

Households financial fragility in Western Balkan countries beforehand Covid-19

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Outline of the presentation

- Introduction
- Literature review
- Data
- Results
- Some remarks

I. Introduction

- The global financial crisis of 2008 and pandemic crisis caused by Covid-9 has increasingly drawn attention to financial fragility of the households and their ability to withstand shocks such as a sudden drop in income, loss of a job or an unexpected expenditure.
- The aim of this paper is to assess household's ability in Western Balkan countries to cope an unexpected expenditure shock based on the indicator proposed by Lusardi et al (2011), (Room and Merikull (2017), Deevy et al (2021). This indicator is based on self-assessment of households on their level of precautionary savings to resist to an unexpected event.
- And to understand how financial fragility is associated with socioeconomic factors and other factors such exposure toward debt, access to finance and subjective perceptions based economic situation, financial situation and job situation of households.

II. Literature review

- The macro empirical approach is more focused on macro perspective aspect of analysing household financial vulnerability, based mainly on aggregate data to assess household indebtedness and its main determinants.
 - Main indicators such as debt to income ratio (DTI) and debt-service-to income ratio (DSTI) are helpful to detect the building up of the vulnerabilities over time and countries, but can mask large variations among households (Fared et al., 2017, Albaceta and Fessler, 2010).
- The micro empirical approach, based mostly on the use of household survey data tends to identify the profiles and the distribution of most vulnerable households.
 - Household financial vulnerability based mainly on the level of household debt, its determinants and how various macroeconomic shocks such as a job loss or interest rate shock may effect household financial position and bank stability. Focusing only on the level of household debt or on debt to income and debt to service ratio, we assess only one aspect of household vulnerability.
- Jappelli et al, (2008), Lussardi et al,(2011), Anderloni et al, (2012), Brunetti et al (2012), have emphasized the importance of other aspects of household vulnerability related to their perceptions on financial situation, debt burden, evaluation of difficulties in making ends meet and other qualitative assessments of financial problem.

II. Literature review

- Bialowolski and Bialowolska (2012) have shown that to make an full assessment of the financial situation of households, both subjective and objective indicators have to be considered to capture differences:
 - of future financial situations,
 - in preferences between households,
 - on opinions (and misperceptions) of the current financial position of households,
 - on household characteristics such as labour market status, gender and marital status of the head of household,
 - other personal traits, such as attitude toward risk.
- Leika and Marchettin (2017) underlined the lack of a uniform and a standard concept for the households' financial resilience or vulnerability (Leika and Marchettin 2017).
- However this study by analyzing which variables are more correlated with financial fragility of households attempts to fill the gap on literature, looking at the relevance of socio-economic factors on household financial fragility on WB countries based on subjective measure such as to the ability to cope with an unexpected expenditure shock equal to an international poverty threshold.

Some stylized facts for WB-based on LiTS results



Life in Transitions Survey, LiTS

- Representative sample of around 1500 households per 34 countries.
- We use data from the III wave conducted during 2015-2016, for 6 countries in WB,
- 9009 households
- A complex survey, information on dwelling, living conditions, assets, expectations on country economic situation and on households financial situation.

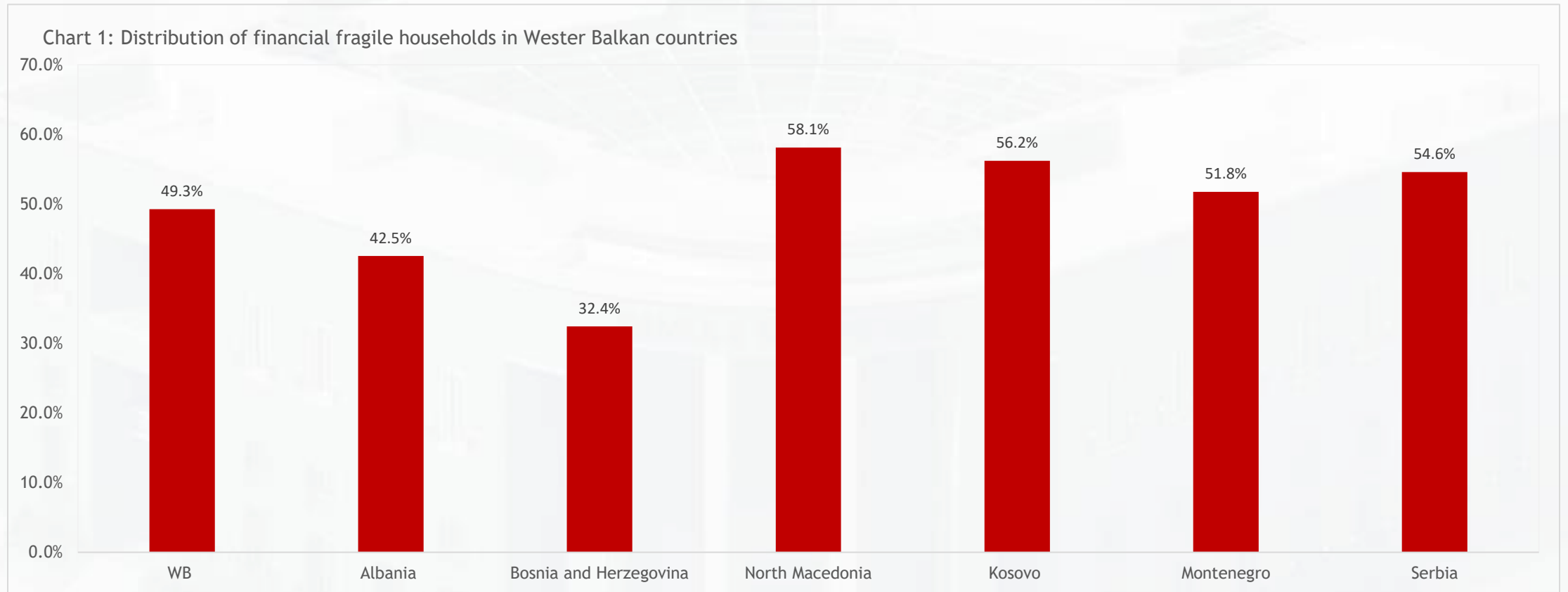
- Albania, N_H=1500
- Bosnia-Herzegovina, N_H=1499
- North-Macedonia, N_H=1499
- Kosovo, N_H=1500
- Montenegro, N_H=1503
- Serbia, N_H=1503
- Total number of households, 6 WB=9,009

