

The Evolution of Job Insecurity in Spatial Contexts in Europe During COVID-19 Pandemic

International Regional Science Review
2023, Vol. 46(5-6) 552–576

© The Author(s) 2023

Article reuse guidelines:

sagepub.com/journals-permissions

DOI: 10.1177/01600176231160485

journals.sagepub.com/home/irx



**Bogdan-Constantin Ibanescu¹ , Alexandra Gheorghiu¹ ,
Mioara Cristea², Gabriela Carmen Pascariu¹, PsyCorona
Team*, and Pontus Leander³**

Abstract

Unemployment caused by the COVID-19 pandemic is of the utmost importance for governing bodies worldwide. Its constant increase during the last months is subject of major concern for both citizens and policy makers, as individuals might experience increased feelings of job insecurity due to the pandemic context and to the latest developments on the job market. Job insecurity refers to a perceived threat to the continuity and stability of employment as it is currently experienced and has a negative impact on the individuals' quality of life. Many researches have linked job insecurity with low levels of well-being and high levels of stress, as well as local or national measures taken in job creation and job retention. Aside from individual factors, there are other critical influences that should be considered in order to better understand the dynamics of job insecurity against the COVID-19 pandemic. Such influences can come from regional features such as spatial, economic, or demographic characteristics, like gender, age, or education.

¹Alexandru Ioan Cuza University, Iasi, Romania

²Heriot-Watt University, Edinburgh, UK

³University of Groningen, Groningen, Netherlands

*List of all authors part of PsyCorona Team and their full affiliation could be found in [Annex 6](#) - PsyCorona Authors.

Corresponding Author:

Alexandra Gheorghiu, Centre for European Studies, Alexandru Ioan Cuza University, Carol I Bld, 19, 700506, Iasi, Romania.

Email: gheorghiu.anda@yahoo.com

The aim of the paper is to identify and spatially represent the variations and evolution of job insecurity during the on-going pandemic. Our analyses are based on the PsyCorona database (15.311 participants), a study with self-reported data deployed in countries all around the world, that monitored various psychological variables during the first pandemic waves. For the purpose of this research, data related to the first wave (March-July 2020) was selected. In order to get a better understanding of the spatial distribution of self-reported job insecurity, we chose to focus on eight European countries (France, Germany, Netherlands, United Kingdom, Greece, Romania, Spain, and Italy). Respondents from Western Europe countries expressed lower scores on self-reported job insecurity and less variance over time while those from Southern and Eastern Europe displayed higher scores for job insecurity and more variance. Moreover, we found that the higher the overall job insecurity is perceived in a country, the higher the discrepancies between age, gender, and education categories tend to be.

Keywords

job insecurity, COVID-19 pandemic, Europe, core-periphery

Introduction

Over the past few decades, technological, economic, and political changes concerning work have pushed organisations to downsize, cut costs, restructure or adapt business practices, leaving many employees anxious and insecure about their jobs (Ahearn 2012; Benach et al. 2014; Kalleberg 2011). Greenhalgh and Rosenblatt (1984) defined job insecurity as a *perceived* powerlessness to maintain desired continuity in a threatened job situation with two important facets: the fear of losing the job as a whole (*quantitative job insecurity*) and the fear of losing specific features of the job like career prospects and salary development (*qualitative job insecurity*) (Hellgren, Sverke, Isaksson 1999).

Job insecurity is a *subjective experience* (De Witte 1999) which translates into the fact that two individuals in the same objective situation (e.g., temporary contracts) will experience different levels of job insecurity (Van Vuuren et al. 1991; van Vuuren 1999). It is a *future-focused phenomenon*, meaning that it reflects an *assumption* about a job-related event (e.g., being laid-off) that has not happened yet - and may never happen - and determines individuals to experience *insecurity* (Probst 2003; Sverke, Hellgren, Näswall 2002). In other words, job insecurity represents the subjective perceptions of being threatened by job loss (Mohr 2000) and concerns about the continued existence of the job in the future (van Vuuren 1999).

In order to address the global health crisis due to the COVID-19 pandemic, numerous businesses were forced to rethink their ways of functioning, with many employees being sent into furlough, experiencing pay cuts, or the loss of their jobs (Bailey et al. 2020; Jeanne et al. 2022; Lund et al. 2020; Nicola et al. 2020). These unparallel

fluctuations in employment led to employees feeling greater job insecurity which may be associated with worse mental health. [Wilson and colleagues \(2020\)](#) conducted an online survey among 797 US residents from April 6 to 12 2020, a period when the US unemployment rate had reached the highest level since the Great Depression. Their findings suggested that individuals employed during the pandemic experienced concerns about their employment status and thus, reported higher levels of anxiety symptoms. These findings are in line with previous studies showing a link between job insecurity during large-scale disruptions (e.g., recession, epidemics) and anxiety and depression ([Forbes and Krueger 2019](#); [Margerison-Zilko et al. 2016](#); [Stanislawski 2019](#)). For example, pay cuts experienced during the recovery period following the SARS outbreak were the highest predictor of a psychological disorder among US young workers ([Mihashi et al. 2009](#)). Recent studies found positive correlations between the rise of job insecurity and fear of COVID-19 among Serbian workers ([Blanuša, Barzut, and Knežević 2021](#)), negative impact of job insecurity as a consequence of COVID-19 on anxiety and depression levels of American ([Ganson et al. 2021](#); [Obrenovic et al. 2021](#)) and Australian workers ([San Too, Leach, Butterworth 2021](#)).

However, the implications of job insecurity go beyond the subjective perception, as they reflect insecure employment, increasing income inequalities, worsening of working conditions, or even deeper societal issues ([Garcia 2013](#); [Parker 2013](#)), leading to “precarization of work as a process” ([Alberti et al. 2018](#)) and depreciation of labour market participation ([Möller and Aldashev 2007](#)). Therefore, a method that attempts to move past the pure psychological approach is sought in order to accurately portray the regional dimension of job insecurity, hence providing solutions for policy makers. To date, studies scrutinizing the vulnerability of each age and education group against a spatial background are sparse and their findings are conflicting. Our work argues for a more comprehensive approach on job insecurity, including not only self-reported variables, but also national and regional features relating to economic development and peripheral status. Therefore, we challenge previous approaches related to job insecurity against the COVID-19 shock tackling the question of international differences in job insecurity and the spatial manifestations of the phenomena.

The aim of the paper is to analyse an ongoing crisis and to discuss the evolution of job insecurity in spatial contexts. The novelty brought by this research is twofold. Firstly, the data is based on large scale survey covering several territories - eight different countries - and is not spatially bound to a single country as other studies published on the topic ([Blanuša, Barzut, and Knežević 2021](#); [Ellonen and Natti 2015](#); [Wilson et al. 2020](#)). In the context of the EU, this will allow us to observe if some regions are more fragile than others in terms of job insecurity. Secondly, compared to other published studies based solely on a cross-sectional approach ([Ganson et al. 2021](#); [Margerison-Zilko et al. 2016](#); [Obrenovic et al. 2021](#); [Stanislawski 2019](#)), this research has a longitudinal approach, allowing us to map the evolution of perceived job insecurity through several key moments, thus reducing the possibility of drawing partial conclusions.

Job Insecurity – At the Crossroads Between Subjective Experience and National Policies

Job insecurity is a stressful experience associated with *distress* and *negative feelings* (Cheng and Chan 2008; Lim 1996). Studies showed that job insecurity represents one of the key psychosocial risk factors in the workplace leading to numerous psychological and physical consequences, e.g., poor mental, physical, and work-related wellbeing, poor job attitudes, and decrease in performance, creativity, and adaptability (De Witte, Pienaar, De Cuyper 2016; Niessen and Jimmieson 2016; Probst et al. 2007). Quantitative job insecurity has been associated with lower organizational commitment, job satisfaction, job performance and higher intentions to leave the organization (alternatively: see Sverke and Hellgren (2002) and Shoss (2017) for reviews) while qualitative job insecurity is linked to withdrawal attitudes and intentions (Hu and Zuo 2007).

Moreover, studies have shown the existence of connections between job insecurity and age (Yeves et al. 2019), gender (Menéndez-Espina et al. 2019), and level of education (Green 2009). Empirical evidence regarding the relation between age and job insecurity is currently inconclusive, with some findings suggesting that younger individuals experience higher levels of job insecurity (Keim et al. 2014; Roskies, Louis-Guerin, Fournier 1993; Roskies and Louis-Guerin 1990) while other studies report that older individuals are subjected to higher levels of job insecurity (Claes and Van De Ven 2008; Mohr 2000; Näswall and De Witte 2003) because they are more dependent on their current jobs (Cheng and Chan 2008). Additionally, older individuals might perceive themselves as less employable compared to younger ones which could add to their experience of job insecurity (Peeters, De Cuyper, De Witte 2016; Rothwell and Arnold 2007; Wittekind, Raeder, Grote 2010). Surprisingly, Fullerton and Wallace (2007) identified a curvilinear relation between job insecurity and age, with middle-career individuals feeling higher levels of insecurity than other age groups.

