



Risk of poverty and material deprivation in the EU: how different are the monetary needs of households in these conditions?

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Motivation and research questions.

- Deeper investigation of the (low) overlap between material deprivation and income poverty
- Influence on monetary needs of the factors pushing hh into material deprivation (MD) and income poverty (AROP)
- Monetary insights on MD and AROP conditions / Improvement of current EU poverty monitoring tools

Previous studies

- Research strand on risk of poverty and material deprivation
 - Studies on relative poverty and material deprivation (Nolan 2010, Guio 2012, Karagiannaki 2020)

Data

- EU-SILC (2014 – current)
 - AROP status
 - Material deprivation
 - Severe material deprivation (SMD), material deprivation (MD), material and social deprivation (MSD)
 - Subjective poverty lines «minimum financial resources to make ends meet»

Research foundations

Need to explore the low overlap between MD and AROP

- [Karagiannaki figure in the next slide]
- Previous studies identify various factors:
 - Debts; limitations; housing conditions

	Currently income poor					Non currently income poor				
	% MD deprived (a)	%SMD deprived (a)	Obs.	% MSD deprived (b)	Obs.	% MD deprived (a)	%SMD deprived (a)	Obs.	% MSD deprived (b)	Obs.
DK: Denmark	0.120	0.036	370	0.268	88	0.035	0.018	8195	0.031	2001
FI: Finland	0.172	0.048	1085	0.130	419	0.041	0.012	9427	0.022	4337
SE: Sweden	0.092	0.025	677	0.086	170	0.009	0.004	7179	0.007	1745
AT: Austria	0.232	0.109	1152	0.219	292	0.041	0.013	8892	0.026	2316
BE: Belgium	0.397	0.211	1483	0.399	372	0.061	0.019	8737	0.081	2081
FR: France	0.353	0.163	5754	0.400	1313	0.063	0.021	40810	0.067	9635
IE: Ireland	0.370	0.145	1083	0.347	423	0.117	0.035	5551	0.084	2041
LU: Luxemburg	0.158	0.046	935	0.133	198	0.020	0.002	5485	0.011	1018
NL: Netherlands	0.196	0.100	491	0.165	255	0.047	0.012	8724	0.043	3956
CY: Cyprus	0.534	0.269	1489	0.326	398	0.239	0.084	8960	0.106	2254
EL: Greece	0.707	0.520	3276	0.687	1071	0.266	0.100	12555	0.268	4328
ES: Spain	0.363	0.159	4749	0.333	1192	0.076	0.020	18470	0.076	4744
IT: Italy	0.429	0.275	5612	0.297	1299	0.128	0.063	27359	0.063	6728
MT: Malta	0.332	0.181	1671	0.246	336	0.089	0.044	8240	0.037	1669
PT: Portugal	0.455	0.225	3070	0.476	743	0.140	0.043	11594	0.106	2955
BG: Bulgaria	0.842	0.710	4477	0.826	1676	0.378	0.222	15257	0.346	5261
RO: Romania	0.644	0.442	3794	0.773	911	0.324	0.159	12868	0.405	3165
CZ: Czech	0.424	0.219	1195	0.373	270	0.095	0.029	15092	0.053	3665
HR: Croatia	0.663	0.402	2189	0.429	600	0.248	0.077	7954	0.074	2125
HU: Hungary	0.725	0.490	2715	0.498	448	0.254	0.126	15081	0.221	2893
PL: Poland	0.392	0.226	5190	0.329	1134	0.126	0.052	24333	0.075	5457
SI: Slovenia	0.396	0.191	2078	0.353	410	0.096	0.033	15812	0.070	3713
SK: Slovakia	0.514	0.347	1002	n/a	n/a	0.140	0.044	9622	n/a	n/a
EE: Estonia	0.324	0.162	2376	0.306	654	0.084	0.026	9760	0.060	2500
LT: Lithuania	0.561	0.315	1866	0.541	450	0.194	0.087	8276	0.187	2259
LV: Latvia	0.545	0.340	2623	0.514	668	0.188	0.083	8410	0.185	1843
Total	0.437	0.258	62402	0.398	15790	0.123	0.051	332643	0.100	84689

