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Nizalova, Olena, Malisauskaite, Gintare, Xanthopoulou, Despoina, Gousia, Katerina and Athanasiades, Christina (2021) Effects of unemployment and insecure jobs on youth wellbeing in Europe: economic development and business cycle fluctuations. In: Unt, Marge and Gebel, Michael and Bertolini, Sonia and DELIYANNI-KOUMITZI, Vassiliki and Hofäcker, Dirk, eds. Social

DOI

<https://doi.org/10.47674/9781447358756>

Link to record in KAR

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2 Effects of unemployment and insecure jobs on youth well-being
3 in Europe: the role of economic development and business cycle
4 fluctuations

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7 Introduction

8 In terms of its societal impact, the global financial crisis of 2008 was considered to be
9 the most significant crisis since the Great Depression in 1929 (Rollero and Tartaglia,
10 [2009](#)), and it is often referred to as the Great Recession. Ever since, Europeans, and
11 particularly young Europeans, have been facing a threatening work situation because
12 unemployment rates have increased substantially in most European countries (Chung
13 et al, [2012](#); Eurostat, [2014](#)). At the same time, temporary employment has followed
14 suit, albeit at a lower speed, but affecting mostly young people.^{1,2} Empirical evidence
15 suggests that unemployment and job insecurity have detrimental effects on
16 individuals' well-being, and not only in the general population (for reviews see
17 Sverke et al, [2002](#); De Witte, [2005](#); Cheng and Chan, [2008](#); see McKee-Ryan et al,
18 [2005](#), for a meta-analysis) but also among young people (see Voßemer and Eunicke,
19 [2015](#)). Hence, it is important to investigate the outcomes of unfavourable labour

1 market conditions for young people in Europe, because employment opportunities
2 mark young individuals' transition to adulthood (Bynner and Parsons, [2002](#)). Any
3 attempt to fully understand the conditions under which young people facing
4 unemployment and job insecurity are particularly vulnerable must also account for the
5 role of macrolevel moderators, given the large variations in social policies and
6 economic growth observed across the different European countries (Voßemer et al,
7 [2018](#)).

8 Although it is plausible to think that the strength of the individual-level effects
9 of unemployment and job insecurity on well-being may vary between poorer and
10 richer countries, few studies have looked at potential cross-country differences and
11 the role of macrolevel moderators in understanding this relationship (for example
12 Eichhorn, [2013](#); Wulfgramm, [2014](#)). Most of these studies focused on the moderating
13 role of labour market policies or the countries' economic conditions, often measuring
14 either GDP per capita or the country-level unemployment rate (UR). However, these
15 two measures may have a completely different meaning when examined as
16 moderators, and they should not be viewed as being interchangeable.

17 First, GDP and UR do not substitute each other, because some countries often
18 experience jobless growth, whereas others may experience a decrease in UR due to a
19 concerted effort by the government without any increase in GDP per capita. Second,
20 conceptually, GDP and UR underline different phenomena. Thus, when they are

1 investigated simultaneously, different mechanisms are being discerned and tested.
2 GDP per capita reflects the level of resources per citizen available in the country such
3 as employment-related (for example, unemployment benefits) or health-related
4 (including health expenditure) resources. The present analysis focuses on GDP as an
5 overall measure that captures all kinds of societal support and the capacity of the
6 government to provide such support. In this way, it captures the broader context in
7 contrast to previous empirical attempts that looked at specific policy measures
8 (Voßemer et al, [2018](#)). Based on conservation of resources (COR) theory (Hobfoll,
9 [1989](#)), it is argued that higher levels of GDP may buffer the detrimental effects on
10 well-being of unemployment and job insecurity, because in countries with a higher
11 GDP, people have access to more resources when they face difficult times –
12 irrespective of that country's UR.

13 When the level of resources (as measured by the GDP) is held constant, there
14 are two potential mechanisms to consider regarding the moderating role of UR. On
15 the one hand, based on the principle of social comparison or the norm (see Clark,
16 [2003](#)), unemployment is likely to hurt less when there are more unemployed people
17 around, because it is attributed externally and not to one's own, personal failure. On
18 the other hand, from the standard economics perspective, higher UR means fewer
19 prospects of finding a job for those currently unemployed – hence, strengthening the
20 unfavourable effect of own unemployment. In reality though, both mechanisms are

1 likely to be in place, and one can determine only empirically which of the two effects
2 prevails.

3 The current analysis investigates the moderating role of both GDP per capita
4 and UR simultaneously as moderators of the relationship between unemployment/job
5 insecurity and well-being. This attempts to distinguish the economic (that is, resource)
6 effect from the social norm effect. The GDP per capita is expected to represent mostly
7 an economic resource. Even though the UR is likely to combine both economic and
8 social norm considerations, this study expects that the effect of UR will mainly
9 capture the social norm effect when simultaneously controlling for GDP.

10 Furthermore, the study also distinguishes between the moderating role of long-
11 term trajectories and business cycle fluctuations, given their different nature with
12 respect to the formation of individual expectations. Macroeconomics has long been
13 preoccupied with the separation of long-term trends in key indicators from short-term
14 business cycle fluctuations. There are two reasons to think that such a separation is
15 relevant when analysing the moderating effect of macroeconomic conditions on the
16 relationship between employment status and well-being. If one considers the resource
17 availability argument (Hobfoll, [1989](#)), the underlying reason for the separation of the
18 long-term trend from the business cycle fluctuation lies within the state budgeting
19 process. The budget is set annually, based on historic information and future spending
20 forecasts. Therefore, it is more likely that short-term fluctuations will send a weaker

1 signal to individuals with regards to resource availability compared to that from the
2 long-term GDP trajectory. A similar mechanism is likely to be in place with regards
3 to UR: a long-term unemployment trajectory should send a stronger signal to
4 individuals with regards to social comparison than the business cycle fluctuation.

