Social protection in mitigating economic insecurity

La protezione sociale per l'attenuazione dell'insicurezza economica

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Abstract Economic insecurity is generally conceived as a feeling of concern about the material conditions that may prevail in the future in case of adverse events, like job loss or sickness. The welfare state turns a set of individual risks (including sickness, job loss and other risks undermining economic security) into social risks by way of social protection. As a consequence, lower economic insecurity is expected where the welfare state is stronger. This paper explores this connection empirically, using official statistics. The analysis is run on a selection of European countries, whose social protection systems differ in terms of social spending levels, kinds of risks covered and rules for accessing social protection.

Abstract *L'espressione insicurezza economica indica generalmente un sentimento di preoccupazione per le condizioni economiche che potrebbero manifestarsi in futuro, come conseguenza di eventi avversi quali la perdita del lavoro o problemi di salute. Il welfare state trasforma una serie di rischi individuali (tra i quali la disoccupazione, la malattia e altri rischi che possono minacciare la stabilità economica) in rischi sociali, attraverso l'attivazione di misure di protezione sociale. Di conseguenza è ipotizzabile un livello minore di insicurezza economica laddove il sistema di welfare risulti più forte. Questo lavoro si propone di esplorare empiricamente la relazione tra insicurezza economica e sistema di welfare, utilizzano dati della statistica ufficiale. L'analisi è condotta su una selezione di paesi Europei che differiscono per livello di spesa sociale, per tipologia di rischi coperti e per regole di accesso al sistema di protezione sociale.*

Key words: Official statistics, welfare state, subjective well-being

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1 Introduction

Economic insecurity is generally conceived as a feeling of concern about the material conditions that may prevail in the future. Indeed, in case of adverse events, individuals may face difficulties in maintaining stable and satisfying living standards. Income instability is propelled by a variety of negative events, originating most commonly in the labour market and in the family. Particularly, thematic literature considers job loss, family dissolution, and poor health among the main triggers of economic insecurity.

The welfare state turns individual risks into social risks by way of social protection, whereby households and individuals are relieved from the financial burden of a number of risks and needs, including those mentioned above as causes of economic insecurity. As a consequence, lower economic insecurity is expected where the welfare state is stronger. This paper explores this connection empirically, using official statistics on social protection benefits and economic insecurity. To this end, an individual binary outcomes which separates "insecure" from "secure" households is modeled as a function of both family-level and country-level characteristics. The analysis is run on a selection of European countries, whose social protection systems differ considerably in terms of social spending levels, kinds of risks covered and rules for accessing social protection.

The paper is organized as follows. Section 2 discusses the connection between economic insecurity and welfare state. Section 3 describes variables and indicators used in the empirical analysis. Section 4 presents main results. Section 5 concludes.

2 Economic insecurity and the welfare state

Literature has proposed several definitions of the term "Economic insecurity". The common premise of all definitions is the idea that some economic misfortune might happen in the future and threaten people's quality of life. However, proposed definitions differ significantly from several points of view. According to some scholars, economic insecurity corresponds to the individual perception of the risk and the anxiety thereof ([11], [13],[2]), others identify economic insecurity with the probability of experiencing adverse events ([15], others with the outcome from the exposure to hardship causing economic losses ([14],[3]). Measures of economic insecurity proposed by literature are strikingly different as well, ranging from subjective to objective measures, based on different units of analysis, namely individual workers, households or countries. Osberg (2015) [11] makes a review of main alternative methodologies proposed.

In this work, the definition proposed by Osberg (1998) [11] is adopted, according to which economic insecurity is a state of anxiety produced by a lack of economic safety. Being anxiety an emotion, self-assessment of economic insecurity seems to be the most appropriate way to measure it. As suggested by Osberg (2015) [12], subjective anxiety should be assessed asking people if they are anxious with re-

spect to different types of hazards. Unfortunately, current available surveys contain only broad few questions on "anxiety", "worry" or "insecurity", so that only proxy measures can be derived from existing data.

Economic insecurity has undoubtedly a relational dimension, since the sharing of individual risks within the household and the society allows one to smooth the risks themselves and their consequences. This aspect makes the choice of the unit of analysis an important preliminary issue. In line with one strand of the literature, this study considers economic insecurity as a household-level phenomenon since the individual feeling of uncertainty depends significantly on household composition [15].

