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Deprivation, social mobility considerations, and life satisfaction: A comparative study of 33 European countries

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Background (I)

- Subjective wellbeing among the citizens of a country is the ultimate goal of societal wellbeing and the public policy agenda as it represents an *alternative evaluation of group inequalities* and *public policy success*
    - (Flèche & Layard, 2017; Sachs et al., 2018)

- Research at cross- and within-country studies has confirmed that citizens in richer countries and with higher levels of income, respectively, report higher levels of subjective wellbeing
    - However, decreasing marginal returns
        - Implying that while income per se matters, there are potentially other latent aspects related to income that explain differences in happiness
            - (Bellani & D'Ambrosio, 2011; Gravelle & Sutton, 2009; Jebb et al., 2018; Kahneman & Deaton, 2010)

Background (II)

- Among these factors, *material*, *subjective*, and *relative* deprivation could potentially hold the key to the understanding of happiness differentials.
    - In this context, understanding how various aspects of deprivation, *as a proxy of inequality*, are associated with life satisfaction takes an increased importance.
- Aversion to relative income concerns are associated with considerations in relation to mobility of social status and life style
    - (Arber et al., 2014; Cojocaru, 2014; D'Ambrosio & Frick, 2007; Jung, 2018).
- Social mobility potentials stemming from inequality of income are in fact related to the subjective meaning and value that a person attributes to their own class-based identity in a multi-periodic (present vs. forthcoming) sense
    - (Destin et al., 2017).

Contribution of the study

- (I) Because of the limitations of a narrower income-based measure of poverty, we go one-step further and include material, subjective, and relative deprivation that come from lack of income.
    - We find that, altogether, deprivation dimensions have negative effects on SLfSat, but the largest size effect is captured by relative deprivation.
        - This indicates that deprivation is a concept that goes beyond basic needs, and mostly relates to social status aspects.
- (I) Social mobility considerations are found to further impair the adverse effect of relative deprivation.
- (III) The above adverse effects are more pronounced for *transition* as compared to *non-transition* countries.

Research question

- To empirically investigate the effects of deprivation aspects and their interaction with social mobility considerations, on subjective life satisfaction (*SLfSat*), after controlling for income.
  - SLfSat
    - Degree to which a person positively evaluates the overall quality of their life as-a-whole (Veenhoven, 1996)
      - Proxy of utility
  - Deprivation aspects
    - Material
    - Subjective
    - Relative
  - Social mobility considerations

Life satisfaction

- Degree to which a person positively evaluates the overall quality of their life as-a-whole (Veenhoven, 1996)
  - Proxy of utility

- (Subjective) satisfaction with life', 'happiness' and 'subjective wellbeing' are used equivalently.

  - Survey responses to questions on life satisfaction or subjective wellbeing are highly correlated with alternative indicators of happiness
    - (Ferrer-i-Carbonell & Frijters, 2004; Kahneman et al., 1999; E. Nikolova & Sanfey, 2016).

  - Measures of life satisfaction are also used extensively in empirical studies in 'economics of happiness'.

Material deprivation

- An unacceptably low standard of living
  - (Ringen, 1988)
- Captures the inability to possess the *goods* and *services* and/or engage in ordinary activities that are socially perceived as the *minimum acceptable living pattern* in the society to which one belongs
  - (Fusco et al., 2011).
- Studies have shown that income does not predict one's material situation
  - (Diener & Biswas-Diener, 2002; Headey, 2008, 2019).
- It is possible for two individuals/households to have the same disposable income but their income alone does not measure adequately all the *resources* that are available to each of them (*wealth*) and/or if their *needs* (consumption) differ, and this will result in different levels of material deprivation
  - (Whelan et al., 2001).

Subjective deprivation

- Subjective deprivation refers to the individual's self-rating of their *income adequacy* to meet their general *needs*. It is thought to be associated with perceptions of financial strain and stress
    - (Arber et al., 2014).
- It is important to distinguish perceived financial hardship from income and material deprivation.
    - (Angel et al. 2003)
- *Objective* measures of income do not capture the meaning of *income adequacy* to individuals with people on low incomes not always reporting financial strain, which indicates that these two measures are different and therefore may differentially affect SLfSat.
    - (Hazelrigg & Hardy, 1997; Mirowsky & Ross, 1999; Kahn & Fazio, 2005; Zimmerman & Katon, 2005).