Different monetary needs for different poverty measures and different groups

	AROP line	Subjective line AROP population	Subjective line SMD population
AT	13,923	10,058	11,421
BE	12,812	12,274	13,358
BG	4,331	8,659	8,659
CY	10,503	8,940	11,175
CZ	7,958	7,425	7,425
DE	13,188	11,534	12,687
DK	12,988	9,294	11,037
EE	8,027	9,311	11,523
EL	5,547	10,032	11,235
ES	9,618	10,384	9,985
FI	12,029	7,843	9,803
FR	12,134	11,369	13,051
HR	5,922	7,949	9,062
HU	5,162	4,106	4,448
IE	11,679	7,631	7,631
IT	10,029	10,343	10,343
LT	6,421	8,452	8,854
LU	19,295	15,891	15,891
LV	6,018	8,244	8,794
MT	10,759	8,162	8,815
NL	12,917	9,176	10,706
PL	6,908	6,635	6,966
PT	6,481	5,583	5,583
RO	3,767	5,304	5,616
SE	12,248	9,452	10,586
SI	9,463	9,551	10,234
SK	5,846	7,679	7,065
UK	11,054	6,218	6,138

- Subjective povlines (2018) higher in low-income countries than AROP lines
- Households in SMD declare higher financial needs than those AROP

Green: AROP line > subjective povlines. Red: opposite

Subjective povlines: median values

Methods (1/2)

- Pooled-OLS regression for different groups (population, AROP, SMD population)
- $subjective\ povline_{i,c,t} = \beta_k X_{i,c,t} + \alpha_j controls_{i,c,t} + \gamma + \delta + \varepsilon_{i,c,t}$
- Sensitivity analyses

Methods (2/2)

- 2014-2018
- Dependent variable: (log of) self-declared subjective income poverty line. Equivalence scale: modified-OECD. Lowest bound of the monetary resources needed to participate in society
- Covariates:
 - fixed expenses: burdensome debt either for housing (mortgage, rent, charges) or non-housing purposes (car, holiday, furniture, durable). Dummy variable
 - presence in the household of someone with severe health-induced limitations. Dummy variable
- Controls:
 - (log of) household equivalised income
 - household type (financial needs between households not fully captured by the equivalence scales). 8 categories as in ESTAT
 - gender of the hh head
 - housing tenure. 3 categories: owner or rent-free; mortgage or regular tenant; below-market-price tenant
- Two models. Second more parsimonious; Time and country dummies
- For the EU and countries separately; For three different populations (all, MD, AROP)

Results (1/2)

Pooled OLS regression output. Impact on subjective poverty lines. EU-level, country and time dummies

	entire population		AROP population		SMD population	
	(1)	(2)	(1)	(2)	(1)	(2)
Burden, hire purchases or loans	0.091*** [.09,.092]	0.099*** [.098,.1]	0.091*** [.087,.095]	0.093*** [.089,.097]	0.109*** [.1,.11]	0.110*** [.11,.11]
Burden, housing costs	0.044*** [.042,.045]	0.053*** [.052,.054]	0.011*** [.0076,.013]	0.015*** [.012,.018]	0.046*** [.041,.051]	0.050*** [.045,.055]
Limitation in activities	-0.034*** [-.036,-.033]	-0.041*** [-.043,-.04]	-0.038*** [-.041,-.035]	-0.042*** [-.045,-.039]	-0.042*** [-.046,-.037]	-0.045*** [-.049,-.041]
Household types controls						
Female, household head	-0.011*** [-.012,-.01]		-0.001 [-.0035,.0021]		0 [.0041,.0043]	
Tenure status						
rent/mortgage	0.095*** [.094,.096]		0.062*** [.059,.066]		0.049*** [.044,.055]	
rent at reduced price	-0.066*** [-.069,-.064]		-0.077*** [-.082,-.072]		-0.042*** [-.05,-.035]	
logHX090	0.283*** [.28,.28]	0.289*** [.29,.29]	0.023*** [.02,.025]	0.023*** [.02,.025]	0.180*** [.18,.18]	0.183*** [.18,.19]
Constant	6.744*** [6.7,6.8]	6.703*** [6.7,6.7]	9.099*** [9.1,9.1]	9.125*** [9.1,9.1]	7.691*** [7.7,7.7]	7.693*** [7.7,7.7]
Observations	2698324	2700806	430342	430835	233265	233442
Adjusted R-squared	0.652	0.647	0.6	0.596	0.628	0.627