However, the stability of economic life depends also on the social and institutional context where individuals live. Institutions regulate risk in different ways: making hazardous events less likely, moving the costs of a hazard from one actor to another or sharing the costs of a hazard across many actors. Welfare state deals with the last two kinds of interventions in particular. The amount of social spending represents a fundamental indicator of the institutional response to social risks, however other characteristics of the welfare state might affect the confidence of citizens in social protection. Literature on welfare regime typologies has proposed to focus on several dimensions([16], [5], [10]), like the composition of risks and needs covered, the quota of people covered and the rules for accessing benefits (whether means-tested or not). The kind of economic transactions through which benefits are delivered (whether benefits in cash or benefits in kind) and the origin of social spending, (whether public from general government taxes or private from employer or employed social contributions) represent other characterizing aspects.

The following empirical analysis aims to explore the relationship between subjective economic insecurity and the level and kind of social protection delivered by the welfare state. In particular the aim is to assess which characteristics of welfare regimes help mitigate the feeling of economic insecurity of citizens.

3 Empirical analysis: data, variables and indicators

The data set derives from the combination of individual (micro) and country (macro) variables from different data sources. Micro data come from European Statistics on income and living conditions (Eusilc[1], [9]) and provide information on the social and demographic characteristics of the households and their members, on the level and kind of social benefits received and on the level of economic insecurity of the household. Macro data are used to detect the characteristics of European economic systems and their welfare system. Data are taken from Esspros [8] and Socx [1], which the main databases on social protection benefits of international official statistics.

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[1] The responsibility for all conclusions drawn from the data lies entirely with the author.

Three main groups of variables are included: the outcome variable which allows us to separate "insecure" from "secure" households, a set of predictors relating to the country welfare system and a set of supplementary variables to control for household and country characteristics that may affect the outcome variable.

The outcome variable is called "INSECURITY" and derives from the combination of two measures of economic safety proposed by official statistics ([6]). The first is drawn from Eusilc module on wellbeing and concerns the respondent's feeling about the financial situation of his/her family. The second variable is drawn from Eusilc standard module on household material deprivation and concerns the household's capacity to afford an unexpected required financial expense, paying through its own resources. The amount of the expense is explicitly indicated in the questionnaire and depends on the national at-risk-at-poverty threshold. Based on these two variables, a proxy of household's insecurity is defined. Particularly, a household is defined as insecure if the head of the household both expresses a score of 5 or lower (on a 0-10 scale) for the financial situation of the family and affirms that her/his household is not able to afford unexpected required expenses.

To characterize different social protection systems across countries, the following set of indicators is proposed: share of social benefits in kind over total benefits, share of means-tested benefits over total benefits, share of private social benefits over total social benefits, social expenditure per inhabitant in power purchased parities (henceforth PPP) and shares of social protection expenditure assigned respectively to health, sicks and disability, to old age and survivors, and to unemployment.

Finally, the following control variables/indicators are selected: number of members with tertiary education, number of members with up to lower secondary education, number of members with a job, number of unemployed members, number of retired members, number of old-age members, number of kids; furthermore, for each household, the amount of benefits received, the level of disposable income and equivalent disposable income (in PPP standard) and the tenure status of accomodation are considered. On the macro level, gross domestic product per inhabitant and household consumption expenditure per inhabitant, both expressed in standard PPP, are used to control for the country economy size.

Variables/indicators have been selected from a larger data set. Particularly, only those significantly associated with the measure of economic insecurity have been considered. Furthermore, some have been excluded to avoid multicollinearity problems when estimating the logistic model. Table 1 shows a synthetic description of variables.

The analysis concerns those European countries for which the complete data set is available, namely: Austria (AT), Belgium (BE), Czech Republic (CZ),Denmark (DK), Estonia (EE), Finland (FI), France (FR),Germany (DE), Greece (EL), Hungaria (HR),Ireland (IR), Italy (IT), Latvia (LV), Luxembourg (LU), Netherlands (NL), Norway (NO),Poland (PL), Portugal (PT), Slovakia (SK), Slovenia (SI), Spain (ES), Sweden (SE), Switzerland (CH), United Kingdom (UK). The choice of the year 2013 is motivated by the presence of an ad hoc module on subjective wellbeing in the 2013 Eusilc wave, which was essential to recover information on self-assessment of own household financial situation. Table 2 shows descriptive statistics

Table 1 Description of variables and indicators.

