Over-indebtedness and poverty

Patterns across household types and policy effects

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1. Introduction & motivation

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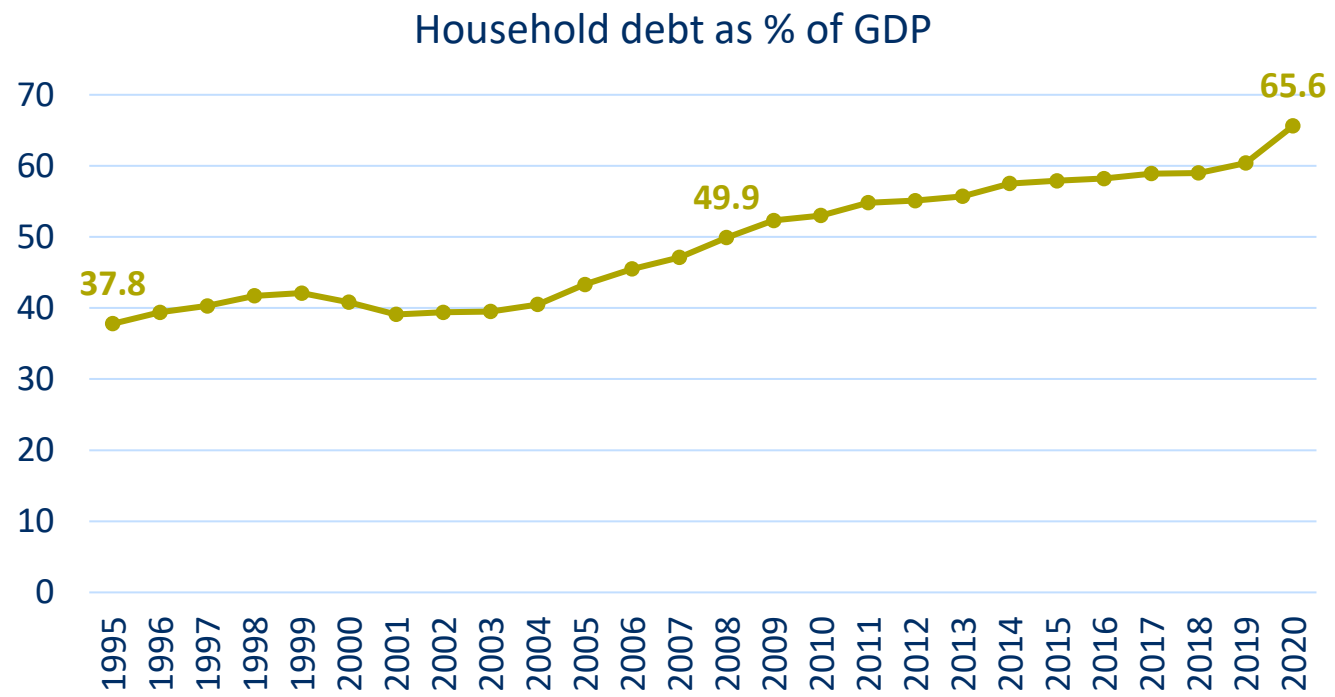
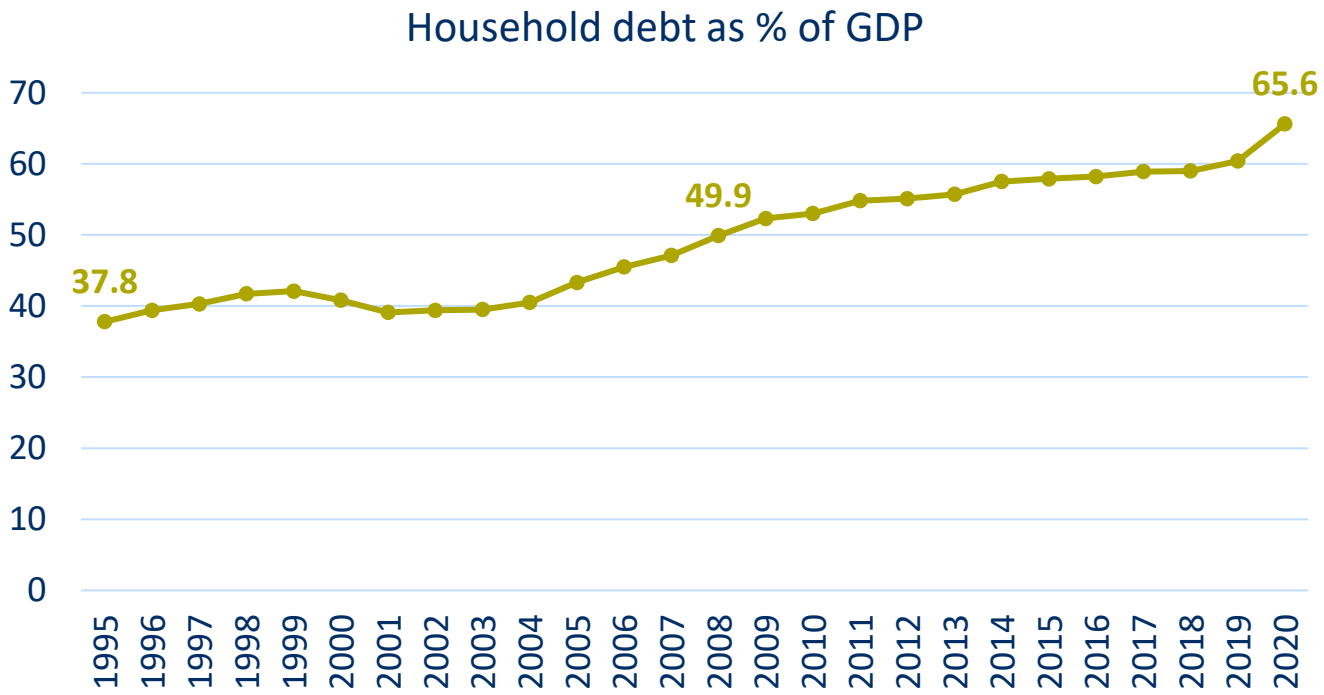
- **Significant increase in household debt since second half of 20th century**



