Educational systems matter: differences across European countries in how young people with secondary education experience job insecurity

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ABSTRACT
This article examines the importance of education in creating differences across European countries with regard to how young people experience job insecurity during their transition from school to work. On a theoretical level, two sets of educational system features which influence job insecurity are identified: institutional (stratification, vocational orientation, standardisation) and structural (expansion of education, development of lifelong learning, education spending). On an empirical basis, data from the Labour Force Survey (2009), the European Social Survey Round 5 (2010/2011), the official statistics, and previous research are analysed. The results show that higher vocational prevalence in secondary education is associated with lower levels of early job insecurity. Our findings contrast previous studies which have not yet revealed any effects of standardising input and output on experiencing qualification mismatches. We found that in countries where the standardisation of the output of educational systems is higher, individuals are less likely to be unemployed. However, the standardisation of input is associated with increased job insecurity. Our analysis also revealed that educational expansion has a negative effect on the likelihood of young people to work part-time jobs and that government expenditure on education is negatively associated with early job insecurity.

ARTICLE HISTORY
Received 4 March 2018
Accepted 5 December 2018

KEYWORDS
Institutional features of the educational system; structural features of the educational system; job insecurity; youth

Introduction
Young people have faced serious problems during the last decade in their transitions from school to work. Although the economic and financial crisis of 2008 had an impact on the employment situations of workers of all ages, young people are still disproportionately affected by unemployment, lower incomes, and uncertainty about future employment prospects (Eurofound 2014; Leach, Broeks, Østensvik, and Kingman 2016). A recent study has shown that the impact of the early-career unemployment is multi-dimensional and that it is linked with a higher risk of insecure employment at later stages of life (Krasteva 2018). The situation of young people on the labour market echo Ulrich Beck’s concerns (1992, 143–144) that in the modern risky society ‘a risk-fraught system of flexible, pluralized, decentralized underemployment’ has emerged in which ‘unemployment in the guise of various forms of underemployment is “integrated” into the employment system, but in exchange for a generalization of employment insecurity that was not known in the “old” uniform system of industrial society’. For instance, growth in the part-time and temporary jobs is seen as a means of concealing the extent of unemployment and underemployment, masking people’s precarious and insecure situations on the labour market (Standing 2011).
In modern, knowledge-based societies, education has a crucial role in determining individuals’ life trajectories, and this explains the vast amount of research on how individual educational levels affect further educational choices and labour market outcomes (e.g. Jaeger 2007; Verhaest and Ome 2010; Kogan, Noelke, and Gebel 2011). Previous research has also emphasised the importance of educational system characteristics in understanding pathways for youth during their transition from school to work. Relying on the seminal work of Allmendinger (1989), previous studies have shown that cross-country differences regarding school-to-work transitions are systematically related to the way in which educational systems are organised (Kerckhoff 2001; Müller and Shavit 1998; Van der Velden and Wolbers 2003; Kogan, Noelke, and Gebel 2011). Recently, we have witnessed the expansion of secondary and higher education as well as increased participation in lifelong learning activities (Blossfeld et al. 2016). This has been a significant structural change in the sphere of education throughout the world that shapes the context in which graduates of different educational levels are entering the labour market.

Despite this vast literature on the role of education (both in terms of individual levels of attainment and state educational system characteristics) in people’s life trajectories and on the determinants of job insecurity, no study – to the best of our knowledge – has yet tried to simultaneously capture the effects of both individual and systemic characteristics of education on the experience of job insecurity as youth transition from school to work. Against this background, the main research question guiding the following analysis is: How does education – understood as a specific attained individual outcome, as a national system, and as a structural contextual factor – correlate with differences across European countries with regard to how young people experience job insecurity during their transition from school to work?

**Conceptual considerations**

Education and skills-formation systems in Europe are very diverse. Although there are many typologies that categorise countries into different regimes that refer to education to some extent (Blossfeld et al. 2016; Esping-Andersen 1990; Hall and Soskice 2001; Walther 2006), most of these typologies do not capture the main differences between educational systems in a comprehensive manner. Exceptions to this can be found in Allmendinger and Leibfried (2003), West and Nikolai (2013), and Atzmüller (2012), but so far none of these studies have attempted to assess the linkages between a country’s educational regime and young people’s job insecurity. Given this, we will focus on two kinds of educational system features – the institutional and the structural – which influence job insecurity.

**Institutional features of educational systems**

There is a consensus within comparative stratification research that the three main dimensions across which educational systems can be classified internationally are stratification, vocational orientation, and standardisation, and furthermore that these dimensions, albeit possibly correlated, refer to theoretically and empirically distinct institutional features (Allmendinger 1989; Shavit and Müller 1998; Bol and Van de Werfhorst 2013a).