Charles and James (2003) looked at gender differences in perceptions of job insecurity, with women feeling less insecure than men. According to their findings, there is a widespread view that it is easier for women compared to men to find jobs in today's labour market which together with men's greater vulnerability to job insecurity, creates the perception that, at societal level, job insecurity is a men's problem.

Gender has also been found to moderate the relation between job insecurity and its consequences. For example, Rosenblatt, Talmud and Ruvio (1999) reported that job insecurity had more negative consequences on female employees' attitudes towards work compared to male employees. Furthermore, since men have a higher occupational mobility, they were less distressed by the threat of job loss. In contrast, De Witte (1999) found that job insecurity had more negative consequences on men's wellbeing compared to women. This is explained by the fact that men are more aware of the possible negative consequences of job loss. More recent studies argued that men and women have similar levels of fear of job loss (Rigotti, Mohr, Isaksson 2015).

Finally, the level of education represents an equally valid predictor for job insecurity since it represents a proxy for chances of employment and/or reemployment (Postel-Vinay and Turon 2007; Simões, Andrade, Duarte 2022; Folmer, Dutta, Oud 2010). In a recent study by Klug (2020) on 1.522 labour market entrants, individuals with vocational qualifications were slightly more vulnerable to subjective job insecurity than either the low-qualified or university graduates, a similar finding that education reduces job insecurity being provided by Muñoz de Bustillo and de Pedraza (2010).

Aside from psychological factors and demographic characteristics (age, education, gender), a plethora of spatial, economic, and institutional factors, less dependent on individual structure, but rather on governance related framework, are actively influencing job insecurity (Ellonen and Nätti 2015; Håkansson and Bejakovic 2020; Roskies, Louis-Guerin, Fournier 1993; Shoss 2017; Sverre 2004). For example, the regional economic conditions, e.g., unemployment (Anderson and Pontusson 2007), welfare-state institutions (Lübke and Erlinghagen 2014), productivity of labour (Johnson 2001), industry decline or shrinking demand (Cooper and Antoniou 2013) tend to be equally important, therefore a spatial-orientated approach towards job insecurity could provide more accurate answers to the issue. It must be acknowledged that COVID-19 hit unequally sub-national structures (Bonet-Morón et al., 2020; Dentinho and Reid, 2020), thus the direct and indirect impacts of governance structures tend to amplify. The governance resilience defined as “the capacity of governance systems to absorb, adapt, and transform when exposed to a shock such as a pandemic, and still retain the same control over its structure and functions” (Blanchet et al. 2017; Lebel et al. 2006) plays an important role in people’s perception of their well-being and job-related issues (Harrison 2003). As it can be observed, job insecurity goes well beyond the idea of precarity and low-paid, low-quality jobs, or the notion of job instability (Hassard and Morris 2018), although they remain interconnected. The national legislation, employment status of workers, access to benefits, health and social assistance, specific restructuring strategies, social policies that decommodify or recommodify labour are equally critical for the understanding of the phenomenon (Hassard and Morris 2018; Rubery et al. 2018; Schierup et al. 2015; Simola 2018). Consequently, at micro- and macro-spatial level the job insecurity depicts a personal, subjective experience passed through the filter of national measures and job-related policies (László et al. 2010; Lübke and Erlinghagen 2014; Näswall and De Witte 2003).

Regarding the industrial sector and its impact upon job insecurity, it has been observed that the role played by the sector diminished during the last decades (Chung and Van Oorschot 2010; Erlinghagen 2008; Ellonen and Natti 2015), mostly due to an increase in workers’ mobility and their ability to find similar jobs in other region, and the intensification of job formation programmes provided by employers.

The international differences in job insecurity as well as its impact upon personal health and familial wellbeing tend to follow a West-East pattern in Europe largely dependent on economic development (Håkansson and Bejakovic 2020; László et al. 2010), as well as a North-South pattern (De Cuyper et al. 2018; Näswall and De Witte 2003; Shoss 2017), mostly explained through more pertinent social measures

taken in the Northern parts of the continent. A similar divide was found during the 2008-2012 crisis with lower values of job insecurity in countries from Central Europe with inclusive labour markets and higher values in countries from Southern and Eastern Europe (Sverke et al. 2010; Symeonaki, Parsanoglou, Stamatopoulou 2019). While this divide mimics the economic and spatial realities with which it shares intrinsic causes, limiting our understanding of job insecurity in Europe to an explanation based merely on GDP and accessibility index will drastically narrow our knowledge and ability to create adequate policies for regional and local development.

Methods

Participants

The data used in this survey was extracted from the PsyCorona Study that aimed to analyse the psychological impact and factors of the COVID-19 pandemic (<https://psycorona.org/>). The research was approved by the Ethics Committees of the University of Groningen (PSY-1920-S-0390) and New York University Abu Dhabi (HRPP-2020-42).

The study is to date one of the amplest and most comprehensive regarding COVID-19's societal repercussions, being launched in mid-March 2020, during the first virus wave and still on-going. The initial sample consisted of 63.495 participants from 116 countries. Participants were recruited following a combination of convenience and representative sampling strategies. They completed the survey in one out of 30 possible languages. For several countries the self-selected samples were supplemented with statistically representative (by age and gender) samples ($n \sim 1000$ per country). This is the case for Argentina, Australia, Brazil, Canada, China, France, Germany, Italy, Japan, Netherlands, Philippines, Romania, Russia, Serbia, South Africa, South Korea, Spain, Turkey, United Kingdom, and the United States. The data collection was ensured by Qualtrics Panels, except for China, where WJX provided this service. After completing the baseline survey, participants received regular follow up invitations to continue their participation. The follow up participation was voluntary.

Considering the aim of the paper, only countries from the European Union with sufficient respondents (at least 1000 participants) were selected for analysis. Given that at the moment of the data collection for this paper (March-July 2020) UK was still an active member in the European Union Customs Union and European Single Market and in a transition period, it was decided to include it in the list of countries. The final sample had 15.311 participants from Germany (9%), Spain (17.5%), France (9.1%), United Kingdom (10.1%), Greece (15.8%), Italy (9.7%), the Netherlands (16%), and Romania (12.7%). These eight countries cover the Western, Central, Southern and Eastern parts of the European Union, ensuring a geographical validity for our study, and encompassing different scales of economic development.

Measure

Job insecurity was assessed on a 5-points Likert scale. Participants were invited to indicate the degree of perceived risk of losing their job in the immediate future (“Chances are, I will soon lose my job”) on a scale ranging from -2 “Strongly disagree” to 2 “Strongly agree” similarly to Vander Elst, De Witte, De Cuyper (2014). Scores closer to -2 indicate that the participants perceive very low chances of losing their job, thus having low job insecurity. Scores closer to 2 indicate that participants perceive their job at risk, thus having high job insecurity. Eight measurements taken from 19th March until 13th July were included in the analysis. Besides job insecurity, questions about whether they have lost their job, whether they lost their job during the previous week due to restrictions, and how many hours/weeks they are working were also asked. This set of questions will allow us to better understand how perceived job insecurity links with job losses during the period that was surveyed. Furthermore, the survey collected socio-demographic data regarding respondents’ gender, 61% of them being women, age (divided into eight cohorts, 18-24 (16.3%) 25-34 (22.4%), 35-44 (20.3%) 45-54 (18.2%), 55-64 (13.5%), 65-74 (7.6%), 75-84 (1%), and +85 (0.2%)), and education levels (primary education (1.1%), general secondary education (10.8%), vocational education (12.5%), higher education (24.3%), bachelor degree (22.6%), master degree (20.6%), and PhD degree (7.6%)). The respondents were asked to provide their postal code; however, this question was optional and only 9.676 of them (63.19% of participants) choose to provide their location. In order to respect the anonymity of respondents, it was decided to aggregate the postal codes in larger national subdivisions.¹

Results and Discussions

National and Regional Evolution of Job Insecurity

For our first analysis, we aggregated the responses from all participants according to their country of residence. The national evolution of job insecurity (Figure 1) shows three different paths during the March-July period. It should be noted that all eight countries presented in our study started from values approximately equal, varying from -0.49 in Italy to -0.92 in Germany (as previously mentioned, the lower the value, the lower the perceived job insecurity, indicating feelings of security). Compared to all subsequent measurements, these values are rather high, denoting that the immediate perceptions and feelings of people in face of first pandemic lockdowns might be affected by anxiety and uncertainty. After the initial assessment and a period of accommodation to the new realities, job insecurity declined in all countries, suggesting that participants perceived the risk of losing their job as low. However, not all countries followed the same path.