Relative deprivation (I)

- There is an ongoing debate about what the *relative measures* (income, wealth, health, material, etc.) and *reference groups* (friends, family, colleagues, employer, village, country, etc.) should be
- Evidence suggests that groups such as family, friends, former classmates, etc., are *homogenous* and lack information about how other groups are ranked in the social ladder, which might in turn indicate incidence of the so-called '*adaptation to income' effects*.
  - Reference-dependent preferences (Kahneman & Tversky, 1972).
  - Not representative of the local composition of society (social ladder)
- On the other hand, relative income at the *country level* (usually measured by the Gini Index) is calculated on the assumption that everybody compares to everybody.
- Consequently, including relative income comparisons at the *city/local level* could, in principle, capture information on how other groups are doing and whether there are members of the group who climbed the social ladder, which could capture in fact the *'social comparisons' effects*.

Relative deprivation (II)

- Relative deprivation captures the differences in economic resources in relation to reference groups
    - Yitzhaki (1979)

- In terms of effects on SLfSat, the comparative effect of relative deprivation has been found to have larger effects than those of material and subjective deprivation
    - (Angel et al., 2003; Arber et al., 2014; Fusco et al., 2011; Greitemeyer & Sagioglou, 2019; Pepper & Nettle, 2017).

Social mobility consideratio

- Considerations about upward mobility with respect to social status are related to whether a society has a more/less rigid hierarchical class structure - level ease and frequency of moving into a different class than that into which one was born
  - (Simandan, 2018).

- Social mobility is assumed to be achieved by generations via a higher educational or occupational level (intergenerational mobility) or by finetuning work profession or position (intergenerational mobility)
  - (Hadjar and Samuel, 2015).
- Perceived mobility has been identified as a central factor that affects the link between other people's income and own SLfSat, as it regulates individual beliefs about opportunities and risks
  - (Clark & Senik, 2010; Senik, 2005)

- Two of the most influential theories that offer an account on the potential mechanisms through which social mobility considerations moderate the adverse effects of relative deprivation on SLfSat refer to the '*relative deprivation theory*' (Runciman, 1966) and the *'tunnel/information effect*' theory (Hirschman and Rothschild, 1973).

Hypotheses

- All other things being equal:
  - H1:
    - There will be no differences in SLfSat between non-transition (West-EU) and transition (post-communist: East-EU and Non-EU) countries in Europe
      - The so-called ‘post-communist happiness gap’ has closed
  - H2:
    - (a) material, subjective, and relative deprivation will have negative effects on SLfSat,
    - (b) these adverse effects are expected to be larger for relative (vs. material and subjective) deprivation,
    - (c) these adverse effects are expected to be larger for transition (vs. non-transition) countries.
  - H3
    - Mobility considerations interact with relative deprivation (i.e., Gini coefficient at the city level) in a way that the SLfSat of those more relatively deprived will be particularly impaired in cities where income inequality is higher (vs. lower) and these effects are expected to be larger for transition (vs. non-transition) countries

Data

- Data
  - We use the 2016 wave of Eurofound's European Quality of Life Survey (EQLS) data
    - Cross-sectional data
    - Allows for cross-national comparisons with a large set of countries
    - Surveyed 37,000 people in 33 countries
      - 28 EU
      - 5 non-EU countries - Albania, Montenegro, North Macedonia, Serbia,
      - Turkey