Some stylized facts for WB countries: LiTS results

Depended variable: Main survey question

- “Could your household meet with its own resources an unexpected expenditures up to international poverty threshold?”
 - Yes easily
 - Yes with difficulty
 - No
- According to the survey, unexpected expenditures includes urgent repairs of the dwelling, car, replacement of washing machine, refrigerator, sudden illness etc.
- Financial fragile households are those that responds that cannot afford with their own resources an unexpected expenditure shock.

Some stylized facts for WB countries: LiTS results



Source: LiTS, 2016, authors' calculations, Note: Percentage weighted data

- Financial fragile households account for 49 % of total households in WB
- Data show some heterogeneity between countries, North Macedonia and Kosovo have the higher percentage of financial fragile households, while BH has the lowest percentage of financial fragile households.

IV. Methodology

- The aim is to explain the prevalence of individuals of being financial fragile as a function of households socioeconomic characteristic, perception of their financial and economic situation and variation across countries specified as follows:

$$F_i^* = x_i\beta + \mu_i$$

$$F_i = \begin{cases} 1, & \text{if households report that cannot come up with their resources an expenditure shock up to international poverty threshold} \\ 0, & \text{otherwise} \end{cases}$$

- While the probability of household being financial fragile is determined as follows:

$$\Pr(y_i = 1 | x_i\beta) = \Pr(F_i^* > 0) = \Pr(x_i\beta + \mu_i > 0) = 1 - F_u(-x_i\beta)$$

and F_u is the cumulative distribution function of μ_i ,

Data and descriptive statistics for all households

	Non-Fragile	Fragile
Total	50.7%	49.3%
Gender		
Male	53.0%	47.0%
Female	41.6%	58.4%
Age		
Young (ages 35-lowers)	57.7%	42.3%
Young middle age adults (ages 36-50)	54.9%	45.1%
Old middle age adults (ages 51-65)	50.3%	49.7%
Senior adults (older than ages 65)	41.0%	59.0%
Education		
Primary	32.3%	67.7%
Secondary	50.5%	49.5%
Tertiary	69.9%	30.1%
Marital status		
Not married	46.0%	54.0%
Married	53.5%	46.5%
Employment status		
Not employed	41.6%	58.4%
Employed	61.3%	38.7%
Financially dependent children		
0	49.3%	50.7%
1	57.0%	43.0%
2	58.3%	41.7%
3	46.5%	53.5%
4 or more	45.3%	54.7%

	Non-Fragile	Fragile
Household monthly income		
Q1 income (Less than €244)	39.7%	60.3%
Q2 income (€244-€373)	34.5%	65.5%
Q3 income (€373-€500)	48.0%	52.0%
Q4 income (€500-€728)	69.9%	30.1%
Q5 income (€729 more)	81.8%	18.2%
Area, Rural	48%	52%
Having a mortgage	59.2%	40.8%
Having bank access	56.7%	43.3%
Having second residence	67.0%	33.0%
Having land	55.2%	44.8%
Savings < 3 monthly income	51.4%	48.6%