Source: EUROSTAT

1. Introduction & motivation

- **Significant increase in household debt since second half of 20th century**
- **Household debt has become a natural source of finance for private households**
  - Life-cycle hypothesis (Ando & Modigliani, 1963) / Permanent income hypothesis (Friedman, 1957)



Source: EUROSTAT

	2010	2014	2017	2020
Debt participation (%)				
Any debt	55.1	60.6	61.1	59.0
Only mortgage debt	25.2	30.0	29.9	30.6
Only non-mortgage debt	15.5	14.0	12.6	14.6
Both (non)-mortgage debt	14.3	16.6	18.5	13.8
Conditional medians (€)				
Total debt	49,922	60,435	79,176	85,000
Mortgage debt	72,147	84,454	102,896	107,267
Non-mortgage debt	6,000	7,350	6,000	6,540
Repayments total debt	8,400	8,851	10,030	10,349

Source: own calculations based on HFCS data

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- Yet, necessary to monitor that indebtedness does not spiral out of control
- Over-indebtedness can have negative consequences at micro level (financial, social, psychological, health) & macro level (stability of financial system, overall economy)

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- **Yet, necessary to monitor that indebtedness does not spiral out of control**
- **Over-indebtedness can have negative consequences at micro level (financial, social, psychological, health) & macro level (stability of financial system, overall economy)**
- **Because of lack of a generally accepted definition, several types of over-indebtedness indicators have been proposed:**
  - *Administrative*: extracted from judicial procedures, e.g. number of people on debt settlement
  - *Objective:* evaluate extent to which debt is sustainable in terms of capacity to repay, e.g. debt-to-income ratio, debt-to-asset ratio, debt service-to-income ratio, number of loans people have
  - *Subjective:* capture to which extent households themselves assess whether they are over-indebted, e.g. asking whether they experience their debt repayments as a heavy burden, are having difficulties in making ends meet or are unable to face unexpected expenses

