5	13.6	27.7	26,900	1,000
Four household members	21.5	41.1	16.3	29.3	25,700	1,900
Five or more household members	11.2	29.4	7.7	25.6	n	900
Age of reference person						
Age 16 to 24	6.0	32.8	8.4	27.6	n	1,100
Age 25 to 34	16.8	41.9	20.5	26.7	28,000	1,200
Age 35 to 44	20.4	39.0	16.5	27.9	26,700	1,000
Age 45 to 54	21.2	32.0	8.0	26.4	15,000	1,700
Age 55 to 64	16.7	14.6	3.9	9.1	n	600
Age 65 to 74	15.7	3.9	0.0	5.4	n	n
Age 75+	3.3	0.0	0.0	0.6	n	n
Highest level of education of reference person						
Primary education	7.1	5.1	1.3	4.4	n	n
Secondary education	76.6	28.4	9.3	22.0	24,800	1,000
Tertiary education	16.3	28.4	15.0	16.8	27,800	2,100
Employment situation of reference person						
Employed	56.0	32.1	12.4	23.4	21,400	1,200
Self-employed	7.5	41.2	17.0	29.0	18,400	2,000
Unemployed	5.2	38.1	12.2	28.2	n	n
Retired	26.2	5.7	0.6	5.1	n	n
Other	5.1	41.3	8.7	35.2	n	700
Total gross household income						
1–20 gross income percentile	20.9	14.0	3.8	11.4	n	400
21–40 gross income percentile	19.1	20.4	8.5	13.5	23,400	600
41–60 gross income percentile	20.1	36.5	12.9	27.0	27,200	1,500
61–80 gross income percentile	19.9	32.6	13.1	23.4	25,300	1,300
81–100 gross income percentile	19.9	30.6	10.0	24.4	23,700	1,900

Source: HFCS 2010, OeNB.

Note: n: less than 25 observations. Other: students, fulfilling domestic tasks, in military service or civilian service. The household reference person is chosen according to the international standards of the so-called Canberra Group (UNECE 2011), which uses the following sequential steps to determine the unique reference person per household: 1) household type determined by a) one of the partners in a registered or de facto marriage, with dependent children, b) one of the partners in a registered or de facto marriage, without dependent children, and c) a lone parent with dependent children, 2) the person with the highest income, 3) the eldest person.

Slovak data with corresponding euro area data (HFCS 2010), Slovak debtors are relatively young compared with the euro area average: while the share of debt participants aged 16 to 34 is roughly 55% in the euro area as a whole, it amounts to approximately 75% in Slovakia. Furthermore, the share of this particular age group holding mortgage debt and nonmortgage debt is 22% and 42%, respectively, in the euro area, whereas it is 29% and 55%, respectively, in Slovakia. The next panel of table 3 shows that households with a better educated reference person are more likely to hold debt. Participation in mortgage debt is particularly higher for persons who have completed tertiary education; their debt levels are also higher, which is probably linked to their better income situation. Nonmortgage debt participation, however, is higher among households whose reference person has completed secondary education.

Chart 4

Distribution of debt-to-asset and debt service-to-income ratios among indebted households in Slovakia

%

Percentile
— Debt-to-asset ratio   — Debt service-to-income ratio
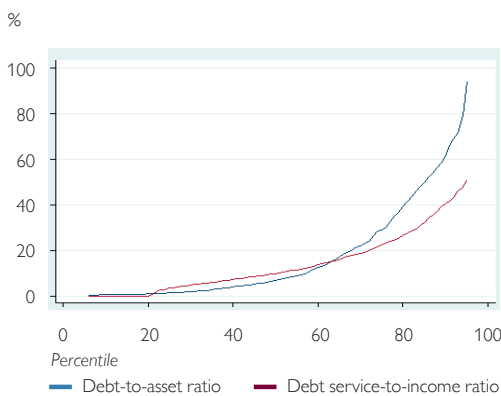
Source: HFCS 2010.

2.2 Debt burden

There are several measures to assess the debt burden. We use two of them, namely the debt service-to-income (DSTI) ratio and the debt-to-asset (DTA) ratio. Chart 4 shows the distribution of these measures between the 5th and 95th percentile for all indebted households in Slovakia.

About 65% of all indebted households in Slovakia have a DSTI ratio below 20% of their gross income and only about 5% exceed a level of 50% of their gross income. Similarly DTA ratios of indebted households are rather low. Again, about 65% of indebted households do not exceed a DTA ratio of 20% and only 5% exceed a debt level of 90% of their assets.

