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# **Non-standard work, low-paid work and employment dynamics: evidence from an occupational perspective**

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This paper aims to analyze phenomena such as the diffusion of non-standard work and the incidence of low-paid work from a distinctive, and generally neglected angle: that of occupations. Much can be gained from a more fine-grained analysis of labour market dynamics that casts light on which occupations contributed to aggregated trends and how, and highlights different paths for different occupations, or groups thereof. This is what is done in this paper, using the Italian case to provide evidence for an exploratory – and, at this stage, mainly descriptive – study of trends observable in many advanced labour markets (the spread of non-standard work and of low-paid work), carried out within a perspective that focuses on occupations rather than on the whole labour market. After having depicted in the next section the main economic and employment trends over the past 20 years as well as the basic features of the regulatory framework of the Italian labour market, the second section carries out a detailed empirical analysis of the Italian labour market with an occupational perspective looking at the determinants of three outcome variables: non-standard work, part-time and low-pay work, and at the transitions in and out of those employment states. The third section focuses on a selection of specific occupations that are singled out and analysed with the intent to illustrate their distinctive features. The final section concludes.

## **1. The Italian labour market: main trends and recent institutional changes**

Employment in Italy grew for more than ten years beginning in the mid-1990s and continuing to the outburst of the economic crisis in 2008. This period also witnessed a wave of labour market reforms. Starting in 1997, the liberalization of temporary agency work and of private employment services was followed by the implementation of EU directives on part-time work (2000) and fixed-term contracts (2001), and a further round of liberalization was then implemented at the margin in 2003. Despite some slight re-regulation of fixed-term contracts in 2008, Italy was the OECD

country that liberalized its labour market the most during this period. Furthermore, this was accomplished exclusively by reducing constraints to hiring through temporary contracts (direct-hire fixed-term, temp agency work, independent contractors). Regulation of part-time work was also relaxed, not least through giving validity to clauses that allowed – to a certain extent – the employer to adjust the timing and overall length of work provision so as to accommodate production needs.

Trends of overall employment and employment rates can be seen in Figure 1, while the growth of part-time and temporary work can be seen in Figure 2. In particular, these figures show that in the course of the past 25 years the share of employees with fixed-term contracts has tripled and reached the average European (i.e. European OECD member states) levels. In 1990, this share was only about 5% in Italy, half of the French, German and European levels (10.5% in all three cases); however, it increased to about 14% in 2012, while in the same period it grew to 15% in France and to 14% in Germany and the rest of Europe. Meanwhile, the share of employees with fixed-term contracts in the 15-24 age bracket increased fivefold, from 11% in 1990 to 53% in 2012 (from 26% to 39% in Europe, from 38% to 55% in France, from 34% to 53% in Germany).

Labour market liberalization at the margin through the implementation of fixed-term contracts was devised as a strategy to provide young workers with a port of entry into the labour market within the context of youth unemployment rates that hovered around 30% in the mid-1990s (Figure 3) and opposition of the trade unions to deregulation of employment contracts for open-ended workers. A port of entry it may have been, indeed, but it came with a high measure of persistence in fixed-term contracts (Berton et al. 2012). Coupled with the failure to adjust the social protection system to the new labour market regulative order (and the ensuing dynamics), labour market reforms have created a system of ‘flex-insecurity’ (ibidem). At the systemic level the effect of labour market insecurity has been underinvestment in training and human capital formation. Thus, the result is one of the most prominent causes of Italy’s biggest curse in the new millennium: stagnant productivity growth (Cappellari et al. 2012, Lotti and Viviano 2012, Lucidi 2012).

The impact of the economic crisis of 2008 on employment has been momentous, resulting in an overall loss of half a million jobs between 2008 and 2012 (see Figure 1). Unemployment rates figures reverted to those of the mid-1990s (see Figure 3) and actually overtook them, reaching an overall unemployment rate of 12.5% and a youth unemployment rate of 40.4% in September 2013.

Initially, the main strategy adopted by the Italian government to tackle the employment consequences of the crisis lay in widespread use of short-time work schemes (Sacchi et al 2011, Sacchi 2013a). Such schemes have a double advantage for governments: 1) they keep unemployment figures low, as workers in STW are still registered as employed, even when their monthly work hours are reduced to zero – something possible under the Italian regulation – and 2)

they are discretionary, non-rights-based schemes, dependent upon approval from the public authorities after joint examination by trade unions and the firm. Thus unemployment rose, but the increase was relatively contained in comparison to most other EU countries, given a cumulated 4.5% GDP loss between 2008 and 2011 as well as considering that in order to keep the public balance under control, Italy did not introduce any meaningful stimulus package (Cameron 2012). While in deficit for the first time in 19 years, Italy's primary balance was only 0.7% in 2009 (with a 5.5% GDP loss) and again balanced the following year.

The crisis however deteriorated, evolving into a sovereign-debt crisis in the Eurozone following the mismanagement of the Greek crisis by EU institutions and member states. Low-growth, low-performance, debt-ridden Italy started to come under attack in the bond markets in the summer of 2011. In November 2011, at the nadir of international investors' confidence in Italy, a new non-partisan government was formed, led by Mario Monti, on a platform of structural reforms. A wide-ranging labour market reform was then passed in June 2012. The main innovations introduced by this reform on the Italian regulatory framework are summarized below<sup>1</sup>.

Differently from the reforms introduced during the previous 20 years, the 2012 labour market reform addressed employment protection for open-ended workers. In general, no severance pay is introduced by the reform; so in order to get monetary compensation the worker must go to court and challenge the justification of the dismissal. Dismissal protection in firms below 15 employees is left unchanged. Thus, a dismissal found to be discriminatory is null and void, but in any other case, a dismissal ruled as unjustified by the judge only leads to monetary compensation (between 2.5 and 14 month salaries, depending upon firm size and the worker's seniority in the firm). Where the 2012 reform introduces significant innovations is with respect to dismissals (other than those found to be discriminatory, which are null and void) in firms over the 15-employee threshold. In these cases, the sanctions for individual dismissals found by the judge to be unfair were reformed, introducing the possibility that reinstatement could be substituted by monetary compensation.

For economic dismissals, a conciliation procedure becomes mandatory, whereby an agreement can be reached between the two parties, assisted by lawyers, consultants and union representatives, meeting before a dispute resolution committee. If the conciliation procedure does not result in an agreement, and a lawsuit is filed by the worker because the dismissal is judged to be unfair, the worker cannot be reinstated, but receives monetary compensation ranging between 12 and 24 months of wages, as determined by the judge. This procedure remains unless there is a manifest lack of motive in economic dismissal in which case the judge may decide to reinstate the worker

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<sup>1</sup> The 2012 reform wide-ranging and complex, spanning across various policy areas and introducing more changes beyond those mentioned here. See Sacchi (2013b) for a thorough account of the policymaking, motivation and contents of the reform.