- At EU level, housing and non-housing financial burden have greater impact on subjective poverty lines of MD pop than income poor.
- Financial burden for purchases or loans: 9.5% exp increase in subjective povline.
- Limited impact of gender (-1,5% in the subjective povline)
- Limitations >> reduction in the subjective povline. Reduced aspirational needs?

Results (2/2)

Pooled OLS regression output. Impact of key factors on (log) subjective poverty lines.

	Positive (over 10% increase)	Positive (over 5% increase)	Light, positive	Light, negative	Negative (over 5% decrease)	Non significant
All population						
Burden, purchases or loans	BE, CY, DE, FR, MT, SK, UK	AT, CZ, DK, EE, EL, ES, FI, HR, HU, IE, IT, LU, LV, NL, PL, PT, RO, SE	BG, LT			
Burden, housing costs	BE, FI, RO	DE, DK, EE, FR, HR, IE, LU, PT, SE, SI	BE, CY, CZ, ES, IT, LV, MT, NL, PL, SE, SK	BG, EL, SK		LT
Limitation in activities			FI, LU	AT, CZ, DE, DK, ES, FR, HU, IE, IT, LT, MT, PL, PT, SI	BG, EE, EL, HR, LV, NL, RO, SK, UK	BE, CY, SE
SMD population						
Burden, purchases or loans	AT, CY, DE, DK, ES, FI, FR, MT, NL, PT, SI, UK	BE, BG, CZ, EE, EL, HR, HU, IT, LU, PL	LT, LV, SK			IE, RO, SE
Burden, housing costs	DK, FI, IE, NL, UK	BE, EE, ES, FR, HR, PL, PT, RO	BG, CZ, DE, EL, ES, LV, MT, SI, SK		HU	AT, CY, IT, LT, LU, SE
Limitation in activities		SE	AT, BE	DE, EE, HU, IT, LT, PT	BG, EL, FR, HR, IE, LV, NL, SK, UK	CY, CZ, DK, ES, FI, LU, MT, PL, RO, SI
AROP population						
Burden, purchases or loans	AT, CY, DE, DK, FR, LU, MT, PT, SI, SK, UK	BE, EE, EL, ES, FI, HR, IE, LV, PL, SE	BG, CZ, HU, IT		LT, RO	NL
Burden, housing costs	DK, FI, LU, RO	BE, DE, EE	CY, FR, HR, IE, IT, MT, SE, UK	CZ, ES, LT	HU, PL, SK	AT, BG, EL, LV, NL, PT, SI
Limitation in activities	FI			AT, CZ, DE, ES, FR, HU, IT, LT, MT, PL, RO	BG, EE, EL, HR, LV, NL, PT, SI, SK, UK	BE, CY, CZ, DK, IE, LU, SE

Country-specific characteristics

Non-housing burden effect higher than housing burden for all populations

Non-housing burden particularly high for continental countries (AT-DE-FR)

Conclusions

- Subjective poverty understudied but approximable with survey data
 - Alternative yardstick to assess adequacy of 'official' poverty lines
 - Fixed expenses have a larger impact on subjective povlines of the SMD population
- Poverty measurements should consider the different role of fixed expenses on income poverty compared to material deprivation

Thank you

- Suggestions
- Remarks
- Comments



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Subjective poverty lines, mean versus median