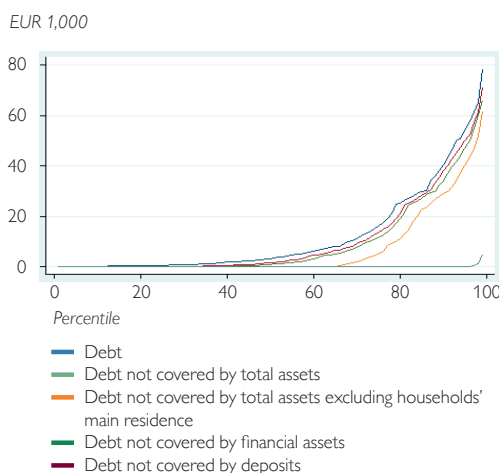## 3 Vulnerability and loss given default

To assess financial stability issues, it is decisive to know details about the joint distribution of households' assets and liabilities. Which part of household debt is covered by assets? Macrodata based on aggregates do not provide answers here as they do not reveal to what degree households that hold debt also hold assets. Microdata allow us to understand the joint distribution of assets and liabilities at the household level.

Chart 5 shows the distribution of debt among indebted households in Slovakia. Additionally, it shows the distribution of debt remaining once 1) deposits, 2) financial assets, 3) households' total assets excluding the household main residence (HMR) and 4) total assets are deducted at the household level. This illustrates which part of households' total debt can be easily covered by their assets, from very liquid ones such as deposits to very illiquid ones such as their main residence. About 15% of households' total debt is covered by deposits, about 20% by households' total financial assets, and about 50% by households' total assets excluding

Chart 5

Debt coverage by different asset classes

EUR 1,000

Percentile

- Debt
- Debt not covered by total assets
- Debt not covered by total assets excluding households' main residence
- Debt not covered by financial assets
- Debt not covered by deposits

Source: HFCS 2010.

their HMR. When the HMR is deducted as well, only 1.2% uncovered debt remains (see table 4). However, interpretations need to be cautious as this is purely an accounting exercise. Given financial stress or fire sales in the housing market, it is very likely that banks and/or households would not be able to achieve the estimated market prices given by respondents.

To better understand the share of debt with possibly higher associated risks, a frequently used approach is to define so-called vulnerable households, i.e. households whose debt burden exceeds a certain level. Additionally, one can use a financial margin definition, which relates typical expenditure with typical income. We focus on the three most consensual indicators gained from these approaches (Albacete and Lindner, 2013; Albacete and Fessler, 2010; ECB, 2013a), arriving at the following three definitions of vulnerable households (see table 4):

— first indicator: all households with a DSTI ratio above 40% (10.3% of indebted households);

— second indicator: all households with a DTA ratio above 75% 6.3% of indebted households);

— third indicator: all households whose household expenditure in the last 12 months exceeded household income (definition related to the financial margin (FM) and based on a direct question to respondents) (9.4% of indebted households).

Table 4

Debt of indebted households by vulnerability and asset coverage

	All indebted households	Debt service to income > 40%	Debt-to-asset ratio > 75%	Expenditure exceeds income
	Share in total debt, %			
Percent of indebted households	100	10.3	6.3	9.4
Total debt	100.0	28.9	8.7	9.1
Debt not covered by liquid assets	85.2	26.5	8.5	8.2
Debt not covered by financial assets	78.2	24.5	8.3	7.5
Debt not covered by total assets excluding households' main residence	51.7	15.2	7.2	3.9
Debt not covered by total assets	1.2	0.4	1.2	0.7

Source: HFCS 2010.

Households defined as vulnerable by their DSTI ratio (10.3%) hold a highly overproportional amount of debt (28.9%), while those defined as vulnerable by their DTA ratio (6.3%) hold only a slightly overproportional share (8.7%) in total

debt and those defined as vulnerable according to the FM definition (9.4%) hold an underproportional share (9.1%). This share decreases most strongly for households under the DSTI definition once real assets as well as HMRs are deducted. That indicates that households with a high DSTI ratio are likely to have relatively large mortgage loans that served to buy relatively expensive main residences. Households with a high DTA ratio, by contrast, seem to post somewhat lower debt levels accompanied by lower asset values. Households with a negative FM are less frequently mortgage holders owning HMRs, as their debt levels decrease only slightly (compared to that of the other groups) when the respective HMR is deducted.

To better understand which socioeconomic characteristics are related to holding debt in general as well as to being vulnerable, we estimate a number of logistic regressions and calculate the average marginal effects.

Table 5 shows the estimated marginal effects of four logit regressions.[4]

The first column includes the full household sample and estimates the marginal effect on households' probability of holding debt. On average, their probability of holding debt (i.e. the share of indebted households) is 0.27. This probability increases with the level of education (secondary education: +15 percentage points; tertiary education: +12 percentage points) compared to households whose reference persons have only primary education. Being self-employed or retired rather than being employed also increases the probability of holding debt by 7.5 percent-

