INVOLUNTARY NON-STANDARD EMPLOYMENT IN EUROPE

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Abstract

In some countries in Europe the economic crisis starting in 2008 was marked not only by a rise in unemployment, but also by increases in individuals in part-time and temporary working, so emphasising the need to examine employment composition as well as non-employment. The promotion of non-standard forms of employment – such as part-time and temporary working – has been part of Europe's employment agenda, but directives have also focused on raising the quality of such work. Using European Union Labour Force Survey data an indicator of involuntary non-standard (part-time and temporary) employment (INE) is constructed, depicting a negative working condition. Descriptive analyses show important differences between countries in the incidence of INE, which is highest in Spain, Portugal and Poland, and also in the composition of INE. By contrast, INE tends to be lower in countries with Anglo-Saxon and Nordic welfare state models. Econometric analyses reveal that young workers, older workers, women, non-nationals, those with low education, and those unemployed one year ago are at greatest risk of INE.

Keywords

Non-standard employment Part-time employment Temporary employment Involuntary employment Europe

1. Introduction

The composition of employment in Europe has undergone considerable change over recent decades. One important element has been a move away from the traditional (i.e. 'standard') open-ended full-time contract towards a more flexible, non-standard, form of employment. As a result, both part-time and temporary work has risen (European Commission, 2009). Such 'non-standard' employment relations have been referred to variously as non-traditional employment relations (Ferber and Waldfogel, 1998), flexible working practices (Brewster et al., 1997), and atypical employment (Delsen, 1995). Non-standard work can occur either voluntarily or involuntarily. This article makes a contribution to the literature by examining non-standard employment undertaken involuntarily.

Research to date has concentrated on part-time and temporary employment in aggregate (Hipp et al., 2015) and on involuntary part-time employment and involuntary temporary employment as separate phenomena. Building on a study by Green and Livanos (2015) in the UK, this article brings involuntary part-time employment and involuntary temporary employment together simultaneously in a single framework reflecting individuals' experience of both hours of work and type of contract. It isolates the 'precarious' and 'lack of choice' elements of heterogeneous forms of non-standard work, using micro data from the European Labour Force Survey (EU-LFS). By cross-tabulating data from the EU-LFS on type of employment contract (permanent, voluntary temporary and involuntary temporary) by hours of work (full-time, voluntary part-time and involuntary part-time) a binary variable is constructed taking the value of 1 if an individual is in any form of involuntary non-standard employment (INE) and a value of 0 otherwise. Individuals in five of the nine cells of the resulting matrix from the cross-tabulation include an involuntary component (so taking the value '1' on the binary variable) are of interest

here: permanent and involuntary part-time, involuntary temporary and full-time, involuntary temporary and involuntary part-time, involuntary temporary and voluntary part-time, and voluntary temporary and involuntary part-time. Thus, the new INE variable captures the extent of non-standard work where any element of it occurs involuntarily against all other types of employment.

Using this INE variable it is possible to measure INE employment as a share of total employment across countries and groups of workers. The purpose of this article is to use the INE measure to provide insights, using descriptive and econometric analyses, into similarities and differences in the incidence and nature of INE across EU countries, and the determinants of INE taking account of individuals' socio-demographic characteristics, profiles of employment, previous experience of unemployment and selected indicators capturing key features of the economy. In so doing the article adds to knowledge about INE in a comparative EU context.

The remainder of the article is structured as follows. The next section reviews selected relevant literature and sets the conceptual framework for the analyses. It provides context for presentation of descriptive statistics on the incidence and composition of INE across EU countries in 2010. The following section outlines the data, the characteristics of the sample and the methods used for econometric analysis. Then the results of the analyses are presented, with particular reference to demographic characteristics, education, characteristics of employment, labour market history, institutional and welfare characteristics. The final section concludes.

Literature review

Although the subject of current academic and policy interest, non-standard employment is not a new phenomenon; (see Morse [1969] and Peck [1996] for examples from previous periods of unstable and temporary work). From the 1970s economic and socio-demographic changes

spurred employers and workers to seek enhanced flexibility in work organisation (Kalleberg, 2001), resulting in more employment deviating from the standard full-time permanent employment relationship between employee and employer. Weak economic growth in Europe in the early 1980s and high levels of unemployment created uncertainties for firms seeking to adapt their products and services to remain competitive. It became clear that that the economy could no longer provide standard forms of employment to as high a proportion of workers as hitherto had been the case (Cordova, 1986). At the same time changes in labour laws favouring non-standard work (Cappelli et al., 1997), and higher shares of married women in the labour force (who traditionally favour work flexibility) began to unravel the standard employment relationship creating a dichotomy between standard and non-standard employment (Rodgers and Rodgers, 1989).

Advantages and disadvantages of non-standard employment

Flexible non-standard working practices have various positive aspects for labour market actors. For policy makers, the promotion of non-standard forms of employment has been a central element of Europe's employment agenda. Non-standard employment has been identified as a means improve work opportunities, notably for women and migrant workers, and of countering high levels of unemployment by creating new, flexible, jobs (ILO, 1997). Indeed, EU employment guidelines and recommendations invite social partners and public authorities to promote flexible working arrangements (European Union, 2010). At the same time, European directives have required member states to focus on the quality of work of part-time and temporary employees so they are not treated as 'marginal' workers (Quintin and Faverel-Dapas, 1999).

For employees there are three main reasons why non-standard employment patterns might seem preferable – at least in some circumstances. First, flexible contracts give employees the opportunity to reveal or signal their productivity to their prospective employers. This 'stepping stone' interpretation of non-standard employment (de Graaf-Zijl et al., 2011) suggests that such contracts may help to reduce informational asymmetries and improve matching between jobs and candidates (Ichino et al., 2008). Secondly, non-standard contracts may be preferred because of the opportunity afforded to the individual for greater flexibility. Given that employment security rests increasingly on individuals taking responsibility for their current and future human capital development (Urtasun and Nuñez, 2012), gaining firm-specific human capital via the rigidities of a permanent full-time contract may be less attractive than was the case formerly. Instead employees may prefer to acquire more general human capital in order to 'sell' it to other firms in the future (Galunic and Anderson, 2000; Von Hippel et al., 1997). Thirdly, flexible forms of employment may suit those individuals who desire to balance their working and non-working lives.

