Involuntary non-standard employment: evidence from Italian regions

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Abstract

Using European Union Labour Force Survey data on over 2.5 million workers in Italian regions for the period 1999-2010, we investigate the determinants of involuntary non-standard (temporary and part-time) employment (INE). We find that regional differences significantly affect the probability of workers being involuntarily employed in non-standard jobs, with higher probabilities for workers in the southern and insular regions than in the rest of the country. Women, young individuals, and low-skilled workers are particularly at risk of INE. The same holds for graduates, whose chances of finding satisfactory full-time permanent jobs are lower than those of individuals with diplomas. Finally, we find that INE follows a counter-cyclical behaviour, with it more likely to be higher when GDP growth is low and unemployment high.

JEL classification: J21, R12, R23

Keywords: Involuntary employment, regions, part-time employment, temporary employment, non-standard employment

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1. Introduction

Attention on labour market trends has traditionally focused on the unemployment rate as the yardstick of reference. Yet it is increasingly being recognised that such an indicator only provides a partial understanding of labour market developments, especially following economic crises (Eichhorst et al., 2010; Basso et al., 2011; etc.) since, for example, individuals losing their job may exit the labour force and become 'hidden unemployed' (Agbola, 2005).

The focus of this paper is on an altogether different construct that deals with individuals accepting, involuntarily, non-standard (part-time or temporary) jobs due to the lack of alternatives. Involuntary non-standard employment (henceforth, INE) is just beginning to become the focus of policy (CEDEFOP, 2012) and public debates (for Italy see IlSole24Ore, 2013). A key feature of this labour market indicator is the involuntary nature of this type of employment, with those employed in such jobs explicitly declaring that they accepted them only because they could not find a full-time and/or permanent position (de Jong et al., 2007).

We regard this indicator as a particularly important one, especially given the current economic climate, since increasing levels of INE may, rather than signal the future pool of those to be employed full-time and permanently, simply lead to increasing levels of precariousness, which is, by definition, a form of insecure, low-income and unprotected employment vis-à-vis 'standard' work arrangements (Standing, 2011).

Nevertheless, despite its importance, academic research on INE is still scant. Cam (2012) investigates the relationship between involuntary part-time work and demographic and working circumstances finding a positive correlation of the former with low educational and occupational levels in the United Kingdom (UK). Kauhanen (2008) examines the determinants of both part-time work and involuntary part-time work in the private service sector in Finland, finding that females, middle-aged, and low-educated people are more likely to be involuntary part-timers. Kauhanen and Nätti (2011) report negative consequences of involuntary part-time employment on job quality indicators such as training and career prospects. The few studies on temporary employment have mostly focused on the differences between workers accepting temporary contracts willingly, and those involuntarily doing so. For instance, Amuedo-Dorantes (2000) find that temporary employment in Spain is primarily involuntary. Finally, Nuñez and Livanos (2011) investigate the causes of different types of

temporary employment in Europe and find that females, younger people, singles and non-national workers are more likely to be in temporary employment involuntarily.

As can be gauged from this brief list of contributions, the limited work in this area has concentrated more on involuntary part-time employment than on involuntary temporary employment, but rarely the two phenomena have been investigated within the same framework.[1] One notable exception is the study by Green and Livanos (2013) on the determinants of INE in the UK, before and after the recent economic crisis. Their findings suggest that young people, individuals from non-white ethnic groups, and those in economically weak regions are at particular risk of INE.

The present study contributes to this debate by investigating the determinants of INE in Italian regions during the most recent decade. Our paper adds to what has gone before in this literature in three important respects. First, following the approach pioneered by Green and Livanos (2013), our analysis takes account of both involuntary part-time and involuntary temporary employment simultaneously, by making use of a unique cross-tabulated INE index (binary variable) constructed from European Union Labour Force Survey (EU-LFS) data on over 2.5 million workers in Italy for the period 1999-2010. Furthermore, the recent sample period also allows us to examine the effect of the recent economic crisis on INE.

Second, with very few exceptions, the limited research on INE has mainly focused on demographic (gender and age group) characteristics thus overlooking the spatial dimension, particularly with respect to intra-national, regional disparities. Regional differences are important for various reasons, not least the fact that national comparisons may be misleading if marked regional disparities are ignored. Accordingly, our study investigates INE not only by accounting for specific socio-demographic characteristics and economic conditions but also by considering the regional contexts in which such employment occurs.

Finally, our choice of the Italian setting provides a novel and, we would argue, particularly informative case study to analyse INE in relation to two additional dimensions connected to the phenomenon in question. The first dimension pertains to the impact of labour market reforms. At the end of the 1990s a wave of reforms started changing the institutional set-up of the Italian labour market with the declared aim of increasing flexibility. By regulating non-standard employment these reforms reduced the strength of employment protections thus favouring the spreading of temporary and part-time contracts (Nannicini,

[1] A measure of non-standard employment combining part-time and temporary employment, but neglecting its involuntary nature, has recently been used in a study by ILO (2012).

2004a). In 1997, Law no. 196, known as 'Legge Treu'[2], and the legislative decree D.Lgs. 368/2001 concentrated on temporary employment, while a few years later Law no. 30/2003, known as 'Legge Biagi'[3], dealt specifically with the controversial issue of part-time employment. Several additional legislative decrees and laws updated these two main reforms in subsequent years.[4] Given our sample period, our choice the Italian context, therefore, not only allows us to examine the effects of the recent financial crisis on INE, it also permits us to investigate the impact of the Italian labour market reforms.

The second dimension that makes the Italian landscape particularly interesting for our purposes relates to the large economic disparities existing between northern and southern regions (see Terrasi, 1999; Checchi and Peragine, 2005). While the Italian regional divide has also been studied in relation to the labour market[5] none of the work conducted thus far has specifically examined regional labour market disparities in relation to an aggregated INE construct, thus leaving a glaring gap to be filled by the present study.

2. The Italian context and some stylised facts

Arguably the European job market has always been more rigid than the North American one, with higher unemployment in Europe than in the US (Nickell, 1997). Since the early 1990s, most European countries have embarked on a process of labour market reforms aimed at increasing flexibility and security (now commonly referred to as 'flexicurity'). Like most labour market reforms in other European countries, the Italian reforms were partial and not applicable retrospectively.