Measurements

- Variables
  - Micro economic
    - Dependent variable
      - Subjective life satisfaction (SLfSat) – scale 0 to 10
    - Independent variables
      - Weighted material deprivation index
        - Concerns about the capacity to meet a range of basic needs
          - Home warm, holiday week, replace furniture, eat meet, chicken, fish more than once a week, new clothes, guests over
      - Subjective deprivation
        - Perceived level of difficulty/easiness to 'making ends meet'
      - Relative deprivation
        - With reference groups at the city level (Gini Index at the city level)
    - Moderating variables
      - Social mobility considerations
        - 'I feel left out of society'
        - 'I feel that the value of what I do is not recognized by others',
        - 'Some people look down on me because of my job situation or income',
        - 'I feel close to people in the area where I live'.
  - Macro economic
    - Annual growth rate of GDP per capita for 2016 (World Bank OECD data)
    - Standardized World Income Inequality Database (SWIID) 2016 Gini index of disposable income
    - The Worldwide Governance Indicators (WGI) reports on six broad dimensions of governance for 2016
      - Government effectiveness, regulatory quality, rule of law, control of corruption, voice and accountability, and political stability and absence of violence/terrorism

Methodology

- We evaluate the hypotheses using a two-level linear mixed-effects model of individual responses nested in 33 European countries
  - 28 EU
  - 5 non-EU countries
    - Albania, Montenegro, North Macedonia, Serbia, and Turkey.
  - Estimates are generated for the
    - Pooled sample (between groups)
    - And separately (within groups) for the
      - Non-transition (West-EU)
      - Transition post-communist (East-EU and non-EU) countries.
        - Reference country is Turkey

OLS or Ordered Probit?

- An issue which is often discussed in SLfSat literature is the need to model in the estimation the ordinal nature of the dependent variable.
- All surveys questions on life satisfaction ask individuals to categorically evaluate their quality of life (i.e. respondents are ask to rank their life satisfaction on a scale of 1–5 or 0–10).
- Pasta (2009) argues that ordinal variables can be modelled with linear estimator with no significant loss of information.
- Moreover it is very rare that a significant predictor for a categorical variable would not matter if that variable was measured on a continuous scale
  - (Deaton, 2008)
- Similar evidence shows that this should not be a problem since results from ordinal and linear specifications (OLS) tend to not differ substantially (xand this is more the case for the 11-point response scale.
  - (Ferrer-i-Carbonell & Gërxhani, 2004; Frey & Stutzer, 2010)

Descriptive statistics

Life satisfaction, happiness and WHO mental wellbeing index means by country and region (Transition/ West EU, Non-transition: East and Non EU)

Country	Life satisfaction	Happiness	WHO mental wellbeing index
Non transition, West EU	7.250	7.437	6.410
Austria	7.941	7.988	6.634
Belgium	7.229	7.377	6.561
Cyprus	6.513	6.889	5.830
Germany	7.241	7.392	6.359
Denmark	8.156	8.038	7.021
Greece	5.253	5.942	6.038
Spain	6.945	7.259	6.792
Finland	8.080	8.158	6.926
France	7.001	7.267	6.460
Ireland	7.634	7.728	6.965
Italy	6.536	6.715	5.831
Luxemburg	7.821	7.978	6.391
Malta	7.483	7.619	5.935
Netherlands	7.675	7.715	6.529
Portugal	6.757	7.329	6.427
Sweden	8.078	7.978	6.616
United Kingdom	7.575	7.708	6.251
Transition, East EU	6.195	6.683	6.113
Bulgaria	5.555	6.217	6.546
Czech Republic	6.483	6.754	6.175
Estonia	6.536	6.976	5.935
Croatia	6.312	6.665	5.717
Hungary	6.377	6.760	6.692
Lithuania	6.285	6.727	5.985
Latvia	6.147	6.678	6.072
Poland	7.040	7.332	6.102
Romania	6.224	6.489	5.866
Slovenia	6.764	7.125	6.155
Slovakia	6.230	6.830	6.436
Transition, Non EU	5.748	6.424	5.992
Albania	4.911	5.287	6.134
Montenegro	6.389	7.283	6.058
North Macedonia	5.308	6.121	6.601
Serbia	6.376	7.002	5.178
Reference Country			
Turkey	6.012	6.224	5.843

Baseline model

Baseline Model: Factors predicting life satisfaction: OLS estimates (coefficients and standard errors)