1. Introduction & motivation

- **We measure over-indebtedness in the poverty framework**
  - Cfr. type of objective indicator: defining capacity to repay as reaching a minimally acceptable living standard (i.e. poverty line) after debt repayments are fulfilled
  - More widely accepted threshold
  - Makes the link with social policy more explicit

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- **Only a couple of previous studies**
  - Carpentier & Van den Bosch (2008) for Belgium, D'Alessio & Iezzi (2016; 2013) for Italy, Ntsalaze & Ikhide (2016) for South Africa, Wałęga & Wałęga (2021) for Poland

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- **Partly due to fact that relationship is difficult to entangle: debt can be both cause & consequence of poverty**
- **Partly due to lack of combined data on poverty & debt**

2. Data & methods

- **4 waves of Belgian data of Eurosystem Household Finance and Consumption Survey**
  - Wave1: 2009 (income)-2010 (debt & assets), Wave2: 2013-14, Wave3: 2016-17, Wave4: 2019-20
  - Results pooled across 4 waves (results by wave in appendix of paper)
  - Types of debt included: mortgage debt both for main residence and other real estate, non-mortgage debt including credit card debt, credit line/overdraft and other non-mortgage loans (no repayment information for credit card & overdraft), no information on arrears
  - Disposable incomes simulated using tax-benefit microsimulation model EUROMOD
  - Taking into account (potential) leveraging through assets

2. Data & methods

- **Analysis is based on Foster-Greer-Thorbecke (FGT) poverty indicators**

$FGT_0 = \frac{H}{N}$: poverty rate $\qquad$ $FGT_1 = \frac{1}{N}\sum_{i=1}^{H}\left(\frac{z - y_i}{z}\right)$: poverty gap

Baseline: y_i

Subtracting debt repayments: $y_i - dr_i$

Including assets as leverage: $(y_i - yfa_i - yra_i) - dr_i + min(dr_i, (fa_i + ra_i + ha_i * ann))$

(Additional cases in the paper)

H=number of poor (y_i below z), N=number of individuals, z = poverty line (60% of median equivalised household disposable income), y_i=equivalised household disposable income, dr_i=debt repayments, fa_i=financial assets, yfa_i=income from financial assets, ra_i=real assets other than the main house, yra_i=rental income, ha_i=housing assets, $ann = \left[\frac{\rho}{1-(1+\rho)^{-n}}\right]$ with ρ=interest rate and n=life expectancy.

- **Over-indebted: those not poor in baseline and poor in other specification OR poor in baseline and poverty gap increases in other specification**

3. Results: indicators of over-indebtedness & overlap

	Poor(er)	Poor(er) asset leverage	Loans >=4	Debt-to-asset >=75	Debt-to-income >=300	Debt service-to-inc.>=30
Poor(er)	13.2					
Poor(er) asset leverage	3.6	3.6				
Loans >=4	0.6	0.2	2.0			
Debt-to-asset >=75	2.1	0.8	0.3	6.2		
Debt-to-income >=300	6.7	1.1	1.1	2.8	16.3	
Debt service-to-inc.>=30	8.0	1.8	1.2	2.1	10.2	14.8

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3. Results: logit regression socio-demographics