5 **Theory and hypotheses**

6 According to relative deprivation theory (Crosby, [1984](#)), the bigger the discrepancy
7 between the outcomes people achieve and the outcomes to which they feel entitled,
8 the greater their feelings of relative deprivation. It has been argued that this
9 experienced relative deprivation results in decreases in well-being (Fryer, [1998](#)).
10 Hence, people are likely to feel deprived when they feel that they are entitled to have
11 a job (and the income resulting from it) that corresponds to their human capital (for
12 example, education, experience, skills), but they are either unemployed or hold an
13 insecure job that does not match their expectations. This feeling of deprivation may
14 explain why unemployment and job insecurity relate to impaired well-being (Sverke
15 et al, [2002](#); De Witte, [2005](#); Cheng and Chan, [2008](#); Norton et al, [2018](#)).

16 Nevertheless, the relationship between unemployment and both job insecurity
17 and well-being is also subject to boundary conditions. For instance, on the individual
18 level, social contacts have been found to buffer unfavourable outcomes of
19 unemployment on well-being, because unemployed people who had more social
20 contacts were better off than those with fewer contacts (Kilpatrick and Trew, [1985](#)).

1 Moreover, with higher (vs lower) levels of work-role centrality (that is, the degree to
2 which work is central to one's life), unemployed individuals were found to experience
3 lower levels of well-being, whereas supportive social relations, available financial
4 resources, and an everyday routine helped unemployed people feel better (McKee-
5 Ryan et al, [2005](#)). The present study argues that country characteristics on the
6 macrolevel, and specifically a country's GDP and UR, may also moderate the
7 relationship between labour market status and well-being.

8 In line with Paul and Moser's ([2009](#)) meta-analysis revealing that the negative
9 effects of unemployment on health were weaker in countries with higher (vs lower)
10 GDP, the present study argues that unemployment and job insecurity will be less
11 detrimental for individuals' well-being in countries that are financially better off.
12 COR theory (Hobfoll, [1989](#)) helps to explain the moderating role of a country's
13 economic situation (GDP) on the relationship between unemployment/job insecurity
14 and well-being. This theory posits that individuals strive to preserve and protect their
15 resources and acquire additional resources to address threats in the environment.
16 Thus, resources are important not only for their instrumental value but also for their
17 value in helping individuals cope with stress, prevent well-being impairments, and
18 feel better. Hobfoll ([1989](#), [2002](#)) recognises four types of resource: objects (such as a
19 house or a car), conditions (for example, employment), personal characteristics (such
20 as self-efficacy), and energies (including money). Considering that resources can be

1 found on different levels of analysis (the individual or the societal level), the
2 economic situation of a country can be operationalised as an energy resource on the
3 societal level.

4 A central assumption of COR theory (Hobfoll, [1989](#), [2002](#)) is that the
5 availability of resources buffers the negative consequences of the threatening or
6 demanding conditions that individuals face. Put differently, when resources are
7 available, individuals may use them to deal with threats in their environment and
8 thereby prevent reductions in their well-being. In countries that flourish economically
9 (that is, are characterised by higher [vs lower] levels of GDP), unemployed
10 individuals or those having an insecure job will have access to an adequate pool of
11 societal resources (for example, unemployment benefits, better welfare system, better
12 health care availability, and so on.). Resource availability on the country level will
13 help them deal more effectively with the demanding condition (that is,
14 unemployment/job insecurity) they are facing and feel less threatened by it, thereby
15 preventing a decline in well-being. In contrast, in countries with lower levels of GDP,
16 the detrimental effects of unemployment and job insecurity on well-being will be
17 stronger, because unemployed individuals or individuals with insecure jobs will have
18 fewer available resources to deal with their precarious work situation. In line with this
19 discussion, it is hypothesised that the strong relationship between unemployment/job

1 insecurity and impaired well-being (unhappiness, dissatisfaction) will be weaker in
2 countries with higher GDP than in countries with lower GDP (Hypothesis 1).

3 Relative deprivation theory (Crosby, [1984](#)) assumes that people feel entitled to
4 certain outcomes or conditions (for instance, having a job). However, the entitlement
5 to certain outcomes is determined not only by individual beliefs but also by social
6 comparisons that form individuals' social identities. According to social identity
7 theory (Tajfel and Turner, [1986](#)), individuals choose to belong to groups that project a
8 positive identity to them when compared to an out group. In this context, people in
9 insecure labour market positions will experience a decline in well-being mainly when
10 they compare themselves to those employed with secure jobs. This is because upward
11 social comparisons or comparisons with others who are better off result in lower self-
12 regard (Tesser et al, [1988](#)). However, irrespective of GDP levels, in countries where
13 UR is higher, people in insecure labour market positions are likely to change their
14 comparison group in order to protect their self-evaluation and self-regard. In this
15 context, unemployed people and people experiencing high job insecurity are more
16 likely to compare themselves with others who are in a similar labour market situation
17 (that is, unemployed people or people with insecure jobs) and thus protect themselves
18 from decreasing well-being.

19 This suggestion is also in line with attribution theory (Fiske and Taylor, [1991](#))
20 which illustrates how individuals gather information from the environment to explain

1 specific events. People in unfavourable employment conditions (unemployed or in
2 insecure jobs) are more likely to assign the cause of their condition to the environment
3 that is outside of their control (external attribution), and not to internal aspects such as
4 their personal characteristics (for example, lack of skills) or motives (too lazy to look
5 for a job or a better job). This is more likely to happen in countries with a higher UR
6 in which it is common to be unemployed or have an insecure job, thereby making
7 external attribution more plausible. When the cause of one's position in the labour
8 market is attributed externally and not internally, the negative effects of
9 unemployment and job insecurity on well-being will be less severe. In contrast,
10 people who are unemployed or have insecure jobs in a country in which UR is low
11 (where relatively few people are unemployed or have insecure jobs) are more likely to
12 attribute their condition to themselves (internal attribution) and, thus, the effects on
13 their well-being will be particularly unfavourable.