Conversely, non-standard employment may be considered negative when it occurs involuntarily (Eurofound, 2007), as is the case with the analyses presented below. This happens when labour markets are unable to match workers' preferences and firms' needs and these mismatches in the distribution of skills, informational problems, and geographical rigidities are manifest in negative forms of non-standard employment (Kathuria and Partovi, 1999; Standing, 2011). Many workers prefer long-term and secure, rather than short-term and risky, contractual arrangements (Zaleska and de Menezes, 2007). However, some are 'pushed' to accept less preferred non-standard employment conditions in order to avoid unemployment, giving rise to 'precarious employment'.

Groups of workers who have been identified as more likely to be employed under precarious non-standard conditions include young workers (Bradley and van Hoof, 2005), agency workers (Elcioglu, 2010), older workers (D'Amours, 2009), and migrants (Porthé et al., 2009). Precariousness is also identified as being associated with particular sectors and types of job, including construction (issues of bogus self-employment arise), agriculture and hospitality (seasonal work), food processing (short-duration fixed-term work) (Perulli, 2003) and media and cultural work (characterised by temporary work and sub-contracting) (Gill and Pratt, 2008).

Institutional context

It is salient to note the importance of the institutional context in which precarious working occurs (see Hipp et al. [2015] for a review of the multifaceted relationships between national-level institutions and the role of legal regulations, industrial relations systems, taxation systems and social policies in shaping the prevalence of different types of non-standard employment). Fullerton et al. (2011) argue that while precariousness has been related to job insecurity, the context in which it occurs is very influential, as flexible employment practices need not necessarily cause workers to feel insecure in their jobs. As far as precarious employment is concerned Duell (2004) has formulated the hypothesis that countries' and regions' production models, flexibility strategies, and social security systems are key factors determining the incidence of precarious employment.

In multi-country studies countries are commonly grouped according to their geographical location and welfare state model. For example, Sapir (2005) distinguishes between Continental (Austria, Belgium, France, Germany and Luxemburg), Anglo-Saxon (the UK and Ireland), Mediterranean (Greece, Italy, Spain and Portugal), and Nordic (Denmark, Finland, Netherlands and Sweden) groups.[i] This categorisation has been used in analyses of the European labour

market by the European Commission (2014). The categorisations share key common features with the seminal work of Esping-Andersen (1990).

This four-fold grouping of countries above, along with a fifth group of new member states from Eastern Europe (where prior to recent structural changes employment protection used to be very strict when flexible forms of work were kept to a minimum) (Romib and Festic, 2008), acts in the analyses presented below as a proxy for differences in employment protection and other institutional factors. The resulting five-fold grouping resonates with a typology of employment regimes (Gallie 2007) distinguishing between inclusive employment regimes - which extend employment rights as widely as possible across the working age population (Scandinavian countries are typical examples); market employment regimes – associated with minimal employment regulation, relate employment benefits to marginal productivity and assume that market adjustments will lead to high employment levels (represented by the distinctive case of the UK); and dualist regimes - concerned with guaranteeing strong rights to a core workforce at the expense of the periphery of workers (Germany). Mediterranean countries fall under the dualist approach; however, they constitute a sub-category since they allow for very high levels of employment protection to insiders.

Hence rather than including specific institutional variables, which may suffer from multi-collinearity, the analyses presented here capture such factors *via* the grouping of welfare states while the results are discussed in the light of such factors. As for countries from the Eastern Europe, it is difficult to group them under any of these regimes given that employment protection used to be very strict in the past when flexible forms of work were kept to a minimum, although while recently structural changes have been taking place.

Although each country has its distinctive characteristics, and while intra-country differences also exist (see Green and Livanos [2015] for a study of INE at regional level in the UK and Jacquemond and Breau [2014] for a spatial analysis of precarious employment in France), there are certain commonalities across neighbouring countries as far as the economy, the state of the labour market, and the institutional context is concerned.

There is a growing body of literature investigating the effects of labour markets and welfare state institutions on the occurrence of non-standard employment (Giesecke, 2009). Likewise there is growing policy concern about precarious employment because associated factors such as low wages, job insecurity, limited control over workplace conditions and less opportunity for training and career progression (Rodgers and Rodgers, 1989) can heighten the risk of poverty, injury and illness. In the UK, for example, particular concern has focused on the rise of agency working and zero hours contracts, which while suiting some sub-groups (such as students and some older workers transitioning towards retirement) for the majority of incumbents are associated with permanent uncertainty, so heightening workers' anxiety (Pennycook et al., 2013), Moreover, the growth in self-employment during the economic crisis reflects, at least in part, a lack of alternative labour market opportunities, as opposed to a positive choice (Bell and Blanchflower, 2013).[ii]

Previous studies operationalising measures of involuntary non-standard work

Despite the medium-term trends towards non-standard employment (Cedefop, 2012), the incidence of involuntary non-standard employment in Europe has not attracted much attention in the academic literature, and has only been acknowledged recently at a policy level (European Commission, 2010). Most studies investigating forms of non-standard employment do not distinguish the voluntary/involuntary dimension (Baranowska and Gebel, 2010), in contrast to

the position in the US where the incidence of involuntary non-standard work has long been discussed (Leppel and Clain, 1988; Blank, 1989; Bednarzik, 1975).

Technical issues have obviated the investigation of non-standard employment on a Europe-wide basis as it only relatively recently that it has been possible to distinguish in the EU-LFS whether an individual is in a certain type of employment involuntarily. However, since suitable data have become available a number of studies have attempted to examine the incidence of involuntary non-standard work; especially in the Nordic countries (see Haataja et al., 2011). For example, Kauhanen and Natti (2011) examine job quality and work wellbeing for Finland and find that workers in involuntary part-time and temporary work have weaker job quality indicators compared to those who are in non-standard employment voluntarily.