	Poor(er)		Poor(er) asset leverage	
	Odds ratio	Sig.	Odds ratio	Sig.
Age (ref: 65+)				
18-34	3.41	***		
35-54	2.71	***		
55-64	2.38	***		
Gender (ref: male)	1.14	n.s.		
Education (ref: tertiary)				
No or primary	2.27	***		
Secondary	2.37	***		
Labour status (ref: retired)				
Employee	0.43	***		
Self-employed	1.19	n.s.		
Unemployed	1.27	n.s.		
Other	0.89	n.s.		
Household type (ref: couple)				
Single	1.24	n.s.		
Single parent	2.89	***		
Couple with children	1.17	n.s.		
Other	1.64	***		
Tenure status (ref: outright owner)				
Owner with a mortgage	12.23	***		
Tenant/free user	1.66	**		
Migrant background (ref: native)				
Migrant from within EU	1.37	n.s.		
Migrant from outside EU	1.86	***		
[Dummies for waves and constant not shown]				

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18-34	3.41	***	1.54	n.s.
35-54	2.71	***	1.65	n.s.
55-64	2.38	***	1.98	n.s.
Gender (ref: male)	1.14	n.s.	0.99	n.s.
Education (ref: tertiary)				
No or primary	2.27	***	2.10	*
Secondary	2.37	***	2.09	***
Labour status (ref: retired)				
Employee	0.43	***	0.53	n.s.
Self-employed	1.19	n.s.	1.19	n.s.
Unemployed	1.27	n.s.	2.11	n.s.
Other	0.89	n.s.	1.59	n.s.
Household type (ref: couple)				
Single	1.24	n.s.	0.87	n.s.
Single parent	2.89	***	0.50	n.s.
Couple with children	1.17	n.s.	0.83	n.s.
Other	1.64	***	1.68	*
Tenure status (ref: outright owner)				
Owner with a mortgage	12.23	***	6.68	***
Tenant/free user	1.66	**	3.26	***
Migrant background (ref: native)				
Migrant from within EU	1.37	n.s.	1.75	n.s.
Migrant from outside EU	1.86	***	1.58	*
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3. Results: comparison of income, debt & assets

	Poor(er)		Poor(er) asset leverage		Loans >=4		Debt-to-asset ratio>=75		Debt-to-income ratio>=300		Debt service-to-inc. ratio>=30	
	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes
Mean equivalised disposable income												
Mean share of non-mortgage in total debt												
Mean interest rate mortgage debt												
Mean interest rate non-mortgage debt												
Mean duration mortgage debt												
Mean duration non-mortgage debt												
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Mean financial assets												
Mean non-housing assets												
Mean non-housing assets + annuity housing assets												

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Mean equivalised disposable income	27,349	14,010	25,022	10,814	23,982	26,174	24,393	20,331	25,100	21,659	25,481	20,316
Mean share of non-mortgage in total debt												
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Mean interest rate mortgage debt	3.0	3.0	3.0	3.1	3.0	2.9	3.0	2.9	3.1	2.8	3.0	3.0
Mean interest rate non-mortgage debt	3.7	5.0	3.9	5.2	4.0	4.7	3.9	5.1	4.2	3.5	4.0	4.1
Mean duration mortgage debt	19	21	20	20	20	20	19	24	18	22	19	21
Mean duration non-mortgage debt	6	5	6	5	6	6	6	6	6	5	5	6
Mean amount mortgage debt												
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Mean duration mortgage debt	19	21	20	20	20	20	19	24	18	22	19	21
Mean duration non-mortgage debt	6	5	6	5	6	6	6	6	6	5	5	6
Mean amount mortgage debt	127,345	151,094	133,560	123,065	134,055	109,542	128,373	203,731	101,472	190,010	113,683	175,576
Mean amount non-mortgage debt	21,452	16,540	20,821	12,700	20,158	18,995	20,332	18,355	17,082	32,577	18,944	23,293
Mean financial assets												
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Mean amount non-mortgage debt	21,452	16,540	20,821	12,700	20,158	18,995	20,332	18,355	17,082	32,577	18,944	23,293
Mean financial assets	49,482	22,451	44,056	25,789	43,356	29,067	46,183	4,854	48,911	28,706	46,785	32,347
Mean non-housing assets	109,202	109,387	104,727	171,687	106,171	188,637	117,278	18,459	115,398	94,984	95,079	146,716
Mean non-housing assets + annuity housing assets	114,822	114,447	110,236	176,794	111,665	193,814	123,028	20,911	120,664	100,965	100,197	153,161