Germany, France, and Netherlands (Western Europe) recorded constant decline in job insecurity, a sign of an overall confidence in the personal and institutional resources

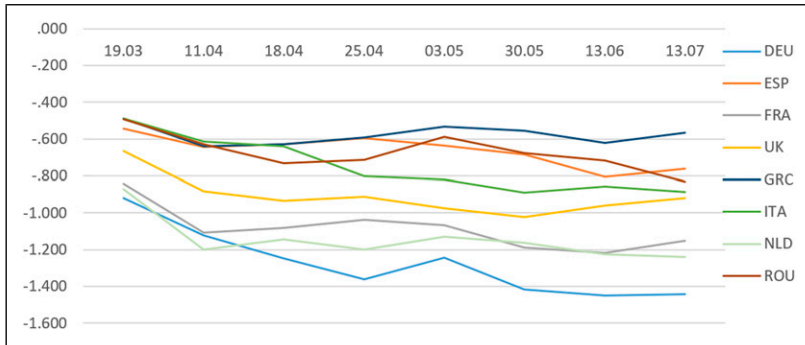


Figure 1. National evolution of job insecurity from 19 Mar until 13 Jul (values closer to 0 denote higher job insecurity values).

to adapt and overcome this crisis. Average scores are closer to the lower values of the scale (-2 “Strongly disagree”) (-1.44 in Germany in July 2020), indicating a rather optimistic attitude towards job preservation. Spain, Romania, Italy, and United Kingdom manage to stabilise at relatively low levels of job insecurity, between -0.72 and -0.92 , although it is worth mentioning that United Kingdom started the pandemic period with values closer to the first category (Germany, France, and the Netherlands), and slowly migrated, especially during June and July 2020 towards this intermediate category. Finally, Greece represents a special case, being the only country from our study whose evolution was barely visible. In fact, Greece had only a slight improvement during the 4 months and eight waves of the survey, its July 2020 value (-0.57) being very close to the initial values of March 2020 (-0.49), therefore the perceived job insecurity stayed constant during the first months of the pandemic. The evolution follows a similar trend with the results of the latest European Commission reports on the impact of COVID-19 on personal income which depict Southern and Eastern peripheral countries as considerably more affected than Central ones (Eurofound 2020).

In the second month of the survey (April 2020) the number of participants indicating that they worked the same number of hours as usual was generally around 50%. The rest of participants indicated either that they worked more (in most cases) or less hours than usual. This fluctuation in the number of hours was used as a proxy for whether the participants felt their job might be at risk (especially those who reported less hours worked). In May 2020, the percentage of respondents reporting that they worked less than usual slightly increased across almost all countries, but reverted to lower values for June 2020.

These changes were also reflected in the differences in perceived job insecurity. As such, significant differences between the starting point (mid-March 2020) and mid-April 2020 were noticed ($t_{(7)} = 7.53, p < 0.000$) that point out that after the initial shock, perceived job insecurity significantly declined. This can also be corroborated with the

Table 1. Percentage of Respondents Indicating They Worked the Same Amount/more/less Number of Hours.

		Country							
		FRA	DEU	GRC	ITA	NLD	ROU	ESP	UK
April	The same	55.45	50.63	55.11	51.47	46.29	30.77	54.49	57.05
	More	26.36	29.11	17.05	30.88	26.86	19.23	25.92	19.46
	Less	18.18	20.25	27.84	17.65	26.86	50.00	19.59	23.49
May	The same	56.25	56.67	50.00	57.14	55.14	45.10	61.07	56.86
	More	17.71	21.67	33.33	20.88	16.76	35.29	17.21	22.55
	Less	26.04	21.67	16.67	21.98	28.11	19.61	21.72	20.59
June	The same	38.60	32.93	31.25	31.11	37.76	35.00	41.57	46.38
	More	47.37	47.56	61.25	46.67	48.25	50.00	35.54	36.23
	Less	14.04	19.51	7.50	22.22	13.99	15.00	22.89	17.39

number of hours worked (see [Table 1](#)). During the April – May 2020 period perceived job insecurity did not change significantly ($t_{(7)} = -0.22, p = 0.83$). Finally, during the May-July 2020 period, job insecurity significantly decreased ($t_{(7)} = 3.19, p = 0.01$) indicating that participants felt that their jobs are rather secure (low chances of losing their jobs).

The highest number of lost jobs (both during the previous month and the previous week as a result of restrictions) were noticed in Spain, followed by Italy, and Greece. On the other hand, participants from Germany, the Netherlands, and France reported much lower values for job losses (see [Table 2](#)). These results are in line with country-level values of perceived job insecurity. Significant differences emerged between the eight countries ($F_{(7,56)} = 37.15, p < 0.000$). Some non-significant differences suggest the existence of countries with similar perceived job insecurity profiles that align with self-reported job losses. As such, no significant differences were noticed between the levels of job insecurity reported in Italy, Spain, Greece, and Romania while Germany presented a similar profile score to France and the Netherlands (see [Annex 1](#)).

A point could be made regarding the possibility of a direct or indirect influence of the pandemic outbreak on the perception of job insecurity, such that the impact in terms of cases or deaths would be visible in the levels of job insecurity. However, according to the data provided by the Interim Report “Geography of COVID-19 - Territorial impacts of COVID-19 and policy answers in European regions and cities” ([ESPON 2022](#)), the high and very high excess of deaths during the first pandemic wave does not reflect higher job insecurity ([Figure 2](#)). On the contrary, two of the countries displaying the highest levels of job insecurity (Romania and Greece) were hit less severely than any other country in the study.

In order to obtain a more precise image of job insecurity evolution at a subnational level, we operated an aggregation of 9.676 respondents that provided their location in NUTS 2 units (except Germany, where the initial aggregation was made at a NUTS 1 level). Given

Table 2. Percentage of Respondents Indicating They Either Lost Their Job in the Past Month or That the Job has Become Unavailable due to Restrictions.

		Country							
		FRA	DEU	GRC	ITA	NLD	ROU	ESP	UK
11 April	Month	0.00	0.00	0.30	1.75	0.78	2.33	3.42	0.50
	Week	1.82	1.52	5.67	2.63	0.78	2.33	7.85	1.51
18 April	Month	0.61	1.71	0.32	0.84	0.00	1.90	3.65	0.48
	Week	1.23	2.56	4.78	6.72	0.82	2.86	7.15	0.95
25 April	Month	0.00	0.66	0.00	0.22	0.00	1.96	2.62	0.81
	Week	1.38	1.32	3.35	4.90	2.32	1.18	6.15	3.76
03 May	Month	0.00	0.92	0.60	0.00	0.00	1.50	2.44	0.52
	Week	0.68	0.61	2.98	4.46	1.50	1.87	5.14	1.55
13 June	Month	0.00	0.00	0.00	1.34	0.00	0.72	1.19	0.00
	Week	0.56	0.00	1.39	2.68	0.91	0.72	3.16	0.32
13 July	Month	0.68	0.48	0.41	0.00	0.25	0.00	1.43	0.33
	Week	0.00	0.96	0.83	2.15	0.49	0.00	1.90	0.33

Month: Lost my employment in the past month.

Week: Lost my employment in the last week as my job has become temporarily not available.

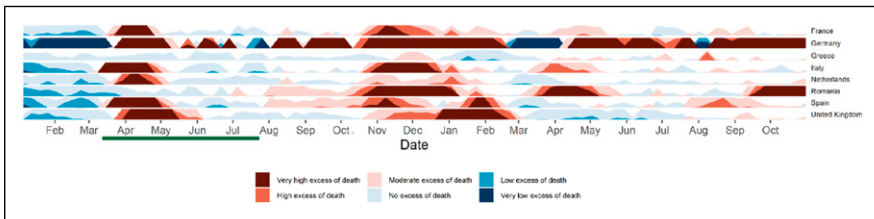


Figure 2. Evolution of excess mortality across the eight European countries selected for the study.