*Stratification* captures the level of differentiation between students with different achievements and levels of scholastic ability. The level of stratification within educational systems influences school-to-work transitions because it allows for abilities to be distinguished among graduates, based on their different school tracks, and thus informs employers about the individual capabilities of job applicants (Müller and Gangl 2003; Levels, van der Velden, and Di Stasio 2014).

*Vocational orientation* reflects the extent to which systems provide vocationally-specific skills, and is usually defined as the proportion of students in upper-secondary education who are enrolled in vocational tracks. Levels, van der Velden, and Di Stasio (2014, 345) emphasise that vocational training is theoretically thought to give vocationally-educated graduates a higher
probability of smoother transitions to work, based on assumptions that ‘vocational training teaches skills that are strongly in demand by employers’ and ‘vocationally-trained students are more directly productive’.

*Standardisation* refers to the level of nation-wide standardisation of regulations, funding, and examinations, i.e. the degree to which the quality of education meets the same standards nation-wide (Allmendinger 1989). There are two forms of standardisation: a) of input, which captures ‘the extent to which schools can make autonomous decisions about what is being taught, how and by whom’ and is also a result of the existence of nationwide regulations on teacher training, school budgets, books, and curricula; and b) of output, which reflects ‘the extent to which educational performance of pupils or students is tested against external standards, such as a national inspection institute or centralised exit examinations’ (Levels, van der Velden, and Di Stasio 2014, 345). The level of standardisation can influence individual school-to-work transitions, as it signals to employers about the type and level of skills that students have acquired (Spence 1973).

**Structural characteristics of the social context related to educational development**

The last several decades have been marked by the *expansion of education* as a worldwide trend, especially at the secondary and higher levels, one which is expected to continue in the coming decades (Schofer and Meyer 2005). However, countries differ in the expansion’s speed; different conditions develop in different countries since it is a structural feature of the context in which the school-to-work transition occurs and upon which it depends. Some studies show that educational expansion not only changes monetary returns to different educational levels, but also affects returns to fields of study (Reimer, Noelke, and Kucel 2008). There is a widespread fear that the expansion of higher education has led to qualifications inflation and, on a more global scale, to broken promises of education, jobs, and incomes for many people with a university degree (Brown, Lauder, and Ashton 2011).

Another structural feature of the social context related to education is the *development of lifelong learning*. Data show large differences across countries with regard to participation in lifelong learning, and its meaning changes in different societies. As a result, lifelong learning does not have the same social and personal impact in more highly-developed, democratic societies as it does in more weakly-developed ones, although there may be transnational differences engendered by specific institutional systems (Boyadjieva and Ilieva-Trichkova 2017).

Educational systems in different countries also differ considerably in their *expenditures on education* and the way funds are distributed among educational institutions and at varying levels of education. In some countries, education suffers from serious underfunding as well as ineffective mechanisms for allocating public funds, which influences both how educational institutions function and the quality of education they can offer. Given this, expenditures on education should be perceived as an important structural feature of the educational system.

**Job insecurity**

There are different approaches in the literature to defining job insecurity (De Witte and Näswall 2003; Karamessini et al. 2016). De Witte (2005) situates it as a concept lying between employment and unemployment and defines it as the perceived threat of job loss and the worries related to that threat. Other authors prefer to use the term employment insecurity (e.g. Chung and Van Oorschot 2011; Dickerson and Green 2012). While job (in)security refers to a particular job or employment contract, employment (in)security takes into account ‘the potential for secure and continuous employment, which might entail changing employers and/or jobs’ (Chung and van Oorschot 2011, 289). Although authors differ in their definitions of job insecurity and its concrete dimensions, they all associate it with difficulties in transitioning from school to work, increased frequency of young people losing their jobs and incomes,
and rising offers of precarious work – part-time jobs and temporary contracts, especially involuntary ones (De Witte and Näswall 2003; Silla et al. 2009; Chung and van Oorschot 2011).

Another line of discussion regarding the conceptualisation of job security refers to the question of whether it is either a subjective or an objective phenomenon. De Witte and Näswall (2003) highlight that psychological research favours the study of job insecurity from the employee’s perspective. However, Bussing (1999) criticises this and pleads for a clearer distinction between job security as an objective vs. a subjective phenomenon. Acknowledging previous research, we use the following understanding of job insecurity: it refers to increased threats (experienced both objectively and subjectively) of people losing their jobs and incomes and falling into situations of social and economic vulnerability.

Methodology

Data and limitations

The empirical basis of the present article includes individual-level data from the 2009 Ad Hoc Module of the European Labour Force Survey (LFS), ‘Entry of Young People into the Labour Market’, the European Social Survey (ESS) Round 5 rotating module, ‘Work, Family and Wellbeing’ (2010/2011), and country-level data from official statistics (EUROSTAT and UNESCO). We also make use of previously designed indexes of institutional characteristics of education systems (Bol and Van de Werfhorst 2013a) and of early job insecurity (Symeonaki, Stamatopoulou, and Karamessini 2017).