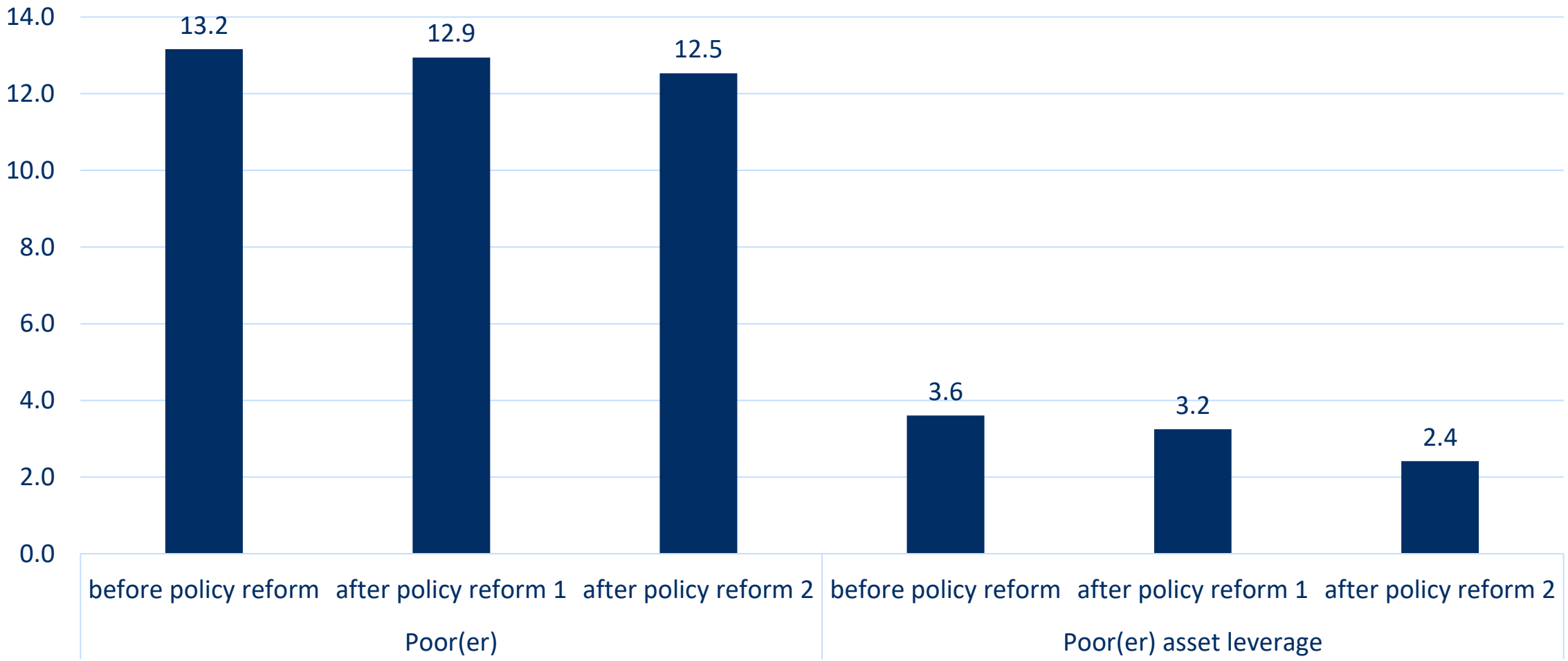
4. Policy simulations

- **Focus in literature on policies:**
  - to increase financial literacy
  - to regulate the terms and conditions of loans and consumer credit
  - to improve judicial procedures for debt management and alleviation
- **Link with social policy rarely made**
  - Exceptions: Angel & Heitzman (2015) for EU & Fisher (2005) for US
  - Finding: higher unemployment benefits are correlated with lower over-indebtedness
- **Measuring over-indebtedness in poverty framework makes (potential) link more explicit**