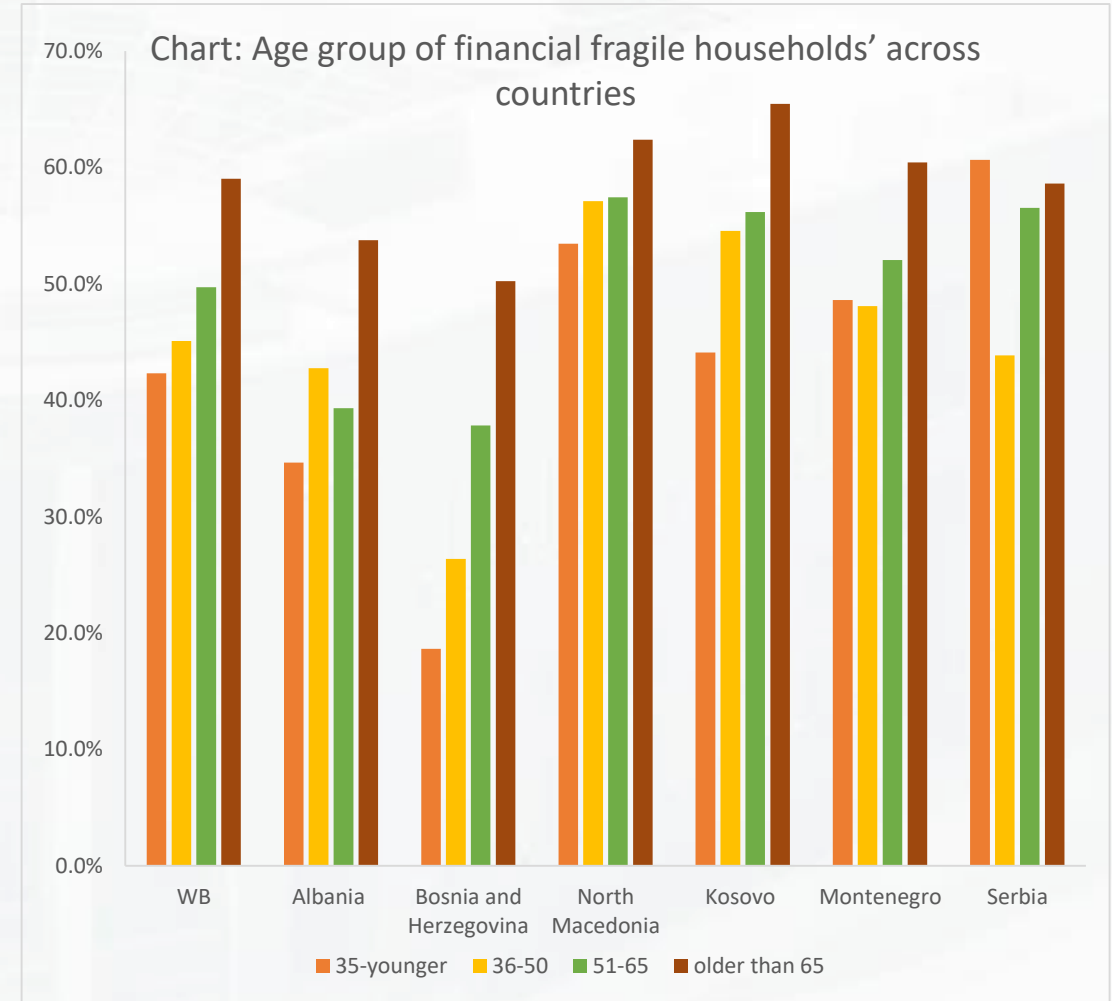
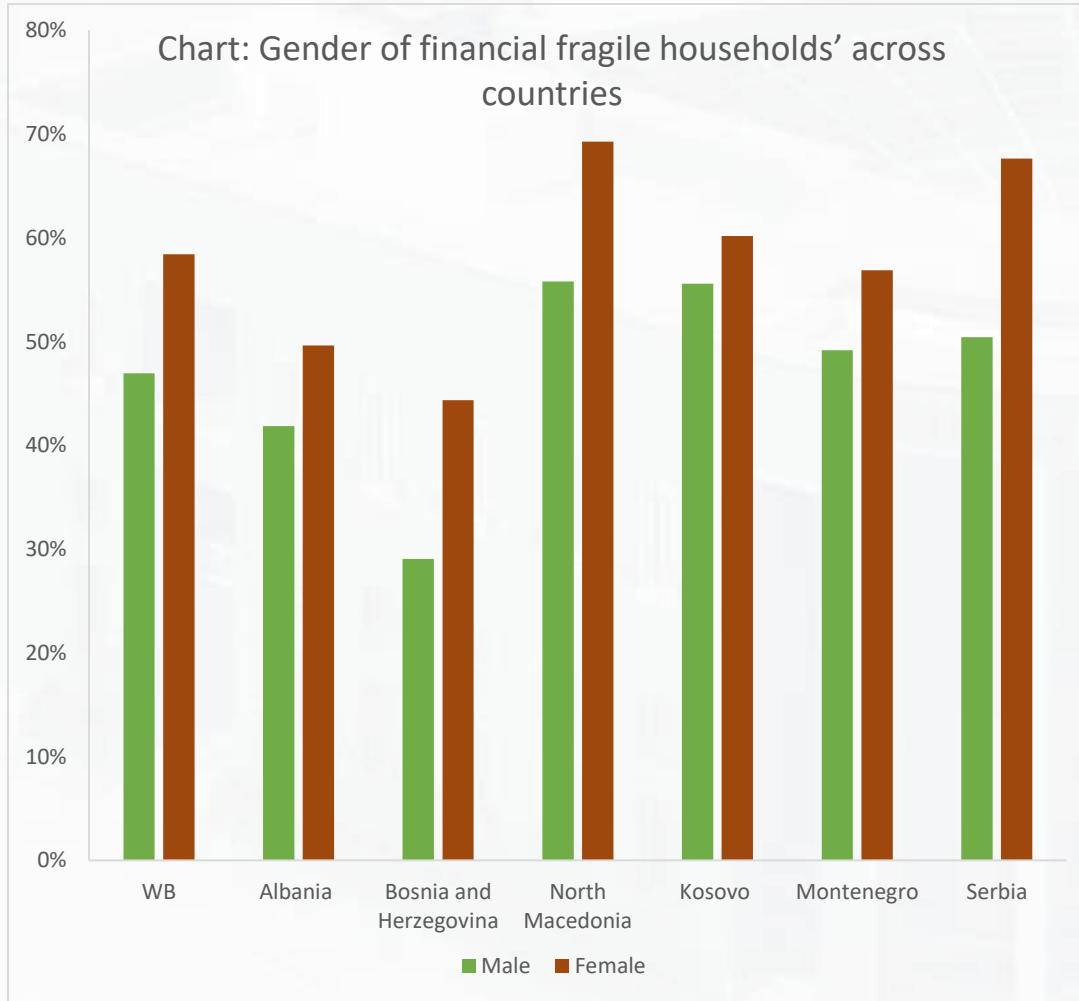
Cross-section descriptive statistics for WB countries