(with foregone wages capped at 12 months)<sup>2</sup>. Generally speaking, therefore, a worker dismissed on economic grounds will not be reinstated. S/he will receive no money unless a monetary deal is struck in the dispute resolution stage, or unless s/he challenges the dismissal and the judge finds it to be unfair. Given the role still played by the courts in the new regulatory framework, the actual effect of the reform can only be ascertained empirically.

Regulation of fixed-term contracts was also changed in 2012 and again in 2013, allowing employers to hire workers up to one year without having to specify the reasons for using a fixed-term contract. Finally, unemployment insurance was changed by the reform as of 2013. Former unemployment benefits are replaced with a new scheme, the ASPI (*Assicurazione Sociale per l'Impiego*, Social Insurance for Employment). While the basic rules for eligibility remain the same, generosity of the benefit is increased, and once the reform is completely phased in in 2016, duration of the benefits will be comparable to those of its continental counterparts (12 months, extendable to 18 months for those aged over 55 with a strong contribution record). Also, ASPI is flanked by another new scheme, called Mini-ASPI, to cater to workers with reduced contribution records and those who have been on the labour market only recently. This greatly enlarges the pool of potential beneficiaries. The monetary amount of Mini-ASPI is the same as for ASPI, but duration is proportional to the prior contribution record and is generally very short, in any case with a maximum of six months.

## **2. An occupational perspective on labour market dynamics**

### *2.1 Data and major trends*

In the following sections, we will use information coming from the Italian Labour Force Survey (ILFS) for the period from 1995 to 2011<sup>3</sup>. In particular, we focus our attention on a sample of 15- to 64-year-old employed workers from the non-agricultural sectors (with the exclusion of armed forces). With respect to our purposes, ILFS entails three major drawbacks. First, the classification of occupations changed over time in a such a way that no time-consistent series can be recovered at the two-digit level. However, we circumvented this problem by proceeding to a slight re-

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<sup>2</sup> Also the rules for dismissal on disciplinary grounds were reformed. The worker can now be reinstated (with foregone wages due up to 12 months) if the judge rules that the event leading to dismissal did not take place, or it took place but it should have been punished otherwise, according to the collective agreements. In all other cases, when disciplinary dismissal is judged to be unfair, the worker cannot be reinstated but receives monetary compensation as in economic dismissal.

<sup>3</sup> See <http://en.istat.it/lavoro/lavret/forcedilavoro/>.

aggregation of some occupational groups, as detailed in Appendix A. Second, as the available information presents a structural break in 2005 due to a change in the survey design, multivariate analysis exploits data from 2005 onwards only. Third, information on wage and income is collected only since 2008, which allows for the analysis of low-wage workers in that sub-period only.

We start by describing this sample in terms of occupations, low-pay work and non-standard employment. Figure 4 plots the share of employed workers by one-digit occupation during the whole period from 1995 to 2011. Two major long-run trends emerge: the number of craftspersons and skilled blue-collar workers started falling even before the economic crisis, while the share of professional workers doubled during the observed period. The latter trend might be consistent with an explanation based on skill-biased technological change (Autor et al. 2006; Olivieri 2012 for Italy), but this would seem to be disconfirmed by the observed growth of clerical and service-and-sales-related jobs in the post-crisis years.

As was shown in the previous section, Italy has experienced a steep increase in the share of non-standard work since the first half of the 1990s. As a matter of fact, non-standard work arrangements strongly correlate with low-pay work<sup>4</sup>. Figure 5 displays the share of workers whose hourly wage is less than two thirds of the overall median (the definition of low pay work adopted here) vs. the share of those hired under a non-standard contract. The slope of the linear relation (not displayed in the figure), estimated as the coefficient of a linear regression of the share of low-pay workers on the share of non-standard employment within each occupation, is 0.69 and largely significant. On the contrary, no immediate relationship can be detected between the growth in the share of non-standard workers between 1995 and 2011 and employment growth (figure 6). The linear relation is indeed only 0.06 and not statistically different from zero. This is consistent with both theory and empirical evidence that suggest no direct effect of the deregulation of non-standard contracts on employment growth (Bertola 1990 for theory; Kahn 2010 for recent evidence).

## 2.2. *Multivariate analysis*

Descriptive statistics can provide a comprehensive picture of the trends involving non-standard and low-pay workers in the many occupations observed, but of course any tentative interpretation suffers from the risks of composition effects, spurious relations among variables, reverse causalities and the like. In this section we present the results from a number of multivariate regressions pooled on a set of repeated cross-sections of our reference population<sup>5</sup>. In particular, we estimate logistic models of the individual probability of being a non-standard worker, a part-time worker, and a low-

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<sup>4</sup> Non-standard workers include fixed-term direct hires, apprentices, trainees, temp-agency workers, seasonal workers and wage and salary independent contractors.

pay worker as a function of individual, family, geographic, educational, sectorial, occupational, job-, career-, and firm-related characteristics, as well as of a time-trend, and finally we focus on the relevance of each broad set of characteristics for the three outcomes (non-standard, part-time and low-pay). The probability of being a non-standard worker is estimated under the assumption that this also determines the level of pay. Therefore, the probability of being a low-pay worker includes the type of contract (standard vs. non-standard) as a control variable, but due to lack of information on wage, it is estimated using data from 2008, 2010 and 2011 only. The probability of being a part-time worker is estimated on women only as part-time work in Italy mostly involves female workers (a third of all employed among females in contrast to only 7.5% among males) and involves choices that are strongly related to the household composition, which we control for in this specification. Being a part-time worker is then used as a control variable in both the non-standard and the low-pay models. Finally, transition probabilities at one-year distances are estimated exploiting the longitudinal nature of a sub-sample within ILFS. Transitions from non-standard employment to standard jobs are investigated first, then transitions from part-time to full-time work. Transitions from low-pay to non-low-pay work could not be modelled as information on wage is not available in longitudinal data.