4. Policy simulations

- **Focus on 2 main risk factors: low disposable income & ownership of non-mortgage debt**
- **Policy reform 1: consider debt repayments in social assistance benefit (leefloon)**
  - Means-test takes into account (income from) assets, lowering or excluding benefits (Marchal et al., 2021)
  - Only seems fair to also account for debt repayments in that means-test
  - Simulated in EUROMOD social assistance module
- **Policy reform 2: debt restructuring**
  - Inspired by credit banks in NL and pilot project in Antwerp (https://www.samvzw.be/nieuws/schuldsanering-nederland-en-belgie-2-stad-antwerpen)
  - Overindebted clients receive max. €150 per month to pay off their debt (mortgages not included)
  - Simulated in Stata for those who are considered poor after asset leveraging and have a positive amount of non-mortgage debt

4. Policy simulations: impact on over-indebtedness



4. Policy simulations: characteristics of those helped

	Helped reform 1	Helped reform 1 asset leverage	Helped reform 2	Helped reform 2 asset leverage	Poor(er) before reform	Poor(er) asset leverage before reform	Total population
Labour status							
Employee	16.6	23.9	13.2	23.4	30.3	22.4	36.5
Self-employed	5.6	10.2	0.5	2.5	7.0	5.8	3.7
Unemployed	16.3	11.3	25.2	18.1	7.2	10.8	5.0
Retired	2.7	3.8	8.2	10.9	5.5	8.5	20.7
Other	58.8	50.8	53.0	45.2	50.1	52.4	34.0
Household type							
Single	11.4	13.7	21.5	13.4	8.1	10.0	14.9
Single parent	4.7	3.3	6.0	1.5	5.9	1.6	2.8
Couple	9.4	4.8	26.1	23.8	12.9	15.7	26.0
Couple with children	17.8	17.9	13.2	15.9	29.0	19.7	22.4
Other	56.8	60.3	33.3	45.4	44.1	52.9	33.9
Tenure status							
Outright owner	54.6	78.7	1.1	26.0	77.4	62.0	42.0
Owner with a mortgage	0.0	6.0	13.4	20.8	8.3	10.8	33.3
Tenant/free user	45.4	15.3	85.5	53.2	14.3	27.3	24.7
Migrant background							
Native	56.8	49.0	64.2	72.1	74.9	65.9	83.7
Migrant from within EU	4.6	5.0	5.2	10.3	6.4	9.2	5.8
Migrant from outside EU	38.7	45.9	30.6	17.6	18.8	24.8	10.5
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Retired	2.7	3.8	8.2	10.9	5.5	8.5	20.7
Other	58.8	50.8	53.0	45.2	50.1	52.4	34.0
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5. Conclusion

- **Although household debt is a natural source of finance, monitoring over-indebtedness is necessary as it has negative consequences at micro and macro level**
- **Indicators defined within poverty framework differ with 'classical' indicators**
  - 13.2% become poor(er) when debt repayments subtracted from disposable income, falls to 3.6% once asset leveraging is taken into account; overlap with other indicators is relatively limited
  - Captures combination of socio-demographic risk groups identified by other indicators
  - Classical indicators mainly identify those who initially borrow large amounts as over-indebted, our indicators point towards low disposable income, a larger share of non-mortgage debt and the higher interest rate paid for that type of debt as the most important risk factors
- **Policy implications**
  - Currently, social policy design hardly considers the role of debt in financial vulnerability, so there seems ample room for reforms in that regard
  - During the COVID pandemic & energy crisis the Belgian government decided together with the banking sector to allow households to postpone repayments of mortgage debt. Our results suggest that a similar policy for non-mortgage debt would be needed to support the most vulnerable.