14 There is evidence showing that in more deprived environments characterised
15 by higher URs, the impact of individual unemployment on well-being is weaker
16 (Clark, [2003](#); Shields et al, [2009](#)). However, it should also be noted that more recent
17 evidence from Oesch and Lipps ([2013](#)) showed no support for the moderating role of
18 UR on the link between individual unemployment and well-being in Germany and
19 Switzerland. Moreover, in a study of the 28 OECD countries in the period 1999–2009,
20 Stavrova et al ([2011](#)) found support for the moderating role of the norm effect but

1 only for societal injunctive norms (what a society approves or disapproves of) but not
2 for descriptive norms (the national level of unemployment). However, these latter
3 studies did not account for the full period of the financial crisis in which the impact of
4 descriptive norms in the form of a country's level of unemployment may have
5 become more prominent for individuals. Thus, on the basis of this analysis, it is
6 hypothesised that the positive relationship between unemployment/job insecurity and
7 impaired well-being (unhappiness, dissatisfaction) will be weaker in countries with a
8 higher UR than in countries with a lower UR (Hypothesis 2).

9 Finally, it is important to consider that a country's current economic position
10 can consist of two components: a permanent or long-term economic trajectory and
11 transitory business cycle fluctuations. In this respect, a country on a positive long-
12 term economic trajectory may have more resources to buffer the negative effects of
13 individual unemployment, irrespective of whether it is currently experiencing a
14 downturn due to business cycle fluctuations. Likewise, a country on a negative long-
15 term economic trajectory that experiences a sudden economic boom may not make
16 this resource available to buffer the effect of individual unemployment/job insecurity
17 due to the transitory nature of this increase in resources. Moreover, if the increase in
18 unemployment is due to business cycle fluctuation in an otherwise low UR country, it
19 may be less likely to moderate the effect of individual unemployment on well-being.

1 From a psychological perspective, it could be argued that individual attitudes
2 are more likely to be affected when individuals are exposed to a message that is more
3 persuasive (Crano and Prislín, [2006](#)). In this context, a change (a message) is more
4 likely to persuade individuals and alter how they view the economic development of
5 their country and how they react to it if it is systemic and develops into a long-term
6 trajectory. For instance, in countries that are worse off economically but experience
7 an unexpected positive change, this change is more likely to make people optimistic
8 when it translates into a long-lasting positive trend. In that sense, an individual's well-
9 being in response to their own unemployment and job insecurity will be less sensitive
10 to business cycle fluctuations than to their country's position on its long-term
11 trajectory. Thus, the hypothesis is that the long-term economic trajectory will have a
12 stronger moderating effect on the positive relationship between unemployment/job
13 insecurity and impaired well-being than business cycle fluctuations – that is,
14 deviations in macrolevel UR and GDP from their respective long-term trends
15 (Hypothesis 3).

16 A number of studies have concluded that men and women differ in how they
17 experience unemployment, with unemployed women suffering fewer negative
18 consequences mainly because of other complementary roles they are expected to fulfil
19 inside the family (Paul and Moser, [2009](#)). Connell ([1991](#), [1995](#)) has argued that work
20 is primarily essential for the identity of men in order for them to successfully

1 accomplish their role as ‘breadwinners’, to achieve independence, and to participate
2 in social and public life. However, some scholars have questioned these differences
3 between genders (Russell and Barbieri, [2000](#); Isaksson et al, [2004](#)), arguing that
4 women’s experiences of unemployment have not been studied adequately. Moreover,
5 other scholars have argued that the previous reasoning reflects traditional ideologies
6 regarding gender roles and ignores the significant socio-economic changes in
7 women’s participation in the labour market as well as the heterogeneity of the female
8 experience (for example, women’s differences with respect to education, social class,
9 and marital status) (Russell and Barbieri, [2000](#)). Because previous studies have been
10 inconclusive regarding the role of gender in how unemployment and job insecurity
11 affect individual well-being, the present study accounts for gender differences when
12 testing hypotheses in an attempt to shed light on previous non-systematic findings.
13 This responds to calls (for example, Russell and Barbieri, [2000](#)) stressing the need to
14 link women’s unemployment to macrolevel conditions (such as a country’s welfare
15 state) in order to better elucidate possible sources of gender gaps.

16 [Method](#)

17 [Microdata](#)

18 The study employed data from the European Social Survey (ESS). The ESS is carried
19 out every two years and examines a range of issues such as employment, income,
20 education, housing, family, health, work–life balance, life satisfaction, and other

1 attitudes and behaviours. The present study used data from 35 countries covering all
2 available waves (2002–14) and focused on young people only (aged 15–29). It ran
3 separate regressions for males and females.

4 **Microlevel variables**

5 *Unhappiness* was measured by reversing participants' responses on a one-item
6 happiness scale ('How happy are you, taking all things together?'). Participants rated
7 this item on an 11-point scale ranging from 1 (*very unhappy*) to 11 (*very happy*). After
8 reversing responses, high scores indicate high levels of unhappiness.

9 *Dissatisfaction with life* was measured by reversing participants' responses to
10 a one-item, overall life satisfaction scale ('How satisfied are you currently with your
11 life, in general?'). Participants rated this item on an 11-point scale ranging from 1
12 (*very dissatisfied*) to 11 (*very satisfied*). After reversing responses, high scores are
13 indicative of high levels of dissatisfaction.

14 *Employment status* was measured by means of self-reports on an indicator
15 variable distinguishing between those employed (0) and those unemployed (1).

16 *Job insecurity* indicated respondents' job contract type; more specifically,
17 people were asked whether their job was permanent or temporary (permanent vs
18 limited contract). Temporary contract workers were considered as having an insecure
19 job.

1 *Control variables.* In all specifications, the study controlled for participants’
2 age (in years) and age squared, secondary or tertiary education completion, and
3 indicators for being married/living with partner or being separated/divorced. It also
4 controlled for other labour market indicators with a list of dummy variables: being
5 discouraged from work, being in education, being retired, doing housework, or labour
6 market status identified as ‘other’. Income (measured in deciles) was also included as
7 a control variable to ensure that any potential negative effect observed in well-being
8 outcomes is net of the individual income effect. If after controlling for income, the
9 effects of unemployment or insecure employment were still to be observed, this
10 would indicate that their impact goes beyond individual financial inconvenience, and
11 thereby helps to explain the route to possible stigma related to these experiences. Due
12 to a change in the survey design from income being expressed as a 12-category
13 variable relevant to each country and its currency (between 2002 and 2006) to it being
14 expressed in deciles in euros (between 2008 and 2014), income deciles for the years
15 2002–06 were imputed using uniform random values.³ Furthermore, all specifications
16 account for yearly fixed effects.