### *2.2.1. Evidence from cross-sectional analysis*

In this section we focus on the relationship between sets of worker characteristics and the probability of being non-standard, part-time or low-wage. First and foremost, it can be seen in Table 1 that the Italian labour market is burdened with a strong gender issue. As mentioned, it is well known that women face a much higher probability than men to work part-time; on top of that, we also find that they are much more at risk of both holding a non-standard job (41% higher risk than men) and of being low-paid (54%). This can be explained in terms of the employers' reluctance to invest in female workers' careers (Morris and Vekker 2001; Petrongolo 2004). Both the probability of holding a non-standard contract and of being low-paid decrease with age. The nature of this effect is twofold. First, for each single individual the two probabilities are likely to fall over time as individual careers evolve. More importantly, however, a cohort effect is in place as older workers, who entered the labour market before its substantial deregulation starting in the late 1990s, are more likely to hold a standard contract and to get a higher pay. This however does not hold for part-time work. The age profile of the probability of working part-time – again, estimated only for women – is inverse U-shaped: it increases until the age class 35-39, and then decreases. This hints at the fact

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<sup>5</sup> We dropped individuals aged 15 to 19 due to their very low participation rate.

that employed women working in Italy reduce their labour supply following maternity, possibly increasing it again later on<sup>6</sup>. Household characteristics support this interpretation: employed women with children (below 14) are more likely than women without children to work part-time, irrespective of whether they live with a partner or are singles; similarly, labour supply is larger for single women than for those living with a partner, irrespective of the number of children. As a result, the probability of working part-time is lowest for singles without children, and largest for married women with children.

Non-Italian women are more likely than Italian women to work part-time, a result that should take into account a strong selection issue in the analysis. As only employed workers are sampled, so that non-participants are automatically excluded, this does not contradict the evidence that non-Italian women tend to decrease their labour supply less than Italian ones in order to take care of the family (Bertolini et al. 2007). Also, they have a higher risk of being low-paid, which is consistent with the fact that much of the immigration to Italy consists of low-skilled workers. No meaningful difference emerges instead between Italians and non-Italian with respect to the probability of holding a non-standard contract. Labour market conditions – in terms of employment protection and of the level of pay – worsen from northern to southern regions, where, furthermore, part-time jobs are less available.

Education represents an investment from which one expects to receive valuable returns once on the labour market; it thus also represents a measure of one's willingness to participate in the labour market. Consistently, we observe that both the probability of working part-time and of being low-paid decrease with education. Quite surprisingly, however, workers with a tertiary education degree are much more likely than less educated workers to hold a non-standard contract. The explanation might reside in an age-composition effect: younger workers are indeed more likely both to work under a non-standard arrangement, as they entered the labour market after its deregulation had occurred, and to hold a higher education degree. We tested this hypothesis by estimating the same model of holding a non-standard contract on a sub-sample of workers aged 40 or more: most of these individuals, indeed, entered the labour market before the major deregulation waves took place. Results – not displayed here – show that the effect of holding a higher education degree reduces, but does not disappear. The odds ratio, indeed, falls from 1.6 to 1.3, meaning that other things being equal, employed workers aged 40 or more with a tertiary education degree are 30% more likely to

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<sup>6</sup> This is likely to be correlated with low availability of child care for very young children. While the percentage of Italian children between 3 and 5 attending crèches is very high, with almost complete coverage (similar, among large West European countries, France and Spain, and higher than that of Germany and the United Kingdom), the share of children under the age of 3 attending crèches is less than a third, which is lower than in France, the United Kingdom and in Spain, although markedly higher than in Germany (Sacchi 2014). Yet there is huge variation in coverage between the North and Center on the one hand, and the South on the other hand (Pavolini 2011).

hold a non-standard contract than workers with lower educational attainments. Complementary explanations include the presence of women – who, among young generations in particular, are more educated than men but on average more likely to work under a non-standard arrangement, as commented above – , the role of the public sector – which requires a tertiary education degree for most positions; however, due to budget restraints, it has seldom hired under open-ended contracts during the last decade – and semi-independent work arrangements, which in most cases involve graduates under a wage-and-salary independent contract. Excluding from the sample these groups – women, the public sector and independent contractors – further reduces the effect under scrutiny, which nonetheless does not disappear. The residual effect may thus be interpreted in terms of risk aversion, which is lower among the highly educated. In other words, high-educated workers may be more willing to accept a non-standard job in order to pursue the type of career they have studied for. Testing this hypothesis is not an easy task and falls beyond the scope of the present paper; however, Pfeifer (2008) finds some supporting evidence for German workers.

As for different sectors, when compared to manufacturing, the service sector makes a relatively abundant use of non-standard work arrangements and pays poorer wages, while at the same time provides women with fewer part-time positions. For the analysis in terms of occupations we used elementary jobs (ISCO 8) as a benchmark and then estimated average shifts for the remaining ISCO branches. We neglect to comment on managers and legislators (ISCO 1), due to their particular (and, in our perspective, less interesting) working conditions, and instead focus our attention on the other groups. The most interesting result is that workers employed in elementary occupations consistently face the highest probabilities of holding a non-standard contract, of working part-time and of being low-paid in every single specification. Looking at the other occupations, no large differences emerge among professionals, sales workers, craftspersons, skilled blue-collar workers, and plant and machine operators with respect to the probability of holding a non-standard job, as odds ratios range from 0.71 to 0.80. Clerks (0.62) and technicians (0.55), however, enjoy a smaller probability of holding a non-standard contract than those categories. With respect to the benchmark provided by workers in elementary occupations, the probability of working part-time is half as large among clerks and service and sales operators and even smaller within the other groups. Service and sales workers also have a markedly higher probability of being low-paid than all other occupations (except elementary ones).

When focusing on firm size, the probability of holding a non-standard work arrangement is inverse U-shaped with respect to such characteristic: therefore, it is lower for both very small and very large firms compared to middle-sized ones. This result can be interpreted in a partially different way for services and manufacture. In both sectors, very small firms – formally, up to 15 employees – face

fewer binding employment protection rules on open-ended contracts, thus having smaller incentives to hire under fixed-term contracts. For very large firms, however, two different patterns are at work: very large firms operating in the service sectors are mainly banks and insurance companies, which tend to use non-standard contracts almost exclusively as a screening device; within the industrial sector, very large firms enjoy alternative flexibility tools to non-standard work, like outsourcing and offshoring. As a flexibility strategy, very small firms appear to prefer part-time contracts, the probability of which decreases with firm size. This is rather counterintuitive though, as part-time jobs are usually deemed too costly for small employers. One piece of explanation may come from the availability of flexible and overtime clauses for part-time workers, which, as a result, has allowed employers to hire workers under part-time agreements and to freely move their shifts or make employees work full-time within the working week with very short notice<sup>7</sup>. In addition, qualitative evidence shows that small firms may formally hire under a part-time contract, while making employees work full-time on an informal basis, and then pay a top-up net wage to the worker “under the table”. Finally, the evidence, displayed in Table X.1, that small firms pay poorer wages, thereby their workers have a higher probability of being low-wage, is well-expected.