Source: ESPON Interim Report “Geography of COVID-19 - Territorial impacts of COVID-19 and policy answers in European regions and cities” (2022) (with the permission of the authors).

the voluntary nature of the data, not all regions managed to attain a sufficient number of participants, therefore the regions with a limited number of participants were excluded from the cartographic representation. The choice of sub-national divisions is motivated by our intention to observe the regional variations in job insecurity. While the restrictions and - for the most cases - the support schemes were national, these measures provided only a partial explanation for the perceived job insecurity. In order to better comprehend job insecurity variations, a deeper look taking into consideration the sub-national administrative network was required. This process allowed us a more granular interpretation of the variations, as

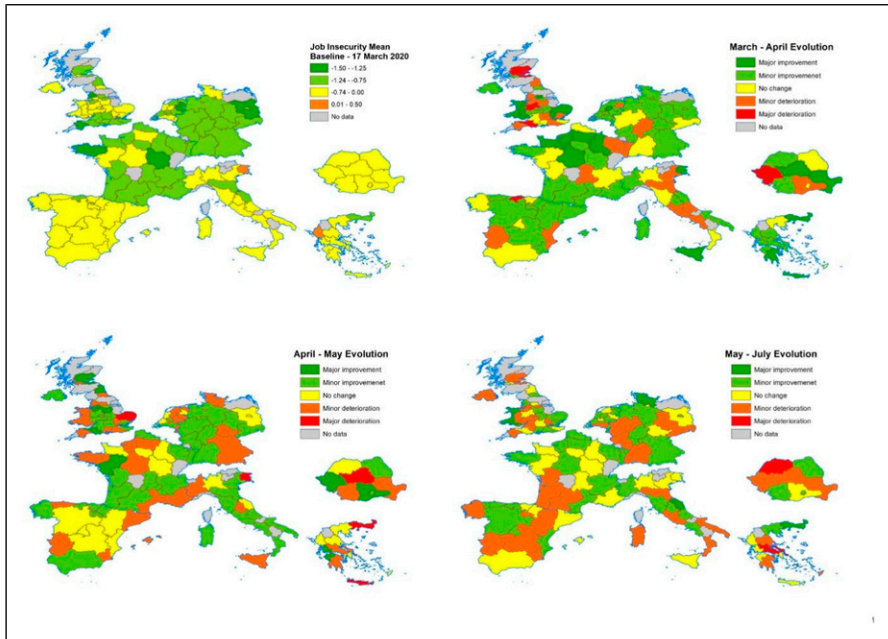


Figure 3. Evolution of job insecurity at regional level.

well as an additional understanding from the perspective of the resilience approach. The exhaustive approaches based on territorial resilience identify a resistance stage when the territories and communities make a first contact with the shock, followed by adaptations and transformations in order to keep the functionality of the system, and finally a recovery (Béné et al. 2014; Capano and Woo 2017; Lebel et al. 2006; Martin and Sunley 2014; Reggiani, De Graaff, Nijkamp 2002).

If we consider the COVID-19 arrival and first lockdown measures in March 2020 as the initial shock, we can identify a starting point (mid-March, start of lockdown measures², first spreads of the virus), a resistance period (March – April 2020), a period of adaptation and transformation (April – May 2020), and, subsequently, a period of recovery after the first lockdown (May-July 2020).³

As seen in Figure 3, three major observations can be drawn:

Firstly, the initial impact of the pandemic measures was mainly generalized at country level. The peripheral countries⁴ (Romania, Greece, Italy, Spain) recorded higher levels of job insecurity in almost all regions, regardless of their economic prowess. This behaviour reveals a huge reliance on national governments' measures and limited confidence in regional attributions regarding job related policies. As observed during previous shocks, the regions tend to exhibit similar behaviour as other regions from the same country (Giannakis and Bruggeman 2020).

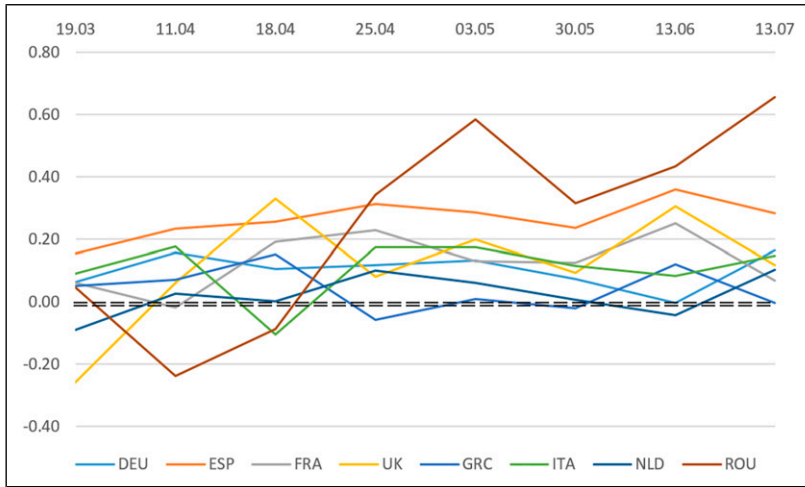


Figure 4. Evolution of differences between women and men job insecurity (values above 0 denote higher job insecurity for women, values below zero denote higher job insecurity for men).

Secondly, during the resistance period most of NUTS 2 regions displayed minor or, in some cases, major improvements. The deteriorations in job insecurity are sporadic and, for most part, overlap with territories having difficulties in recovering following the previous economic crisis. The memory of a recent difficult regional recovery could weigh heavily on the self-perceived job insecurity of individuals from several Spanish, Greek, or Italian territories. Nevertheless, the European Union as a whole managed to keep relatively low levels of job insecurity following the first lockdown (Bourdin et al. 2021a).

Finally, the period of recovery shows the greatest variations between countries as well as between regions belonging to the same country. The deterioration of job insecurity (manifested through overall increases in several European countries) is a direct result of the lack of improvement regarding the pandemic situation, which progressively affected people's perception of job stability and confidence in national or regional structures (EP 2021).

Variations in Job Insecurity According to Gender and Economic Performance of Territories

Gender differences in job insecurity were identified as major issues in time of crisis even before the COVID-19 pandemic (Menéndez-Espina et al. 2019). Given its long-term societal effects, we decided to pay particular attention to this aspect. The national gender gaps, calculated as the amplitude in job insecurity between genders (Figure 4) revealed that peripheral countries with high values of job insecurity tend to display

major discrepancies between female and male job insecurity. For example, in Romania, women reported values with 0.600 higher than men during May and July 2020 waves, a difference that can be considered important for a 5-points scale. In contrast, the Netherlands and Germany showed similar values between men and women's level of job insecurity (minimal amplitudes) during the entire period, even if for the most part of our study, job insecurity for women was higher compared to men. Greece recorded similar values for both men and women, displaying a different behaviour from other peripheral countries where job insecurity affected female workers to a greater extent.

These results can be explained by societal gender role expectations. Women's lives are conditioned by their dual presence in two types of jobs, i.e., paid jobs as well as the work required to care for and maintain their households (Burchell et al. 2020). During the pandemic, women have had to keep up with caregiving tasks at home, e.g., taking care of older parents or young children, while their demands at work continued. Recent data indicates that due to school closures or difficulties in getting childcare during COVID-19, parents with young children have had to arrange reductions in their work hours (Collins et al. 2021). The numbers are five to six times higher in the case of mothers compared to fathers. Juggling both professional and family demands may have impacted on women's perceptions of their work performance which in turn may have led to increased levels of job insecurity.

As gender gaps in job insecurity tend to follow a core-periphery pattern, we decided to investigate this relation at a subnational level. Given that 63.19% of participants provided data regarding their location, we were able to calculate if those respondents were based in a leading or a lagging territory. We considered spatial units with GDP per capita superior to the national mean of the countries they belong to as leading, and spatial units with GDP per capita inferior to that value as lagging. The full results per country, gender, type of territory, and wave are described in [Annex 2](#) (Differences according to gender between lagging and leading regions). The data seems to support the hypothesis that the higher the degree of economic peripherality, the higher the discrepancies between women's and men's job insecurity tend to be. A secondary observation indicates that in Western economies (France, Germany, and the Netherlands), where job insecurity values tend to be lower, the leading and more competitive territories display higher values of job insecurity than the lagging territories. Peripheral countries (Spain, Italy, Greece, and Romania) show overall higher values of job insecurity for women in leading regions and for men in lagging regions, probably due to the fact that lagging regions present a higher prevalence of manual labour.

These findings are in line with previous studies suggesting that women employees experience more job uncertainty than men (Mauno and Kinnunen 2002) and this tends to have more prolonged negative effects on their wellbeing (Mauno and Kinnunen 1999). Furthermore, these results seem to be inconsistent with gender role theory which implies that the threat of job loss should result in a stronger subjective experience of job insecurity for men compared to women. Since the onset of the Covid-19 pandemic women have faced tremendous challenges and commonly took on expanded duties at home while continuing to juggle their careers; thus, experiencing higher levels of

emotional exhaustion and burnout (EP 2021; Eurofound 2020). It is thus possible that under these circumstances, women in our sample may have perceived more severely the threat of job loss.

Variations in Job Insecurity According to Age and Education

The differences in job insecurity according to age class and country are presented in Annex 3. For the purpose of the study, only five age classes were maintained (18-24, 25-34, 35-44, 45-54, and 55-64), respondents aged 65 or over being excluded due to their lower connection to the job market. As pointed out by Näswall and De Witte (2003) and Fullerton and Wallace (2007), age does not have a linear relation with job insecurity, but rather a reverse U-shape. Younger and older workers tend to display lower values of job insecurity, not necessarily due to higher access to labour market, but to lower economic and social pressure. The age classes between 35 and 54 years have stronger connections and feelings related to their job. Their dependency on a steady income is higher (De Witte 1999; Sverke, Hellgren, Näswall 2002), their social and family status require stability, which makes the unemployment role less acceptable and higher sensitivity towards unforeseen risks (László et al. 2010).