17 **Macrolevel moderators**

18 *Economic situation.* The economic situation on the country level was measured by
19 two indicators: the country’s UR and the level of country’s GDP (at purchasing power
20 parity, per capita, in thousands of 2011 international dollars, natural log of). Both

1 were demeaned to allow a meaningful interpretation of the main effects in the
 2 specifications with interactions (Wooldridge, [2016](#)). Data regarding the countries' UR
 3 for the years 1998–2014 is the share of unemployed (according to the International
 4 Labour Organisation (ILO) measure⁴) in the total labour force (World Bank, [2016a](#)).
 5 The per capita GDP includes all final goods and services produced within a country in
 6 a given year at their purchasing power parity value (PPP), divided by the average
 7 population of the same year (World Bank, [2016b](#)).

8 Strategy for the analysis

9 Hypothesised effects were tested across ages and genders by constructing two
 10 different model specifications. The models were run using the whole available sample
 11 (2002–14 in 35 countries) of young individuals (15–29 years old) as mixed-effects
 12 multilevel regressions with three levels: individuals (Level 1) nested in years (Level
 13 2), and nested in countries (Level 3) separately by gender.

14 Model 1:

$$15 \quad Y_{ij} = \beta_0 + LM_{ij}\beta_1 + LM_{ij} * Macro_{ij}\beta_2 + Macro_{ij}\beta_3 + I_{ij}\beta_4 + X_{ij}b_X + T_i b_T + c_j + u_{ij} + \delta_{ijt}$$

16 (1)

17 Model 2:

$$18 \quad Y_{ij} = \beta_0 + LM_{ij}\beta_1 + LM_{ij} * MacroII_{ij}\beta_2 + MacroII_{ij}\beta_3 + I_{ij}\beta_4 + X_{ij}b_X + T_i b_T + c_j + u_{ij} + \delta_{ijt}$$

19 (2)

1 where Y_{ijt} is the dependent variable (variables representing well-being:
2 unhappiness or dissatisfaction with life) of young person i in year t in country j . LM_{ijt}
3 is a vector of dummy variables indicating types of labour market status that includes
4 the variables of interest: being unemployed, in an insecure job, and controls for other
5 labour market statuses. The study was particularly interested in the effects of
6 unemployment and job insecurity and their interactions with macrolevel moderators.
7 The difference between Model 1 and Model 2 is how macrolevel moderators are
8 defined. $Macro_{ij}$ stands for a vector of macrolevel moderators: demeaned natural log
9 of GDP level per capita in PPP values and demeaned country-level UR. $MacroII_{ijt}$
10 stands for country-level GDP trend and residual term along with country-level UR
11 trend and residual term. All trend and residual measures were also demeaned
12 following the procedure described in Wooldridge (2010). I_{ijt} stands for individual
13 level of income. X_{ijt} is a vector of individual level controls, c_j , u_{ij} and δ_{ijt} correspond to
14 different level error terms. All regressions were run separately by gender.

15 *Economic trend (MacroII)*. To separate the nature of the signal individuals
16 receive from the macroeconomic indicators into anticipated and unanticipated parts,
17 both UR and GDP were decomposed using two different filtering methods: (a) linear
18 filtering with first-order polynomial only, which separates time-series data into trend
19 and cyclical components (Burns and Mitchell, 1946); and (b) the Hodrick–Prescott
20 filter, which additionally allows for the smoothed-curve representation of the trend

1 (compared to the linear trend in (a)). This is achieved through modifying parameters
2 to adjust for the trend sensitivity to short-term fluctuations (Hodrick and Prescott,
3 [1997](#)). Comparing both ways of constructing the trend works as a sensitivity analysis,
4 because it allows an investigation of whether the method of operationalising the trend
5 introduces any significant differences in the results. The linear and Hodrick–Prescott
6 filtered (Hodrick–Prescott [HP] procedure described in Baum, [2004](#)) trends of UR and
7 GDP growth and their residuals were derived separately for each country using
8 macroeconomic data for the years 1996–2014. The acquired values were merged with
9 the rest of the ESS data, and only 2002–14 data were used due to ESS availability.
10 The natural log of a country’s GDP per capita levels at PPP values and actual
11 unemployment rates were used to derive trends and residuals over time.

12 When considering the main effects as points of reference, it should be
13 acknowledged that one has to be careful regarding the magnitude of the estimated
14 main effects of unemployment and job insecurity. These main effects are likely to be
15 subject to possible endogeneity – a possibility that unhappier individuals or those who
16 are more dissatisfied with life will be more likely to end up in unemployment or an
17 insecure job. However, the literature has now shown that the causal mechanism is
18 present in this relationship, albeit at a somewhat smaller magnitude (Kassenboehmer
19 and Haisken-DeNew, [2009](#)). However, with regard to the main effects of per capita
20 GDP and the UR and their interactions with individual unemployment and job

1 insecurity, it is plausible to think that these macrolevel effects are exogenous to
2 individual decisions, and, hence, the coefficient estimates on the interaction terms will
3 be consistent (Nizalova and Murtazashvili, [2016](#)).

4 Results

5 Summary statistics for both individual and macroeconomic variables for male and
6 female samples are presented in [Table 2.1](#).