With regard to involuntary part-time employment, most studies have examined the macro level and focused on the relationship between involuntary part-time employment and unemployment in aggregate, finding a strong correlation between the two measures. For instance, Buddelmeyer *et al*. (2008) find that the share of involuntary part-time employment is negatively related to the business cycle; suggesting thus that an increase in unemployment or a decline of economic activity will lead to increasing rates of involuntary part-time work.

Turning to involuntary temporary employment Amuendo-Dorantes (2000) studied the Spanish labour market and found that workers in temporary employment, many of whom are there involuntarily, have limited chances of advancement. Skedinger (2011) investigated the impact of employment protection and concluded that greater stringency of regulations for 'regular' work is associated with higher involuntary temporary employment. Nunez and Livanos (2011) investigated the causes of the different types of temporary employment in Europe and found that women, younger people, singles and non-nationals were more likely than their

counterparts to be in temporary employment because they could not find a permanent contract rather than being "temps by choice.

Overview of involuntary non-standard employment in the EU

Figure 1 shows the share of INE in total employment in 2010 in EU countries for which robust data are available. It is clear that there is marked inter-country variation. In Spain INE accounted for one in four jobs, in Poland and Portugal for one in five, and in Italy and Cyprus for one in seven. By contrast, in Romania, Estonia, Bulgaria, Slovakia, Luxembourg, the UK and Lithuania INE accounted for less than one in twenty jobs. In general, INE comprised a much larger share of total employment for young people than in aggregate: in Spain over half of young people in employment were in INE, with Portugal and Poland displaying the next largest shares with INE accounting for two-fifths of total employment for young people, followed by Italy, France and Greece, with one in four young people in employment being in INE. In many of the countries displaying amongst the lowest shares of INE in total employment young people were at least twice as likely to be in INE as the average for all age groups. This highlights the vulnerability of young people in the labour market.

<Figure 1 here>

The fact that INE is high tends to be especially high in relative terms in much of southern Europe reflects the severe impact of economic crisis there. More generically, however, given the importance of institutional factors (as detailed above), employment standards may be thought of as historical products of interactions between systems of social protection and industrial relations as well as employment and activity regimes (Barbier, 2013). Such institutional differences might be expected to help explain the incidence of INE and also differences in the composition of INE between countries (see Table 1).

<Table 1 here>

In most countries involuntary temporary and full-time employment is the largest single component of INE. In Cyprus, Poland, Portugal, the Czech Republic, Slovakia, Romania, Bulgaria and Spain around two-thirds or more of INE is in this category, compared with less than a quarter in Austria, Germany and Ireland. In these three latter countries, along with Lithuania, Estonia, the UK and Denmark the largest single category of INE is permanent and involuntary part-time employment. Here unemployment did not increase to the extent expected during the economic crisis in comparison with experience in previous recessions, and a consequence of employers' retention of skills was involuntary part-time working. Italy, which has marked inter-regional economic variations, emerges as the country with the most similar sized shares of employment in the two major INE categories. A third category of INE is involuntary temporary and involuntary part-time employment. Individuals in this category may be considered doubly disadvantaged and it is notable that two of the countries which were hardest hit by the economic crisis – Greece and Ireland – have the highest shares (17%) of total INE in this category. The Netherlands, which is characterised by institutional structures favouring especially high levels of part-time employment (ILO, 2012), stands out as having easily the largest share (24%) of involuntary temporary and voluntary part-time employment of any country. In most countries this category accounts for less than 5% of INE. Finally, voluntary temporary and involuntary part-time employment is a relatively small contributor to INE, accounting for less than 1% of the total in several countries, but rising to at least 6% in the Netherlands and Austria.

In the next section this descriptive overview is enriched by econometric analyses providing insights into the determinants of INE.

Data and methods

The analysis in this section draws on yearly micro-data from the EU-LFS. The EU-LFS is a household sample-survey designed to obtain labour market information on individuals residing in a particular country. It collects information on demographic characteristics, qualifications, economic position and employment characteristics. It is conducted by the national statistical agency of each member state; but is coordinated by Eurostat. The harmonisation of the variables and definitions makes the EU-LFS one of the most important official micro-databases for comparative social research in Europe.

Construction of the dependent variable and scope of the econometric analyses

As noted in the Introduction, this study focuses on employees and specifically on the subset that are in INE. The objective in constructing the dependent variable is to capture the involuntary element of part-time and temporary employment (which are considered non-standard for the purposes of this study) from the range of reasons that may affect voluntary decisions to enter non-standard work (e.g. preference for flexibility, seeing non-standard work as a "stepping stone", etc.). According to the EU-LFS definition an employed person is one who "*during the reference week performed work, even for just one hour a week, for pay, profit or family gain or were not at work but had a job or business from which they were temporarily absent because of, e.g., illness, holidays, industrial dispute and education and training*".

In the EU-LFS the full-time/part-time distinction refers to the main job and is based on a spontaneous response by the respondent. Type of contract (i.e. temporary or permanent) is also self-assessed by the respondents. In general, employees with a limited duration job/contract are those "*whose main job will terminate either after a period fixed in advance, or after a period not*

known in advance, but nevertheless defined by objective criteria, such as the completion of an assignment or the period of absence of an employee temporarily replaced".

In relation to undertaking non-standard employment involuntarily, this article follows Eurostat's approach: "*when respondents declare that they work part-time because they are unable to find full-time work*". As for involuntary temporary employment, there is no official definition and, thus a similar approach to involuntary part-time employment is utilised: those individuals who are in limited duration contracts due to inability to find a permanent job. To recap, a binary variable takes the value of 1 for those in INE and 0 for all other individuals in employment (whether standard or voluntarily non-standard).

The econometric analysis utilises EU-LFS data for 2006, 2007, 2009 and 2010, which includes periods before and after the 2008 economic crisis; thus it is possible to assess how the financial crisis has impacted on INE. The yearly datasets were pooled together capturing information for ten exemplar countries across the EU: Spain, Greece, Germany, France, Finland, Sweden, the Netherlands, the United Kingdom, Lithuania and Poland. The choice of countries was made on the basis of robustness and completeness of the full EU-LFS data set (given the subsequent need to construct variables for use in regression analyses) for different countries across all the years in question[iii] and includes representatives with contrasting welfare state models from different parts of Europe.