		WB	Albania	Bosnia and Herzegovina	North Macedonia	Kosovo	Montenegro	Serbia
		Gender						
Non-Fragile	Male	53.0%	58.1%	70.9%	44.2%	44.4%	50.8%	49.6%
	Female	41.6%	50.4%	55.7%	30.7%	39.8%	43.1%	32.4%
Fragile	Male	47.0%	41.9%	29.1%	55.8%	55.6%	49.2%	50.4%
	Female	58.4%	49.6%	44.3%	69.3%	60.2%	56.9%	67.6%
		Age						
Non-Fragile	Young (ages 35-lowers)	57.7%	65.4%	81.4%	46.6%	55.9%	51.4%	39.4%
	Young middle age adults (ages 36-50)	54.9%	57.2%	73.6%	42.9%	45.5%	51.9%	56.2%
	Old middle age adults (ages 51-65	50.3%	60.7%	62.2%	42.6%	43.8%	47.9%	43.5%
	Senior adults (older than ages 65)	41.0%	46.3%	49.8%	37.6%	34.5%	39.6%	41.4%
	Young (ages 35-lowers)	42.3%	34.6%	18.6%	53.4%	44.1%	48.6%	60.6%
	Young middle age adults (ages 36-50)	45.1%	42.8%	26.4%	57.1%	54.5%	48.1%	43.8%
Fragile	Old middle age adults (ages 51-65	49.7%	39.3%	37.8%	57.4%	56.2%	52.1%	56.5%
	Senior adults (older than ages 65)	59.0%	53.7%	50.2%	62.4%	65.5%	60.4%	58.6%
	Primary	32.3%	33.1%	41.4%	32.8%	29.7%	31.9%	26.1%
Non-Fragile	Secondary	50.5%	52.1%	69.8%	41.9%	45.6%	44.7%	46.6%
	Tertiary	69.9%	74.9%	87.1%	58.2%	62.1%	68.9%	64.1%
Fragile	Primary	67.7%	66.9%	58.6%	67.2%	70.3%	68.1%	73.9%
	Secondary	49.5%	47.9%	30.2%	58.1%	54.4%	55.3%	53.4%
	Tertiary	30.1%	25.1%	12.9%	41.8%	37.9%	31.1%	35.9%
		Marital status						
Non-Fragile	Not married	46.0%	59.4%	61.6%	38.3%	38.0%	42.7%	37.4%
	Married	53.5%	56.8%	71.9%	43.4%	46.0%	54.8%	51.5%
Fragile	Not married	54.0%	40.6%	38.4%	61.7%	62.0%	57.3%	62.6%
	Married	46.5%	43.2%	28.1%	56.6%	54.0%	45.2%	48.5%