7 [Table 2.1: Here](#)

8 Hypotheses 1 and 2 were tested simultaneously for each dependent variable.
9 Hypothesis 3 was tested in a separate analysis. Table 2.2 presents results for Model 1
10 (Hypotheses 1 and 2) and [Table 2.3](#) presents results for Model 2 (Hypothesis 3). Each
11 table compares outcomes for males and females on both unhappiness and
12 dissatisfaction with life. As expected, being unemployed or having an insecure job
13 was found to significantly increase youth unhappiness and life dissatisfaction relative
14 to being employed in a secure job ([Table 2.2](#)). In countries with average GDP and
15 UR, the effect of unemployment was stronger than that of job insecurity for both
16 genders and both measures of well-being (unhappiness: 0.656 vs 0.053 for males and
17 0.385 vs 0.097 for females; life dissatisfaction: 0.904 vs 0.083 for males and 0.659 vs
18 0.109 for females⁵). Both effects, and particularly the effect of unemployment, were
19 larger for life dissatisfaction than for unhappiness. Results also suggested that
20 unemployment had a considerably larger effect on young men than insecure

1 employment, whereas the difference between the two effects was much smaller for
2 young women.

3 **Table 2.2: Here**

4 In Model 1 ([Table 2.2](#)), an increase in GDP level was associated with lower
5 unhappiness and life dissatisfaction for the employed men and women (the reference
6 group) in a statistically significant way. However, the economic significance of the
7 effect was quite low – 1 per cent increase in GDP per capita was associated with a
8 0.008-point decrease on an 11-point unhappiness scale for employed men and 0.009
9 for employed women. The corresponding effects on life dissatisfaction were 0.013
10 and 0.012 respectively. Higher UR related significantly to increased unhappiness and
11 dissatisfaction with life: a 1 per cent increase in UR was associated with a 0.030-point
12 increase in unhappiness for employed men and a 0.034-point increase in unhappiness
13 for employed women. Similar effects are observed for life dissatisfaction.

14 With respect to the moderating effects, when controlling for UR, GDP was
15 found to be a statistically significant moderator of the relationship between
16 unemployment and both unhappiness and life dissatisfaction for women, of insecure
17 employment and unhappiness for women, and of the relationship between
18 unemployment and life dissatisfaction for men. Whereas GDP was found to
19 exacerbate the effect of unemployment on both unhappiness and dissatisfaction with
20 life (which goes against Hypothesis 1), it reduced the effect of job insecurity (which
21 supports Hypothesis 1) – albeit the latter effect was statistically significant only for

1 unhappiness in both men and women and for life dissatisfaction in women. In terms
2 of magnitude, a 1 per cent increase in GDP per capita increased the effect of being
3 unemployed on life dissatisfaction for men by 0.005 points (0.452/100), which is
4 about 0.05 per cent of the main effect of unemployment (Column 2). For women, it
5 was a 0.004-point effect for both unhappiness (0.409/100) and life dissatisfaction
6 (0.449/100), which corresponds to respectively 1.3 per cent and 0.8 per cent of the
7 main effect. The moderating effects were larger in relative terms for job insecurity.
8 For example, for men, a 1 per cent increase in GDP was associated with a reduction in
9 the effect of an insecure job on life dissatisfaction by 0.002 points (-0.183/100), which
10 constitutes 4 per cent of the main effect. UR had a statistically significant moderating
11 effect only on the relationship between insecure employment and unhappiness for
12 both genders. Results showed that the relationship between job insecurity and
13 unhappiness turned negative for those living in countries with higher levels of
14 unemployment, which is in line with Hypothesis 2.

15 Although the moderating effects of macroeconomic indicators were relatively
16 small at the margin, many of them were statistically significant when evaluated as the
17 average values of these indicators. Hence, the effects were explored across the whole
18 spectrum of possible values of the macroeconomic variables in graphical form.

19 [Figures 2.1](#) (results for males) and [2.2](#) (results for females) show graphs based on
20 simulations of the effects of being unemployed or in an insecure job (evaluated with a

1 95 per cent confidence interval), allowing for either GDP or UR to vary while holding
2 all other variables constant at the average values. The upper two rows in [Figures 2.1](#)
3 [and 2.2](#) shows results for unhappiness; the lower two rows, for life dissatisfaction.

4 The first graph in each row presents the predicted levels of each well-being indicator
5 for those employed, unemployed, and in insecure employment varying by the GDP or
6 UR measured as the deviation from the mean. The second graph in each row presents
7 how the difference in unhappiness or life dissatisfaction of those unemployed and in
8 insecure jobs varies by GDP/UR (again in terms of deviation from the mean) from
9 those employed in secure positions. This is effectively a marginal effect of being
10 unemployed or in insecure employment evaluated at different levels of
11 macrovariables. The moderating effects of GDP are presented in odd rows; those of
12 UR are presented in even rows.

13 [Figure 2.1: Here](#)

14 [Figure 2.2: Here](#)

15 The graphs show that the overall levels of unhappiness/life dissatisfaction
16 decrease with higher GDP and lower UR for all three groups. However, they decrease
17 at a lower rate for the unemployed than for the other two groups. With regards to
18 moderating effects, the findings are the following: (a) holding UR constant, GDP
19 exacerbates the relationship between unemployment and both unhappiness and
20 dissatisfaction with life for men and women; (b) holding GDP constant, UR has a
21 weaker, but still exacerbating effect on the relationship between unemployment and

1 well-being (virtually flat curves for the unemployed with intersecting confidence
2 intervals); (c) although the effect of job insecurity on well-being is much smaller,
3 where there is an effect, it is mitigated by GDP (in accordance with Hypothesis 1) and
4 UR (in accordance with Hypothesis 2). Overall, the evidence regarding the
5 moderating effects supports Hypothesis 1 and Hypothesis 2 with regards to job
6 insecurity but not unemployment.

7 With regard to Hypothesis 3, Model 2 decomposes GDP and UR into long-
8 term trends and shocks (or business cycle fluctuations) using either linear trend or
9 Hodrick–Prescott filters (linear: odd columns; Hodrick–Prescott: even columns, in
10 [Table 2.3](#)). The results using both methods were quite similar. A higher GDP trend
11 was found to significantly reduce the unhappiness and life dissatisfaction of employed
12 youth. These effects were comparable to those obtained for the level values of these
13 measures in Model 1. An unexpected increase in a country’s GDP level had a
14 significant negative effect on life dissatisfaction only in young employed females. The
15 situation is reversed for UR: the long-term trend had no effect on the well-being of
16 employed youth, whereas the unexpected increase in UR was found to increase both
17 unhappiness and life dissatisfaction in employed men, but not in employed women.