Name	Description	Categories
INSECURITY	Low level of satisfaction about the household financial situation AND inability to afford unexpected required expenses	0= not economically insecure, 1= economically insecure
FIN	Financial situation of the household	Score on a 0-10 sale
KIND	Share of in kind benefits over total benefits	Percentage values
MEANS	Share of means-tested benefits over total benefits	percentage values
PRIVATE	Share of private social benefits over total social benefits, 2011	Percentage values
SOCIAL	Social expenditure per inhabitant	Standards PPP
HEALTH	Share of social protection expenditure assigned to health, sicks and disability	Percentage values
OLDAGE	Share of social protection expenditure assigned to old age and survivors	Percentage values
FAMILY	Share of social protection expenditure assigned to family and children	Percentage values
UNEMP.	Share of social protection expenditure assigned to unemployment	Percentage values
NDEGREE	Number of members with tertiary education	Number
NLOW	Number of members with up to lower secondary education	Number
NWORK	Numbers of members with a job	Number
NUNEMP	Numbers of unemployed members	Number
NOLD	Number of members aged 75 or more	Number
NKIDS	Number of members aged less than 16	Number
BENEFITS	Benefits received as a quota of the country average disposable income of households, year 2012	Number
YF	Household disposable income	Standard PPP
HOUSE	The outright owner of the accomodation is a member of the household	0= no,1=yes
GDP	Gross domestic product per inhabitant	Standard PPP
CONS	Household consumption expenditure per inhabitant	Standard PPP

for the quantitative individual variables of the data set, whereas Table 3 points out differences among countries both for country-level variables and for the outcome variable.

4 Empirical analysis: methodology and results

The data set has a multilevel structure: individual families, on which economic insecurity is measured, are nested into countries, on which welfare state characteristics are observed. Given this data structure, multilevel models appear to be the natural

Table 2 Descriptive statistics on the quantitative variables of the dataset. Year 2013

	MEAN	MIN	MAX	SD	25%	50%	75%
FAMSIZE	2.32	1.00	28.00	1.31	1.00	2.00	3.00
NDEGREE	0.48	0.00	6.00	0.72	0.00	0.00	1.00
NLOWED	0.55	0.00	12.00	0.80	0.00	0.00	1.00
NKIDS	0.35	0.00	15.00	0.75	0.00	0.00	0.00
NOLD	0.20	0.00	4.00	0.49	0.00	0.00	0.00
NWORK	0.98	0.00	14.00	0.93	0.00	1.00	2.00
NUNEMP	0.14	0.00	9.00	0.42	0.00	0.00	0.00
NRETIRED	0.46	0.00	5.00	0.69	0.00	0.00	1.00
BENEFITS	0.34	-0.13	57.29	0.45	0.00	0.21	0.53
YF	28664	-226413	1602106	25652	13805	23160	37281
INSECURITY	0.26	0.00	1.00	0.44	0.00	0.00	1.00
FIN	6.00	0.00	10.00	2.46	5.00	6.00	8.00

Table 3 Avarage values of country-level variables and indicators Year 2013

COUNTRY	INSEC.	SOCIAL	KIND	MEANS	PRIVATE	HEALTH	UNEMP.	OLDAGE	FAMILY	CONS	GDP
AT	15.99	10084	30.24	8.40	6.74	32.47	5.46	50.45	9.68	18200	34571
BE	15.23	9114	31.81	5.17	5.88	36.55	11.70	40.94	7.47	16300	31549
CH	9.42	9968	32.43	7.30	26.26	39.34	3.64	47.74	6.00	22900	43349
CZ	27.63	4639	31.95	2.68	2.64	37.28	3.34	47.44	9.09	10900	21993
DE	25.03	9475	37.61	12.08	11.80	42.43	4.12	39.41	11.30	17800	32620
DK	12.63	10358	40.07	35.91	13.92	33.50	5.87	42.61	11.63	15800	33710
EE	32.59	3015	29.63	0.73	0.09	40.12	3.19	44.66	11.05	10100	19796
EL	37.42	4822	20.82	4.69	7.26	26.93	5.20	63.21	4.38	13000	18821
ES	29.22	5856	30.52	14.45	1.45	32.85	12.97	47.47	5.37	13700	23527
FI	10.01	9143	38.35	5.34	3.71	35.80	7.46	41.24	10.72	15800	29780
FR	20.90	9591	36.33	10.95	9.85	34.73	6.25	45.67	7.89	15500	28498
HU	47.52	3889	30.26	4.20	1.01	31.08	2.34	52.43	12.06	9100	17642
IR	38.18	7057	36.32	30.84	8.85	37.57	13.81	32.18	12.52	15500	34831
IT	26.31	7464	24.61	5.67	4.51	29.50	6.18	59.35	4.21	16000	25880
LU	14.44	14391	31.06	3.60	4.86	36.44	6.61	37.54	15.91	21100	68690
LV	53.13	2474	27.23	1.85	0.50	32.06	4.20	53.78	8.16	10100	16352
NL	9.25	10131	35.36	13.44	25.50	42.75	5.62	41.82	3.27	15800	35107
NO	9.32	11410	41.43	4.22	9.15	46.65	2.26	35.09	12.56	18800	48356
PO	35.28	3750	23.86	3.98	0.22	30.52	1.61	59.39	7.43	10800	17613
PT	37.44	5234	26.50	8.37	7.04	31.45	6.86	56.18	4.59	13000	20120
SE	11.26	9524	45.55	2.66	11.55	37.55	4.25	43.75	10.50	15200	32939
SL	35.33	5209	31.83	7.56	4.83	37.04	3.44	48.78	7.98	12000	21493
SK	28.76	3845	33.70	5.07	4.72	39.83	3.42	44.54	9.69	11400	20121
UK	27.54	7674	38.30	13.63	21.37	36.84	2.08	42.93	10.34	18100	28358