Notwithstanding the inevitable cross-national differences in the strength of employment protections and support for the unemployed, Heyes (2011) unveils evidence of convergence by EU member states in labour market policies over the past two decades with an 'emulation' pattern reflecting the less generous traditions (in terms of unemployment

[2] Tiziano Treu was 'Ministro del Lavoro' (Minster of State for Employment) at the time.

[3] Marco Biagi, a labour law government consultant, was murdered by terrorists in 2002 for his work on that reform.

[4] A non-exhaustive list includes the legislative decree D.Lgs. 251/2004, and the laws L. 80/2005, L. 247/2007 and L. 133/2008.

[5] Ichino et al. (2008) examined various Italian regions in order to test the hypothesis that temporary work agency employment may act as a 'stepping stone' towards a permanent job and found that while the positive effect of temporary work is evident in Tuscany, in Sicily there is no evidence of a 'stepping stone' effect. Picchio (2012) too found similar results. Destefanis and Fonseca (2007) also found different effects of labour market reforms in southern regions and suggested that the 'Legge Treu' improved matching efficiency in the North and in the Centre, but had a negative effect in the South.

benefits for example), and a dominant trend actually characterised by less security. Furthermore, this process appears to have led to an increase in the number of non-standard contracts at the expense of full-time and permanent ones (European Commission, 2009). Italy, in these respects, was no exception (Tealdi, 2011).

Whilst flexibility is generally perceived by many European policy makers as a positive feature of labour markets (European Union, 2010), non-standard employment is often associated with negative working conditions, such as fewer opportunities for training and career progression, lower salaries, and limited access to supplementary benefits and social protection (Eurofound, 2007). Non-standard employment assumes particularly negative connotations when it occurs involuntarily, that is, when labour markets are unable to provide the right matching between employers and employees, and the latter are forced to accept non-standard contracts due to the lack of better alternatives. Factors advanced to account for such involuntary employment typically include the inadequate distribution of skills, informational problems and geographical rigidities (Pissarides, 2000). These frictions are more likely to happen in a fast changing environment leading firms to manage their human resources more flexibly (Kalleberg, 2000).

As outlined in our introduction, the Italian labour market certainly qualifies as a fast changing environment given the incessant legislative interventions over the past twenty years. Most Italian firms have been increasingly reluctant to offer full-time and/or permanent jobs (Nannicini, 2004b). In Italy the diffusion of flexible labour contracts (temporary and part-time) has mainly affected the younger generations and women, thus reinforcing labour market segmentation while accentuating social inequalities. Flexibility has been perceived as a labour market feature favouring endless precariousness, thus increasing social conflict (Lodovici and Semenza, 2008).

Possibly owing to the traditionally local dimension of many Italian banks, and the low levels of household debt (which grew considerably less than in other countries in the years preceding the crisis), the economic consequences of the financial crisis started being felt in Italy only from 2008/2009, when the crisis degenerated into a global recession. However, unlike other European countries such as Ireland and Spain that were booming before the crisis, Italy had already been experiencing sluggish growth for almost two decades. Figure 1 shows real GDP growth in Italy from 1990 to 2012, with the downward sloping line being the linear trend fit of the data.

< FIGURE 1 HERE >

Another significant difference between the Italian economy and most of the other European countries lies in the large public debt, which in Italy was already above 100% of GDP in 2007, leaving an already unstable government with very little room for manoeuvre in terms of any corrective interventions.

An even deeper understanding of the Italian economic landscape can be gained by looking into the underlying regional divide as can be gauged by regional economic growth data. Figure 2 illustrates regional annual Gross Value Added (GVA) growth between 1990 and 2008.[6] Although the growth rates of the five regions tend to co-move, non-trivial regional disparities are recorded almost every year. For instance, in 2000 the GVA of the North-Eastern regions grew by more than 5%, while that of Sardegna and Sicilia, the islands, by less than 2%. Figure 2 also suggests that negative growth rates are more likely to be experienced by regions geographically located in the Centre, in the South, and in the Islands, than by those in the North.

< FIGURE 2 HERE >

To put our regional perspective into the labour market reforms context, it is particularly opportune at this point to present some stylised facts on the dynamics of the shares of part-time employment and involuntary part-time employment in Italian regions over the sample period of our study, 1999-2010 (our sample consists of almost 2,700,000 observations). Table 1 shows the shares of part-time employment and involuntary part-time employment in Italian regions shortly after the first big labour market reform (in 1999), after the second major labour reform (in 2004), and at the end of our sample period (in 2010).

< TABLE 1 HERE >

A number of interesting features arise from the data presented in Table 1. First of all, the share of part-time employment over total employment significantly increased after the 2003 ‘Legge Biagi’, which is not surprising given that the focus of that law was exactly part-

[6] The use of data for the five NUTS1 regions masks much variability within those regional groups but using data for the twenty-one NUTS2 regions would have made Figure 2 difficult to interpret (we use NUTS2 regions in the econometric analysis).

time employment. The share of this type of non-standard employment remained consistently lower in the southern and insular regions of Italy, with the exception of Sardegna where the incidence was comparable to that in the central regions.

The share of involuntary part-time employment over part-time employment displays even more diverging regional patterns. In 1999 less than one part-time worker out of three was unwillingly in that position in the northern regions and in the Centre (with the exception of Lazio whose values are comparable to those of southern and insular regions). However, more than one out of two was in that same condition in the rest of Italy, while for Calabria, three workers out of four. In 2004 those figures decreased in magnitude, but the regional divide was still evident. In 2010 the figures increased again. Those relating to Calabria and Sicilia are particularly pronounced, with three part-time workers out of four being involuntary employed.

In all cases the shares of involuntary part-time workers are considerably higher than those reported for other countries. For example, in the UK, in 2010 only 12.2% of part-time workers could be classified as involuntary part-timers (Green and Livanos, 2013), versus 47.0% in Italy in the same year. Abstracting from obvious differences in labour market characteristics and cultural attitudes, this may also reflect the different economic environment of the two countries, with Italy being characterised by low, if not negative, growth rates over the last two decades. This may well affect the probability of finding standard employment as well as individuals' perceptions about the precarious nature of their job.