The LFS 2009 ad-hoc module provides important data on the entry of young people into the labour market. It was carried out in 31 countries (for more details see Eurostat 2012). The target population of the LFS 2009 ad-hoc module covered every person between the ages of 15 and 34, with three exceptions: Denmark, Iceland, and Spain. In Spain and Iceland, the target population was aged 16 – 34 years, whereas in Denmark the data for some 15-year-olds were missing due to differences in age definitions. In terms of survey design, almost all countries used a multistage (two or three-stage) stratified random sampling scheme, as in the core LFS.

The ESS Round 5 rotating module, ‘Work, Family and Wellbeing’, was conducted in 2010/2011 and included a variety of core topics repeated from previous rounds of the survey. This module is especially relevant for the present study because of the survey’s timing (precisely in the period of the 2008 crisis) and the subjective measure of job insecurity that it provides, which is missing in the more recent rounds. The target population included all persons aged 15 years and over residing in private households in 28 countries (See ESS Round 5: European Social Survey 2016).

We have had to adopt some limitations on the data used. In both surveys, we restricted the data to people aged 20–29 years, with ISCED 0–4. We also limited the number of countries to those for which we had sufficient information about all country-level variables of interest, deleting the missing values from the individual level variables in both datasets. Finally, we worked with 20 countries from the ESS and 24 countries from the LFS – these were countries for which we had sufficient data at country level for all features of the educational systems which we were interested in.

Variables

Here we present the variables we have used. Summary statistics of these variables are available on request.

Dependent variables

Following our understanding of job insecurity, we have tried to take into account both its objective and subjective dimensions. Specifically, we have relied on existing objective measures of job insecurity, such as the unemployment rate, the distinction between part-time and full-time
employment, and limited vs. permanent contracts, and have also included a subjective measure of job insecurity: whether or not people assess their current jobs as insecure.

Independent variables
As we have independent variables from educational systems at country level and on an individual level, we have added a dummy variable which differentiates people with average (ISCED 3–4) to low (ISCED 0–2) levels of education.

For most of the institutional characteristics of educational systems, we have built on the work of Bol and Van de Werfhorst (2013a). From their list of indicators, we have selected the following country indicators:

- **Level of stratification** was measured by a tracking index which is constructed via factor analysis of three country-level variables that aim to provide a comprehensive overview of tracking while considering all the dimension’s theoretical aspects (including the age of first selection, the length of the tracked curriculum, and the number of distinct school types available to 15-year-old students). A higher score on the index implies a higher level of stratification.

- **For level of vocational orientation**, we have chosen two variables. The first has been borrowed from Bol and Van de Werfhorst (2013a): the prevalence of vocational enrolment. It is measured by two indicators, using a principal factor analysis on vocational enrolment as a percentage of upper-secondary education. The higher the value of the index, the more vocational education prevails over general at the upper-secondary level. Bol and Van de Werfhorst (2013a) also suggest that vocational education and training systems differ in the extent to which learning takes place in a school-based or workplace-based format. That is why we have included as a second indicator for vocational orientation vocational specificity. It captures whether an individual’s education was mainly (or solely) vocational education in a school-based format or vocational education that was also workplace-based, as opposed to general. However, we have included it on individual level rather than on country level. This was possible only in the case of the LFS.

- **Standardisation of input** measures the extent to which schools were responsible for textbook use, course content, and course offerings, and is constructed via a principal factor analysis of variables that capture these three dimensions. A higher score on the index implies a higher level of standardisation.

- **Standardisation of output** was a dummy variable. When a country conducts central examinations in secondary education, it scores a ‘one’. Elsewhere the score for standardisation is ‘zero’. There was only one exception: in the case of Germany, the value given by Bol and Van de Werfhorst (2013a) is 0.44 because centralised exams are not mandatory in all federal states. In order to keep the German sample in the analysis, we adopted the principle of rounding. Thus, the value which we included in the analysis for Germany was 0.

For most of the structural features of education systems, we have relied on data from the official statistics at country level:

- **Expenditure on education**: government expenditures on education (ISCED 0–4) as a percentage of GDP (Source: [http://data.uis.unesco.org/](http://data.uis.unesco.org/), Extracted on: 22.6.2017). The data are from 2003, with the sole exception of Germany, where the earliest year for which these data are available is 2006.