However, our survey revealed that the pressure for the 35-54 age classes is not uniformly distributed among European countries. In Romania, UK, Germany during the May - July 2020 period, and France during April – May 2020 period, these classes have, indeed, the highest self-perceived job insecurity. Nonetheless, in Spain, Italy, and Greece the younger classes display the highest job insecurity, an immediate effect of job losses affecting particularly younger employees in those countries (EP 2021; Eurofound 2020). The only constant is the regular positioning of the 55-64 class in the safer zones of job insecurity spectrum.

The differences in job insecurity according to education class (Annex 4) are comprised of two major tendencies. Firstly, education reduces job insecurity among respondents with a primary, secondary, or vocational education showing overall higher values than those with a master or PhD degree. The results are in line with similar studies (Green 2009; Klug 2020; Muñoz de Bustillo and de Pedraza 2010; Postel-Vinay and Turon 2007); although it is worth mentioning that the most vulnerable classes are also those displaying higher variations across the study period. Secondly, the differences between education classes vary substantially between countries. In Netherlands, Spain, UK the difference between the most and the least insecure class stays mainly within the range of 0.700 during the entire period, while in Italy, Greece, or Romania, the same difference frequently goes beyond 1.000. In Greece, for example, at the beginning of the pandemic the primary/secondary education class reported a value of job insecurity of 0.043, while the PhD class reported -1.182.

Previous findings show that individuals with lower levels of education experience higher levels of job insecurity during an unforeseen shock, similarly to findings of Näswall and De Witte (2003), László et al. (2010) or Sverke, Hellgren, Näswall (2002). Usually, the explanation resides in poorer social and financial resources and the access

to a limited segment of the labour market (Gallie et al. 2016) referring to class differences in terms of relative proximity to services or labour contracts (Goldthorpe 2000). However, the relation is not universally valid, manifesting at different scales between countries according to their social policies, level of economic development, and effects of previous crises.

Conclusions and Implications

In this study, we attempted to provide a more comprehensive approach on job insecurity during the first months of COVID-19 pandemic, including not only self-reported job insecurity and socio-demographic variables, but also territorial specific features. While extensive quantitative research examining the role of socio-demographics on job insecurity was available, studies delving into the role of spatial and economic characteristics of territories were to date scarce. Moreover, limited information was known regarding the impact of the recent pandemic upon job insecurity at regional level, even less with respect to gender, age, and education distribution of this indicator.

Our findings suggest that job insecurity follows a core-periphery pattern in Europe, with Southern and Eastern countries displaying a more vulnerable status. Moreover, the higher the overall job insecurity is perceived in a country, the higher the discrepancies between age, gender, and education classes tend to be. While the distribution of job insecurity according to age and education classes follows similar patterns as identified during previous crisis, the implications of gender on job insecurity offer new food for thought for academics.

From a theoretical point of view, our findings question the association of job insecurity exclusively with forms and dynamics of employment⁵ or socio-demographics and suggest that a fuller understanding of job insecurity and the way it is experienced requires a close-up on territorial features (e.g., peripherality, economic performance, regional governance). In fact, the highest levels of job insecurity during the first outbreak of the pandemic were not recorded in the territories which displayed sudden increases in unemployment, but rather in the countries which already had relatively high levels of unemployment (Greece, Spain, Italy). Despite a decrease of unemployment in Q1 of 2020, these countries kept higher values of job insecurity, a supplementary proof that short-term economic changes have little to no effect on people's perception, as they - and their economic decisions- are more susceptible to be influenced by long-term trends. Therefore, the territory, its economic trends, level of development, and quality of institutions tends to be more important than previously thought in planning answers to unforeseen crisis. As mentioned in the ESPON report treating the first policy answers in European regions (Bourdin et al. 2021b), the type of answer provided by a region to a crisis is highly dependent on their human and social capital, while, at the same time, the regional features are influencing the type of answers and the perceptions at personal and community level.

Furthermore, our study challenges previous research asserting that women were less insecure than men. In fact, women expressed overall higher values of job insecurity

during an unforeseen shock. Their dual presence (paid jobs and household) in conjunction with the lack of any institutional support (temporary closure of schools and kindergartens) resulted in increased perceived job insecurity. This could be addressed by local and regional policy makers through dedicated actions and protective measures during crisis periods, e.g., partial support for employers in order to allow women to have reduced working hours to care for a child and full payment). Additionally, our study concluded that gender differences vary considerably according to the economic prowess of a region.

Our study has several practical implications for national and regional policy makers. Besides the immediate effects at personal level, perceived job insecurity determines economic outcomes, such as consumption and savings (Benito 2006; Manski 2004), therefore the current perception of individuals of their job security (which, as seen above, is not a direct effect of economic fluctuations) has direct consequences on the economic health of a region. The current state and feelings of individuals represent a barometer for the short- and medium-term evolution of any given society. The literature characterized job insecurity as a threat to the population health (Burgard, Brand and House 2009), and a potential mechanism behind health inequalities and social unrest (Benach et al. 2014). Moreover, recent insights in job insecurity showed that it is leading to diminished trust in politicians and political institutions (Wroe 2014). Giving that the employment (and unemployment) play an important role in any national and regional development plan, it would be extremely useful for policy makers to regularly investigate the level and dynamics of job insecurity, as they can prove to be a better indicator of imminent social unrest than the level of unemployment. Furthermore, the Eurobarometer could include questions related to job insecurity, especially in the context of the aggravation of the pandemic's effect, such as declining satisfaction with pandemic measures, disruption to essential services, fall in mental well-being, poorer work-life balance, and lower trust in institutions (Eurofound 2020).

Given the adaptability provided by the multi-layered systems of governance, a design aimed to use bottom-up feedback can contribute to a decision-making structure acting in a more connected manner with the local context and generating resilience at a community level. Furthermore, the necessity arises in less resilient regions for interventions specifically aimed at creating and maintaining employment opportunities for vulnerable classes. Our study highlights the undeniable need for a holistic approach to support all the groups hit harder by the health crisis to prevent them from falling further behind and fuel social unrest. Failing to prevent the further rise of socio-economic inequalities among European regions risks to trigger discontent and the surge of populist movements. The variations between leading and lagging regions across Europe call for adapted and tailored measures, the "one size fits all" model being obsolete.

While our study managed to provide an exhaustive image of job insecurity during the first months of COVID-19 pandemic, a limitation linked to the nature of the data needs to be considered. Due to the voluntary nature of the study, not all regions were engaged with a sufficient number of respondents, therefore 25 NUTS 2 regions were left out from the analysis. We believe that nationally supported research involving

researchers as well as decisional actors and institutions could tackle the issue and provide a better understanding of how national and regional measures could define the personal job insecurity. Furthermore, data collection was based on self-reported measures, which are prone to the social desirability bias (Rossi, Wright and Anderson 2013). The number of respondents and the fact that seven out of the eight countries included in the survey were based on representative samples, reduces the risk for such a bias, but does not fully mitigate it. Another limitation that should be considered is that the type of sector was not considered when data was collected. This opens a path for future investigations, as it would be useful to test whether employees in vulnerable sectors (as tourism, for example, see Gössling, Scott, Hall 2020) experienced more job insecurity compared to other sectors that were less affected, or even thrived (such as technology and information, see Peters 2021). Finally, another potential limitation could be that only eight of the 27 countries were selected for the survey. It would be interesting to expand research to all the European Union in order to get a better, clearer image of perceived job insecurity.

Acknowledgments

The authors wish to address thanks to all PsyCorona Team members (Annex 5) who participated in the overall data collection process.

Declaration of Conflicting Interests

The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

Funding

The author(s) disclosed receipt of the following financial support for the research, authorship, and/or publication of this article: This work was supported by the Rijksuniversiteit Groningen (Sustainable Society & Ubbo Emmius Fund), Romanian Ministry of Research and Innovation, CNCS – UEFISCDI under Grant PN-III-P4-ID-PCCF-2016-0166 (ReGrowEU - Advancing ground-breaking research in regional growth and development theories, through a resilience approach: towards a convergent, balanced and sustainable European Union), New York University Abu Dhabi (VCDSF/75-71015), the University of Groningen (Sustainable Society & Ubbo Emmius Fund), and the Instituto de Salud Carlos III (COV20/00086).

Ethics Statement

The study was approved by the Ethics Committees of the University of Groningen (PSY-1920-S-0390) and New York University Abu Dhabi (HRPP-2020-42).

ORCID iDs

Bogdan-Constantin Ibanescu  <https://orcid.org/0000-0002-3861-2251>

Alexandra Gheorghiu  <https://orcid.org/0000-0002-0043-5173>

Supplemental Material

Supplemental material for this article is available online.