18 Table 2.3 Here

19 The findings related to job insecurity are similar to the main analysis and more
20 in line with Hypothesis 3 (if the effects are statistically significant). None of the
21 macrovariables had a statistically significant moderating effect with respect to life

1 dissatisfaction in men. However, there were significant moderating effects of GDP
2 (UR) trends, but not residuals, for unhappiness for men in insecure employment and
3 for both measures of well-being for women in insecure employment, albeit they are
4 small in magnitude.

5 Discussion

6 The aim of the current empirical analysis was to understand under which specific
7 conditions unemployment and job insecurity are particularly damaging for the well-
8 being of young Europeans. To this end, the ESS dataset was used to investigate
9 whether specific macrolevel factors, and particularly the country's economic situation
10 (that is the country's UR and GDP), moderate the individual-level effect of
11 unemployment and job insecurity on two well-being indicators: unhappiness and life
12 dissatisfaction. One advantage of the current analysis is that it also investigated trends
13 and business cycle fluctuations in the macrolevel moderators and how these determine
14 the effects of labour market conditions on well-being. Furthermore, it accounted for
15 potential differences in gender in the examined effects. The implications of the main
16 study findings will now be discussed.

17 Main effects

18 In line with relative deprivation theory (Crosby, [1984](#)) and previous empirical
19 evidence (Sverke et al, [2002](#); De Witte, [2005](#); Cheng and Chan, [2008](#)), unemployment
20 and job insecurity were found to relate positively to unhappiness and life

1 dissatisfaction in countries with average GDP and UR, even when controlling for
2 one's individual income. When people feel that they are qualified to have a job or a
3 better (that is, more secure) job but do not have one, they feel deprived, and this has
4 negative consequences for their well-being (Harari et al, [2017](#)) making them more
5 unhappy and less satisfied with their lives.

6 Interestingly, the present analyses shed light on potential gender differences
7 regarding the impact of unemployment and job insecurity on youth well-being.
8 Results revealed that being unemployed is more detrimental for the well-being of
9 males, whereas having an insecure job is more detrimental for the well-being of
10 females. The former finding is in line with the traditional views regarding gender
11 roles that assign a 'breadwinner' role to men (Connell, [1991](#), [1995](#)). Accordingly,
12 when men are considered responsible for earning, they experience impairments to
13 their well-being when they do not have the means (employment) to satisfy their role.
14 However, results also revealed that being in an insecure job position is more
15 detrimental for the well-being of women than that of men.

16 Turning to the main effects of the macrolevel indicators on individuals' well-
17 being, results showed that a higher GDP expressed either in level values or as trends
18 and shocks related to better well-being outcomes (lower unhappiness and life
19 dissatisfaction). These results support the assumption based on COR theory (Hobfoll,
20 [1989](#)) that country-level GDP can be viewed as an energy resource at the societal,

1 macrolevel of analysis. When this resource is available, well-being is enhanced. Also,
2 the well-being of young employed Europeans is worse when they live in countries
3 with higher UR, possibly because they may be less likely to find a job that is in line
4 with their skills and qualifications resulting in higher relative deprivation (Crosby,
5 [1984](#)).

6 **Moderating effects**

7 When it comes to the moderating effects of GDP, based on COR theory (Hobfoll,
8 [1989](#)), the strong relationship between unemployment/job insecurity and impaired
9 well-being (unhappiness, job dissatisfaction) was expected to be weaker in countries
10 with higher (vs lower) GDP. Higher GDP implies availability of societal resources,
11 which could, according to COR theory, be used by individuals to deal more
12 effectively with threatening conditions (unemployment or job insecurity). The
13 analyses revealed some significant interaction effects, but not all were in line with
14 expectations. Unexpectedly, GDP was found to exacerbate the effect of
15 unemployment on life dissatisfaction (for both genders) and on unhappiness (for
16 females). However, we found that GDP mitigated the effect of an insecure job on
17 unhappiness for both genders. These results suggest that Hypothesis 1 holds for those
18 with insecure employment but not for those who are unemployed. Availability of
19 economic resources at the country level does not help individuals when they are
20 excluded from the labour market, but it does help them when they have an insecure

1 job. This could mean that there are other resources at play (for example,
2 psychological support) that may matter more for unemployed individuals. However,
3 these were not investigated in the present analysis.

4 Regarding Hypothesis 2, based on social identity theory (Tajfel and Turner,
5 [1986](#)), those unemployed or with insecure jobs living in a country with high
6 unemployment rates were expected to be more likely to compare themselves with
7 those in unfavourable labour market conditions (unemployed people or people with
8 insecure jobs) and that this would prevent reductions in well-being. In other words,
9 the relationship between unemployment/job insecurity and life
10 dissatisfaction/unhappiness was expected to be weaker in countries with higher
11 unemployment rates. Results partially confirmed this hypothesis for insecure
12 employment, but not for unemployment.

13 To explain these findings, it is important to consider the role of relative
14 comparisons. Clark et al ([2008](#)) found that happiness relates negatively to others'
15 income and to own past income. In the context investigated here, it is conceivable that
16 in times when many people in a country experience unfavourable working conditions
17 (high UR), the negative effect of job insecurity on well-being may be mitigated by
18 relative comparisons. Namely, and in line with attribution theory (Fiske and Taylor,
19 [1991](#)), individuals with insecure jobs are more likely to compare themselves with
20 others who also experience high levels of insecurity, and to attribute their situation to

1 the external environment. In contrast, when everyone has a job, having an insecure
2 job may be taken as being a failure or being lazy (Furnham, [1982](#)). Under such
3 conditions, those working in insecure jobs are more likely to be affected negatively.
4 When many people are affected by unemployment or a (growing) bad economic
5 situation, having an insecure job may be as good as having a secure one. This is in
6 line with Da Costa and Dias ([2014](#)) who suggested that ever since the start of the
7 financial crisis, there is an increasing tendency to attribute individuals' (economic)
8 failure to external societal forces rather than their own characteristics (internal
9 attribution). Attributing one's unfavourable job situation to the environment protects
10 ones self-worth and self-efficacy, which consequently prevents health and well-being
11 impairment (Schwarzer et al, [1997](#)). However, the same argument does not apply to
12 the effect of unemployment on well-being. The present findings suggest that the
13 financial worry related to the availability of jobs has a stronger effect than that of
14 social comparison in the case of a higher macro unemployment rate. Unexpectedly,
15 unemployment proved to have a stronger effect on impaired well-being at higher GDP
16 levels. Potentially, this can be explained by relative deprivation theory rather than by
17 the standard economic considerations of availability of resources.