choice. Particularly, this analysis applies multilevel logistic regression with random intercept, in order to estimate the probability of experiencing economic insecurity, given some specific characteristics of the welfare state and other country-level and individual-level predictors.

Table 4 shows results of the multilevel logistic model. The model was fit to 200989 households within 24 countries, using standardized input data. A significant positive coefficient indicates that the predictor increases the probability of being classified as insecure, whereas a significant negative sign means that the predictor reduces the risk of economic insecurity. In case of categorical variables, the co-efficient sign indicates whether the observed category increases (positive sign) or

decreases (negative sign) the risk, compared to the reference category (see table 1 to check categories).

Table 4 Multilevel Logistic Regression

	Dependent variable:
	INSECURITY
FAMSIZE	0.417***
NDEGREE	−0.295***
NLOWED	0.170***
NOLD	−0.081***
NKIDS	−0.082***
NWORK	−0.241***
NUNEMP	0.230***
NRETIRED	−0.272***
BENEFITS	0.063***
GDP	−0.096
CONS	0.204
SOCIAL	−0.555**
HEALTH	−0.101
FAMILY/OLDAGE	0.404**
MEANS	−0.002
PRIVATE	0.044
KIND	−0.308*
YF	−1.619***
HOUSE1	−0.765***
Constant	−1.208***
Observations	200,989
Log Likelihood	−85,016.570
Akaike Inf. Crit.	170,077.100
Bayesian Inf. Crit.	170,301.800
Note:	*p<0.1; **p<0.05; ***p<0.01

Our results show that some features of welfare systems significantly affects economic security, even when controlling for several characteristics of the household and of the country. Holding all other variables constant, the higher the level of per inhabitant social spending and the percentage of in kind services, the lower the probability of economic insecurity. Conversely, the risk of economic insecurity in-

creases as the share of social benefits in favour of family overcome that assigned to the elderly. The controls generally perform in line with intuition. For instance, the presence of low-educated or unemployed members increases economic insecurity whereas the presence of high-educated or members with a job or retired decreases it. Furthermore, the risk of economic insecurity decreases with higher levels of household disposable income and when the outright owner of accommodation is a member of the household.

5 Conclusions

Improving the delivery of economic security is a socially important issue, as economic insecurity represents a major determinant of individual well-being.

This paper argues that social protection (namely the level and the kind of social benefits delivered), may play a relevant role in mitigating the extent of economic insecurity. An empirical analysis is run to investigate the relationship between economic insecurity (defined as the anxiety produced by a lack of economic safety) and main characteristics of the welfare state. In particular, a multilevel logistic regression (with random intercept) is fitted to 200989 households within 24 European countries. Welfare state characteristics are observed at the group (country) level, whereas the outcome is measured on individual families.

Results point out some interesting evidence. Holding all other variables constant, the higher the level of per inhabitant social spending and the percentage of in kind services, the lower the probability of economic insecurity. Conversely, the risk of economic insecurity increases as the share of social benefits in favour of family overcome that assigned to the elderly. Furthermore, household composition affects significantly household economic insecurity. Obviously, results depend on how economic insecurity is measured. Unfortunately, currently available statistics allow one to obtain only a proxy indicator of subjective economic insecurity in Europe.

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