The rationale for using this five-fold country classification based on geography/welfare state model rests on the fact that, in general, countries from the same broad region share some similarities regarding their economic performance as well as their welfare state model. As noted in the literature review, such characteristics are important here because economic performance and type of welfare protection can influence individuals' decisions about the type of employment

they are willing to accept. For the analysis reported below, Spain and Greece are from the Mediterranean group; these countries were hit particularly hard by the economic crisis. Germany and France are examples of the Continental model. Finland, Sweden and the Netherlands are representatives of the Nordic model. The UK exemplifies the Anglo-Saxon model. Lithuania and Poland are examples from Eastern Europe, which have faced the challenge of a transition from a state-controlled to a market economy.

Description of the sample

The sample of workers in the ten European countries consists of approximately 500,000 individuals of whom approximately 55,000 (11%) are classified as in INE. Table 2 presents the characteristics of the sample, showing shares of different groups of workers in total employment and in INE. This comparison allows an assessment of how INE affects particular groups of workers.

<Table 2 here>

It is clear from Table 2 that there is significant variation[iv] in the characteristics of the full sample and those in INE only. The share of younger workers (aged 20-30 years) in INE is much higher (34%) than in total employment (18%). The share of female workers in INE (60%) is also significantly higher than in the total sample of workers (47%). The share of non-nationals in INE is nearly double (7%) that in total employment (4%). The proportion of workers in INE is higher in elementary occupations[v] (24%), than across the full sample (9%). As for level of education, the share of workers in INE is higher than in the full sample for those with low (29% compared with 25%) and medium level education (47% compared with 45%). As regards country groups, significantly higher shares of workers in INE than in the full sample are found in the Eastern European and Continental groups.

Econometric methodology

The main objective here is to study how the incidence of INE is determined by various socio-demographic, economic and institutional factors. In this instance selection models are used. A selected sample occurs when the outcome variable (y_2; being in INE) is observed only ($y_2>0$) when a selection variable (y_1; participation into the labour market) equals $y_1=1$. When the data follow this structure, two possible situations could transpire. The first occurs when the outcome variable (y_2) is independent of the selection variable (y_1). In such cases the econometric technique is quite straightforward, with two-step modelling being the best method to adopt as it attains flexibility and computational simplicity. However, when the outcome variable (y_2) is not randomly selected from the population, as is the case in this analysis, selection models are more adequate, as they control for dependency in the two-step model (Heckman, 1979). In particular, in the two-steps Heckman procedure the probit regression of y_1 (the likelihood of labour market participation) is estimated first. Using coefficients from the first-step regression, the conditional probability of being in INE (y_2) is then estimated in the second step.

In order to avoid identification problems, as explained above, additional variables are considered in the participation (first-step) regression. These additional variables should be related with the selection variable and unrelated with the outcome variable. In this analysis the total number of young children, which influences the decision of labour market participation, and is common practice in the literature, is used (Baum 2006). Additionally, educational level is used for the same purpose. It is assumed that these factors affect the likelihood of labour market participation.

In the second equation variables capturing the effects of four main domains are included. These are personal/demographic characteristics (gender, age-group, marital status, nationality,

level of education, and time since highest level of education was completed), employment features (industry, occupation and time in current employment), recent employment history (whether the individual was unemployed a year before the survey), and country-based macroeconomic indicators (unemployment and GDP). The impact of the 2008 financial crisis is captured by the inclusion of a dummy controlling for the period of investigation (pre- or post-crisis). Furthermore, we control for social exclusion by including the share of those not in education, employment or training (NEET) and the share of those unemployed with no work experience at a country/year level. Moreover, the share of specific sectors has been included at country and year level in order to assess whether the occurrence of INE is linked to the strong presence of sectors (labelled 'high demand sectors') which are likely to attract workers in part-time and temporary jobs (e.g. agriculture, construction, and hotels and restaurants). Finally, country-group dummies are included in order to capture institutional differences/country-group specific effects not specifically controlled for.

Results of the econometric analysis

A Heckman-probit model is used to examine how the likelihood of being in INE is affected by various socio-demographic and economic factors. Table 3 reports the results obtained from the econometric model. The coefficients of the first-step equation (participation equation) are shown in the lower panel and the coefficients of the second-step equation (precarious equation), which are the main focus of interest here, are presented in the upper panel. In order to present a more easily interpretable measure of the results the marginal effects of the second-step equation have been estimated too. With regard to the selection equation, both the number of total children of the household and level of education are found to influence labour market participation as the coefficients show a statistically significant sign. This validates the use of such variables for the

participation equation. Regarding the second-step equation, the results on the socio-demographic and economic characteristics confirm the descriptive statistics. However, they provide insights regarding the magnitude of the impact on the probability of being in precarious employment, *ceteris paribus*.

<Table 3 here>

Demographic and socio-economic characteristics

The results of the analysis suggest that females have amongst the highest chances of INE across the countries in the model (with 3.8% higher chances of INE compared with males). At first sight this points towards discrimination in the labour market, but there could be other explanations. For instance, due to their family responsibilities some women may have restricted access to information regarding labour market opportunities, making them more prone to end up in non-standard employment. Moreover, some women may need to accept non-standard positions involuntarily in order to signal their abilities to employers, who may be more reluctant to offer them full-time or permanent positions on the grounds that family responsibilities may obstruct their commitment to the firm. Similarly, firms may offer such employment conditions to women in order to screen their abilities first, and then possibly offer them a better contract.

There are similar results for non-nationals as non-EEA and other EU nationals are found to have respectively 1.68% and 1.06% higher chances of being in INE than nationals. This finding confirms evidence on immigrants' labour market situation (Causa and Jean, 2007).

With regard to age, the findings highlight a u-shaped relationship between age and chances of INE. Young people, aged 20-25 have relatively high chances of being in INE. This, on the one hand may suggest that young people may have to go through a period of screening or signalling before they find more favourable working conditions. On the other hand, however, it

highlights that adverse employment conditions for young people are structural in nature and are not simply related to the economic crisis; it has been suggested that precarious employment is becoming very common for young workers, and this could seriously undermine the future development of their careers (OECD 2006; 2010). There are also high chances of INE for older (50+) workers. This finding points to some of the difficulties facing older workers in accessing/ retaining employment.