Variables	Life satisfaction		
	Pooled	Non transition	Transition
Non transition	1.246*		
	(0.669)		
Transition	0.594		
	(0.635)		
Individual level variables			
Age (continuous)	-0.077***	-0.063***	-0.102***
	(0.007)	(0.009)	(0.014)
Age square	0.001***	0.001***	0.001***
	(0.000)	(0.000)	(0.000)
Male	-0. 159***	-0.083*	-0.255***
	(0.042)	(0.046)	(0.084)
Large town	0.024	-0.026	-0.046
	(0.055)	(0.056)	(0.118)
Rural area or village	0.009	0.125**	-0.171
	(0.059)	(0.063)	(0.114)
Secondary education	0.105*	0.227***	0.001
	(0.054)	(0.059)	(0.109)
Tertiary education	0.504***	0.560***	0.547***
	(0.063)	(0.066)	(0.137)
Ln income at HH level	0.335***	0.311***	0.344***
	(0.028)	(0.035)	(0.048)
Social capital	0.184***	0.184***	0.126
	(0.059)	(0.051)	(0.114)
Religion	0.185***	0.035	0.370***
	(0.060)	(0.058)	(0.097)
Bad health	-1.157***	-1.182***	-1.088***
	(0.074)	(0.092)	(0.126)
Couple	0.269***	0.318***	0.223**
	(0.048)	(0.052)	(0.097)
Employed	0.272***	0.254***	0.321***
	(0.053)	(0.059)	(0.105)
Constant	5.089***	5.998***	6.435***
	(0.699)	(0.334)	(0.487)
Observations	29757	15848	12126
Number of groups	33	17	15

Model 1 – Macro level variables

Factors predicting life satisfaction: OLS estimates (coefficients and standard errors)

	Life satisfaction					
Variables	(1) Pooled EU28	(2) Pooled EU28 and Transition Non-EU	(3) Pooled EU28, Transition, and Non-EU	(4) Pooled EU28, Non-EU, and Turkey	(5) Non transition	(6) Transition (EU and Non-EU)
Non transition (vs EU transition countries)	0.107					
	(0.192)					
Non transition (vs All transition countries: EU and Non-EU)		0.094				
		(0.220)				
Non transition (vs All other countries: Transition EU and Non-EU, and Turkey)			0.124	0.495		
			(0.216)	(0.471)		
Transition (vs all other countries: Non Transition EU and Turkey				0.405		
				(0.457)		
Country level variables						
SWIID Gini index	-0.029	-0.017	-0.022	-0.017	-0.064*	-0.023
	(0.019)	(0.022)	(0.020)	(0.022)	(0.037)	(0.029)
GDP per capita (rate of growth)	0.040	0.055	0.069	0.055	0.000	0.241
	(0.056)	(0.065)	(0.061)	(0.063)	(0.060)	(0.163)
Institutional quality index	0.753***	0.820***	0.816***	0.821***	0.716***	0.810***
	(0.148)	(0.163)	(0.161)	(0.159)	(0.188)	(0.306)
Number of groups	28	32	33	33	17	15

Model 2 – Deprivation

Factors predicting life satisfaction: OLS estimates (coefficients and standard errors)

	Life satisfaction		
Variables	Pooled	Non transition	Transition
Non transition	0.349		
	(0.411)		
Transition	0.206		
	(0.399)		
Deprivation			
Items not afforded	-0.167***	-0.153***	-0.205***
	(0.013)	(0.016)	(0.026)
Gini index at city level	-0.982***	-0.911***	-1.107***
	(0.024)	(0.028)	(0.058)
Making ends meet	-0.687***	-0.587***	-0.812***
	(0.049)	(0.054)	(0.091)
Country level variables			
SWIID Gini index	-0.006	-0.065**	0.000
	(0.018)	(0.030)	(0.027)
GDP per capita (rate of growth)	0.065	-0.019	0.198
	(0.055)	(0.050)	(0.134)
Institutional quality index	0.505***	0.391***	0.461*
	(0.142)	(0.152)	(0.270)
Observations	27657	15017	10967
Number of groups	33	17	15