< TABLE 2 HERE >

Table 2 reports data on temporary employment. The picture on temporary employment presents marked differences from part-time employment. The share of temporary employment over total employment is higher in southern and insular regions than in the rest of the country, consistently so throughout the sample period. As for the proportion of involuntary temporary workers, once again the numbers are smaller in the North and in the central regions (Centre), but in this case even in the latter regions the proportion of involuntary workers is extremely high. In 2004 half of the temporary workers were involuntary so in the North and in the Centre (even more in the rest of the country), and in 2010 more than half of temporary employment was involuntary, with shares as high as 87% and 88% in Calabria and Sicilia respectively. These regional data, in themselves, confirm that

the analysis of national trends (for example, by taking INE figures for Italy as a whole) would, by masking significant differences, result to be misleading.

< TABLE 3 HERE >

Table 3 reports the share of INE over total employment, again, for the years 1999, 2004, and 2010. Not surprisingly given the data presented in Tables 1 and 2, the share of INE over total employment is unevenly distributed across Italian regions, with a larger proportion in the southern and insular regions. An upward trend is also evident, as the INE share increased in every region between 1999 and 2010. The country average went up from about 7% in 1999, at the beginning of substantial labour reforms, to more than 15% in 2010.

< TABLE 4 HERE >

Finally, Table 4 presents descriptive statistics of the sample used in the analysis, broken down for both the full sample of employees as well as those in INE by the various workers characteristics controlled for. Various interesting patterns emerge regarding the concentration of INE within certain groups. In particular, the most vulnerable groups do have a higher share in INE than in total employment. Such groups of workers are females (63% in INE while just 40% in total employment), younger workers, and workers in elementary occupations. As for notable differences within regions, the one pertaining to 'Sicilia' (Sicily, G1) stands out, where the share of INE is 12% compared to 7% for total employment.

3. Data and model specification

Our empirical analysis is based on the EU-LFS, a household-level survey designed to gather information on the labour conditions of EU residents. The survey contains data on general demographic characteristics, education, labour market status, 'first job' and 'flexible working patterns' (for employed individuals only), 'second job' (for individuals holding multiple jobs), 'previous employment' (if any), and 'job seeking methods' (for unemployed individuals).

The EU-LFS, conducted by the national statistical agency of each member state under the coordination and guidance of Eurostat, is widely considered to provide reliable information due to its large sample size and the sampling methods adopted (for a full

description of the LFS data see European Commission, 2012). The Italian LFS started as a quarterly survey in 1959, with additional yearly data (annual averages) being released each year. We use annual data to avoid seasonality problems.

Given our focus on involuntary types of non-standard employment (INE), we concentrate on individuals that the EU-LFS classifies as being employed, i.e. individuals 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". There is no specific question on being in INE in the EU-LFS, therefore, we need to combine information from a number of questions to create a unique variable indicating the INE status. We consider the following two aspects of employment as non-standard, part-time and temporary work, both captured in the EU-LFS.

The full-time/part-time distinction refers to the main job and it is based on a spontaneous response by participants. The type of contract, temporary or permanent, is also self-assessed by respondents. According to the Eurostat definition, employees with a limited duration contract are those whose main job will terminate either after a predetermined fixed period, or after a period not known in advance, but nevertheless defined by objective criteria, such as the completion of an assignment.

Those questions do not carry any information on the involuntary status though. However, EU-LFS respondents are required to declare whether they work part-time as a result of being unable to find full-time work, and whether they work under limited duration contracts due to the inability to find a permanent job. In particular, follow-up questions ask both part-time and temporary workers about the reason for not being either in full-time or permanent contracts. Those answering "Person could not find a full-time job" and/or "Person could not find a permanent job" are classified as being in INE. We then combine these two measures to create a unique INE binary variable taking value 1 if someone is in INE (in one or both categories) and 0 otherwise (if in any other form of employment, whether standard or non-standard).

For the econometric analysis we utilise Italian LFS data from 1999 to 2010 which allow us to capture not only the impact of various labour market reforms implemented over

that period, but also that of the recent financial crisis. We exploit the regional dimension of the data using the twenty-one NUTS2 regions of Italy.[7]

The econometric investigation of the socio-economic and regional factors explaining the incidence of INE is complicated by the need to use selection models, being the dependent variable only observed for a selected sample (labour market participants). From an econometric perspective, the use of INE as a dependent variable leads to a sample selection problem, as factors related with the outcome variable may intervene in the selection of the sample. A selected sample occurs when the outcome variable (y_2: being in INE) is observed only ($y_2 = 1$) for certain values of a selection variable y_1 (participation into the labour market), i.e. $y_1 = 1$. There are two possible scenarios arising from this situation. The first occurs when the outcome variable y_2 is independent of the selection variable y_1. In this case a two-step econometric model can be adopted ensuring both flexibility and computational tractability.

However, when the outcome variable y_2 is not randomly selected from the population, as in our analysis, selection models are more adequate as they control for dependency in the two-step model (Heckman, 1979). In particular, the two-step Heckman procedure allows us to model sequentially the selection equation and the INE equation. The first step consists of a Probit regression with y1 as the dependent variable, to estimate the likelihood of labour market participation (this makes this model a Heckman-probit model). Then, the coefficients of this first-step regression are used to estimate the conditional probability of being in INE (y_2). A number of socio-economic and regional variables are used in the model, and in order to avoid identification problems, additional explanatory variables are used in the first-step regression. Those variables should be related with the selection variable and unrelated with the outcome variable. As it is customary in this type of regressions, we use the total number of young kids as an explanatory variable for labour market participation (Baum, 2006), and also educational level for the same purpose (Green and Livanos, 2013).

In the second-step equation we include individual-level socio-demographic and work-related variables, and NUTS2 regions-specific variables. The socio-demographic variables are the following: 1) gender (a dummy taking value 1 if the individual is female, with male as

[7] The NUTS1 regions are: C (North-West), D (North-East), E (Centre), F (South), and G (Insular Italy). The NUTS2 regions are: C1 (Piemonte), C2 (Valle d'Aosta), C3 (Liguria), C4 (Lombardia), D1 (Trentino), D2 (Alto Adige), D3 (Veneto), D4 (Friuli Venezia Giulia), D5 (Emilia Romagna), E1 (Toscana), E2 (Umbria), E3 (Marche), E4 (Lazio), F1 (Abruzzo), F2 (Molise), F3 (Campania), F4 (Puglia), F5 (Basilicata), F6 (Calabria), G1 (Sicilia), and G2 (Sardegna).

the reference category); 2) age (four dummies taking value 1 when the individual is in one of the age groups 26-35, 36-45, 46-55, and 56-65; 16-25 being the reference group); 3) marital status (two dummies taking value 1 for singles and other marital status, with being married as the reference category); 4) education level (low, medium or high, with the second one used as the reference level); 5) work features (dummies indicating the type of job: legislators, professionals, clerks, service workers, skilled agricultural, craftsmanship, plant/machine operators, elementary jobs; with associate professionals as the reference category); 6) economic sector (agriculture, industry, and tertiary, with the latter being the reference category).