With regard to marital status, married workers have lower chances (1.4% lower) of being in INE than non-married workers. There are various possible explanations. This finding can be interpreted in the light of the household specialization model (Becker, 1991), which suggests that marriage allows one partner to specialize in employment and the other to specialize in household production. Typically, this has translated into women focusing on housework and men on paid work, although the situation has become more complex with more women progressing into higher education and taking higher level jobs, and changing household structures. Overall, married workers are less likely to end up in precarious jobs. However, the issue of causality between marriage and better employment conditions cannot be excluded: does marriage positively affect employment conditions, or are workers in standard employment more likely to get married?

Turning to the level of education, the evidence suggests that graduates have lower chances of INE than those with medium (1.2% higher) and low level education (3.4% higher) workers. This finding accords with the general human capital theory notion that graduates are advantaged in the labour market, in terms of higher salaries (Becker, 1962) and/or better employment conditions (Mincer, 1991). However, it challenges recent evidence (Nunez and Livanos, 2010) suggesting that employment conditions of graduates in Europe are worsening.

Nevertheless, it could be the case that graduates do accept non-standard jobs voluntarily either as a 'stepping-stone' or a 'signalling' period in their careers.

With regard to broad sector, the results indicate that workers in the primary sector have marginally higher chances (1%) of INE than workers of the service sector, who in turn have higher chances than those in the industry sector. This can be interpreted as a compositional effect as non-standard jobs (temporary/part-time) are mainly concentrated in the primary and tertiary sector. In contrast, the industry sector (dominated by manufacturing), has a much smaller share of such types of employment. In relation to occupational group, managers, professionals and associate professionals have lower chances of being in INE than those employed in elementary occupations in particular. This is as expected, given trends outlined in the literature and the relative strength of different occupational groups in the labour market (McGovern et al., 2004).

The econometric specification controls for past labour market status: specifically whether the individual was unemployed a year before the survey. This measurement could also serve as a proxy for previous employment instability and high job turnover that might relate to some personal characteristics of the individual, not easily identifiable and measurable that makes him/her more prone to INE. In particular, the analysis suggests that if an individual was unemployed a year ago, he/she now has a 14% higher change of being in INE than someone who had been employed a year previously. This result is in accordance with precious studies (Alba-Ramirez, 1998), suggesting that past non-employment experience diminishes the chances of current work stability, measured here as INE.

Economic and institutional factors

The analysis has included a number of variables capturing features of the economy for the countries included in the model. It should be noted that the voluntary element of non-standard

employment is not explicitly captured but is grouped with standard forms of employment. However, some interesting patterns emerge which warrant further investigation. The positive sign on the unemployment rate indicates that when labour market conditions start worsening individuals may be more likely to accept an INE contract fearing the high levels of unemployment which could be the alternative. Regarding real GDP, it is found that a 1% increase will lead to 0.1% increase in the chances of INE. This could reflect the fact that while the economy is doing well then expectations about labour market prospects rise and, thus, non-standard employment may take an involuntary form for many workers, who would expect to find employment of their preference. On the other hand, when the economy is in downturn, such as the recent economic crisis, then individuals may be more willing to accept non-standard employment voluntarily; thus, the negative sign on the crisis variable. In a similar vein, an increase in the levels of labour market exclusion, as expressed by the share of those who are NEET, may lead individuals to accept non-standard jobs voluntarily, as opposed to accepting them involuntarily or finding standard employment.

Controlling for all other characteristics, the results show that relative to the Continental group, there is an 11.9% higher chance of INE in the Eastern Europe group. It is likely that this reflects ongoing restructuring of economies in this group from the public to the private sector, alongside the impact of recession. The chance of INE is also greater (by 5.2%) in the Mediterranean group relative to the Continental group. This is in accordance with expectations given the severe impact of the economic crisis on this group of countries and particularly changing employment conditions for those remaining in public sector employment, which was characterised traditionally by high quality full-time permanent employment. There are lower chances of INE in the Nordic group and the Anglo-Saxon group (by 2.6 per cent and 6.8 per

cent, respectively) than in the Continental group. In the case of the Anglo-Saxon group this may reflect a greater acceptance of non-standard employment (given the flexible nature of employment and relative ease of hiring and firing); while in the Nordic group there is a stronger tradition of social support which may mean that likewise there is a greater willingness to accept non-standard employment voluntarily. From the results outlined above it can be inferred that employment protection, and dualist employment regimes, trigger the incidence of involuntary non-standard forms of work.

Results from individual country analysis

Separate models were run for each of the countries included in the analyses presented in Table 3 in order to investigate whether there were marked variations between countries in the determinants of INE. Selected main features are summarised in Table 4 and reviewed here.

<Table 4 here>

In general, individual/demographic features were amongst the most significant. In all countries women displayed higher chances of INE than men. The higher chance of INE for women, *ceteris paribus*, was most pronounced in France and Germany at 4.4% and 4.0%, respectively. By contrast in Lithuania, Poland and the UK, each with a history of higher than average female employment, the chance of INE for women was 1.1-1.5% higher than for men.

As regards non-nationals differences in chances of INE for non-nationals relative to nationals were most pronounced in some of the countries with longest histories of immigration and where immigration is most important in relative terms, such as the Netherlands, Germany, the UK, France and Sweden. In these countries non-nationals from outside the European Economic Area (EEA) were more likely *ceteris paribus* to be in INE relative to non-nationals from the EEA. Greece stands out as displaying a rather different pattern from the general norm,

with non-nationals being less likely *ceteris paribus* to be in INE. This could be a reflection of the economic situation in Greece, such that non-nationals tend not to stay unless there labour market position is relatively strong.

Turning to age, there were no, or only small, significant differences in chances of INE by age group in Greece, Lithuania and Poland. The higher chance of INE for employees aged over 50 years *ceteris paribus* was highest in Spain, France, Germany and the UK, followed by Netherlands and Finland. This suggests that in these countries older people are more likely to have to accept INE in order to either retain an existing job or access employment following a period out of work, and is indicative of increasing policy concern about older workers and potential age discrimination in a general context of rising stage pension ages. In all countries the chance of INE was higher for single people than their married counterparts.