Model 3 – Social mobility consideration

Factors predicting life satisfaction: OLS estimates (coefficients and standard errors)

	Life satisfaction		
Variables	Pooled	Non transition	Transition
Non transition	0.343		
	(0.421)		
Transition	0.194		
	(0.408)		
Deprivation			
Items not afforded	-0.166***	-0.155***	-0.201***
	(0.013)	(0.017)	(0.025)
Gini index at city level	-0.971***	-0.695***	-1.080***
	(0.055)	(0.037)	(0.065)
Making ends meet	-0.679***	-0.581***	-0.812***
	(0.043)	(0.054)	(0.091)
Mobility considerations			
Left out	-0.073	-0.064	-0.383***
	(0.074)	(0.087)	(0.116)
Employment recognition	-0.108**	-0.047	-0.182**
	(0.047)	(0.056)	(0.080)
Looked down	-0.344**	-0.321***	-0.267**
	(0.063)	(0.072)	(0.118)
Close to people	0.152***	0.222***	0.118***
	(0.040)	(0.043)	(0.053)
Country level variables			
SWIID Gini index	-0.006	-0.064**	-0.001
	(0.020)	(0.037)	(0.027)
GDP per capita (rate of growth)	0.064	-0.019	0.185
	(0.057)	(0.050)	(0.149)
Institutional quality index	0.497**	0.358**	0.466*
	(0.142)	(0.152)	(0.234)
Constant	8.867***	11.052***	9.184***
	(0.864)	(1.157)	(0.942)
Observations	27601	14983	10962
Number of groups	33	17	15

Model 4 – Interactions of relative deprivation with social mobility considerations

Factors predicting life satisfaction. OLS estimates (coefficients and standard errors)

Variables	Life satisfaction		
	Pooled	Non transition	Transition
Non transition	0.343		
	(0.419)		
Transition	0.201		
	(0.406)		
Deprivation			
Items not afforded	-0.165***	-0.151***	-0.201***
	(0.014)	(0.017)	(0.025)
Gini index at city level	-0.807***	-0.645***	-1.092***
	(0.037)	(0.051)	(0.060)
Making ends meet	-0.683***	-0.589***	-0.810***
	(0.047)	(0.054)	(0.091)
Social mobility considerations			
Left out	-0.665*	-1.747***	-0.613
	(0.400)	(0.458)	(0.742)
Employment recognition	-0.724***	-0.517**	-1.363***
	(0.248)	(0.245)	(0.509)
Looked down	-0.270	-0.176	-0.522***
	(0.276)	(0.316)	(0.090)
Close to people	0.062	0.093	0.078
	(0.109)	(0.066)	(0.234)
Interaction effects			
Left out × Gini index at city level	-0.205***	-0.484***	-0.083
	(0.099)	(0.136)	(0.214)
Employment recognition × Gini index at city level	-0.212***	-0.178**	-0.408***
	(0.084)	(0.083)	(0.157)
Looked down × Gini index at city level	-0.219***	-0.194**	-0.275**
	(0.089)	(0.084)	(0.132)
Close to people × Gini index at city level	0.040	0.061	0.028
	(0.044)	(0.045)	(0.089)
	(0.864)	(1.148)	(0.956)
Observations	27601	14983	10962
Number of groups	33	17	15

Findings

- We find support for H1, H2, and H3
  - All other things being equal, there are no differences in SLfSat between non-transition (West-EU) and transition (post-communist: East-EU and Non-EU) countries in Europe.
  - All three dimensions of deprivation have negative and significant effects on SLfSat. The Gini index at city level, which measures relative deprivation, has the largest negative significant effect on SLfSat and this effect is stronger for the transition sample. This is related to the presence of a social ranking/ladder in the society, and it induces negative feelings in SLfSat, in particular for those on the lower income segments.
  - This means that relative deprivation, which positions the individual in relation to the local inter-group levels of analysis, is further connected with social and psychological concerns that produce a subjective state that shapes emotions, cognitions, and beliefs related to social upward mobility, which altogether connect well to SLfSat. These patterns are more pronounced for the transition countries and altogether.

Thank you!
Questions?