- **Educational expansion**: population, aged 20–24 years, with upper secondary and post-secondary non-tertiary education (levels 3 and 4) as of 2008 (%) (Source: Eurostat, Extracted on: 24.6.2017. Data code: edat_lfs_9903).
- **Participation in education and training**: the extent to which people participate in lifelong learning. It is included at the individual level. In the LFS, there is a variable regarding education or training either received or not received during the previous four weeks. In the ESS, however, the question is worded differently. F70: *During the last twelve months, have you taken any course or attended any lecture or conference to improve your knowledge or skills for work?* This longer period allows us to test the influence of one specific form of lifelong learning on job insecurity – work-related learning – for a longer time period.

The last set of dummy variables refers to the countries’ grouping (derived from Blossfeld et al. 2015) under the following welfare regimes: liberal, social-democratic, conservative, Mediterranean, and post-Socialist. We have selected this distinction because it highlights the critical synergy of institutional settings – such as the structure of educational and vocational training systems, the labour market structure, employment protection legislation, gender culture, and welfare and family policies – which play an important role in labour market entry. Thus, in the case of the 20 countries from the ESS, two countries fall under liberal regimes (Great Britain and Ireland); four are under a social-democratic one (Denmark, Finland, the Netherlands, Norway, and Sweden); five countries fall under conservative regimes (Belgium, France, Germany, and Switzerland); three are under Mediterranean regimes (Greece, Portugal, and Spain); and six fall under post-Socialist ones (Bulgaria, Hungary, the Czech Republic, Poland, Slovakia, and Slovenia). In the case of the remaining countries out of the 24 in the LFS, Iceland is classified as a liberal regime, while Austria is conservative, Italy is Mediterranean, and Latvia is post-Socialist.

We have calculated the bivariate Pearson correlations between each combination of these macro-level independent variables (available upon request). We have identified correlations between some of the independent variables, but none of the correlation coefficients are higher than 0.60, which means that there is no reason to doubt the results on the grounds of multicollinearity and we can include all these variables in the same model.

**Analysis undertaken**

Because of the complexity of job insecurity and the fact that there is no indisputable measure of it, the analysis proceeds through two stages. Whereas the first stage examines a large number of bivariate associations at national level, the second step uses the above-described independent variables to model job insecurity using multivariate analyses.

More specifically, the first stage included examining the relationship between the institutional and structural features of educational systems, as well as a more complex measure of job insecurity: the *early job insecurity index*. The latter was developed by Symeonaki, Stamatopoulou, and Karamessini (2017) and combines a number of objective indicators which claim to capture the whole spectrum of early job insecurity. This index ranges from −1 to +1, where the lower the value, the lower the early job insecurity, and vice versa; the values were current for 2013. We have examined this relationship at country level for all 19 countries on which data were available, and present only those where the correlation coefficients are significant.

At the second stage, we have employed a multilevel modelling technique. Multilevel research design is useful for handling clustered data as it allows for simultaneous modelling of individual and cluster-level characteristics (Rabe-Hesketh and Skrondal 2012). More specifically, we have used information on both the individual level (level 1) and the country level (level 2). The country where people were interviewed served as the clustering variable. Given that our dependent variables are binary, we have used two-level random intercept logistic models.

For the analysis of each of the four dependent variables, we have estimated three models (Tables 1–4). Model 0 is our (unconditional) baseline model containing the intercept (constant) only. Model 1 includes all individual characteristics and institutional and structural features of the educational systems discussed above. In Model 2, we enter the welfare regimes. In Models 1 and 2, the effects are controlled for respondents’ gender and their parents’ educational level. We have used the xtlogit command in Stata 14.
Following Rabe-Hesketh and Skrondal (2012), we have interpreted the odds ratios conditionally on the random intercepts of the models. Lastly, we have examined the amount of country-level variance, which the models explain once the variables of interest have been included. The individual level variance in two-level random intercept models is constant across all models. It is $\pi^2/3$ by design, which is about 3.29.

### Results

#### Bivariate associations

We have found that early job insecurity is strongly and negatively associated with participation rates in lifelong education and training (over the previous 4 weeks) for people aged 20–29 years as of 2008 (Eurostat, data code: trng_lfs_09, extracted on 03.07.2017) (Pearson’s $r = -0.683$, $p < 0.001$). There is also a negative correlation (Pearson’s $r = -0.516$ at $p < 0.05$) between early job insecurity and the prevalence of vocational education [measured with the index of vocational enrolment, 2004, 2006 (Bol and Werfhorst (2013a))], i.e. there is lower early job insecurity in countries with higher vocational enrolment. We have also found a negative correlation (Pearson’s $r = -0.513$, $p < 0.05$) between early job insecurity and government expenditures on education (ISCED 0–4) as a percentage of GDP, 2003 (Source: http://data.uis.unesco.org/Extracted on: 22.6.2017). Finally, there is a positive association between early job insecurity and the standardisation of input as of 2006 (Bol and Werfhorst 2013a) (Pearson’s $r = 0.403$, $p < 0.10$).
Table 1 presents the results of two-level random-intercept logistic regression models analysing the likelihood of being unemployed vs. employed. The baseline model for unemployment (Model 0) results in an unconditional intraclass correlation (ICC) of 0.074. This shows that about 7.4% of variation in the likelihood of being unemployed is due to differences between the countries where young people live.