When reviewing the characteristics of individual careers, part-time workers are more likely than full-time employees to hold a non-standard contract; on the contrary however, part-timers face a lower risk of being low-paid. Non-standard contracts are then a strong autonomous determinant of the probability of being low-paid, which confirms the descriptive evidence in our initial charts. Labour market entrants are more likely to hold a non-standard or a part-time job, but not necessarily are they low-paid. Having been employed in the previous period reduces the probability of all our outcome variables.

Eventually, time dummies suggest that the use of non-standard contracts increased until the onset of the economic crisis, shrank in the following years as adjustment mainly occurred through their non-renewal, and then rose again as a means of substituting workers for those under open-ended contracts, who retired or were laid off through collective dismissals. The use of part-time work, however, has been on a steady increase throughout the crisis. The series, though, appears too short in order to draw even a tentative description of the trends involving low-pay work.

### *2.2.2. Evidence from longitudinal analysis*

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<sup>7</sup> Such clauses have been repeatedly modified by right and left governments over the past 15 years with the former deregulating the matter and the latter re-regulating it. The 2012 labour market reform has again re-regulated the matter in order to prevent blatant abuses on the part of the employer.

The results of the longitudinal analysis are displayed in Table 2. As mentioned, they pertain to transitions from non-standard to standard employment (second and third columns) and to transitions from part-time to full-time employment (fourth and fifth columns), estimated, as usual, only for women. Transitions towards standard employment represent only one in a series of alternative potential labour market outcomes for those who were employed with a non-standard contract the previous year: the others include unemployment, non-participation and persistence in non-standard employment. A multinomial logit model of the probability of moving from non-standard to standard employment is thus estimated, where the alternative outcomes are unemployment and inactivity (not shown here), and the reference state is persistence in non-standard work<sup>8</sup>. The second column in Table 2 displays parameter estimates rather than odds ratios, hence the main information is provided by the sign of the parameter. Furthermore, odds ratios are reported in the fourth column of Table 2, thus showing transitions from part-time to full-time employment.

A closer look at the estimates suggests then that women enjoy less frequent transitions to standard employment than men. Irrespective of gender, this probability grows until the age of 30 and then remains flat with respect to age. The probability of moving from part-time to full-time employment (for women) follows the opposite path, i.e. at first decreases and then becomes flat. These results are hardly surprising: as for the first, employers are less keen on offering open-ended contracts to women due to the possibility of maternity leave. As for the second, non-standard employment is more likely among youth and during the initial portion of one's career. In other words, as time (and hence age) goes by, job-shopping, screening and matching arguments predict more frequent transitions to standard work. Finally, the evidence pertaining to the relationship between transitions from part- to full-time on the one hand, and age on the other, suggests again that as family burdens increase, the possibilities for women to work full-time decrease. However, education increases the probability to move (back?) to full-time work.

No clear pattern, instead, emerges as far as occupations are concerned. Compared to the benchmark provided by elementary occupations, transitions to standard employment are significantly less likely for professionals – again, consistent with the hypothesis that high-educated workers are prepared to enjoy lower employment protection in order to be employed in the job they prefer within a given occupation – but relatively more frequent for clerks, service shop and market sales workers, craftspersons and skilled blue-collars. Among women, professionals also have a higher probability to move from part-time to full-time jobs. Transitions to standard employment are less likely in the service sector than in manufacture. When focused on firm size, results show that the chance of

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<sup>8</sup> Estimates related to transitions from agency jobs to standard employment are not reliable due to the extremely limited number of agency workers in the data (as a matter of fact, agency work makes up only 1% of the employed workforce in Italy). For this reason, such estimates are omitted from Table 2.

moving from a non-standard to a standard job is highest in very small firms (up to ten employees) and quite flat for larger companies. Again, this can be easily explained in terms of employment protection legislation, which in Italy is much less binding for firms employing up to 15 workers. The firm-size profile of the probability of moving from a part- to a full-time job is hump-shaped: once combined with the cross-sectional evidence commented on above, this implies that small firms make a relatively abundant use of part-time work but transform these positions into full-time jobs at a high rate. Finally, there is some – albeit very weak – evidence that transitions from part-time to full-time work decreased over time; while the trend of transitions from non-standard to standard work is more mixed.

### 3. Case studies

After having analysed in detail the determinants of our outcome variables in a multivariate setting and the transitions between different occupational states, we will now turn to illustrating cases of selected occupations, describing their characteristics in more detail. In particular, we will focus on the values taken for each with respect to the share of non-standard work, the share of part-time work, and the share of low-pay work; and for changes in the share of non-standard work in these occupations between the beginning and the end of our observation period.

We have selected four groups of occupations considered as illustrative of different labour market segments. The first group of occupations may be considered representative of highly regulated labour markets in past times in the sectors of manufacturing and services: skilled manufacturing workers on the one hand and bank clerks on the other<sup>9</sup>. The second group of occupations is selected within the overall category of professional occupations, which can however be expected to conceal substantial variation. Thus we selected medical doctors (health professionals, occupation 24), academics and teachers of all grade levels (occupation 26) and architects and engineers (occupation 22)<sup>10</sup>. The third group of occupations belongs to service and sales occupations: sales workers (occupation 51) and operators and personnel in tourism and hotels (occupation 52). The fourth occupational group (occupation 80: elementary occupations in trade, services, and domestic and cultural activities) could not be disaggregated further for reasons of data comparability over time and includes a diversity of cleaners (from street cleaners to house cleaners), janitors, porters and the

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<sup>9</sup> Unfortunately, due to data limitations, information on the share of non-standard work in these occupations in 1995 is missing; thus we cannot compute the changes in non-standard employment for them.

<sup>10</sup> Occupation numbers and labels refer to Appendix A.

like, plus street vendors. Despite its variety, it is basically comprised of cleaners and janitors and thus mostly homogeneous except for street vendors.

Table 3 provides relevant descriptive statistics on each of the selected cases, while Table X.4 summarizes the main findings from the case studies.