In all countries in Table 4 with the exception of Germany there is a higher chance of INE amongst individuals with low levels of education, albeit in the UK and Finland the coefficients are not statistically significant. It seems likely that in the case of Germany the result is a function of how the vocational education and training system operates, with clear routes for young people into employment (Hoeckel and Schwartz, 2010), and it is notable in relation to this finding that there are policies to promote apprenticeships in several countries where there are particular concerns about youth unemployment and young people's transitions into the labour market. *Ceteris paribus* the impact of a low level of education is especially pronounced in Lithuania, Poland and Greece (all countries where the economic crisis had an especially strong impact); where relative to individuals with higher education the chance of INE for those with low education is especially pronounced.

In terms of employment profile by broad sector, in all of the selected countries except Poland there is a lower chance of INE in industry (dominated by manufacturing) than in services. This result may reflect the particular trajectory of change in the Polish manufacturing as it restructures to new market conditions. In Spain and Greece there is a significantly higher chance of INE amongst those in the primary sector relative to services, in contrast to the situation in the Nordic countries where primary industries are different in character and are geared to higher value added.

In nearly all of the selected countries those individuals who were unemployed a year ago have a significantly higher chance of INE than individuals who had been in employment at that time. In Germany (10.7%), Spain (9.2%), Finland (8.6%), France (8.3%), Sweden (8.2%) and the UK (6.6%), being unemployed a year ago was the single factor included in the model most likely to be associated with higher INE. This highlights the need for policy to be concerned with the quality of employment amongst those individuals moving from unemployment to employment.

Conclusions

At times of economic crisis it is understandable that there is considerable focus on conventional measures of labour market slack, such as unemployment. EU countries witnessed considerable rises in unemployment with the economic crisis from 2008, but, at least in same countries, such unemployment increases were not as marked as might have been expected given experience of previous recessions. This suggests a need to broaden the focus of academic and policy attention to include aspects of employment. This article adds to the growing literature on non-standard employment, but has made a particular contribution by focusing on the relatively under-explored topic of individuals taking part-time and/or temporary jobs involuntarily, using a specially constructed INE measure.

Descriptive analyses of INE operationalised using EU-LFS data showed marked variations in the proportion of workers in INE between countries. Econometric analyses revealed lower levels of INE, *ceteris paribus*, in countries with Anglo-Saxon and Nordic welfare state models, compared with Mediterranean, Continental and Eastern European models. Such results suggest that high employment protection for a core workforce is linked to higher chances of INE in such countries. Descriptive and econometric analyses also revealed variations within and across country groups, including in the relative contribution of different combinations of involuntary part-time employment and involuntary temporary employment to INE. This suggests a need to focus on labour market operations, policy changes and systems of social protection at country level in order to gain fuller insights into INE, as highlighted by Hipp et al., (2015).

It is clear that across most countries is it those with low levels of education, non-nationals, and those with no/low qualifications are amongst the most likely groups of workers to be in INE. Notably, these groups are recognised as vulnerable to unemployment also. Women are more likely to be in INE than men. Younger and older people are also more likely to be in INE relative to those in the 'middle' are groups, holding other characteristics constant; those under thirty and over fifty are more likely than others *ceteris paribus*, to have to compromise on hours of employment and type of contract to enter or retain employment.

While often associated with economic downturn, some analysts (e.g. Gregg and Gardiner, 2015) have noted that growth in non-standard employment led in the early stages of economic recovery since 2010 has structural as well as cyclical elements. Moreover, there are policy concerns about the intensification of associated insecurity for those moving into work from out-of-work benefits. The econometric analyses also demonstrated that previous labour market position has a very strong association with INE, with those individuals unemployed one year ago

being considerably more likely to be in INE than those who were in employment. Part of the explanation may lie, at least in some instances, in stringent job activation regimes in which the onus is on claimants to take non-standard work even if their preference is for a full-time permanent job. This suggests a need for a policy focus beyond initial concerns with employment entry to greater emphasis on maintaining and progressing in employment and requires investigation of transitions from non-employment to the types of employment that individuals desire – whether directly, or via INE 'stepping stones' of limited duration.

Non-standard employment has been promoted at EU level and by national governments to reduce unemployment and to increase employment rates, particularly for some groups typically under-represented in the labour market (Koch and Fritz, 2013). Medium-term employment trends underline the move away from the post-World War II 'employment standard' of full-time, permanent employment, and point to the emergence alongside it of a new 'employment standard' incorporating non-standard employment (i.e. a situation of the 'normalisation' of non-standard employment). Looking ahead there are important questions regarding the acceptability (in different countries and economic contexts, and for different groups of workers) of such a new 'employment standard', and whether associated policy concerns about INE tending to be associated with in-work poverty and precarity can be addressed adequately.