The regional variables are: 1) regional dummies - one for each of the twenty-one NUTS2 regions, with Lombardia being the reference one (Lombardia is the biggest and richest region of the country, in the North-East, and it produces about 20% of Italian GDP); 2) regional unemployment (extrapolated from the micro-data of the LFS); 3) the regional share of youth neither in employment nor in education and training (the so-called NEET rate, as a proxy for social exclusion); 4) regional GVA growth (source: Cambridge Econometrics); 5) the share of regional employment in specific sectors likely to attract workers in part-time and temporary jobs (agriculture, construction, and hotels and restaurants). We include year dummies to account for factors common nation wide, although in an alternative specification we drop these dummies to include an ordinal variable accounting for the Italian major labour market reforms (the latter variable takes value zero in 1999 and 2000, value 1 from 2001 to 2003, and value 2 from 2004 onwards).

4. Empirical analysis

This section reports the results arising from estimation of two different specifications of the Heckman-probit model. The model allows for uncovering the factors affecting the likelihood of being in INE in Italy (over 1999-2010). Table 5 reports the results obtained from the model specification with year dummies (with 1999 as the reference year). As it is customary in this type of analysis, we report the marginal effects rather than the estimated coefficients, so that the numbers in the table can be interpreted as *ceteris paribus* marginal effects on the probability of being in INE.

The focus of our analysis centres on the second-step regression results that are reported in section A of the table, though – for the sake of completeness - we also report the estimates of the selection equation in section B of the table. According to the latter, the

presence of dependent children increases the probability of participating in the labour market (possibly due to pressures on family members to increase household income), and both a high and a low level of education are found to decrease the probability of participating in the market vis-à-vis having a medium level of education. Whilst it may be plausible that individuals with low education may lack the skills to be able to successfully participate in the labour market, the finding that highly educated individuals are less likely to be employed than those with a lower educational level (medium level of education) is quite striking and in itself indicative of the limited opportunities in the Italian labour market. This result is important as it provides further empirical content to the stylized facts evidenced by the recent trends on unemployment and education in Italy (see Almalaurea, 2010).[8]

< TABLE 5 HERE >

The estimates contained in Table 5 provide interesting insights on the magnitude of the *ceteris paribus* effects on the probability of being in INE of all the explanatory variables. Results suggest that women have a significantly higher chance of being in INE compared to their male counterparts by almost 7%. Although it is reasonable to expect a larger proportion of females in non-standard employment due to factors such as their greater involvement in caring commitments (OECD, 1990; Caputo and Cianni, 2001), there is no justification for them being more likely to being so involuntarily. This also suggests that it is harder for women to find an employment type of their preference, forcing them to accept working conditions that are not ideal. Interestingly, whilst employers may well be reluctant to offer women standard contracts for fears that family responsibilities and other caring commitments may end up obstructing their commitment to work, this justification becomes less relevant when such work is of temporary and non-standard nature.

As for age, it correlates negatively with INE. The reference group here is the one formed by 16-25 years old individuals. There is little difference (though statistically significant) between the 16-25 and the 26-35 (years old) groups, with the former being 1.3% more likely to be in INE than the latter. Yet we also find that such a difference increases with age, with the 56-65 years group being 7.0% less likely than the 16-25 group to be in INE. This result suggests that young people are required to go through long periods of screening

[8] According to recent Istat data, the unemployment rate among individuals with degrees in the 25-29 years age group is higher than those of the same age with diplomas.

before they are actually able to find work in standard jobs. This result portrays the 'bad working conditions' (less secure and lower paid working arrangements) faced by younger generations in Italy at times when economic growth has been mostly stagnant, if not declining. Sadly, this situation is not uncommon in many other developed countries of the Eurozone, especially since the deleterious consequences of the financial crisis degenerated into a full-blown recession (OECD, 2010).

Marital status is also found to significantly affect the probability of being in INE. In particular, married individuals are less likely to be in INE than singles, widowed, and divorced/separated ones. There is no consensus in the literature on the effect of being married on the probability of being in INE. Some studies find a positive relationship (see Green and Livanos, 2013 for the UK) while others a negative one (see Cam, 2012, again for the UK). One possible explanation for our findings for Italy may be that non-married individuals are less likely to be satisfied with the non-standard employment they have been able to secure, possibly because they have career ambitions that are poorly served by the non-standard job they have unwillingly accepted.

The results on educational levels align well to those from the first step regression. While the data do not indicate any differences between individuals with low and medium levels of education (the marginal effect is barely significant and very close to zero), highly educated individuals are at greater risk of INE. This confirms that the employment prospects of Italian graduates (and those with even higher qualifications such as PhDs) are far from excellent, leading these individuals to accept non-standard jobs that do not match their preferences and qualifications. This evidence is consistent with that by Nuñez and Livanos (2011), who found that having a degree does not increase the likelihood of employment in countries like Greece, Portugal, and Italy.

Results stemming from work characteristics are also insightful. While highly-qualified workers and professionals are slightly less likely to be in INE than those in the reference category (associate professionals), workers in less qualified occupations are all more likely to be in INE. This is particularly true for workers in elementary, basic occupations, for which the probability of being in INE is almost 18% higher than that of the reference category, and for skilled agricultural workers, for which the probability is more than 8% higher. The latter result is reinforced by the 12% higher probability of being in INE for workers in the agricultural sector vis-à-vis those in the tertiary sector.