In Model 1, individual characteristics as well as institutional and structural features of educational systems are added. The conditional odds ratios of being unemployed are 7.9% higher for females than for males. The odds ratios of being unemployed are about 42% lower for people with medium educational attainment levels than for those with low levels of education. Attainment of vocational education, which was provided in combined school and workplace-based settings, decreases the odds of young people being unemployed by 5.7%. Participation in lifelong learning during the previous four weeks also decreases their odds of being unemployed (by 10.3%). Among country-level features, the prevalence of vocational education in the educational system has a significant effect on the likelihood of being unemployed. More specifically, we found that young people are less likely to be unemployed in countries where the vocational prevalence is higher.

In Model 2, we have added the regime type of the country. Despite this, our estimates for the characteristics at the individual level are consistent with those from Model 1. At the same time, we can observe some differences with regard to country-level educational features. Comparably to the prevalence of vocational education, the degree of stratification and standardisation of output also matters with respect to the likelihood of being unemployed. Thus, in countries where the

### Table 2. Results of two-level random intercept logistic regression models concerning whether a person has a temporary job/work on a limited-duration contract or has a permanent job/work on an unlimited contract.

| Fixed parameters | Model 0 (e(b)) | Model 1 (e(b)) | Model 2 (e(b)) |
|------------------|---------------|---------------|---------------|
| Gender: Ref. Male |               |               |               |
| Female           | 1.206**       | 1.206**       |               |
| Parents’ educational level: Ref. None of the parents with a tertiary degree | | | |
| At least one of the parents with a tertiary degree | 1.190**       | 1.191**       |               |
| Educational level: Ref. Low education | | | |
| Medium           | 0.855**       | 0.856**       |               |
| Vocational specificity: Ref. General | | | |
| School-VET       | 0.834**       | 0.834**       |               |
| Work-VET         | 0.737**       | 0.737**       |               |
| Participation in education and training (4 weeks): Ref. No | | | |
| Yes              | 2.681**       | 2.682**       |               |
| Country-level features | | | |
| Stratification   | 1.175         | 1.199         |               |
| Vocational prevalence | 0.732         | 0.728         |               |
| Standardisation of input | 0.821         | 0.769         |               |
| Standardisation of output | 0.955         | 1.315         |               |
| Expenditure on education | 1.043         | 1.214         |               |
| Educational expansion | 0.998         | 1.012         |               |
| Regimes, Ref. Liberal | | | |
| Social democratic |               | 2.266         |               |
| Conservative     |               | 2.625         |               |
| Mediterranean    |               | 6.198**       |               |
| Post-Socialist   |               | 1.725         |               |
| Constant         | 0.266**       | 0.269         | 0.019**       |
| Random parameters |               |               |               |
| Intercept        | 0.822         | 0.787         | 0.639**       |
| Country-level variance | 0.676         | 0.620         | 0.409**       |
| Explained variance at level 2 | 8.34%         | 39.58%        |               |
| Intraclass correlation | 0.171         | 0.159         | 0.110         |
| Log likelihood   | −26,800.4     | −25,718.3     | −25,713.4     |

Source: LFS Ad Hoc Module (2009) own calculations.
Note: e(b) = Exponentiated coefficients; N (individual level) = 51,266; N (country level) = 24.
Significance: * p < 0.10, * p < 0.05, ** p < 0.01.

### Multivariate analysis

Table 1 presents the results of two-level random-intercept logistic regression models analysing the likelihood of being unemployed vs. employed. The baseline model for unemployment (Model 0) results in an unconditional intraclass correlation (ICC) of 0.074. This shows that about 7.4% of variation in the likelihood of being unemployed is due to differences between the countries where young people live. In Model 1, individual characteristics as well as institutional and structural features of educational systems are added. The conditional odds ratios of being unemployed are 7.9% higher for females than for males. The odds ratios of being unemployed are about 42% lower for people with medium educational attainment levels than for those with low levels of education. Attainment of vocational education, which was provided in combined school and workplace-based settings, decreases the odds of young people being unemployed by 5.7%. Participation in lifelong learning during the previous four weeks also decreases their odds of being unemployed (by 10.3%). Among country-level features, the prevalence of vocational education in the educational system has a significant effect on the likelihood of being unemployed. More specifically, we found that young people are less likely to be unemployed in countries where the vocational prevalence is higher.