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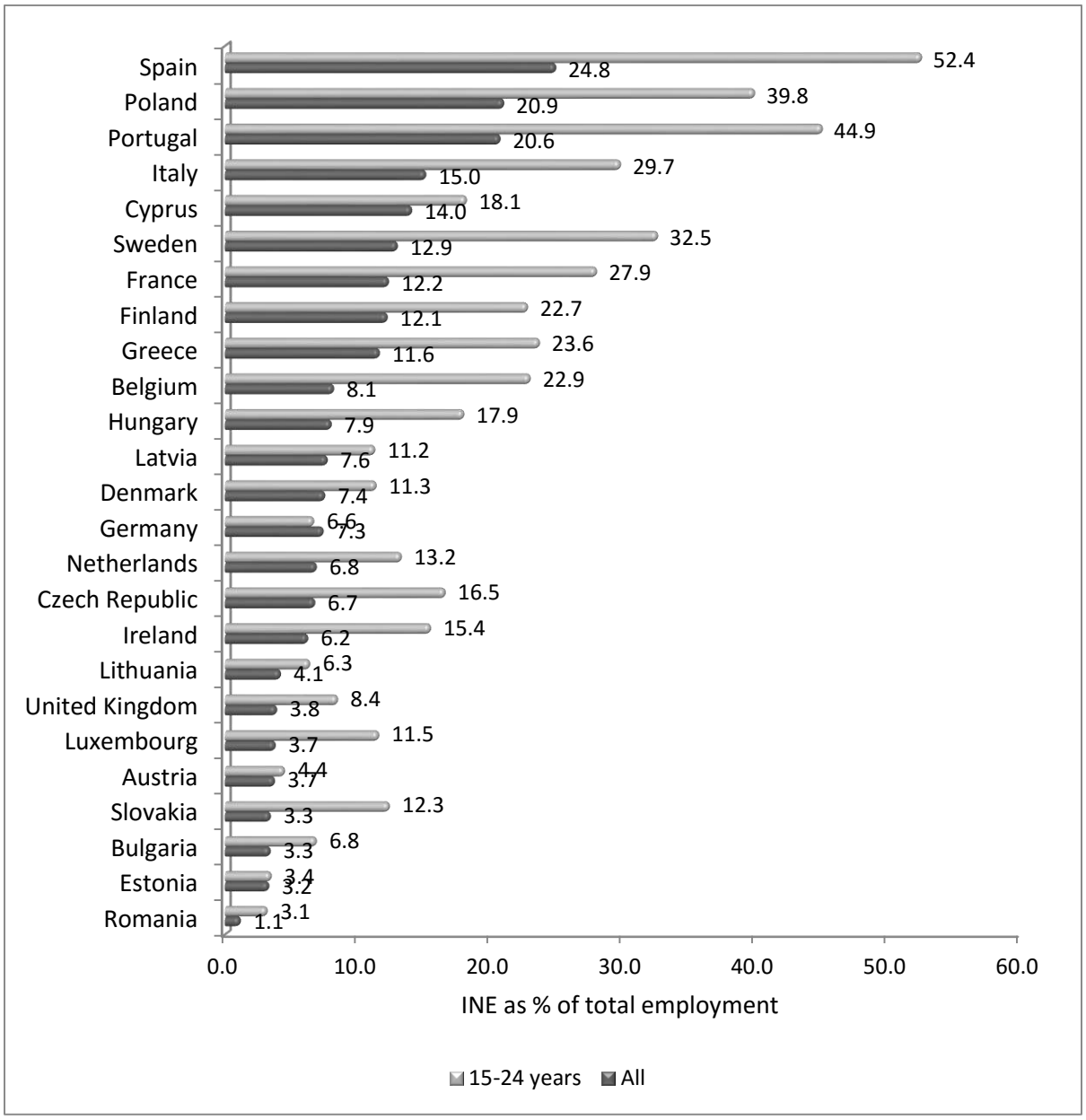
Figure 1. INE as a percentage of total employment, 2010



Source: Authors' estimate based on the EU-LFS

Table 1: Percentage of total employment in INE sub-categories by country, 2010

	% of total employment					
	permanent & involuntary part time	involuntary temporary & full time	involuntary temporary & involuntary part time	involuntary temporary & voluntary part time	voluntary temporary & involuntary part time	*Total INE*
AT: Austria	2.6	0.5	0.1	0.2	0.2	*3.7*
BE: Belgium	2.0	4.0	1.0	1.1	0.1	*8.1*
BG: Bulgaria	0.5	2.4	0.3	0.1	0.0	*3.3*
CY: Cyprus	1.2	11.9	0.7	0.2	0.0	*14.0*
CZ: Czech Republic	0.5	5.2	0.4	0.5	0.0	*6.7*
DE: Germany	4.5	1.5	0.8	0.3	0.3	*7.3*
DK: Denmark	3.3	2.2	0.7	1.1	0.2	*7.4*
EE: Estonia	1.8	1.0	0.3	0.1	0.1	*3.2*
ES: Spain	3.7	16.3	3.5	1.0	0.2	*24.8*
FI: Finland	2.0	7.6	1.5	0.7	0.3	*12.1*
FR: France	3.7	5.5	1.8	0.9	0.4	*12.2*
GR: Greece	2.1	7.1	1.9	0.2	0.2	*11.6*
HU: Hungary	1.2	5.5	0.8	0.4	0.1	*7.9*
IE: Ireland	3.4	1.3	1.1	0.3	0.1	*6.2*
IT: Italy	5.8	6.4	1.9	0.4	0.6	*15.0*
LT: Lithuania	2.4	1.4	0.3	0.1	0.0	*4.1*
LU: Luxembourg	1.1	2.0	0.2	0.4	0.1	*3.7*
LV: Latvia	2.7	4.1	0.6	0.2	0.1	*7.6*
NL: Netherlands	2.0	2.2	0.6	1.6	0.4	*6.8*
PL: Poland	0.6	17.8	1.0	1.4	0.2	*20.9*
PT: Portugal	1.1	16.9	2.0	0.5	0.2	*20.6*
RO: Romania	0.2	0.8	0.1	0.0	0.0	*1.1*
SE: Sweden	4.4	4.8	1.9	1.3	0.7	*12.9*
SK: Slovakia	0.2	2.6	0.3	0.3	0.0	*3.3*
UK: United Kingdom	1.9	1.4	0.3	0.1	0.0	*3.0*

Source: Authors' estimates from the EU-LFS

Table 2 Characteristics of all workers: full sample (all in employment) and INE

	%	%
Gender	**Full Sample**	**INE**
Male	53.5	40.3
Female	46.5	59.7
Age Band		
15-19	2.4	3.6
20-25	7.3	17.3
26-30	10.3	17.0
31-35	11.4	12.7
36-40	12.9	11.4
41-45	13.9	11.0
46-50	13.8	9.8
51-55	12.7	8.4
56-60	9.9	6.0
61-64	5.1	2.7
LevelEducation		
Low	25.1	29.3
Medium	44.5	46.9
High	28.4	21.7
Marital Status		
Married	57.2	42.4
Other	42.8	57.6
Nationality		
Non-National	4.2	7.1
National	95.8	92.9
Occupation		
Managers and Senior Officials	9.2	1.1
Professional occupations	14.6	9.6
Associate Professional and Technical	13.7	9.5
Administrative and Secretarial	10.3	11.2
Skilled Trades Occupations	13.8	1.7
Personal Service Occupations	7.1	20.1
Sales and Customer Service Occupations	13.1	14.0
Process, Plant and Machine Operatives	8.3	9.0
Elementary Occupations	9.2	23.7
Country Group		
Mediterranean	20.8	20.0
Continental	24.0	25.0
Eastern	16.3	22.5
Nordic	31.4	30.3
AngloSaxon	7.6	2.3