2018

	AROP population, average	AROP population, median	SMD population, average	SMD population, median	AROP: difference average-mean	SMD: difference average-mean
AT	10,058	10,661	11,421	11,836	-603	-760
BE	12,274	13,299	13,358	14,372	-1,025	-58
BG	8,659	9,626	8,659	9,603	-968	968
CY	8,940	9,206	11,175	11,806	-266	-1,970
CZ	7,425	8,072	7,425	8,340	-647	647
DE	11,534	12,550	12,687	13,396	-1,016	-137
DK	9,294	10,174	11,037	11,631	-880	-863
EE	9,311	11,046	11,523	13,474	-1,734	-477
EL	10,032	10,547	11,235	11,441	-515	-689
ES	10,384	10,892	9,985	10,498	-508	907
FI	7,843	8,362	9,803	10,509	-520	-1,441
FR	11,369	12,292	13,051	13,407	-923	-759
HR	7,949	8,189	9,062	9,202	-240	-873
HU	4,106	4,589	4,448	4,678	-484	142
IT	10,343	11,113	10,343	11,307	-771	771
LT	8,452	9,097	8,854	9,468	-646	243
LU	15,891	17,135	15,891	17,502	-1,244	1,244
LV	8,244	9,622	8,794	10,296	-1,378	828
MT	8,162	8,783	8,815	9,461	-621	-32
NL	9,176	9,848	10,706	10,955	-672	-857
PL	6,635	7,385	6,966	7,669	-750	419
PT	5,583	6,243	5,583	6,480	-659	659
RO	5,304	5,541	5,616	6,122	-237	-75
SE	9,452	9,811	10,586	10,946	-359	-776
SI	9,551	10,126	10,234	11,048	-574	-108

Descriptive statistics (key covariates), proportion of all households (%)

		Financial burden, housing	Financial burden, loans or purchases	Severe limitation in activities			Financial burden, housing	Financial burden, loans or purchases	Severe limitation in activities
AT	no	86.68	82.47	84.16	IE	no	66.07	73.69	90.32
	yes	13.32	17.53	15.84		yes	33.93	26.31	9.68
BE	no	70.13	82.62	85.56	IT	no	47.06	88.86	88.59
	yes	29.87	17.38	14.44		yes	52.94	11.14	11.41
BG	no	59.71	88.18	91.69	LT	no	72.62	88.5	89.64
	yes	40.29	11.82	8.31		yes	27.38	11.5	10.36
CY	no	31.23	53.73	87.41	LU	no	63.06	67.51	84.28
	yes	68.77	46.27	12.59		yes	36.94	32.49	15.72
CZ	no	77.37	86.59	92.54	LV	no	69.62	82.91	84.17
	yes	22.63	13.41	7.46		yes	30.38	17.09	15.83
DE	no	85.77	82.04	88.74	MT	no	68.84	86.32	94.91
	yes	14.23	17.96	11.01		yes	31.16	13.68	5.09
DK	no	90.55	85.83	94.11	NL	no	89.61	90.61	94.52
	yes	9.45	14.17	5.89		yes	10.39	9.39	5.48
EE	no	81.74	73.16	85.07	PL	no	38.96	80.08	86.53
	yes	18.26	26.84	14.93		yes	61.04	19.92	13.47
EL	no	50.77	72.83	81.22	PT	no	66.66	81.64	83.39
	yes	49.23	27.17	18.78		yes	33.34	18.36	16.61
ES	no	46.09	80.45	91.24	RO	no	67.49	90.19	86.95
	yes	53.91	19.55	8.76		yes	32.51	9.81	13.05
FI	no	80.52	70.87	93.36	SE	no	92.61	83.74	96.29
	yes	19.48	29.13	6.64		yes	7.39	16.26	3.71
FR	no	74.06	82.85	86.36	SI	no	66.95	64.63	91.6
	yes	25.94	17.15	13.64		yes	33.05	35.37	8.4
HR	no	42	62.43	81.86	SK	no	71.22	82.31	81.39
	yes	58	37.57	18.14		yes	28.78	17.69	18.61
HU	no	70.67	80.7	87.3	UK	no	75.24	74.01	83.26
	yes	29.33	19.3	12.7		yes	24.76	25.99	16.74

Descriptive statistics (key covariates), proportion of SMD and AROP households (%)