We turn now to the national and regional variables included in the model. The year dummies capture the time-specific effects affecting the Italian economy during the sample period. The reference year is 1999, and the probability of being in INE is significantly higher in every other year of the sample period (with the exception of 2002 and 2003, where there is no discernable statistical difference from 1999), particularly so starting from 2007 (the INE probability is higher by more than 9% with respect to that in 1999). There are at least two possible and non-mutually exclusive explanations for this result. One involves the Italian economic performance between 1999 and 2010, which has almost invariably worsened particularly when considering the negative growth rates of 2008 and 2009. Continuous economic stagnation coupled with the recent crisis may have, therefore, decreased further the probability of finding satisfactory jobs. A second explanation relates to the frequent legislative interventions exemplified by continuous labour market reforms that by increasing uncertainty may have made employers procrastinate decisions on permanent recruitment. Moreover, on the employee side, numerous studies have documented the negative consequences of frequent labour market reforms on labour productivity (Beccarini, 2009; Barbieri and Scherer, 2009), and this may, in turn, affect the workers' perceptions about their employment, increasing the incidence of INE.

The inclusion of regional dummies in the model also provides results of considerable interest. The excluded dummy – against which the other dummies are benchmarked - is that of Lombardia. Results for the other northern regions are mixed, although mostly supporting the lower risk of INE if working in Lombardia. Being in the central regions of Italy (Toscana, Umbria and Marche) is associated with a 1.2 to 2.5% higher probability of being in INE compared to Lombardia, therefore the difference, though statistically significant, is not remarkable. A comparison with the southern and insular regions however, confirms strongly the North-South divide (see also Tabellini, 2010). Being in regions such as Calabria and Sicilia increases the risk of INE by 7%, a differential comparable to the male/female difference.

As for the other regional variables, only the regional unemployment rate is significantly related to INE, with a positive marginal effect. This reflects a sensitivity of INE to business cycle developments, a finding consistent with those of other countries (for the US, see Bureau of Labor Statistics, 2008). On the other hand, the variables accounting for the share of employment in sectors likely to favour non-standard employment, regional GVA growth, and social exclusion are not associated with statistically significant effects.

We have already advanced some plausible explanations of the potential effects of the Italian labour market reforms in relation to the marginal effects of the year dummies. In order to investigate further the role played by such reforms, we report below the results of an alternative model specification where year dummies are replaced by an ordinal variable accounting for the main reforms implemented in that period.

< TABLE 6 HERE >

The results emerging from this alternative specification are mostly in line with those of the previous one. All the marginal effects associated with the socio-demographic and work characteristics confirm the previous findings. On the other hand, the substitution of the year dummies with the labour reforms variable does affect the results related to regional disparities, leading to more mixed results for the northern regions, but confirming the higher likelihood of being in INE in the southern and insular regions vis-à-vis Lombardia.

The positive coefficient (and marginal effect) of the regional unemployment rate is of an even higher magnitude in these new estimates, though now the coefficients of other regional variables are statistically significant. In particular, regional GVA growth is negatively associated with INE (confirming the relationship between the latter and the business cycle). The share of sectors favouring non-standard employment is unsurprisingly positively associated with the risk of INE, while social exclusion displays a negative association. One possible explanation for the latter result could be that social exclusion may act as a threat (similarly to unemployment) and individuals struggling to find employment may willingly accept non-standard jobs also to avoid being socially marginalised rather than just to earn some income.

5. Concluding discussion

We employed Italian data from the EU-LFS for the period 1999-2010 to offer evidence on involuntary non-standard (temporary and part-time) employment, the so-called INE. In addition to examining individual-specific socio-demographic characteristics and working conditions, we accounted for region-specific variables such as unemployment, growth, and sectoral composition. The study also investigated the incidence of the recent economic crisis and the effects of successive waves of Italian labour market reforms.

Our findings suggest that the incidence of INE follows a trend opposite to that of the business cycle as INE is higher when the unemployment rate is higher and GDP growth is lower. The peculiar regional economic disparities in Italy also explain different probabilities of workers being in INE, as workers in southern and insular regions are more likely to involuntarily accept non-standard jobs than workers in central and, in particular, northern regions. With regards to socio-demographic characteristics, our findings indicate a higher probability of being in INE for women and for young individuals, all else equal. Also, the probability of being in INE has increased over time in Italy.

But what do our findings and, in particular, our regional perspectives contribute to our understanding of INE, especially in terms of the dynamics of this phenomenon in the Italian context? To start with, our findings affirm the notion that INE is manifested and shaped differently by spatial context, as we found, for example, that higher INE levels are experienced where regional GVA growth is lower, and that the probability of individuals being at risk of INE differs considerably by region. Part of the Italian regional disparities are, of course, resource-related and have emerged over decades as part of the industrialisation process as economic and entrepreneurial activity tended to concentrate spatially in the North of the country. Yet it is clear from our data that this historical contextualisation does not suffice in telling the whole story on the INE phenomenon and the endless precariousness that it is generating. On this account, our findings shed further light on at least two important dimensions.

First, the deteriorating situation of the Italian economy, accentuated by the recent recession has, if anything, augmented existing regional disparities bringing yet more inequality into the infamous North-South divide. In particular, the evidence suggests that at unprecedented times of austerity, rather than act as a 'bridge' towards standard and permanent forms of employment for the unemployed (see De Graaf-Zijl et al., 2011), increasing levels of INE are a 'trap' that barely shores up the holes left by the large number of individuals losing their 'standard' job (as we also find, for example, that individuals with higher educational qualifications are more at risk of INE than those with diplomas), this being the case especially in the less prosperous Italian regions.

Second, while the successive waves of labour market reforms and legislative interventions appear to have done little in reducing unemployment via a more flexible labour market, they have certainly played a significant role in accentuating regional disparities and

inequalities, with non-trivial social consequences, including a now pervasive lack of faith in institutions and opportunities for a brighter future.

It is evident that in terms of labour market policy, supra-national agendas have supplanted intra-national regional concerns. For example, the OECD Jobs Strategy (1994), which promoted flexibility for Europe as a whole, did not address regional disparities. At a time when the debate on labour markets is increasingly shifting towards the extent of national convergence, a core policy implication that flows from our findings is the urgent need to redirect attention towards the increasing intra-national, regional labour market differentials.

By way of acknowledgement of limitations, it is worth pointing out that some of the regional differences unveiled by our results may, of course, also be shaped by factors we were unable to control for (social wage, support network, etc.). These factors, and the way in which such factors may interact with INE, provide a potentially valuable route for further theoretical exploration as well as empirical application. Future studies intending to follow the investigative lines traced by the present analysis could also attempt to disaggregate the INE construct ('zero-hour' contracts, casual, agency, etc.) since these different employment forms may well carry, or be affected by, different spatial implications, particularly if seasonal migration is also integrated into the analysis. Data availability permitting, another profitable avenue for future research would entail extending our regional analysis to the spatial differences of rural versus urban labour market contexts.