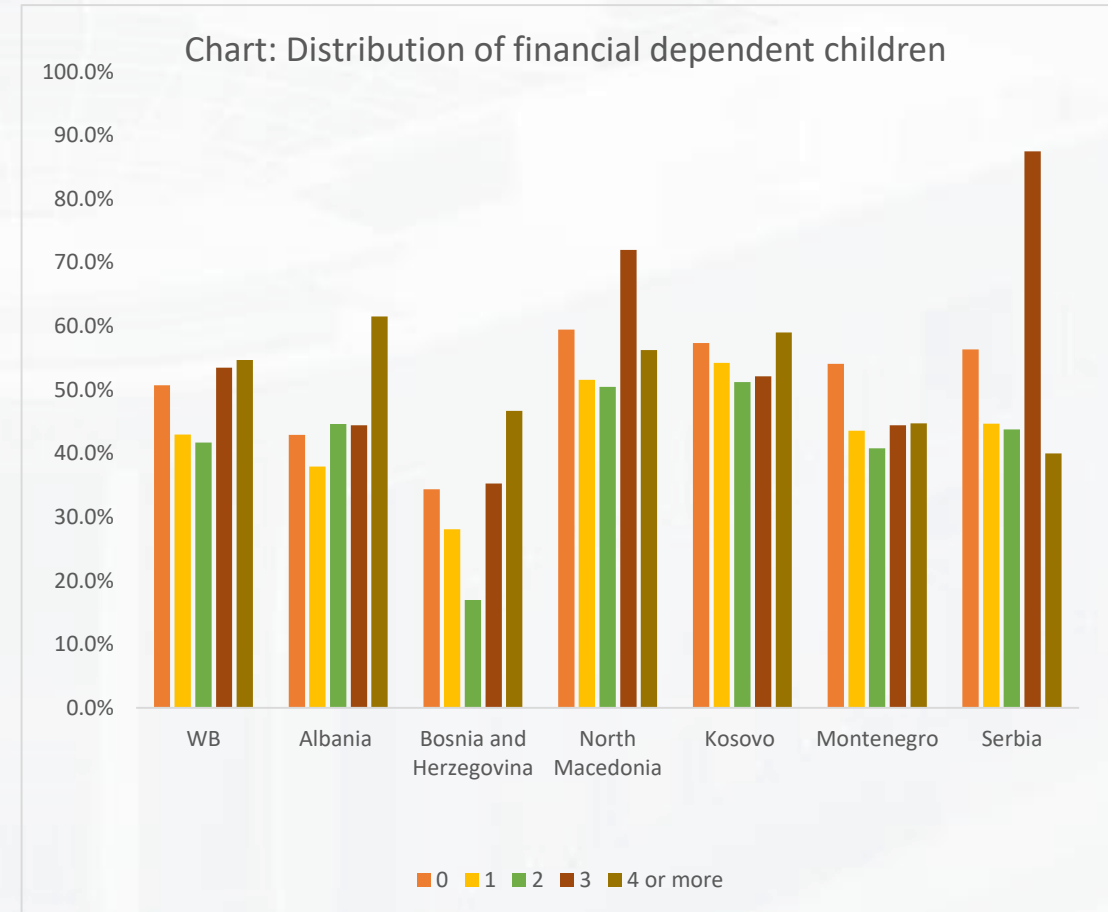
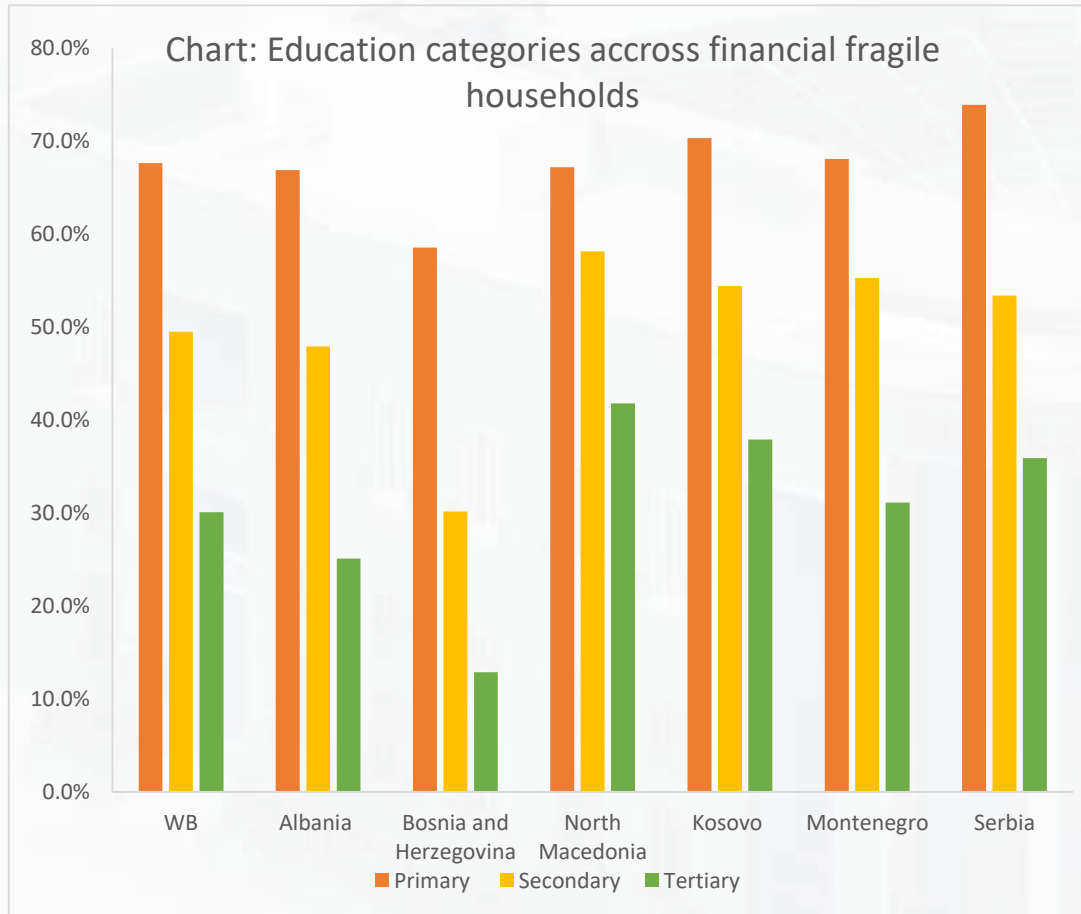
Cross-section descriptive statistics for WB countries