Table 5

Debt and vulnerability logit regressions: marginal effects

|	P(debt|X)	P(DSTI>40|X)	P(DTA>75|X)	P(FM<0|X)
P(Y)	0.267	0.103	0.063	0.094
Average marginal effects (dy/dx)				
Number of household members	0.00909	−0.0125***	−0.0227***	0.0242***
	(0.0149)	(0.00476)	(0.00387)	(0.00272)
Age	0.0322***	0.0108**	−0.00650	0.0103
	(0.00209)	(0.00512)	(0.00876)	(0.0156)
Age squared	−0.000455***	−0.000159***	5.55e−05	−0.000120
	(9.54e−06)	(6.09e−05)	(0.000114)	(0.000197)
Secondary education	0.155***	−0.152**	−0.00832	−0.0511
	(0.0253)	(0.0612)	(0.0799)	(0.152)
Tertiary education	0.128***	−0.145***	−0.0600	−0.0920
	(0.0136)	(0.0456)	(0.104)	(0.193)
Self-employed	0.0781***	−0.0296*	−0.146***	−0.0262***
	(0.0177)	(0.0173)	(0.0151)	(0.00336)
Unemployed	0.0242	0.0150	0.0507***	0.134***
	(0.0280)	(0.0647)	(0.0138)	(0.0399)
Retired	0.0351***		−0.00933	0.0440
	(0.00342)		(0.0449)	(0.127)
Other	0.116***	0.0474**	−0.0728***	0.0511***
	(0.00164)	(0.0200)	(0.0169)	(0.0129)
Number of observations	2.057	632	632	632

Source: HFCS 2010.

*Note: Standard errors in parentheses (using replicate weights). ***, ** and * denote significance at the 0.01, 0.05 and 0.10 level, respectively.*

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[4] *Since this is a purely descriptive model, we do not present any measures of goodness of fit.*

Chart 6

**Effect of age on probability
of holding debt**

P(Debt=1)

Age of reference person
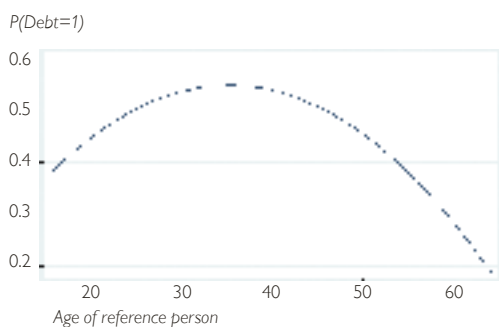
Source: HFCS 2010.

age points and 3.4 percentage points, respectively. The number of household members is found not to play a significant role in household indebtedness.

In our regression, we control for the age of the reference person using age itself as well as a quadratic age term (both highly significant) to allow for nonlinearities. While we find a hump-shaped age pattern, the strong effect already for the group of very young reference persons is remarkable (see chart 6).

The second, third and fourth column of table 5 show logit regressions using only indebted households to predict the probability of a household to be vulnerable according to our three measures of vulnerability. The results show that larger households are less likely to be vulnerable with regard to their DSTI (–1.3 percentage points) and DTA measures (–2.3 percentage points) but are at the same time more likely to be vulnerable with regard to their FM measure (+2.4 percentage points). These are all substantial effects given the low probability of being among vulnerable households (i.e. share of vulnerable households in indebted households). Age seems to be only relevant with respect to the DSTI measure, where it also reveals a hump-shaped pattern among indebted households. The same is true for higher education (secondary education: –15 percentage points; tertiary education: –15 percentage points), which has a significant and very strong negative effect on the households' probability of being vulnerable with regard to the DSTI measure but does not show any significant relationship to the other measures. Being self-employed significantly decreases the probability of being vulnerable with regard to all three vulnerability measures, but especially for the DTA measure (–15 percentage points), while being unemployed strongly increases the probability of being vulnerable with regard to the DTA measure (+5.1 percentage points) and the FM measure (+13.4 percentage points). Although in the category "Other," there are significant effects on the probability of being vulnerable with regard to all vulnerability measures, we do not consider these results since the "Other" group is very heterogeneous and comprises only 5% of total Slovak households.

4 Conclusions

The Household Finance and Consumption Survey (HFCS) for Slovakia provides interesting insights into household indebtedness and household vulnerability in Slovakia. The availability of HFCS or comparable data sets from other CESEE countries would significantly increase the possibilities for analyses of possible risks for financial stability arising from household indebtedness.

The rate of homeownership in Slovakia is close to 90%, which is the highest in the euro area, while the share of indebted households in total households is lowest. Moreover, in Slovakia mostly households with relatively young household heads

are indebted. The reason for this peculiarity lies in the country's history after 1990 and the related political and structural changes.

We find that about 27% of all Slovak households hold at least some debt. Less than 10% are mortgage debt holders and about 20% hold nonmortgage debt. About 15% of households' total debt holdings are covered by liquid financial assets, and about 50% by households' total assets excluding the main residence. When accounting only for vulnerable households' debt, the share of total debt not covered by households' total assets excluding the main residence is between about 4% and 15%. Regression analyses show that while self-employed persons and those with higher education are more likely to hold debt, especially the self-employed are less likely to be vulnerable. Overall, risks for banks resulting from household debt in Slovakia seem to be far less pronounced than in other countries of the region. However, microdata on households that would allow for analyzing household vulnerability are still fairly scarce in Eastern Europe. Fortunately, Estonia, Poland and Hungary are expected to join the second wave of the HFCS, which will significantly increase the possibilities to analyze financial stability based on comparable cross-country data or to monitor the structural dynamics of households' financial vulnerability in these countries.

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