Notes

1. For Romania, Italy, United Kingdom, and France the postal codes were aggregated in NUTS 3 units, for the Netherlands, Greece, and Spain into NUTS 2 units, while for Germany the postal codes were aggregated into NUTS 1 units. The variations in level of the territorial unit used for aggregation are due to the limitations imposed by the software managing the overall database.
2. While each country started the national lockdown at a different date, those dates are chronologically very close (between 09 March 2020 for Italy and 25 March 2020 for Romania). In order to avoid inadvertences between countries regarding their lockdown state, the analyses for the resistance period covered a longer interval (mid-March - mid-April 2020).
3. While a second lockdown followed in most countries during autumn, and even a third lockdown in certain countries, our data covers only the period during and after the first lockdown measures.
4. For the purpose of this paper, the peripherality refers to the split induced by the core-periphery model applied to the European Union, a model based on the spatial position as well as economic performance. For more details, please see [Pascariu and Țigănașu \(2017\)](#).
5. In fact, Eurostat data on unemployment denotes a relative stability during the first and second quarters of 2020 (when our study was applied) with minimal fluctuations in Q1 (DEU +0.6; ESP +0.6; GRC -0.6; ITA -0.5; NLD 0.0; ROU +0.4; FRA -0.3) and Q2 (DEU +0.1; ESP +0.9; GRC +0.5; ITA -1.7; NLD +0.5; ROU +1.1 FRA -1.3) (EU Labour Force Indicators: https://ec.europa.eu/eurostat/cache/metadata/en/lfsi_esms.htm). Therefore, based solely on the statistical data regarding the unemployment, it could be wrongfully presumed that the first wave of the pandemic had no major effect upon European employees.

References

- Ahearn, R. J. 2012. "Globalization, Worker Insecurity, and Policy Approaches" (*Report No. RL34091*).
- Alberti, G., Bessa, I., Hardy, K., Trappmann, V., and Umney, C. 2018. "In, Against and Beyond Precarity: Work in Insecure Times". *Work, Employment and Society*, 32 (3): 447-457. <https://doi.org/10.1177/0950017018762088>
- Anderson, C. J., and Pontusson, J. 2007. "Workers, Worries and Welfare States: Social Protection and Job Insecurity in 15 OECD Countries." *European Journal of Political Research* 46 (2): 211-235. <https://doi.org/10.1111/j.1475-6765.2007.00692.x>
- Bailey, D., Clark, J., Colombelli, A., Corradini, C., De Propriis, L., Derudder, B., Fratesi, U., Fritsch, M., Harrison, J., Hatfield, M., Kemeny, T., Kogler, D. F., Legendijk, A., Lawton, P., Ortega-Argilés, R., Otero, C. I., and Usai, S. 2020. "Regions in a Time of Pandemic." *Regional Studies* 54 (9): 1163-1174. <https://doi.org/10.1080/00343404.2020.1798611>

- Benach, J., Vives, A., Amable, M., Vanroelen, C., Tarafa, G., and Muntaner, C. 2014. "Precarious Employment: Understanding an Emerging Social Determinant of Health." *Annual Review of Public Health* 35: 229-253.
- Béné, C., Newsham, A., Davies, M., Ulrichs, M., and Godfrey-Wood, R. 2014. "Review Article: Resilience, Poverty and Development." *Journal of International Development* 26 (5): 598-623. <https://doi.org/10.1002/jid.2992>
- Benito, A. 2006. "Does Job Insecurity Affect Household Consumption?" *Oxford Economic Papers* 58 (1): 157-181.
- Blanchet, K., Nam, S. L., Ramalingam, B, and Pozo-Martin, F. 2017. "Governance and Capacity to Manage Resilience of Health Systems: Towards a New Conceptual Framework." *International Journal of Health Policy and Management* 6(8): 431-435. <https://doi.org/10.15171/ijhpm.2017.36>
- Blanuša, J., Barzut, V., and Knežević, J. 2021. "Intolerance of Uncertainty and Fear of COVID-19 Moderating Role in the Relationship Between Job Insecurity and Work-Related Distress in The Republic of Serbia." *Frontiers in Psychology* 12: 647972. <https://doi.org/10.3389/fpsyg.2021.647972>
- Bonet-Morón, J., Ricciulli-Marín, D., Pérez-Valbuena, G. J., Galvis-Aponte, L. A., Haddad, E. A., Araújo, I. F., and Perobelli, F. S. 2020. "Regional Economic Impact of COVID-19 in Colombia: An Input–Output Approach." *Regional Science Policy & Practice* 12(6): 1123-1150.
- Bourdin, S., Jeanne, L., Nadou, F., and Noiret, G. 2021a. "Does Lockdown Work? A Spatial Analysis of the Spread and Concentration of Covid-19 in Italy." *Regional Studies* 55 (7): 1182-1193. <https://doi.org/10.1080/00343404.2021.1887471>
- Bourdin, S., Hachaichi, M., Moodie, J., Sánchez Gassen, N., Igari, A., Lőcsei, H., Amdaoud, M., and Arcuri, G. 2022. "Geography of COVID-19 - Territorial impacts of COVID-19 and policy answers in European regions and cities" *ESPON Interim Report* (https://www.espon.eu/sites/default/files/attachments/1_INTERIM_REPORT_-_Territorial_impacts_COVID-19_0.pdf).
- Bourdin, S., Rossignol, N., Amdaoud, M., Arcuri, G., Costanzo, D., Eva, M., Iatu, C., Ibanescu, B. C., Jeanne, L., Levratto, N., and Nadou, F. 2021b. "Geography of COVID-19 Outbreak and First Policy Answers in European Regions and Cities." *ESPON Report 2021* (<https://hal.archives-ouvertes.fr/hal-03258564/document>).
- Burchell, B., Wang, S., Kameråde, D., Bessa, I., and Rubery, J. 2020. "Cut Hours, Not People: No Work, Furlough, Short Hours and Mental Health During COVID-19 Pandemic in the UK." *Working Paper, University of Cambridge Judge Business School*, <https://usir.salford.ac.uk/id/eprint/57487/>
- Burgard, S. A., Brand, J. E., and House, J. S. 2009. "Perceived Job Insecurity and Worker Health in the United States." *Social Science and Medicine* 69: 777-785.
- Capano, G., and Woo, J. J. 2017. "Resilience and Robustness in Policy Design: A Critical Appraisal." *Policy Sciences* 50 (3): 399-426. <https://doi.org/10.1007/s11077-016-9273-x>
- Charles, N., and James, E. 2003. "The Gender Dimensions of Job Insecurity in a Local Labour Market." *Work, Employment and Society* 17 (3): 531-552. <https://doi.org/10.1177/09500170030173007>

- Cheng, G. H., and Chan, D. K. 2008. "Who Suffers More From Job Insecurity? A Meta-Analytic Review." *Applied Psychology* 57 (2): 272-303.
- Chung, H., and Van Oorschot, W. 2010. "Employment Insecurity of European Individuals During the Financial Crisis: A Multi-Level Approach." *Working Papers on the Reconciliation of Work and Welfare in Europe (REC-WP)*, 14.
- Claes, R., and Van De Ven, B. 2008. "Determinants of Older and Younger Workers' Job Satisfaction and Organisational Commitment in the Contrasting Labour Markets of Belgium and Sweden." *Ageing and Society* 28 (8): 1093-1112. <https://doi.org/10.1017/S0144686X08007423>
- Collins, C., Landivar, L. C., Ruppner, L., and Scarborough, W. J. 2021. "COVID-19 and the Gender Gap in Work Hours." *Gender, Work and Organization* 28: 101-112.
- Cooper, C. L., and Antoniou, A. S. G. 2013. *The Psychology of the Recession on the Workplace*. Edward Elgar. <https://books.google.ro/books?id=UG0OmYmSKQsC>
- De Cuyper, N., Piccoli, B., Fontinha, R., and De Witte, H. 2018. "Job Insecurity, Employability and Satisfaction Among Temporary and Permanent Employees in Post-Crisis Europe." *Economic and Industrial Democracy* 40 (2): 173-192. <https://doi.org/10.1177/0143831X18804655>
- De Witte, H. 1999. "Job Insecurity and Psychological Well-Being: Review of the Literature and Exploration of Some Unresolved Issues." *European Journal of Work and Organizational Psychology* 8 (2): 155-177.
- De Witte, H., Pienaar, J., and De Cuyper, N. 2016. "Review of 30 Years of Longitudinal Studies on the Association Between Job Insecurity and Health and Well-Being: Is There Causal Evidence?" *Australian Psychologist* 51 (1): 18-31.
- Dentinho, T. P., and Reid, N. 2020. "Regional Drivers' Effects and Policies of COVID-19." *Regional Science Policy & Practice* 12 (6): 979-980.
- Ellonen, N., and Nätti, J. 2015. "Job Insecurity and the Unemployment Rate: Micro- and Macro-Level Predictors of Perceived Job Insecurity Among Finnish Employees 1984-2008." *Economic and Industrial Democracy* 36 (1): 51-71. <https://doi.org/10.1177/0143831X13495720>
- Erlinghagen, M. 2008. "Self-Perceived Job Insecurity and Social Context: A Multi-Level Analysis of 17 European Countries." *European Sociological Review* 24 (2): 183-197.
- European Parliament. 2021. *Parlemeter 2020: A Glimpse of Certainty in Uncertain Times*.
- Eurofound. 2020. *Living, Working and COVID-19*.
- Folmer, H., Dutta, S., and Oud, H. 2010. Determinants of Rural Industrial Entrepreneurship of Farmers in West Bengal: A Structural Equations Approach. *International Regional Science Review* 33 (4): 367-396.
- Forbes, M. K., and Krueger, R. F. 2019. "The Great Recession and Mental Health in the United States." *Clinical Psychological Science* 7 (5): 900-913.
- Fullerton, A. S., and Wallace, M. 2007. "Traversing the Flexible Turn: US Workers' Perceptions of Job Security 1977-2002." *Social Science Research* 36 (1): 201-221. <https://doi.org/10.1016/j.ssresearch.2005.09.005>
- Gallie, D., Felstead, A., Green, F., and Inanc, H. 2016. "The Hidden Face of Job Insecurity." *Work, Employment and Society* 31 (1): 36-53. <https://doi.org/10.1177/0950017015624399>