		WB	Albania	Bosnia and Herzegovina	North Macedonia	Kosovo	Montenegro	Serbia
Employment status								
Non-Fragile	Not employed	41.6%	46.8%	56.2%	35.6%	36.2%	40.3%	36.8%
	Employed	61.3%	64.9%	81.1%	50.8%	56.4%	56.9%	55.3%
Fragile	Not employed	58.4%	53.2%	43.8%	64.4%	63.8%	59.7%	63.2%
	Employed	38.7%	35.1%	18.9%	49.2%	43.6%	43.1%	44.7%
Financially dependent children								
Non-Fragile	0	49.3%	57.1%	65.6%	40.5%	42.7%	45.9%	43.6%
	1	57.0%	62.1%	71.9%	48.4%	45.8%	56.4%	55.3%
	2	58.3%	55.4%	83.1%	49.5%	48.8%	59.2%	56.3%
	3	46.5%	55.6%	64.7%	28.0%	47.9%	55.6%	12.5%
	4 or more	45.3%	38.5%	53.3%	43.8% na		55.3%	60.0%
Fragile	0	50.7%	42.9%	34.4%	59.5%	57.3%	54.1%	56.4%
	1	43.0%	37.9%	28.1%	51.6%	54.2%	43.6%	44.7%
	2	41.7%	44.6%	16.9%	50.5%	51.2%	40.8%	43.8%
	3	53.5%	44.4%	35.3%	72.0%	52.1%	44.4%	87.5%
	4 or more	54.7%	61.5%	46.7%	56.3%	59.0%	44.7%	40.0%
Household income								
Non-Fragile	Less than €244 (less than P20)	39.7%	48.4%	54.0%	29.2%	29.3%	35.8%	36.5%
	€244-€373 (P20-P39)	34.5%	36.1%	55.0%	34.1%	19.9%	32.2%	34.2%
	€373-€500 (P40-P59)	48.0%	62.3%	70.3%	42.0%	39.8%	40.2%	53.4%
	€500-€728 (P60-P79)	69.9%	80.6%	86.0%	58.5%	65.3%	56.0%	63.4%
	€729 more (P80-P100)	81.8%	84.0%	94.3%	74.5%	84.0%	76.8%	75.6%
Fragile	Less than €244 (less than P20)	60.3%	51.6%	46.0%	70.8%	70.7%	64.2%	63.5%
	€244-€373 (P20-P39)	65.5%	63.9%	45.0%	65.9%	80.1%	67.8%	65.8%
	€373-€500 (P40-P59)	52.0%	37.7%	29.7%	58.0%	60.2%	59.8%	46.6%
	€500-€728 (P60-P79)	30.1%	19.4%	14.0%	41.5%	34.7%	44.0%	36.6%
	€729 more (P80-P100)	18.2%	16.0%	5.7%	25.5%	16.0%	23.2%	24.4%
Non-Fragile	Having a mortgage	59.2%	78.5%	74.8%	56.9%	43.5%	53.8%	63.9%
Fragile		40.8%	21.5%	25.2%	43.1%	56.5%	46.2%	36.1%
Non-Fragile	Having bank access	56.7%	72.6%	74.0%	44.3%	53.3%	53.2%	48.0%
Fragile		43.3%	27.4%	26.0%	55.7%	46.7%	46.8%	52.0%
Non-Fragile	Rural	48.0%	49.2%	62.5%	40.2%	41.7%	48.6%	44.1%
Fragile		52.3%	50.8%	37.5%	59.8%	58.3%	51.4%	55.9%