### *3.1. Architects and engineers*

Architects and engineers are an occupational group that presents several interesting peculiarities when assessed comparatively, both with respect to total averages and with respect to the other selected occupations in the professionals category. After growing impetuously between 1995 and 2011, they now number three times as much as in 1995 (the largest increase among the cases studied here), make up about 1.5% of total employment and are employed in the service sector in seven out of ten cases. They all are high skilled given the definition adopted in this section (completion of tertiary education). The share of younger workers (20-35) is in line with the overall average (that is, across all occupations), notwithstanding the fact that such workers have to be concentrated in the oldest sub-cohort to have attained tertiary education. Quite surprisingly, given what has just been mentioned and the high educational attainment of younger female cohorts, this is still a markedly male-dominated occupation: less than a quarter of workers in this occupation are women. Another peculiar feature of this occupation is that a majority of workers (56%) are self-employed. Also as a consequence of the last two facts, the share of part-time workers is roughly half the overall average. The share of low-pay workers is less than 4%; however, due to data limitations, this can only be computed for dependent workers in this section, which neglects more than half of the workers in this occupation. Non-standard employment is in line with the overall average, but it has increased enormously (by 7.5 times) from a very low baseline in 1995.

### *3.2. Medical doctors*

This occupation makes up 1.2% of total employment, almost entirely in the service sector, and has been stagnant over the 1995-2011 period (+18% only). A majority of doctors are employees (57%), but the share of self-employed is however a large one. Despite the necessity of tertiary education for this occupation, women make up only a third of the employment, less than the overall average. Contrary to other high-skilled professionals such as architects and engineers, however, the share of young workers is very low – half the overall average – probably due to long specialization periods before formal employment. As for the incidence of part-time and low-pay work, the same

considerations made for architects and engineers are in order given the high proportion of self-employed. It is however remarkable that among doctors working as dependent workers, a 3% share receiving low-pay is small but non-negligible. As for non-standard work, while somewhat lower than average, its share has tripled since 1995 against the backdrop of virtually no employment growth.

### *3.3. Teachers and academics*

This large occupation includes academics as well as teachers of all grade levels. It has doubled its size since 1995 and makes up a large part of overall employment: 5.5%, mostly comprised of dependent workers. The share of young workers, however, is very low: only slightly more than one in ten workers in this occupation belong to the age class 20-35. This is the occupation that has the highest share of female workers of all occupations in the Italian labour market: 80% (more than twice the overall average), mostly concentrated in schools. Those with tertiary education make up 60% of the total, with 40% holding an upper-secondary degree, as a result of the fact that until the early 2000s teachers in pre-primary and elementary schools could be hired with a degree from a (upper-secondary) school of education with no academic training. Incidence of part-time employment is lower than average, and incidence of low-pay is lower than 2%. Non-standard employment has increased twofold since 1995, thus at a slower pace than average, but – already taking off from a very high point at that time – it still is well above average in levels. As a matter of fact, the term *precari* (precarious workers) was first used in Italy to mean untenured teachers whose contracts coincide with the school year (at best) and are thus unemployed during the summer months or are hired on call to substitute for maternity or sickness leaves. This does not need to cast doubts on the figures regarding the incidence of low-pay because the latter refers to hourly wages rather than yearly incomes.

### *3.4. Sales workers*

Despite no growth at all since 1995, still almost one worker in ten in Italy is employed in this occupation. It features a high share of self-employed (almost half of the workers) and the third highest share of young workers in the Italian labour market. More than half of the workers in this occupation are women, and four workers in ten have only lower-secondary education at most (while only four in a hundred have completed tertiary education). Part-time employment is relatively high

for Italian standards and so is incidence of low-pay work. The share of non-standard work is now average, but it has increased fivefold since 1995.

### *3.5. Tourism and hotels personnel*

This is a large occupational group in terms of employment, making up for almost 5% of total employment. It has increased by 50% since 1995, which is in line with the overall average. Two thirds of the workers are employees with a large share of women (about 55%) and the largest share of young workers among all occupations in Italy (four in ten workers are in the age bracket 20-35). Almost half of the workers are low-skilled, and the share of part-time work is twice the overall average and one of the highest across occupations in Italy. Incidence of non-standard work has consistently been high due to the seasonality of this industry, but it has increased at a slower pace than average. The share of low-pay – calculated, as usual, only for dependent workers – is very high; more than twice the overall average and the second highest among all occupations after some elementary occupations in agriculture.

### *3.6. Cleaners, porters, janitors, street vendors*

As mentioned, this is a large occupational group that could not be further disaggregated for reasons of data comparability over time. Its share of overall employment is large and comparable to sales workers. It is mostly comprised of dependent workers (with the obvious exception of street vendors) mostly employed in the service sector (but a quarter is employed in manufacturing), and it has grown roughly in line with the overall average since 1995 (+40%). Female employment is high; while the share of young workers is slightly lower than average. At 40%, incidence of part-time employment is the largest across occupations in Italy. The share of highly educated workers is low and similar to that of the service and sales occupations, but as could be expected, the share of those with low educational attainment is very large indeed: more than 60%. As a consequence, incidence of low-pay (excluding street vendors) is extremely high, on par with that of personnel in tourism and hotels. The fact that employment in manufacturing still hovers at 25% probably prevents even higher levels of low-pay than would otherwise be the case given the skills and educational levels of workers in this occupation. Non-standard work was high in 1995 but has grown at a much slower pace than average (only +70%); thus its incidence now is slightly lower than average.

### *3.7. Skilled manufacturing workers*

Employing almost 15% of workers, this is the largest occupational group in Italy and testifies to the enduring importance of manufacture. Almost completely dominated by males (female employment is as low as 8%), it features a higher-than-average share of young workers. The self-employed make up a third of workers in this occupation, which probably hints at processes of erosion of dependent employment. Unfortunately however, longitudinal comparisons are not possible due to data limitations. A large majority of workers (about two-thirds) only accomplished lower-secondary school at best (thus their labelling as skilled workers has to do with the type of tasks they perform rather than with education). Part-time work is very low, following low female employment; while the share of non-standard workers is way below average but not at all negligible (more than one in ten workers), probably also due to apprenticeship. The share of low-pay is about average.

### *3.8. Bank clerks*

This is a small occupation in terms of its share of overall employment and employs less than one worker in a hundred. Female employment is high (almost 60%), and despite a relatively high share of high-skilled workers (a third of the workers have attained a university degree), incidence of young workers is also high (the high share of high-skilled can of course be read as a consequence of the high incidence of younger workers who, on average, are more educated than those in older cohorts). Part-time work is about the average, and the share of non-standard work is lower than average but still about 10%, typically due to training contracts (which display high transition rates into open-ended employment: see Berton et al. 2009). Incidence of low-pay is extremely low, at about 1%.