In Model 2, we have added the regime type of the country. Despite this, our estimates for the characteristics at the individual level are consistent with those from Model 1. At the same time, we can observe some differences with regard to country-level educational features. Comparably to the prevalence of vocational education, the degree of stratification and standardisation of output also matters with respect to the likelihood of being unemployed. Thus, in countries where the
standardisation of educational systems’ output is higher and the educational systems are more stratified, young people are less likely to be unemployed. Estimates for Model 2 also show that the odds of young people being unemployed when living in a country under a social-democratic regime are about 44.4% lower than when in a liberal-type country.

If we examine the decrease in level 2 variance due to the variables’ inclusion in the models, we see that the country-level variance for Model 1 decreases by 44.38%, and by 63.55% in Model 2. This suggests that both models have the power to explain a considerable amount of country-level differences in unemployment.

Table 2 presents the results of two-level random-intercept logistic regression models analysing the likelihood of working a temporary job/on a limited-duration contract vs. working a permanent job/on an unlimited contract. The baseline model (Model 0) results in an unconditional ICC of 0.171; i.e. about 17.1% of variation in the likelihood of working at a temporary job is due to differences between the countries where young people live. In Model 1, we add individual characteristics and the institutional and structural features of educational systems. The conditional odds ratios of working at a temporary job are 20.6% greater for females than for males and are 19% higher for people with at least one parent who completed higher education. The odds ratios of working at a temporary job are 14.5% lower for people with medium educational attainment levels than for those with lower levels of education. Attainment of vocational education decreases the odds of working at a temporary job for those educated either mainly in classroom settings or in combined workplace/classroom settings by 16.6% and 26.3% respectively.
Participating in lifelong education and training during the previous four weeks, however, increases the odds 2.68 times that young people will work a temporary job. Among the country-level features, our estimates show no statistically-significant differences. Once we include country regime type, our estimates show that the odds of young people working a temporary job in a Mediterranean country are 6.2 times greater than they are for young people in a liberal-type country.

Finally, if we examine the decrease in level 2 variance due to the inclusion of the variables in the models, we can see that for Model 1 the country-level variance decreases by 8.34%; and it decreases by 39.58% for Model 2. This suggests that the included variables at country level only partly explain differences regarding the likelihood of young people to hold temporary jobs/limited-duration contracts vs. permanent jobs/unlimited contracts.

Table 3 presents the results of two random-intercept logistic regression models analysing the likelihood of having a part-time job vs. a full-time job. The baseline model (Model 0) results in an unconditional ICC of 0.207, i.e. about 20.7% of variation in the likelihood of working a part-time job is due to differences between the countries in which young people live. In Model 1, we add individual characteristics as well as institutional and structural features of the educational systems. The conditional odds ratios of working part-time are 3.67 times greater for females than for males, and they are 1.43 times higher for people with at least one parent who completed higher education when compared to those without a parent who completed higher education. The odds ratios of working part-time are about 36% higher for people with medium levels of educational attainment than they are for people with lower levels of education. Attaining vocational education decreases the odds of working a temporary job for those educated mainly in classroom settings; it affects those educated in combined workplace and classroom settings by about 39% lower and 47% lower, respectively. Participating in education and training during the previous four weeks, however, increases the odds 2.68 times that young people will work a temporary job.
weeks, however, increases young people’s odds of working a part-time job 3.33 times. Estimates for Model 1 reveal that the vocational prevalence of the educational system has a positive effect on the likelihood of working a part-time job. At the same time, the educational expansion at country level has a negative effect on the likelihood of working part-time.

Once we add country regime type, we can observe these effects disappearing completely. Estimates for Model 2 also show that the odds of working part-time for young people in a post-Socialist country are 68.1% lower than for young people in a liberal-type country.

Finally, if we examine the decrease in level 2 variance due to the inclusion of the variables in the models, we see that the country-level variance decreases by 56.30% for Model 1 and by 80.56% for Model 2. This suggests that the included variables at country level can explain a considerable part of these variations in young people’s likelihood of having a part-time job vs. a full-time job as being due to cross-country differences.

Table 4 presents the results of two-level random-intercept logistic regression models analysing the likelihood of subjective feelings of job insecurity. The baseline model (Model 0) results in an unconditional ICC of 0.171, showing that about 17.1% of variation in the likelihood of assessing one’s job as insecure is due to differences between the countries in which young people live. In Model 1, we add individual characteristics as well as institutional and structural features of the educational systems. Estimates show that conditional odds ratios concerning subjective feelings of job insecurity are 42% lower for young people who have taken a course or have attended a lecture or conference to improve their knowledge or work skills. Model 1 reveals that both the vocational prevalence of the educational system and expenditures on education have a negative effect on the likelihood of assessing one’s job as insecure. Once we add the regime type of the country, the effect of education spending disappears; however, Model 2’s estimates show that the effect of vocational prevalence remains significant. Additionally, the odds for young people in Mediterranean countries to assess their jobs as insecure are 2.23 times greater than for young people in a liberal-type country. Simultaneously, the odds ratios of perceiving one’s job as insecure are more than 2 times higher for young people from post-Socialist countries than they are for young people from liberal countries; however, this effect is not statistically significant.