Financial fragile households: cross-country statistics



Financial fragility households: cross-country statistics



Financial fragile households: cross-country statistics

Chart: Household income quintile across financial fragile households



Chart: Debt, Bank access, Rural Area



Estimated results

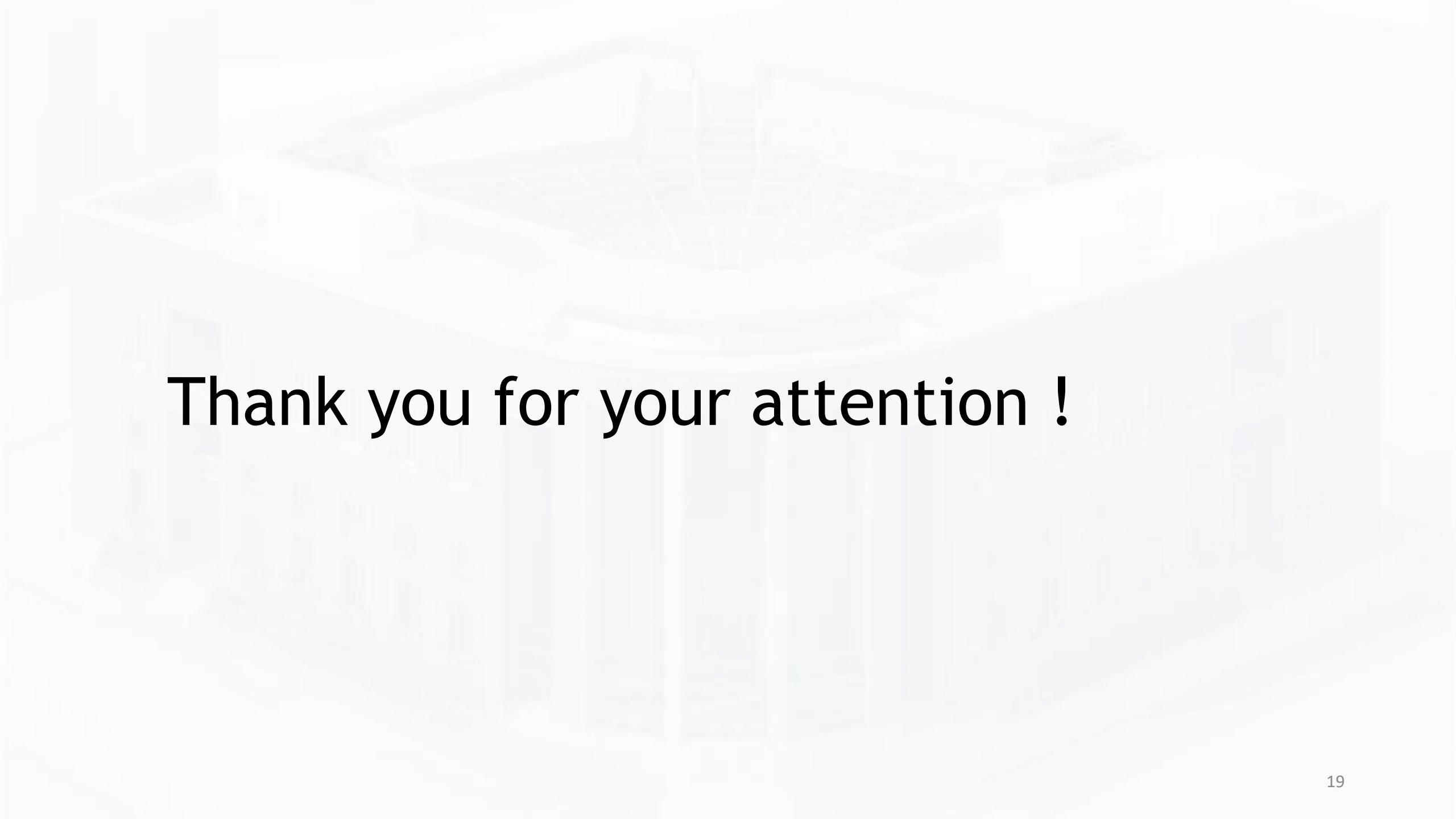
	1	2	3	4	5	6
<i>Gender: Male</i>	-0.0502 (0.169)	-0.0364 (0.373)	-0.0331 (0.478)	-0.0238 (0.642)	-0.0316 (0.507)	-0.0226 (0.663)
<i>Age (omitted category: Age 35-lower)</i>						
<i>Young middle age adults (ages 36-50)</i>	0.0273 (0.511)	0.0317 (0.374)	0.0690 (0.148)	0.0773 (0.073)	0.0728 (0.123)	0.0805 (0.057)
<i>Old middle age adults (ages 51-65)</i>	0.0410 (0.375)	0.0312 (0.378)	0.0813 (0.099)	0.0730 (0.072)	0.0846 (0.082)	0.0763 (0.053)
<i>Senior adults (older than ages 65)</i>	0.0496 (0.375)	0.0388 (0.321)	0.0949 (0.108)	0.0843* (0.048)	0.102 (0.076)	0.0905* (0.024)
<i>Education (omitted category: Primary)</i>						
<i>Secondary</i>	-0.0303 (0.231)	-0.00593 (0.816)	-0.0337 (0.171)	-0.00996 (0.690)	-0.0322 (0.171)	-0.00907 (0.710)
<i>Tertiary</i>	-0.145** (0.004)	-0.104*** (0.000)	-0.143** (0.004)	-0.106*** (0.000)	-0.140** (0.004)	-0.103*** (0.000)
<i>Married</i>	-0.0183 (0.576)	-0.00818 (0.753)	-0.0204 (0.623)	-0.00960 (0.779)	-0.0169 (0.685)	-0.00653 (0.849)
<i>Employed</i>	-0.0349** (0.007)	-0.0158 (0.095)	-0.0352** (0.004)	-0.0173 (0.192)	-0.0338** (0.010)	-0.0158 (0.226)
<i>Household income (omitted category: Q1 income)</i>						
<i>Q2 income</i>	-0.136** (0.002)	-0.155*** (0.000)	-0.124** (0.008)	-0.145** (0.001)	-0.115** (0.009)	-0.139** (0.003)
<i>Q3 income</i>	-0.218*** (0.000)	-0.267*** (0.000)	-0.211*** (0.000)	-0.261*** (0.000)	-0.191*** (0.000)	-0.241*** (0.000)
<i>Q4 income</i>	-0.430*** (0.000)	-0.444*** (0.000)	-0.425*** (0.000)	-0.441*** (0.000)	-0.390*** (0.000)	-0.409*** (0.000)
<i>Q5 income</i>	-0.507*** (0.000)	-0.541*** (0.000)	-0.510*** (0.000)	-0.545*** (0.000)	-0.483*** (0.000)	-0.526*** (0.000)
<i>Savings<=3 monthly income</i>	0.285*** (0.000)	0.286*** (0.000)	0.279*** (0.000)	0.283*** (0.000)	0.273*** (0.000)	0.280*** (0.000)
<i>Bank access</i>	-0.0696** (0.002)	-0.0849* (0.013)	-0.0724** (0.001)	-0.0856* (0.015)	-0.0641** (0.005)	-0.0790* (0.038)
<i>Having mortgage</i>			0.0938** (0.003)	0.0896*** (0.000)	0.0936** (0.002)	0.0885*** (0.000)
<i>Second dwelling</i>					-0.0422** (0.009)	-0.0344* (0.013)
<i>Having land</i>					-0.0495 (0.081)	-0.0409 (0.137)
Pseudo R ²	0.1594	0.1947	0.1659	0.2009	0.1682	0.2025
Country effect	No	Yes	No	Yes	No	Yes
N	5298	5298	4704	4704	4704	4704