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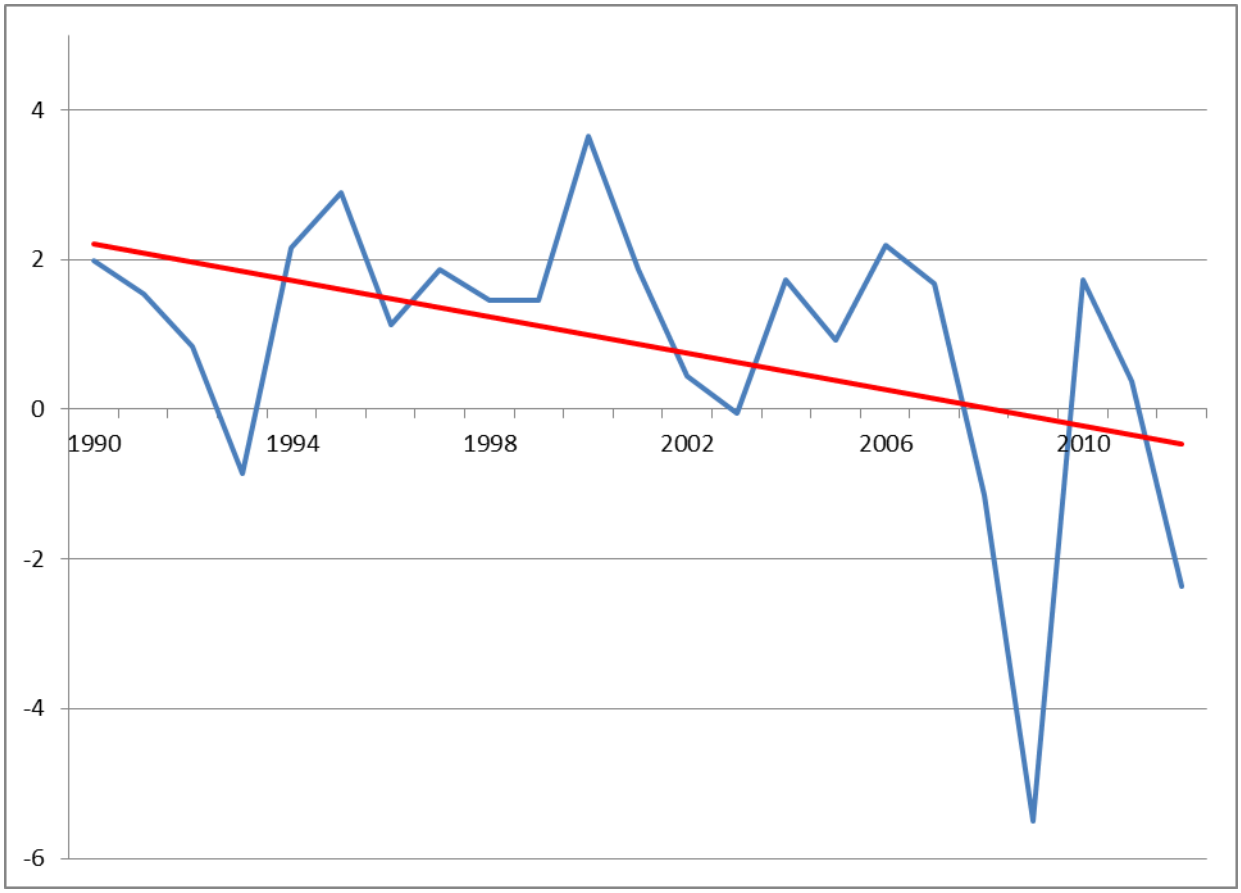
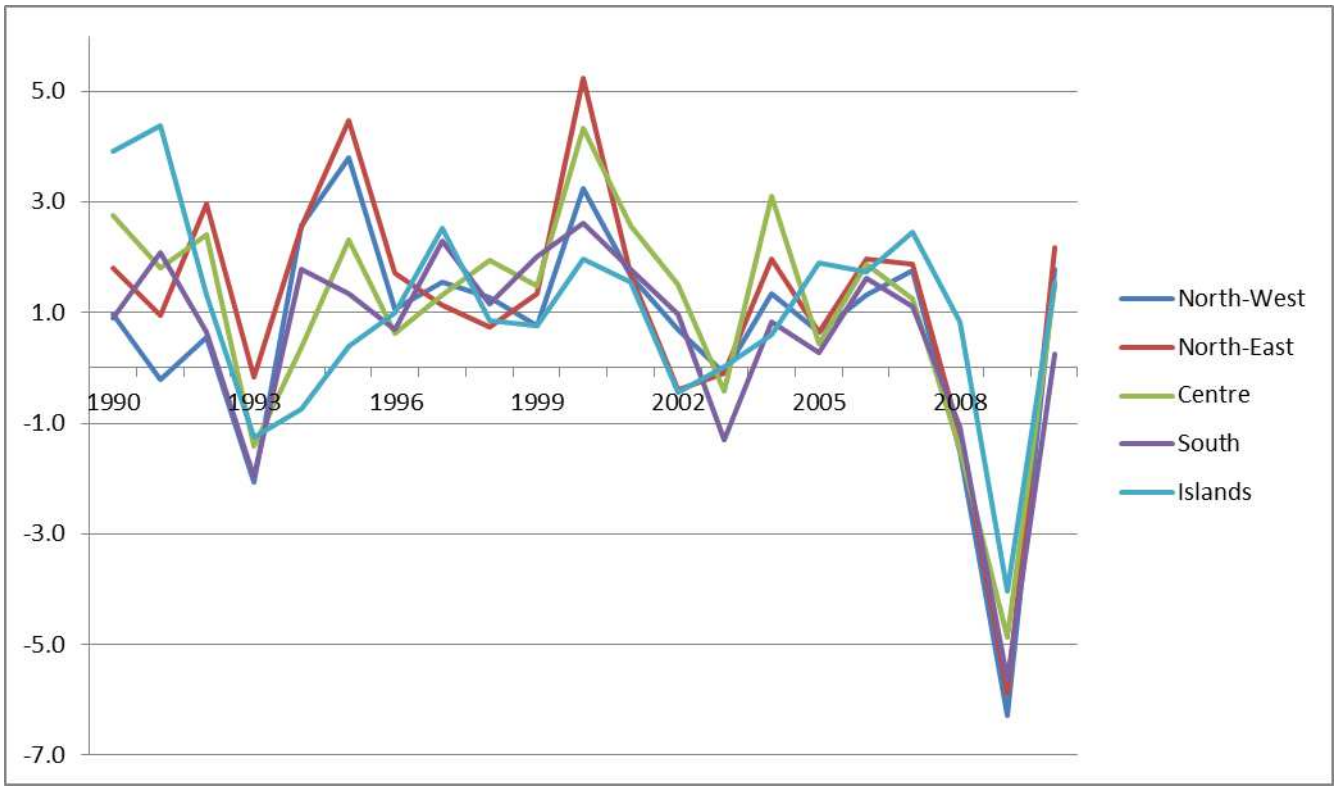
Figures and Tables