Sector of Economic Activity		
Primary	6.8	3.0
Industry	22.6	20.4
Services	70.3	76.6

Source: Authors estimations based on the sample

Table 3 Econometric model results

Variable	Characteristics	INE coefficient	INE marginal effect
Gender	Male	*Reference*	
	Female	.285*** (.003)	3.80%
Nationality	National	*Reference*	
	EU	.076*** (.006)	1.06%
	Non-EU	.110*** (.140)	1.68%
Country Group	Continental	*Reference*	
	Nordic	-.22*** (.006)	-2.60%
	Mediterranean	.32*** (.011)	5.20%
	Anglo-Saxon	-.83*** (.008)	-6.78%
	Eastern	.68*** (.010)	11.9%
Age group	Age group: 15-19	-.27*** (.009)	-3.10%
	Age group: 20-25	.08*** (.005)	1.20%
	Age group: 26-30	*Reference*	
	Age group: 31-35	-.06*** (.005)	-0.80%
	Age group: 36-40	-.05*** (.005)	-0.65%
	Age group: 41-45	.012*** (.006)	0.16%
	Age group: 46-50	.06*** (.007)	0.19%
	Age group: 51-55	.14*** (.008)	2.10%
	Age group: 56-60	.21*** (.009)	3.30%
	Age group: 61-65	.22 (.013)	3.40%
Marital status	Married	*Reference*	
	Single	.10*** (0.003)	1.40%
	Other marital status	*Reference*	
Education	Low education	.24*** (0.016)	3.40%
	Medium education	.09*** (0.007)	1.20%
	High Education	*Reference*	
Occupation	Legislators	-.64*** (0.010)	-5.50%
	Professionals	*Reference*	
	Professionals	-.13*** (0.005)	-1.68%
	Associate professionals	-.25*** (0.005)	-2.90%
	Service workers	*Reference*	
	Skilled agricultural workers	.19*** (0.010)	3.00%
	Craft workers	-.01*** (0.005)	-0.22%
	Plant and machine operators	-.04*** (0.005)	-0.60%
	Elementary occupations	.38*** (0.004)	6.60%
Industry	Primary	.07*** (0.012)	1.00%
	Industry	-.05*** (0.004)	-0.60%
	Services	*Reference*	

Labour market history	Unemployed one year ago	.68*** (0.006)	14.00%
	Tenure (in years)	-.08*** (0.000)	-1.00%
	Time since education	-.001*** (0.000)	-0.02%
Economic / institutional indicators	Unemployment rate	.006*** (0.000)	0.07%
	High demand sectors (share)	-.05*** (0.001)	-0.70%
	NEET share	-0.06*** (0.001)	-0.80%
	Real GDP	0.08*** (0.000)	0.10%
	Crisis	-.012*** (0.004)	-0.17%
	Participation equation variables		
	Number of young children	.10*** (.000)	
	Low education	-1.15*** (.002)	
	Medium education	-.48*** (0.002)	
	High Education	*Reference*	
Constant		0.77*** (.034)	
Observations		3,200,247	
Wald Ch2 = 179062.89		Prob> ch2 = 0.000	

Key: Standard errors in parentheses *** p<0.001, ** p<0.01, * p<0.05

Source: Authors' estimations based on EU-LFS data

Table 4: Econometric model country-level analysis – selected variables

Country	Female	EEA (non-national)	Non-EEA	Age 20-25	Age 36-40	Age over 50	Single	Low education	Medium education	Industry - primary	Industry - manufacturing	Unemployed a year ago
Germany	+ *	+	+ *	-	-	+ *	+ *	- *	- *	-	- *	+ *
Spain	+ *	+ *	+	+ *	+ *	+ *	+ *	+ *	+	+ *	- *	+ *
Finland	+ *	+	-	-	-	+ *	+ *	+	+	-	- *	+ *
France	+ *	+ *	+ *	+ *	- *	+ *	+ *	+ *	+ *	- *	- *	+ *
Greece	+ *	-	- *	+	- *	-	+ *	+ *	+ *	+ *	- *	+ *
Lithuania	+ *	-	+	-	+	+	+ *	+ *	+ *	+ *	- *	+ *
Netherlands	+ *	+ *	+ *	+ *	- *	+ *	+ *	+ *	+	-	- *	+
Poland	+ *	+ *	+ *	+	- *	-	+ *	+ *	+ *	+	+ *	+ *
Sweden	+ *	+ *	+ *	+ *	- *	+	+ *	+ *	+ *	- *	- *	+ *
UK	+ *	+ *	+ *	+ *	+	+ *	+ *	+	- *	-	- *	+ *

Key: + positive coefficient; - negative coefficient; * statistically significant
Source: Authors' estimations based on EU-LFS data

[i] Continental countries rely on insurance-based benefits and old-age pensions while the influence of unions remains relatively strong. Nordic countries feature the highest level of social protection and universal welfare provision. Mediterranean countries concentrate their spending on old-age pensions while collective bargaining maintains a highly compressed wage structure. Finally, Anglo-Saxon countries are characterised by active measures aiming to improve the employability of the unemployed; weak trade unions, and large wage disparities. In all the above works on the basis of commonalities of labour market institutions the Netherlands is classified as a Nordic country and so this study has adopted the same approach.

[ii] Although 'solo self-employment' has been identified as one of three dominant forms of non-standard employment (alongside part-time and temporary working) it is not included in this study because the data source used for analysis does not permit identification of involuntary self-employment.

[iii] Any issues in data quality/completeness of variables for some years precluded a country from selection.

[iv] The differences reported across samples are statistically significant. The results of the t-tests can be made available upon request.

[v] Elementary occupations include cleaners, agricultural labourers, food preparation assistants, labourers in mining, street and related service workers, refuse workers, etc.