18 An important contribution of this study is that it also investigated the role of
19 long-term economic trajectories and business cycle fluctuations as moderators of the
20 relationship between labour market status and youth well-being. It hypothesised that

1 long-term economic trajectories (in GDP and UR) would have stronger moderating
2 effects on the relationship between unfavourable labour market conditions and
3 impaired well-being than business cycle fluctuations (sudden and abrupt changes in
4 GDP and UR). It argued that a country on a positive long-term economic trajectory
5 may have more resources to buffer the negative effects of individual unemployment
6 irrespective of whether it is currently experiencing a downturn due to business cycle
7 fluctuations. In a similar vein, a country on a negative long-term economic trajectory
8 that experiences a sudden economic boom may not make this resource available to
9 buffer the effect of individual unemployment/job insecurity due to the transitory
10 nature of this increase in resources.

11 The evidence regarding the moderating role of long-term GDP and UR
12 trajectories and business cycle fluctuations was rather mixed. A higher GDP trend, but
13 not the residual, significantly reduced both unhappiness and life dissatisfaction for
14 employed young men. For women, the same was true for unhappiness, but in the case
15 of life dissatisfaction, the GDP residual also had an effect on the employed. Findings
16 were different for UR. In the case of UR, the sudden increase was more relevant in
17 increasing young employed men's unhappiness, whereas the long-term trend did not
18 seem to have an effect. In the case of life dissatisfaction, both components of UR
19 were found to have a similar effect on employed men. With regards to the moderating
20 effects, both the long-term trajectory and the residual of GDP exacerbated the

1 relationship between unemployment and both measures of impaired well-being for
2 men and life dissatisfaction for women. In the case of female unhappiness, the two
3 components worked in the opposite direction: whereas the long-term GDP trend
4 exacerbated the effect of unemployment, the GDP residual actually mitigated it. For
5 the UR, the findings were similar for both men and women – the long-term trend
6 component had a small effect on the relationship between unemployment and life
7 dissatisfaction and unhappiness for men, but the unexpected increase in UR
8 dramatically exacerbated these effects.

9 In conclusion, this chapter has provided new findings on the moderating
10 effects of macrolevel conditions under which unemployment and insecure labour
11 market positions affect the well-being of young Europeans. Results showed that the
12 economic situation of a country affects the strength of the relationship between
13 unemployment/job insecurity and health/well-being. These results provide insights
14 not only for theory development but also for developing policies aiming to protect the
15 well-being of young Europeans.

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8 **Table 2.1: Descriptive statistics for the samples (by gender)**

	Males			Females	
	Mean	SD		Mean	SD
Dependent variables:					
Unhappiness	3.505	1.802		3.460	1.854
Life dissatisfaction	3.761	2.092		3.782	2.104
Explanatory variables:					
<i>Macro variables:</i>					
GDP level (ln)	10.395	0.416		10.360	0.433
Unemployment rate	8.093	3.883		8.196	3.837
<i>Macro II variables:</i>					
GDP level (trend-lin)	10.374	0.433		10.347	0.437
GDP level (res-lin)	0.012	0.051		0.012	0.052
Macro unemployment (trend-lin)	8.173	3.251		8.281	3.219
Macro unemployment (res-lin)	-0.08	2.234		-0.085	2.230
GDP level (trend-hp)	10.385	0.42		10.348	0.437
GDP level (res-hp)	0.011	0.047		0.011	0.048
Macro unemployment (trend-hp)	8.152	3.241		8.26	3.21

Macro unemployment (res-hp)	-0.059	2.1		-0.064	2.101
<i>LM status of interest:</i>					
Unemployed	0.069	0.254		0.056	0.23
Insecure employment	0.265	0.441		0.274	0.446
<i>Other variables:</i>					
Discouraged from work	0.023	0.149		0.021	0.145
In education	0.335	0.472		0.334	0.472
Retired	0.002	0.042		0.001	0.037
Housework	0.008	0.087		0.132	0.339
Other LM status	0.031	0.173		0.027	0.162
Income	5.627	2.874		5.299	2.858
Age	23.033	4.074		23.222	04.042
Age squared	547.13	184.37		555.58	183.69
Secondary education	0.713	0.452		0.645	0.479
Tertiary education	0.244	0.429		0.306	0.461
Married	0.192	0.394		0.297	0.457
Divorced	0.011	0.105		0.025	0.156
Year 2004	0.14	0.347		0.142	0.349
Year 2006	0.123	0.329		0.122	0.327
Year 2008	0.176	0.381		0.181	0.385
Year 2010	0.157	0.363		0.16	0.366
Year 2012	0.168	0.374		0.171	0.377
Year 2014	0.093	0.291		0.086	0.281
No. of observations	18,375			19,211	

1 [Table 2.2: Effect of micro- and macroindicators and their interactions on](#)
2 [young male and female well-being \(Model 1\)](#)