Figure 1. Real GDP growth in Italy (1990-2012).



Source: World Bank.

Figure 2. Real GVA growth in Italian macro-regions (1990-2008).



Source: Cambridge Econometrics.

Table 1. Part-time employment and involuntary part-time employment by region

	Part-time/Total employment			*Involuntary part-time/part-time employment*		
Regions	*1999*	*2004*	*2010*	*1999*	*2004*	*2010*
Piemonte	7.4	10.4	14.4	36.5	31.0	46.8
V. d'Aosta	8.8	11.3	13.5	33.3	17.6	30.8
Liguria	9.0	14.4	18.6	33.8	33.3	46.7
Lombardia	8.5	12.2	16.1	24.2	21.5	37.3
Trentino	13.0	17.1	21.3	8.4	7.4	17.6
Alto Adige	8.5	16.9	18.6	9.8	13.1	28.8
Veneto	8.5	13.2	15.9	21.0	15.5	34.0
Friuli	11.2	14.3	16.9	25.3	18.4	37.0
E. Romagna	8.2	12.7	14.5	27.4	18.0	36.6
Toscana	9.8	14.6	16.5	34.1	28.6	43.5
Umbria	6.9	14.0	17.5	34.8	28.2	48.7
Marche	8.3	13.6	14.3	31.4	25.5	41.8
Lazio	6.7	14.7	16.0	51.5	46.2	56.0
Abruzzo	5.6	11.4	12.8	50.5	36.0	50.4
Molise	6.9	9.9	12.0	55.0	49.4	60.2
Campania	5.7	11.0	10.6	57.9	64.2	68.5
Puglia	5.8	8.7	12.9	59.2	57.2	68.8
Basilicata	5.5	9.8	11.1	46.2	50.9	66.6
Calabria	8.8	10.7	12.9	77.0	63.1	74.5
Sicilia	8.3	11.6	14.0	65.4	66.1	74.0
Sardegna	9.5	12.7	16.7	52.8	49.8	66.7
Italy	8.1	12.5	15.2	37.5	33.3	47.0

Source: Authors' elaborations based on Italian LFS data.

Table 2. Temporary employment and involuntary temporary employment by region

	Temporary/Total employment			*Involuntary temporary/temporary employment*		
Regions	*1999*	*2004*	*2010*	*1999*	*2004*	*2010*
Piemonte	7.2	8.7	11.2	33.9	43.5	59.7
V. d'Aosta	10.2	13.0	11.7	53.0	57.4	74.9
Liguria	6.7	11.8	11.0	46.5	51.2	60.6
Lombardia	6.2	8.5	9.2	32.4	48.2	62.8
Trentino	9.7	13.2	15.1	41.2	43.4	58.1
Alto Adige	7.5	12.4	14.0	39.3	48.2	65.1
Veneto	8.1	9.7	10.2	34.2	50.0	56.9
Friuli	8.3	8.6	11.8	32.2	44.8	64.0
E. Romagna	7.9	11.0	12.0	37.3	46.6	62.4
Toscana	8.3	12.5	14.0	35.3	51.1	63.4
Umbria	8.9	12.5	14.4	52.9	48.1	54.2
Marche	6.8	12.7	12.9	31.1	43.3	50.6
Lazio	8.6	12.6	10.9	46.4	65.2	69.7
Abruzzo	7.3	13.6	12.9	35.3	64.0	72.9
Molise	11.9	13.1	11.4	72.7	66.4	79.9
Campania	12.5	12.4	12.3	64.2	79.2	81.6
Puglia	13.5	16.7	18.3	66.0	74.7	81.9
Basilicata	11.8	13.9	14.7	58.9	75.0	78.1
Calabria	18.5	19.5	21.3	80.4	76.1	86.8
Sicilia	16.3	18.2	17.8	74.8	77.2	87.6
Sardegna	17.2	16.8	17.7	66.1	69.1	79.1
Italy	10.2	12.3	13.0	51.3	60.2	70.0

Source: Authors' elaborations based on Italian LFS data.

Table 3. INE share over total employment by region

	INE/Total employment		
Region	*1999*	*2004*	*2010*
Piemonte	4.3	6.7	13.0
V. d'Aosta	6.1	8.6	12.4
Liguria	5.1	9.6	14.7
Lombardia	3.3	6.2	11.4
Trentino	2.5	6.1	12.1
Alto Adige	3.0	7.4	13.0
Veneto	3.7	6.2	10.3
Friuli	4.3	5.7	12.5
E. Romagna	4.6	6.7	12.1
Toscana	5.4	9.6	15.6
Umbria	5.4	8.9	16.1
Marche	4.1	7.7	11.8
Lazio	5.8	12.8	15.3
Abruzzo	4.3	12.0	14.8
Molise	10.2	13.0	15.0
Campania	8.0	14.1	15.7
Puglia	9.2	15.7	22.6
Basilicata	8.3	13.5	17.4
Calabria	15.3	18.7	26.0
Sicilia	12.6	18.2	23.0
Sardegna	12.3	16.4	22.8
Italy	6.6	12.0	15.2

Source: Authors' elaborations based on Italian LFS data.