		AROP population			SMD population					AROP population			SMD population		
		Financial burden, housing	Financial burden, loans or purchases	Severe limitation in activities	Financial burden, housing	Financial burden, loans or purchases	Severe limitation in activities			Financial burden, housing	Financial burden, loans or purchases	Severe limitation in activities	Financial burden, housing	Financial burden, loans or purchases	Severe limitation in activities
AT	no	69.95	82.96	81.35	34.13	63.29	65.13	IE	no	51.21	75.31	87.14	19.4	56.55	75.81
	yes	30.05	17.04	18.65	65.87	36.71	34.87		yes	48.79	24.69	12.86	80.6	43.45	24.19
BE	no	43.13	79.22	77.84	18.11	66.6	72.18	IT	no	29.9	91.69	89.17	15.02	87.11	81.84
	yes	56.87	20.78	22.16	81.89	33.4	27.82		yes	70.1	8.31	10.83	84.98	12.89	18.16
BG	no	38.53	92.49	89.31	29.41	89.06	87.83	LT	no	56.15	89.2	87.41	32.3	84.74	81.09
	yes	61.47	7.51	10.69	70.59	10.94	12.17		yes	43.85	10.8	12.59	67.7	15.26	18.91
CY	no	19.85	67.94	80.81	8.04	37.16	79.81	LU	no	37.36	66.77	80.98	15.93	59.38	63.14
	yes	80.15	32.06	19.19	91.96	62.84	20.19		yes	62.64	33.23	19.02	84.07	40.62	36.86
CZ	no	46.72	85.87	88.13	20.76	75.18	84.33	LV	no	47	87.44	77.94	24.85	78.74	72.7
	yes	53.28	14.13	11.87	79.24	24.82	15.67		yes	53	12.56	22.06	75.15	21.26	27.3
DE	no	74.11	87.55	80.23	55.99	79.05	71.06	MT	no	55.18	89.08	93.04	19.02	76.72	91.1
	yes	25.89	12.45	19.15	44.01	20.95	27.88		yes	44.82	10.92	6.96	80.98	23.28	8.9
DK	no	79.15	79.26	90.92	52.78	43.14	75.89	NL	no	74.68	85.28	91.82	31.16	60.46	79.62
	yes	20.85	20.74	9.08	47.22	56.86	24.11		yes	25.32	14.72	8.18	68.84	39.54	20.38
EE	no	69.84	83.32	78.32	31.91	68.98	70.05	PL	no	23.48	83.45	83.49	6.4	71.25	74.6
	yes	30.16	16.68	21.68	68.09	31.02	29.95		yes	76.52	16.55	16.51	93.6	28.75	25.4
EL	no	23.08	78.1	80.72	18.2	74.85	76.39	PT	no	47.68	85.81	78.47	25.49	79.72	69.7
	yes	76.92	21.9	19.28	81.8	25.15	23.61		yes	52.32	14.19	21.53	74.51	20.28	30.3
ES	no	26.63	83.26	90.89	8.55	74.28	85.09	RO	no	52.8	94.73	84.95	38.08	89.75	80.11
	yes	73.37	16.74	9.11	91.45	25.72	14.91		yes	47.2	5.27	15.05	61.92	10.25	19.89
FI	no	74.55	76.32	89.91	42.16	52.46	79.64	SE	no	80.86	78.14	93.28	32.19	33.64	77.5
	yes	25.45	23.68	10.09	57.84	47.54	20.36		yes	19.14	21.86	6.72	67.81	66.36	22.5
FR	no	54.48	81.5	82.79	29.16	69.16	77.45	SI	no	44.12	78.46	86.07	14.28	66.57	77.11
	yes	45.52	18.5	17.21	70.84	30.84	22.55		yes	55.88	21.54	13.93	85.72	33.43	22.89
HR	no	19.16	79.94	72.78	6.49	66.39	69.59	SK	no	41.75	80.48	80.7	20.11	69.72	70.15
	yes	80.84	20.06	27.22	93.51	33.61	30.41		yes	58.25	19.52	19.3	79.89	30.28	29.85
HU	no	42.92	79.91	85.42	23.19	72.94	79.45	UK	no	58.65	77.32	75.72	25.53	57.85	61.52
	yes	57.08	20.09	14.58	76.81	27.06	20.55		yes	41.35	22.68	24.28	74.47	42.15	38.48