## **4. Conclusion**

Usually depicted as rigid, Italy's labour market is actually far from being so. It is flexible but highly segmented. A long cycle of reforms at the margin has allowed non-standard work to grow impressively over the past twenty years to reach the European average. While largely untouched by regulatory reforms (until very recently), employment protection for open-ended workers was targeted by a wide-ranging reform in 2012, which also innovated the area of unemployment compensation (and further deregulated fixed-term contracts). Its effects in terms of reducing

segmentation are however still to be seen; while the macroeconomic conditions are the least favourable since WWII.

Dualisms in the Italian labour market are well known and documented, and often overlapping. These have created chasms between open-ended workers in large firms and in small firms, between non-standard and standard workers, between men and women, between young and older workers, and – last but certainly not least – between two completely different labour markets in the North and the South, with the rift between the two now as large as in the 1950s. Through distinctive occupational lenses, this paper has added layers to existing knowledge on the Italian labour market. It has provided further, more detailed evidence regarding some already known phenomena (the disadvantage of women, for instance, who are more at risk of being non-standard and low-paid and face lower transitions from non-standard to standard work or endure the strong autonomous causal import of non-standard work on low-wage conditions). By looking at occupations, it also provided causal evidence regarding some facts that are generally supported by anecdotal evidence alone. One is the higher preference, robust to all sorts of controls, of the highly educated for non-standard job contracts, which might hint at lower risk aversion among this group – or, put differently, their higher willingness to take on less protected contracts in order to realize their work-related goals and aspirations. This is also indirectly asserted by the lowest – across all occupations – probability of transitions from non-standard to standard work among professionals (who are the most educated). Another example is the existence of yet another segmentation between occupations. Workers employed in elementary occupations face the highest probabilities of all three inferior employment outcomes in the Italian labour market: holding a non-standard job, working part-time and being low-paid<sup>11</sup>. They also have the lowest probability of transition from non-standard to standard employment (excluding professionals). Service and sales workers also have a distinctively higher probability of being low-paid compared to all other occupations except elementary ones.

Case studies helped complement such evidence with more fine-grained information on selected occupations and, in particular, those just mentioned (see Table 4). While high-skilled, highly educated professional such as architects and engineers display very high growth rates of non-standard work at the same time as their employment levels are expanding. This, however, does not seem to create problems of low-pay work (although we do not have information about the large share of those who are self-employed, where bogus self-employment associated to inferior pay – and social security – conditions may well take place). However, this occupation is still very much male dominated, casting a gloomy light on employment growth. From the case study analysis,

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<sup>11</sup> Of course, holding a non-standard contract and working part-time need not in principle be an inferior condition as compared to holding a standard contract. Our previous work (Berton et al 2009, 2012) shows that in Italy this is the case.

elementary occupations that employ a large share of workers such as cleaners and janitors together with workers in tourism and hotels stand out as particularly problematic, although these sectors are an important source of employment in Italy. Despite differences in terms of the composition of workers (a higher share of younger workers in tourism, a higher share of employees among cleaners and janitors) and particularly in terms of the incidence of non-standard work (traditionally very high for both occupations but whose growth has halted in recent years for cleaners and janitors), these two occupations are mostly comprised of very low educated workers with a very high incidence of low pay. Skill upgrading seems very difficult for these workers; although some of those younger workers employed in tourism and hotels might be students taking up side jobs while completing their studies (nevertheless the share of those with very low educational attainment remains large). The combination of skill upgrading on the background of low educational attainment in conjunction with the issues of (low) productivity and employability of workers made redundant in the current employment crisis results in the two big challenges of Italy's labour market and, in general, its entire economic system at the present moment.

## Appendix A

<i>Occupation code</i>	<i>Description</i>	<i>Label</i>
<b>11</b>	Legislators, members of governing bodies, managers of the P.A.	<b>Legislators and Managers</b>
<b>12</b>	Managers, directors and officers of private firms	
<b>21</b>	Professionals in math, chemistry, information technologies, and physics	<b>Professionals</b>
<b>22</b>	Engineers and architects	
<b>23</b>	Professionals in life sciences	
<b>24</b>	Health professionals	
<b>25</b>	Professionals in humanities, social sciences and arts	
<b>26</b>	Professionals in education and research	
<b>31</b>	Technical jobs in science, engineering and production	<b>Technicians</b>
<b>32</b>	Technical jobs in health and life sciences	
<b>33</b>	Technical jobs in management, finance and trade-related activities	
<b>34</b>	Technical jobs in public and personal services	
<b>41</b>	Clerical jobs in the areas of management, accounting and administration	<b>Clerks</b>
<b>42</b>	Clerical jobs in the areas of money transfers and customer care	
<b>50</b>	Skilled jobs in the areas of health care, assistance, cultural, security, cleaning and personal services	<b>Service and Sales</b>
<b>51</b>	Skilled jobs in trade-related activities	
<b>52</b>	Skilled jobs in hotel and restaurants	
<b>61</b>	Craftspersons and skilled blue-collars in the areas of mining, construction and building maintenance	<b>Craftspersons and Skilled Blue Collars</b>
<b>62</b>	Craftspersons, skilled metalworkers and installers of electrical and electronic devices	
<b>63</b>	Craftspersons and skilled blue-collars in the areas of precision machinery, arts and printing	
<b>64</b>	Farmers and other workers in the areas of agriculture, fishing and hunting	
<b>65</b>	Craftspersons and skilled blue-collars in food, wood, textile, fashion and entertainment industries	
<b>71</b>	Machine operators	<b>Plant and Machine Operators</b>
<b>72</b>	Semi-skilled blue-collars in assembly lines and assemblers	
<b>73</b>	Machine operators in agriculture and food industries	
<b>74</b>	Drivers and lifter operators	
<b>80</b>	Elementary occupations in trade, services, and domestic and cultural activities	<b>Elementary occupations</b>
<b>85</b>	Elementary occupations in agriculture, fishing, farming and hunting	
<b>86</b>	Elementary occupations in manufacturing, mining and construction	

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**Table 1.** Pooled cross-sectional multivariate analysis, 2005-2011