- Ganson, K. T., Tsai, A. C., Weiser, S. D., Benabou, S. E., and Nagata, J. M. 2021. "Job Insecurity and Symptoms of Anxiety and Depression Among US Young Adults During COVID-19." *The Journal of Adolescent Health* 68: 53-56. <https://doi.org/10.1016/j.jadohealth.2020.10.008>
- Garcia, R. J. 2013. *Marginal workers: How legal fault lines divide workers and leave them without protection* (Vol. 5). NYU Press.
- Giannakis, E., and Bruggeman, A. 2020. "Regional Disparities in Economic Resilience in the European Union Across the Urban–Rural Divide." *Regional Studies* 54(9): 1200-1213. <https://doi.org/10.1080/00343404.2019.1698720>
- Goldthorpe, J. H. 2000. *On Sociology: Numbers, Narratives, and the Integration of Research and Theory*. Oxford University Press on Demand.
- Gössling, S., Scott, D., and Hall, C. M. 2020. "Pandemics, Tourism and Global Change: A Rapid Assessment of COVID-19." *Journal of Sustainable Tourism* 29 (1): 1-20.
- Green, F. 2009. "Subjective Employment Insecurity Around the World." *Cambridge Journal of Regions, Economy and Society* 2 (3): 343-363. <https://doi.org/10.1093/cjres/rsp003>
- Greenhalgh, L., and Rosenblatt, Z. 1984. "Job Insecurity: Toward Conceptual Clarity." *Academy of Management Review* 9 (3): 438-448.
- Håkansson, P., and Bejakovic, P. 2020. "Labour Market Resilience, Bottlenecks and Spatial Mobility in Croatia." *Eastern Journal of European Studies* 11 (2): 5-25.
- Harrison, N. 2003. "Good Governance: Complexity, Institutions, and Resilience." *Open Meeting of the Global Environmental Change Research Community, Montreal*, 1–22.
- Hassard, J., and Morris, J. 2018. "Contrived Competition and Manufactured Uncertainty: Understanding Managerial Job Insecurity Narratives in Large Corporations." *Work, Employment and Society* 32 (3): 564-580. <https://doi.org/10.1177/0950017017751806>
- Hellgren, J., Sverke, M., and Isaksson, K. 1999. "A Two-Dimensional Approach to Job Insecurity: Consequences for Employee Attitudes and Well-Being." *European Journal of Work and Organizational Psychology* 8 (2): 179-195.
- Hu, S., and Zuo, B. 2007. "The Moderating Effect of Leader-Member Exchange on the Job Insecurity-Organizational Commitment Relationship." In W. Wang, Y. Li, Z. Duan, L. Yan, H. Li, and X. Yang (Eds.), *Integration and Innovation Orient to E-Society*, 2: 505–513. Springer.
- Jeanne, L., Bourdin, S., Nadou, F., and Noiret, G. 2022. "Economic Globalization and the COVID-19 Pandemic: Global Spread and Inequalities." *GeoJournal*. <http://dx.doi.org/10.2471/BLT.20.261099>
- Johnson, T. G. 2001. The Rural Economy in a New Century. *International Regional Science Review* 24 (1): 21-37. <https://doi.org/10.1177/016001701761012953>
- Kalleberg, A. L. 2011. *Good Jobs, Bad Jobs: The Rise of Polarized and Precarious Employment Systems in the United States 1970s-2000s*. Russell Sage Foundation.
- Keim, A. C., Landis, R. S., Pierce, C. A., and Earnest, D. R. 2014. "Why Do Employees Worry About Their Jobs? A Meta-Analytic Review of Predictors of Job Insecurity." *Journal of Occupational Health Psychology* 19 (3): 269. <https://doi.org/10.1037/a0036743>

- Klug, K. 2020. "Young and at Risk? Consequences of Job Insecurity for Mental Health and Satisfaction Among Labor Market Entrants With Different Levels of Education." *Economic and Industrial Democracy* 41 (3): 562-585. <https://doi.org/10.1177/0143831X17731609>
- László, K. D., Pikhart, H., Kopp, M. S., Bobak, M., Pajak, A., Malyutina, S., Salavec, G., and Marmot, M. 2010. "Job Insecurity and Health: A Study of 16 European Countries." *Social Science and Medicine* 70 (6): 867-874. <https://doi.org/10.1016/j.socscimed.2009.11.022>
- Lebel, L., Anderies, J. M., Campbell, B., Folke, C., Hatfield-Dodds, S., Hughes, T. P., and Wilson, J. 2006. "Governance and the Capacity to Manage Resilience in Regional Social-Ecological Systems." *Ecology and Society* 11 (1).
- Lim, V. K. G. 1996. "Job Insecurity and its Outcomes: Moderating Effects of Work-Based and Nonwork-Based Social Support." *Human Relations* 49 (2): 171-194.
- Lübke, C., and Erlinghagen, M. 2014. "Self-Perceived Job Insecurity Across Europe Over Time: Does Changing Context Matter?" *Journal of European Social Policy* 24 (4): 319-336.
- Lund, S., Ellingrud, K., Hancock, B., and Manyika, J. 2020. "COVID-19 and Jobs: Monitoring the US Impact on People and Places." In *McKinsey Global Institute, April* (Vol. 29).
- Manski, C. F. 2004. "Measuring Expectations." *Econometrica* 72 (5): 6-12.
- Margerison-Zilko, C., Goldman-Mellor, S., Falconi, A., and Downing, J. 2016. "Health Impacts of the Great Recession: A Critical Review." *Current Epidemiology Reports* 3 (1): 81-91.
- Martin, R., and Sunley, P. 2014. "On the Notion of Regional Economic Resilience: Conceptualization and Explanation." *Journal of Economic Geography* 15 (1): 1-42. <https://doi.org/10.1093/jeg/lbu015>
- Mauno, S., and Kinnunen, U. 1999. "Job Insecurity and Well-Being: A Longitudinal Study Among Male and Female Employees in Finland." *Community, Work and Family* 2 (2): 147-171. <https://doi.org/10.1080/13668809908413938>
- Mauno, S., and Kinnunen, U. 2002. "Perceived Job Insecurity Among Dual-Earner Couples: Do its Antecedents Vary According to Gender, Economic Sector and the Measure used?" *Journal of Occupational and Organizational Psychology* 75 (3): 295-314.
- Menéndez-Espina, S., Llosa, J. A., Agulló-Tomás, E., Rodríguez-Suárez, J., Sáiz-Villar, R., and Lahseras-Díez, H. F. 2019. "Job Insecurity and Mental Health: The Moderating Role of Coping Strategies From A Gender Perspective." *Frontiers in Psychology* 10: 286. <https://doi.org/10.3389/fpsyg.2019.00286>
- Mihashi, M., Otsubo, Y., Yinjuan, X., Nagatomi, K., Hoshiko, M., and Ishitake, T. 2009. "Predictive Factors of Psychological Disorder Development During Recovery Following SARS Outbreak." *Health Psychology* 28 (1): 91-110.
- Mohr, G. B. 2000. "The Changing Significance of Different Stressors After the Announcement of Bankruptcy: A Longitudinal Investigation With Special Emphasis on Job Insecurity." *Journal of Organizational Behavior* 21 (3): 337-359. <https://doi.org/10.1016/j.johm.2014.03.005>
- Möller, J., and Aldashev, A. 2007. "Wage Inequality, Reservation Wages and Labor Market Participation: Testing the Implications of a Search-Theoretical Model With Regional Data." *International Regional Science Review* 30 (2): 120-151. <https://doi.org/10.1177/0160017606298431>