Table 4. Sample characteristics

	Full sample (%)	*INE (%)*
Gender		
Male	60	40
Female	40	62
Age band		
16-25	7	12
26-35	22	30
36-45	31	31
46-55	28	20
56-65	12	7
Education level		
Low	41	45
Medium	45	41
High	15	14
Marital status		
Married	63	41
Single	30	51
Other	6	8
Occupation		
Legislators	7	1
Professionals	10	8
Assiciate Professionals	20	13
Clerks	12	12
Service Workers	12	19
Skilled Agricultural	3	2
Craft	17	11
Plant and Machine Operators	9	6
Elementary Occupations	10	29
Region		
C1	9	7
C2	2	1
C3	3	2
C4	14	10
D1	3	2
D2	4	4
D3	6	4
D4	3	2
D5	7	5

E1	6	6
E2	2	2
E3	3	2
E4	6	6
F1	2	2
F2	2	2
F3	6	7
F4	5	7
F5	3	3
F6	4	8
G1	7	12
G2	3	4
Sector of Economic Activity		
Primary	5	11
Industry	30	16
Services	65	73

Source: Authors' elaborations based on Italian LFS data.

Table 5. INE determinants in Italy (1999-2010) - model with year dummies

Variable	*Characteristics*	*Marginal effects*	
Gender	Female	0.066***	(0.002)
Age	26-35	-0.013***	(0.001)
	36-45	-0.034***	(0.001)
	46-55	-0.057***	(0.020)
	56-65	-0.070***	(0.003)
Marital status	Single	0.024***	(0.001)
	Other	0.019***	(0.001)
Education	Low	0.003*	(0.002)
	High	0.030***	(0.001)
Occupation	Legislatives	-0.031***	(0.002)
	Professionals	-0.007***	(0.001)
	Clerks	0.012***	(0.001)
	Service workers	0.057***	(0.002)
	Skilled agricultural	0.083***	(0.004)
	Craftsmanship	0.055***	(0.002)
	Plant/machine operator	0.032***	(0.002)
	Elementary	0.178***	(0.005)
Sector	Agriculture	0.118***	(0.004)
	Industry	-0.040***	(0.002)
Year dummies	2000	0.003*	(0.002)
	2001	0.006***	(0.002)
	2002	-0.002	(0.002)
	2003	-0.003	(0.002)
	2004	0.048***	(0.003)
	2005	0.065***	(0.004)
	2006	0.073***	(0.004)
	2007	0.087***	(0.004)
	2008	0.087***	(0.004)
	2009	0.089***	(0.005)
	2010	0.102***	(0.004)
Regional dummies	Piemonte	0.006***	(0.002)
	V. d'Aosta	0.004	(0.010)
	Liguria	0.019***	(0.004)
	Trentino	-0.006	(0.008)
	Alto Adige	0.018***	(0.007)
	Veneto	-0.001	(0.003)
	Friuli	0.008***	(0.003)

	E. Romagna	0.006*	(0.003)
	Toscana	0.020***	(0.003)
	Umbria	0.025***	(0.004)
	Marche	0.012***	(0.002)
	Lazio	0.035***	(0.002)
	Abruzzo	0.033***	(0.006)
	Molise	0.045***	(0.009)
	Campania	0.033***	(0.004)
	Puglia	0.045***	(0.009)
	Basilicata	0.041***	(0.011)
	Calabria	0.071***	(0.014)
	Sicilia	0.069***	(0.008)
	Sardegna	0.049***	(0.008)
Demand sectors	Share of empl.	0.0002	(0.001)
Unemployment	Regional unempl. rate	0.002***	(0.0002)
Growth	Regional GVA growth	-0.0003	(0.0002)
Social exclusion	NEET	0.0002	(0.001)
	SECTION B		
Dependent children	No.of children	0.059***	(0.000)
Education	Low	-0.989***	(0.000)
	High	-0.323***	(0.000)
Constant		0.597***	(0.000)
No. of observations		2,696,233	

Note: standard errors in parenthesis. ***, * indicate significance at 10, and 1% respectively.

Table 6. INE determinants in Italy (1999-2010) - model with labour reforms

Variable	*Characteristics*	*Marginal effects*	
Gender	Female	0.063***	(0.002)
Age	26-35	-0.012***	(0.001)
	36-45	-0.032***	(0.001)
	46-55	-0.054***	(0.002)
	56-65	-0.067***	(0.002)
Marital status	Single	0.024***	(0.001)
	Other	0.019***	(0.001)
Education	Low	0.001	(0.002)
	High	0.031***	(0.001)
Occupation	Legislatives	-0.030***	(0.002)
	Professionals	-0.006***	(0.001)
	Clerks	0.012***	(0.001)
	Service workers	0.057***	(0.002)
	Skilled agricultural	0.081***	(0.004)
	Craftsmanship	0.055***	(0.002)
	Plant/machine operator	0.032***	(0.002)
	Elementary	0.175***	(0.005)
Sector	Agriculture	0.114***	(0.004)
	Industry	-0.039***	(0.001)
Regional dummies	Piemonte	-0.002	(0.001)
	V. d'Aosta	-0.019***	(0.007)
	Liguria	-0.002	(0.003)
	Trentino	-0.011	(0.007)
	Alto Adige	0.011*	(0.006)
	Veneto	-0.006**	(0.003)
	Friuli	-0.004*	(0.002)
	E. Romagna	-0.005**	(0.002)
	Toscana	0.009***	(0.003)
	Umbria	0.019***	(0.004)
	Marche	0.009***	(0.002)
	Lazio	0.035***	(0.002)
	Abruzzo	0.026***	(0.005)
	Molise	0.032***	(0.007)
	Campania	0.037***	(0.004)
	Puglia	0.037***	(0.008)
	Basilicata	0.031***	(0.009)
	Calabria	0.055***	(0.012)

	Sicilia	0.060***	(0.007)
	Sardegna	0.038***	(0.007)
Demand sectors	Share of empl.	0.001**	(0.001)
Unemployment	Regional unempl. Rate	0.003***	(0.0001)
Growth	Regional GVA growth	-0.001***	(0.0001)
Social exclusion	NEET	-0.007***	(0.0004)
Labour reforms	Ordinal variable	0.057***	(0.002)
	SECTION B		
Dependent children	No.of children	0.059***	(0.000)
Education	Low	-0.989***	(0.000)
	High	-0.323***	(0.000)
Constant		0.597***	(0.000)
No. of observations		2,696,233	

Note: standard errors in parenthesis. ***, **, * indicate significance at 1, 5, and 10% respectively.