	Odds ratios of the probability of being:					
	Non-standard		Part-time (females only)		Low-pay (2008, 2010, 2011 only)	
	314,398 observations		219,592 observations		112,373 observations	
	Odds ratio	Standard error	Odds ratio	Standard error	Odds ratio	Standard error
Male	Benchmark		-		Benchmark	
Female	1.41***	0.027	-		1.54***	0.062
Age 20-24	Benchmark		Benchmark		Benchmark	
Age 25-29	0.38***	0.012	1.12***	0.045	0.63***	0.039
Age 30-34	0.19***	0.006	1.39***	0.053	0.40***	0.026
Age 35-39	0.14***	0.005	1.65***	0.061	0.36***	0.023
Age 40-44	0.12***	0.004	1.52***	0.056	0.36***	0.024
Age 45-49	0.09***	0.003	1.23***	0.046	0.31***	0.021
Age 50-54	0.07***	0.003	0.92**	0.036	0.29***	0.021
Age 55-59	0.06***	0.003	0.86***	0.037	0.29***	0.024
Age 60-64	0.07***	0.004	0.94	0.055	0.35***	0.039
Single no child.	-		Benchmark		-	
Couple children	-		2.10***	0.059	-	
Couple no child.	-		1.44***	0.049	-	
Single mother	-		2.52***	0.096	-	
Italians	Benchmark		Benchmark		Benchmark	
EU	0.98	0.065	1.35***	0.077	2.16***	0.157
Non-EU	0.92**	0.039	1.19***	0.044	2.04***	0.111
North	Benchmark		Benchmark		Benchmark	
Center	1.25***	0.029	0.90***	0.018	1.49***	0.073
South	1.55***	0.030	0.65***	0.012	2.85***	0.108
Elem. & low-s.	Benchmark		Benchmark		Benchmark	
Upper secondary	1.02	0.022	0.96**	0.018	0.80***	0.031
Tertiary	1.64***	0.053	0.88***	0.028	0.76***	0.056
ISCO 1	0.18***	0.016	0.08***	0.006	0.41***	0.083
ISCO 2	0.80***	0.036	0.24***	0.010	0.26***	0.029
ISCO 3	0.55***	0.020	0.33***	0.009	0.28***	0.020
ISCO 4	0.62***	0.023	0.53***	0.015	0.44***	0.029
ISCO 5	0.71***	0.024	0.53***	0.014	0.70***	0.035
ISCO 6	0.75***	0.027	0.36***	0.013	0.58***	0.035
ISCO 7	0.73***	0.029	0.14***	0.007	0.45***	0.034
ISCO 8	Benchmark		Benchmark		Benchmark	
Manufacture	Benchmark		Benchmark		Benchmark	
Services	1.41***	0.031	0.72***	0.018	1.19***	0.058
Firm: up to 10	Benchmark		Benchmark		Benchmark	
Firm: 11-15	1.59***	0.047	0.67***	0.018	0.57***	0.032
Firm: 16-19	1.90***	0.072	0.60***	0.022	0.55***	0.042
Firm: 20-49	1.91***	0.049	0.52***	0.012	0.42***	0.023
Firm: 50-249	1.69***	0.042	0.42***	0.010	0.39***	0.022
Firm: > 250	1.19***	0.039	0.39***	0.012	0.36***	0.028
Full-time	Benchmark		-		Benchmark	
Part-time	1.38	0.033	-		0.89**	0.040
Standard	-		-		Benchmark	
Non-standard	-		-		2.00***	0.083
Year: 2005	Benchmark		Benchmark		-	
Year: 2006	1.11***	0.036	1.06**	0.031	-	
Year: 2007	1.16***	0.037	1.07**	0.031	-	
Year: 2008	1.24***	0.040	1.16***	0.033	Benchmark	
Year: 2009	1.18***	0.038	1.18***	0.035	-	
Year: 2010	1.17***	0.038	1.23***	0.035	1.13***	0.048
Year: 2011	1.25***	0.040	1.30***	0.037	1.32***	0.053
First job	2.12***	0.042	1.14***	0.020	1.00	0.038
Employed in t-1	0.17***	0.004	0.33***	0.008	0.61***	0.029

Source: own computations on ILFS data. Notes: \*\*\* 99% significant; \*\* 95% significant; \* 90% significant.

**Table 2.** Longitudinal multivariate analysis, 2005-2011

	Multinomial logit parameters of the transitions:		Odds ratios of the transitions:	
	Non-standard → Standard		Part-time → Full-time (females only)	
	11,534 observations		12,365 observations	
	Parameter	Standard error	Parameter	Standard error
Male	Benchmark		-	
Female	-0.45***	0.064	-	
Age 20-24	Benchmark		Benchmark	
Age 25-29	0.35***	0.098	1.08	0.191
Age 30-34	0.47***	0.104	0.71**	0.119
Age 35-39	0.35***	0.107	0.46***	0.076
Age 40-44	0.35***	0.110	0.49***	0.082
Age 45-49	0.35***	0.124	0.46***	0.082
Age 50-54	0.38**	0.153	0.62**	0.120
Age 55-59	0.26	0.216	0.45***	0.108
Age 60-64	0.65**	0.281	0.34***	0.142
Italians	Benchmark		Benchmark	
EU	0.44*	0.238	2.41***	0.723
Non-EU	0.42***	0.149	2.20***	0.388
North	Benchmark		Benchmark	
Center	-0.21**	0.081	0.97	0.105
South	-0.41***	0.067	1.40***	0.126
Elem. & low-s.	Benchmark		Benchmark	
Upper secondary	-0.04	0.077	1.07	0.099
Tertiary	-0.01	0.122	1.68***	0.247
ISCO 1	0.16	0.288	1.96**	0.590
ISCO 2	-0.50***	0.158	1.65**	0.342
ISCO 3	0.19*	0.116	1.16	0.170
ISCO 4	0.49***	0.121	0.89	0.131
ISCO 5	0.48***	0.111	1.04	0.134
ISCO 6	0.41***	0.117	0.94	0.167
ISCO 7	0.19	0.130	0.85	0.246
ISCO 8	Benchmark		Benchmark	
Manufacturing	Benchmark		Benchmark	
Services	-0.31***	0.081	0.99	0.112
Firm: up to 10	Benchmark		Benchmark	
Firm: 11-15	-0.23**	0.100	1.48***	0.181
Firm: 16-19	-0.29**	0.133	1.52*	0.332
Firm: 20-49	-0.35***	0.086	1.16	0.125
Firm: 50-249	-0.45***	0.085	1.03	0.117
Firm: > 250	-0.20*	0.111	0.65***	0.099
Full-time	Benchmark		-	
Part-time	-0.06	0.074	-	
Year: 2004-05	Benchmark		Benchmark	
Year: 2005-06	-0.34***	0.097	0.79*	0.094
Year: 2006-07	-0.44***	0.098	0.74*	0.094
Year: 2007-08	-0.25***	0.098	0.71*	0.086
Year: 2008-09	-0.38***	0.098	0.63*	0.078
Year: 2009-10	-0.71***	0.106	0.53*	0.070
First job	-0.06***	0.072	0.93	0.080
Constant	0.23	0.185	-	

Source: own computations on ILFS data. Notes: \*\*\* 99% significant; \*\* 95% significant; \* 90% significant.