Lastly, examining the decrease in level 2 variance due to the inclusion of the variables in the models shows us that the country-level variance decreases by 65.82% for Model 1 and by 89.43% for Model 2. This suggests that the included variables at country level explain a considerable number of variations in how likely young people are to express subjective feelings about job insecurity as a result of differences between countries.

**Discussion of the results**

In the present article we have focused on how both individual and systemic characteristics of education are related to young people’s experiencing job insecurity.

Our results are in line with the main findings of a recent comparative study (Karamessini et al. 2016) which shows that the socio-demographic variables (level of education, parental education, and gender) influencing one’s chances of being unemployed are consistent across the countries studied, and that individual levels of education are a strong predictor of employability. Our finding that having one parent with a tertiary degree, rather than coming from a family with a lower educational background, makes young people more likely to work a part-time or temporary job may seem surprising. It is likely that young people with highly educated parents have higher aspirations for themselves and are therefore not inclined to commit to just any job, preferring instead to wait and work in temporary positions until they find a satisfying job. It is also possible that most young people with at least one parent with a tertiary degree are students, which is why they prefer temporary jobs. We go further by taking into account the specificity of the individual’s acquired level of education. Our results clearly demonstrate that the vocational specificity of secondary education (vocational school-based and
vocational workplace-based) positively influences youth’s capacity to find employment and avoid job insecurity.

We also try to shed more light on country-level differences regarding job insecurity by considering the characteristics of educational systems (both institutional and structural). Our results prove to be consistent with previous research that has pointed out the positive effect of educational and training systems that are vocationally orientated in facilitating labour market integration after leaving school (e.g. Barbieri, Cutuli, and Passaretta 2018; Bol and Werfhorst 2013b; Wolbers 2007). Further studies are needed to explain our finding that vocational prevalence in educational systems has a positive influence on working part-time.

In contrast to previous studies, which have yet to reveal any effect of the standardisation of input and output on experiencing qualification mismatches (e.g. Levels, van der Velden, and Di Stasio 2014), we have found that whereas the standardisation of output in educational systems has a positive effect on early job insecurity when insecurity is measured by the objective indicator of being unemployed (if standardisation of output is increased by one point, then the odds of being unemployed decrease 29 percent), the standardisation of input is associated with increased early job insecurity. Our findings demonstrate that standardising educational input and output should be regarded as separate dimensions, as their impact on job insecurity is different. Namely, standardising output has a strong signalling effect on employers, which could possibly explain its positive effect on unemployment; however, standardising input could potentially limit individualisation within the educational process – which, in the rapidly changing contemporary labour market, may reduce young people’s adaptability and flexibility and is thus associated with job insecurity.

As regards the structural characteristics of educational systems, it seems that educational expansion has a positive effect on early job insecurity: in countries that make higher investments in education, youth levels in the insecurity index are lower and the odds of young people working part-time jobs decrease. At the same time, educational spending has a negative impact on the likelihood of young people to perceive their jobs as insecure. However, the fact that educational expenditures have not been found to significantly influence some of the (individual-level) objective measures of early job insecurity suggests that what matters is not only the amount of money spent on education but also where it is spent and how.

The results also point to the importance of continuing education and lifelong learning in overcoming job insecurity among young people, which is in line with a recent study by Ayllon and Nollenberg (2016) which shows that young Europeans, especially the unskilled, are more likely to enrol in educational programmes in response to poor labour market conditions. Our finding that participation in lifelong education and training is associated with young people’s increased likelihood of working temporary and part-time jobs should be treated with caution. It probably signifies that young people who are engaged in educational pursuits simply prefer temporary jobs in order to reserve enough spare time to study. But it is also possible that young people in situations of insecure employment are more inclined to enrol in continuing education as a means of finding better, more secure jobs. Previous studies have also highlighted that patterns of participation in lifelong learning are more likely to reinforce, rather than mitigate, existing educational inequalities, as people with higher educational attainment levels are more likely to engage in it than their less-educated peers (Boyadjieva and Ilieva-Trichkova 2017). Further analyses are needed to reveal whether the lifelong learning activities of people with differing levels of initial education have similar or divergent effects on individual job prospects.