- Muñoz de Bustillo, R., and de Pedraza, P. 2010. "Determinants of Job Insecurity in Five European Countries." *European Journal of Industrial Relations* 16 (1): 5-20. <https://doi.org/10.1177/0959680109355306>
- Näswall, K., and De Witte, H. 2003. "Who Feels Insecure in Europe? Predicting Job Insecurity from Background Variables." *Economic and Industrial Democracy* 24 (2): 189-215. <https://doi.org/10.1177/0143831X03024002003>
- Nicola, M., Alsafi, Z., Sohrabi, C., Kerwan, A., Al-Jabir, A., Iosifidis, C., Agha, M., and Agha, R. 2020. "The Socio-Economic Implications of the Coronavirus Pandemic (COVID-19): A Review." *International Journal of Surgery* 78: 185-193. <https://doi.org/10.1016/j.ijso.2020.04.018>
- Niessen, C., and Jimmieson, N. L. 2016. "Threat of Resource Loss: The Role of Self-Regulation in Adaptive Task Performance." *Journal of Applied Psychology* 101 (3): 450-462.
- Obrenovic, B., Du, J., Godinic, D., Baslom, M. M. M., and Tsoy, D. 2021. "The Threat of COVID-19 and Job Insecurity Impact on Depression and Anxiety: An Empirical Study in the USA." *Frontiers in Psychology* 12: 648572. <https://doi.org/10.3389/fpsyg.2021.648572>
- Pascariu, G. C., and Țigănașu, R. 2017. "Integration, Growth and Core-Periphery Pattern in EU's Economy: Theoretical Framework and Empirical Evidences." In A. Duarte, and G. C. Pascariu. *Core-Periphery patterns across the European Union*. Emerald Publishing Limited.
- Parker, S. 2013. *The Squeezed Middle: The Pressure on Ordinary Workers in America and Britain*. Policy Press.
- Peeters, E. R., De Cuyper, N., and De Witte, H. 2016. "Too Employable to Feel Well? Curvilinear Relationship Between Perceived Employability and Employee Optimal Functioning." *Psihologia Resurselor Umane* 14 (1): 35-44.
- Peters, U. 2021. "Thriving Through A Pandemic - A Qualitative Case Study." *ICIS 2021 TREOs*, 32, https://aisel.aisnet.org/treos_icis2021/32
- Postel-Vinay, F., and Turon, H. 2007. "The Public Pay Gap in Britain: Small Differences That (don't?) Matter." *The Economic Journal* 117 (523): 1460-1503. <https://doi.org/10.1111/j.1468-0297.2007.02091.x>
- Probst, T. M. 2003. "Development and Validation of the Job Security Index and the Job Security Satisfaction Scale: A Classical Test Theory and IRT Approach." *Journal of Occupational and Organizational Psychology* 76 (4): 451-467.
- Probst, T. M., Stewart, S. M., L Gruys, M., and Tierney, B. W. 2007. "Productivity, Counter Productivity and Creativity: The Ups and Downs of Job Insecurity." *Journal of Occupational and Organizational Psychology* 80 (3): 479-497.
- Reggiani, A., De Graaff, T., and Nijkamp, P. 2002. "Resilience: An Evolutionary Approach to Spatial Economic Systems." *Networks and Spatial Economics* 2 (2): 211-229. <https://doi.org/10.1023/A:1015377515690>
- Rigotti, T., Mohr, G., and Isaksson, K. 2015. "Job Insecurity Among Temporary Workers: Looking Through the Gender Lens." *Economic and Industrial Democracy* 36 (3): 523-547. <https://doi.org/10.1177/0143831X13516026>

- Rosenblatt, Z., Talmud, I., and Ruvio, A. 1999. "A Gender-Based Framework of the Experience of Job Insecurity and its Effects on Work Attitudes." *European Journal of Work and Organizational Psychology* 8 (2): 197-217. <https://doi.org/10.1080/135943299398320>
- Roskies, E., and Louis-Guerin, C. 1990. "Job Insecurity in Managers: Antecedents and Consequences." *Journal of Organizational Behavior* 11 (5): 345-359.
- Roskies, E., Louis-Guerin, C., and Fournier, C. 1993. "Coping With Job Insecurity: How does Personality Make a Difference?" *Journal of Organizational Behavior*, 14 (7): 617-630. <https://doi.org/10.1002/job.4030140702>
- Rossi, P. H., Wright, J. D., and Anderson, A. B. (Eds.) 2013. *Handbook of survey research*. Academic press.
- Rothwell, A., and Arnold, J. 2007. "Self-Perceived Employability: Development and Validation of a Scale." *Personnel Review* 36 (1): 23-41. <https://doi.org/10.1108/00483480710716704>
- Rubery, J., Grimshaw, D., Keizer, A., and Johnson, M. 2018. "Challenges and Contradictions in the 'Normalising' of Precarious Work." *Work, Employment and Society* 32 (3): 509-527.
- San Too, L., Leach, L., and Butterworth, P. 2021. "The Cumulative Impact of High Job Demands, Low Job Control and High Job Insecurity on Midlife Depression and Anxiety: A Prospective Cohort Study of Australian Employees." *Journal of Occupational and Environmental Medicine* 78: 400-408. <https://doi.org/10.1136/oemed-2020-106840>
- Schierup, C.-U., Munck, R., Likic-Brboric, B., and Neergaard, A. 2015. *Migration, Precarity, and Global Governance: Challenges and Opportunities for Labour*. OUP Oxford.
- Shoss, M. K. 2017. "Job Insecurity: An Integrative Review and Agenda for Future Research." *Journal of Management* 43 (6): 1911-1939. <https://doi.org/10.1177/0149206317691574>
- Simões, M., Andrade, J. S., and Duarte, A. 2022. Human Capital and Labour Market Resilience Over Time: A Regional Perspective of the Portuguese Case. *Eastern Journal of European Studies* 13 (1): 26-59. <https://doi.org/10.47743/ejes-2022-0102>
- Simola, A. 2018. "Lost in Administration:(re) Producing Precarious Citizenship for Young University-Educated Intra-EU Migrants in Brussels." *Work, Employment and Society* 32 (3): 458-474.
- Stanisławski, K. 2019. "The Coping Circumplex Model: an Integrative Model of the Structure of Coping With Stress." *Frontiers in Psychology* 10: 694. <https://doi.org/10.3389/fpsyg.2019.00694>
- Sverke, M. 2004. *Job Insecurity and Union Membership: European Unions in the Wake of Flexible Production* (Work and Soc, Issue 42). Peter Lang.
- Sverke, M., De Witte, H., Näswall, K., and Hellgren, J. 2010. "European Perspectives on Job Insecurity: Editorial Introduction." *Economic and Industrial Democracy*, 31 (2): 175-178. <https://doi.org/10.1177/0143831X10365601>
- Sverke, M., and Hellgren, J. 2002. "The nature of Job Insecurity: Understanding Employment Uncertainty on the Brink of a New Millennium." *Applied Psychology* 51 (1): 23-42.
- Sverke, M., Hellgren, J., and Näswall, K. 2002. "No Security: A Meta-Analysis and Review of Job Insecurity and its Consequences." *Journal of Occupational Health Psychology* 7 (3): 242-264.

- Symeonaki, M., Parsanoglou, D., and Stamatopoulou, G. 2019. "The Evolution of Early Job Insecurity in Europe." *SAGE Open*, 9 (2): 2158244019845187. <https://doi.org/10.1177/2158244019845187>
- van Vuuren, T., Klandermans, B., Jacobson, D., and Hartley, J. 1991. "Employees' reactions to job insecurity." In J. Hartley, D. Jacobson, B. Klandermans, and T. Van Vuuren (Eds.), *Job Insecurity: Coping With Jobs at Risk* (pp. 79-103). SAGE.
- van Vuuren, B. K. T. 1999. "Job Insecurity: Introduction." *European Journal of Work and Organizational Psychology* 8 (2): 145-153. <https://doi.org/10.1080/135943299398294>
- Vander Elst, T., De Witte, H., and De Cuyper, N. 2014. "The Job Insecurity Scale: A Psychometric Evaluation Across Five European Countries." *European Journal of Work and Organizational Psychology* 23 (3): 364-380.
- Wilson, J. M., Lee, J., Fitzgerald, H. N., Oosterhoff, B., Sevi, B., and Shook, N. J. 2020. "Job Insecurity and Financial Concern During the COVID-19 Pandemic are Associated With Worse Mental Health." *Journal of Occupational and Environmental Medicine* 62 (9): 686-691.
- Wittekind, A., Raeder, S., and Grote, G. 2010. "A Longitudinal Study of Determinants of Perceived Employability." *Journal of Organizational Behavior* 31 (4): 566-586. <https://doi.org/10.1002/job.646>
- Wroe, A. 2014. "Political Trust and Job Insecurity in 18 European Polities." *Journal of Trust Research* 4: 90-112.
- Yeves, J., Bargsted, M., Cortes, L., Merino, C., and Cavada, G. 2019. "Age and Perceived Employability as Moderators of Job Insecurity and Job Satisfaction: A Moderated Moderation Model." *Frontiers in Psychology* 10: 799. <https://doi.org/10.3389/fpsyg.2019.00799>