	Male	Female
--	------	--------

	Unhappiness	Dissatisfaction with life	Unhappiness	Dissatisfaction with life
	(1)	(2)	(3)	(4)
Income	-0.067**	-0.087**	-0.078**	-0.094**
	(0.005)	(0.005)	(0.005)	(0.005)
Unemployed	0.656**	0.904**	0.385**	0.659**
	(0.054)	(0.062)	(0.060)	(0.068)
Insecure job	0.053+	0.083*	0.097**	0.109**
	(0.030)	(0.034)	(0.030)	(0.034)
GDP level (ln, d-mean.)	-0.836**	-1.313**	-0.857**	-1.222**
	(0.130)	(0.164)	(0.150)	(0.175)
*Unemployed	0.193	0.452**	0.409**	0.449**
	(0.125)	(0.142)	(0.152)	(0.170)
Insecure job	-0.183	-0.149	-0.255**	-0.155
	(0.092)	(0.104)	(0.092)	(0.103)
Macr. unempl. (d-mean.)	0.030**	0.026*	0.034**	0.032**
	(0.010)	(0.012)	(0.010)	(0.012)
*Unemployed	0.016	0.021	0.005	0.024
	(0.013)	(0.015)	(0.015)	(0.017)
*Insecure job	-0.023**	-0.007	-0.026**	-0.011
	(0.009)	(0.010)	(0.009)	(0.010)
<i>N</i> (Individuals)	18,375		19,211	
<i>N</i> (Years)	155		155	
<i>N</i> (Countries)	35		35	

1 Note: Significance levels: ** p < 1%, * p < 5%, + p < 10%.

2 **Table 2.3: Effect of micro- and macroindicators and their interactions on**
 3 **young male and female well-being (Model 2)**

	Male				Female			
	Unhappiness		Life dissatisfaction		Unhappiness		Life dissatisfaction	
	Lin	HP	Lin	HP	Lin	HP	Lin	HP
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Income	-0.067**	0.067**	-0.087**	0.087**	-0.077**	0.077**	-0.094**	0.094**
	(0.005)	(0.005)	(0.005)	(0.005)	(0.005)	(0.005)	(0.005)	(0.005)
Unemployed	0.663**	0.663**	0.908**	0.907**	0.393**	0.394**	0.683**	0.685**
	(0.054)	(0.054)	(0.062)	(0.062)	(0.061)	(0.061)	(0.068)	(0.068)
Insecure job	0.053+	0.053+	0.082*	0.082*	0.098**	0.098**	0.110**	0.111**
	(0.030)	(0.030)	(0.034)	(0.034)	(0.030)	(0.030)	(0.034)	(0.034)
GDP level (trend)	-0.885**	0.894**	-1.314**	1.327**	-0.876**	0.878**	-1.266**	1.265**
	(0.132)	(0.132)	(0.173)	(0.172)	(0.155)	(0.155)	(0.182)	(0.182)
*Unemployed	0.189	0.185	0.473**	0.466**	0.305*	0.296+	0.392*	0.381*
	(0.129)	(0.130)	(0.147)	(0.148)	(0.155)	(0.155)	(0.173)	(0.173)
*Insecure job	-0.179+	-0.178+	-0.090	-0.085	-0.263**	0.261**	-0.157	-0.155
	(0.095)	(0.095)	(0.108)	(0.109)	(0.096)	(0.096)	(0.108)	(0.108)
GDP level (res)	-0.472	-0.328	-0.762	-0.589	-1.249	-1.254	-2.261*	-2.294+
	(0.893)	(0.956)	(1.056)	(1.134)	(0.944)	(1.012)	(1.110)	(1.193)
*Unemployed	1.971	2.079	2.614+	2.605	-1.855	-2.258	2.360	2.418
	(1.384)	(1.516)	(1.577)	(1.727)	(1.570)	(1.725)	(1.756)	(1.929)
*Insecure job	-0.669	-0.745	0.489	0.598	-0.473	-0.520	-0.617	-0.589
	(0.814)	(0.893)	(0.928)	(1.019)	(0.821)	(0.901)	(0.920)	(1.010)
Macr. unem. (trend)	0.015	0.013	0.029	0.025	0.026	0.026	0.016	0.017
	(0.016)	(0.016)	(0.021)	(0.020)	(0.018)	(0.018)	(0.022)	(0.021)
*Unemployed	0.001	-0.000	0.012	0.011	-0.032+	-0.035+	-0.009	-0.014
	(0.017)	(0.017)	(0.019)	(0.019)	(0.019)	(0.019)	(0.021)	(0.021)

Insecure job	-0.019+	-0.018+	0.009	0.010	-0.027	-0.027*	-0.009	-0.009
	(0.011)	(0.011)	(0.012)	(0.012)	(0.011)	(0.011)	(0.012)	(0.012)
Macr. unem. (res)	0.040*	0.045**	0.033+	0.036+	0.023	0.024	0.020	0.019
	(0.016)	(0.017)	(0.019)	(0.020)	(0.018)	(0.019)	(0.020)	(0.022)
Unemployed	0.066	0.071*	0.064+	0.067+	0.034	0.040	0.108**	0.121**
	(0.029)	(0.031)	(0.033)	(0.036)	(0.032)	(0.034)	(0.036)	(0.038)
Insecure job	-0.037	-0.039*	-0.021	-0.024	-0.026	-0.027	-0.019	-0.019
	(0.017)	(0.018)	(0.020)	(0.021)	(0.018)	(0.019)	(0.020)	(0.021)
<i>N</i> (Individuals)	18,375				19,211			
<i>N</i> (Years)	155				155			
<i>N</i> (Countries)	35				35			

1 Note: Lin = linear, HP = Hodrick–Prescott. Significance levels: ** – <1%, * – <5%, + – <10%.

2 [Figure 2.1: Moderating effects of macroeconomic indicators on well-being in men](#)

3 [Figure 2.2: Moderating effects of macroeconomic indicators on well-being in women](#)

¹ <https://ec.europa.eu/eurostat/web/products-eurostat-news/-/WDN-20180813-1>

² <https://ec.europa.eu/eurostat/web/products-eurostat-news/-/DDN-20170502-1>

³ For an explanation of the method, see: <http://www.talkstats.com/threads/european-social-survey-income-variable.44664/>

4

http://ww2.prospects.ac.uk/cms/ShowPage/Home_page/Main_Menu___News_and_information/Graduate_Market_Trends/Definitions_of_International_Labour_Organisation_measures/p!edXbLa

⁵ All reported differences were statistically significant on the 1% level.