As regards the effect of the countries’ welfare regimes, our findings suggest that social-democratic welfare states adopt more effective policies and provide more favourable conditions for decreasing youth unemployment than liberal states do. It is worth stressing that job insecurity varies across regime types, according to the different measures of job insecurity. Thus, it seems that life for young people in Mediterranean countries is more unstable, leading to their frequent reliance on temporary work and high levels of subjective feelings of insecurity. As far as other
measures of early job insecurity are concerned, the effect of a country’s welfare regime is too complex to convincingly explain the results obtained, and further studies are needed. In all models, excepting those for contract permanency, the ICC falls below 0.05, which means that the included independent variables largely explain the differences in outcomes across countries. However, we should emphasise that the characteristics of educational systems (both institutional and structural) alone, or even in combination with the country’s welfare regime as a factor, cannot fully explain young people’s job insecurity in the studied countries. This finding is in line with a previous study which explores how national institutional factors, such as the level of skill transparency in the education system, and labour market coordination, account for cross-national differences in the relationship between education and occupational status in 14 European countries (Andersen and Van de Werfhorst 2010). It also suggests that other individual-level or country-level factors (for example, individual work experience and domestic labour market policies) not included in previous models are important for predicting occupational status and need to be explored further. Obviously, and yet very importantly, education is not a panacea and cannot solve structural problems in other spheres of life, such as the economy or the labour market – especially when the emphasis is only on its instrumental value. This allows us to argue, furthermore, that other aspects and roles of education, for example, its transformative and intrinsic role, should also be taken into account (Boyadjieva and Ilieva-Trichkova 2018).

The results suggest that the institutional features of educational systems at secondary level mainly influence people’s productive capabilities and skills, which is in line with human capital theory. Nevertheless, such features still have a much lower impact on the negotiating power of young people, i.e. on their capacity to find more stable jobs, either under permanent contracts or full-time (or both). In other words, in the context of the crisis, the institutional features of educational systems exert a weak influence on the opportunity structure of jobs (in terms of negotiating better employment conditions) and on the capabilities of young people who have completed up to a postsecondary, but not tertiary, education to choose secure jobs.

In general, our results reveal that although different countries’ educational systems and young people’s employability are embedded within national institutional contexts (types of capitalism and welfare regimes), educational characteristics at individual and macro levels do matter for young people’s job insecurity during their transition from school to work.

Conclusions

The present article pays particular attention to the incidence of job insecurity in the early careers of young Europeans, an especially relevant issue in light of the severe economic crisis which hit Europe in 2008. Our analysis has firstly shown that a considerable number of variations across countries in terms of youth job insecurity can be attributed to institutional and structural differences in educational systems, though these did differ according to the various indicators. Secondly, while most previous studies have relied on either objective (e.g. Symeonaki, Stamatopoulou, and Karamessini 2017) or subjective (Chung and van Oorschot 2011; Ištoňová and Fedáková 2015) measures of job insecurity, we have tried to acknowledge both types of indicators. Thirdly, we have contributed to the literature currently attempting to bridge the roles of educational institutions, educational outcomes, and welfare regimes (e.g. Allmendinger and Leibfried 2003; West and Nikolai 2013).

Our analyses and results have outlined some possible routes worth pursuing with future research. First, there is a need to capture the complexity of job insecurity by taking into account its objective and subjective aspects, along with the factors at micro, meso, and macro levels which influence on it. Second, we have to think of additional variables to add at the country level which could explain the differences in degree of job insecurity between the countries. This is especially necessary in the case of young people’s likelihood to hold temporary jobs/limited-duration contracts vs. permanent jobs/unlimited contracts. Third, future research should consider the divergences among post-Socialist countries. Different authors have convincingly argued that they do
not comprise a homogenous group but rather are heterogeneous in numerous ways (Bohle and Greskovits 2012; Saar and Ure 2013).

The analyses presented in the article could be of interest from a policy point of view, as well. They clearly demonstrate that policy reforms should be discussed while taking into account all the different institutional, structural, and contextual characteristics of education in a given country, as each of them has its own specific influence on young people’s life trajectories.

Acknowledgments

We would like to thank the anonymous reviewer for his/her valuable comments on an earlier version of this article. This article uses data from the ESS Round 5: European Social Survey Round 5 Data (2010). Data file edition 3.3. NSD - Norwegian Centre for Research Data, Norway – Data Archive and distributor of ESS data for ESS ERIC and Eurostat, Labour Force Survey, 2009, obtained for the needs of Research Project Proposal 124/2016-LFS-AES-CVTS-CSIS. The responsibility for all conclusions drawn from the data lies entirely with the authors.

Disclosure statement

No potential conflict of interest was reported by the authors.

Funding

This research was undertaken within the ENLIVEN project and received funding from the European Union (EU), Horizon 2020 research and innovation program under [grant number 693989], the project ‘Current State and the Opportunities to Optimize Information Flows in the Russian Education System’ funded by Russian National Fund under [grant number 18-18-00047] and within the Programme for support of young scientists and doctoral students – 2017 in Bulgaria under [grant number 17-173/03.08.2017].

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