Estimated results

	1	2	3	4	5	6	7	8
<i>Education (omitted category: Primary)</i>								
Tertiary	-0.116*** (0.000)	-0.0942*** (0.000)	-0.110** (0.001)	-0.0895*** (0.001)	-0.108** (0.001)	-0.0866** (0.002)	-0.107** (0.003)	-0.0807*** (0.001)
<i>Household income (omitted category: Q1 income)</i>								
Q2 income	-0.120** (0.006)	-0.140** (0.004)	-0.126** (0.004)	-0.144** (0.004)	-0.124** (0.004)	-0.143** (0.004)	-0.0992** (0.002)	-0.116** (0.002)
Q3 income	-0.190*** (0.000)	-0.231*** (0.000)	-0.194*** (0.000)	-0.234*** (0.000)	-0.190*** (0.000)	-0.231*** (0.000)	-0.171*** (0.000)	-0.209*** (0.000)
Q4 income	-0.370*** (0.000)	-0.383*** (0.000)	-0.369*** (0.000)	-0.382*** (0.000)	-0.364*** (0.000)	-0.377*** (0.000)	-0.357*** (0.000)	-0.366*** (0.000)
Q5 income	-0.451*** (0.000)	-0.484*** (0.000)	-0.449*** (0.000)	-0.482*** (0.000)	-0.440*** (0.000)	-0.474*** (0.000)	-0.408*** (0.000)	-0.437*** (0.000)
Savings<3 monthly income	0.263*** (0.000)	0.264*** (0.000)	0.269*** (0.000)	0.268*** (0.000)	0.267*** (0.000)	0.267*** (0.000)	0.255*** (0.000)	0.247*** (0.000)
Bank access	-0.0591* (0.025)	-0.0663* (0.049)	-0.0613* (0.023)	-0.0689* (0.042)	-0.0592* (0.028)	-0.0665* (0.050)	-0.0590* (0.033)	-0.0646 (0.091)
Having mortgage	0.0924** (0.008)	0.0894*** (0.000)	0.0905* (0.011)	0.0877*** (0.000)	0.0902** (0.007)	0.0869*** (0.000)	0.0950** (0.005)	0.0891*** (0.000)
Having second residence	-0.0315 (0.138)	-0.0216 (0.179)	-0.0332 (0.099)	-0.0224 (0.163)	-0.0316 (0.124)	-0.0211 (0.219)	-0.0256 (0.299)	-0.0112 (0.605)
Having land	-0.0512* (0.048)	-0.0419 (0.101)	-0.0511 (0.051)	-0.0421 (0.096)	-0.0501 (0.061)	-0.0413 (0.110)	-0.0596* (0.025)	-0.0483* (0.049)
Country Economic situation	-0.0336 (0.481)	-0.0400 (0.237)	-0.0369 (0.444)	-0.0466 (0.156)	-0.0271 (0.573)	-0.0363 (0.299)	-0.0404 (0.404)	
Household financial situation	-0.146*** (0.000)	-0.130*** (0.000)	-0.148*** (0.000)	-0.132*** (0.000)	-0.127*** (0.000)	-0.111*** (0.000)	-0.125*** (0.000)	-0.122*** (0.000)
Political situation			0.0140	0.0233	0.0254	0.0351	0.0334	0.0134
Country Economic situation			(0.614)	(0.318)	(0.411)	(0.202)	(0.271)	(0.480)
					-0.0528 (0.064)	-0.0544* (0.040)	-0.0493* (0.046)	-0.0590* (0.020)
Life situation							-0.000147 (0.993)	-0.0138 (0.197)
Job situation								0.0373 (0.472)
Pseudo R ²	0.1890	0.2207	0.1874	0.2193	0.1896	0.2215	0.1872	0.2219
Country effect	No	Yes	No	Yes	No	Yes	No	Yes
N	4599	4599	4479	4479	4467	4467	3910	3911

Some remarks

- Preliminary results indicate that higher income and education, having saving and bank access, also having real assets are correlate with lower probability of being financial fragile.
- Positive perception on financial households situation and their life perception are negatively correlated with lower probability of being financial fragile.
- I will examine the coping methods people use to deal with shocks, especially how relying on family and friends are related with dealing with emergencies.



Thank you for your attention !