**Table 3 Descriptive statistics for selected cases**

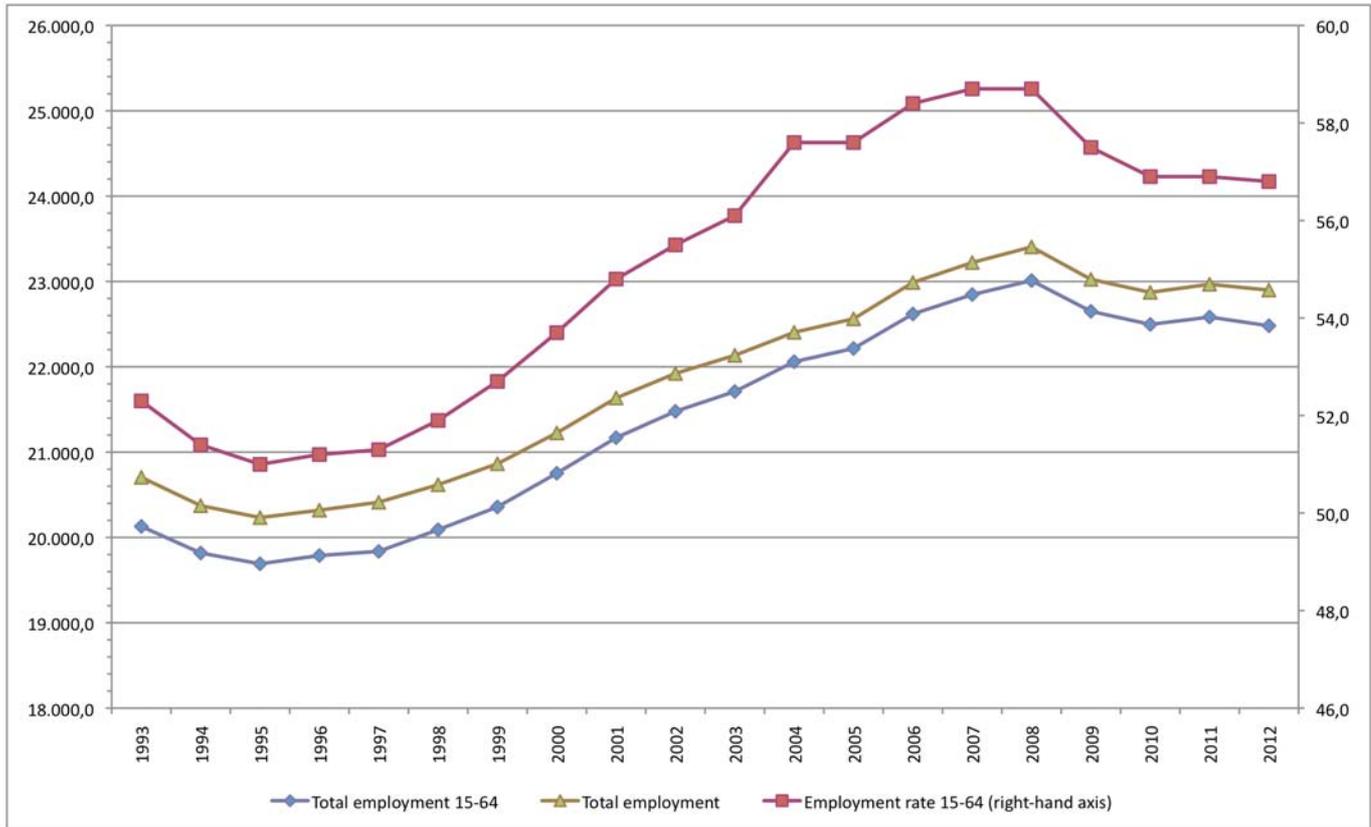
	occupation's share of total employment	share of dependent workers	share of women	share of young workers (20-35)	share of high-skilled (tertiary education)	share of low-skilled (at most lower secondary education)	share of part-time	share of low-pay (employees only)	share of non-standard 1995	share of non-standard	non-standard ratio 1995-2011	employment ratio 1995-2011
<b>architects and engineers</b>	1.5%	44%	23.9%	26.5%	100%	-	7.5%	3.8%	2.1%	15.5%	7.5	2.9
<b>medical doctors</b>	1.2%	57%	33.5%	13.5%	100%	-	7.9%	3.1%	4.5%	12.9%	2.9	1.2
<b>teachers and academics</b>	5.5%	95%	80.6%	13.3%	57.8%	-	11.3%	1.7%	9.2%	18.6%	2	2.1
<b>sales workers</b>	8.1%	57%	51.9%	35%	4.3%	39.9%	21.4%	16.2%	3%	15.6%	5.2	1
<b>tourism and hotelling personnel</b>	4.7%	68%	54.4%	40.4%	3.8%	46.4%	30.4%	23.9%	8.3%	21.2%	2.5	1.5
<b>cleaners etc.</b>	7.8%	89%	56.7%	22.7%	3.9%	61.9%	39.9%	23.7%	8.1%	13.9%	1.7	1.4
<b>skilled manufacturing workers</b>	15%	67%	8.3%	29.6%	1%	63%	4.4%	12.6%	n.a.	11.6%	n.a.	n.a.
<b>bank clerks</b>	0.6%	98%	57.7%	33.2%	33.2%	6.7%	13.5%	1.2%	n.a.	9.6%	n.a.	n.a.
<b>average across all occupations</b>	-	76%	38.1%	25.6%	26%	31.8%	14.1%	11%	4.6%	15.3%	3.5	1.5

**Table 4. An overview of the cases**

	self-employed	female workers	young workers	educational level	part-time	low-pay (employees only)	non-standard	growth of non-standard	employment growth
<b>architects and engineers</b>	++	-	x	++	-	-	x	++	++
<b>medical doctors</b>	+	x	-	++	-	-	-	x	-
<b>teachers and academics</b>	--	++	-	++	x	--	+	-	+
<b>sales workers</b>	+	+	++	--	+	+	x	+	--
<b>tourism and hotelling personnel</b>	x	+	++	--	++	++	++	-	x
<b>cleaners etc.</b>	-	+	x	--	++	++	x	--	x
<b>skilled manufacturing workers</b>	x	--	+	--	--	x	-	?	?
<b>bank clerks</b>	--	+	+	+	x	--	-	?	?

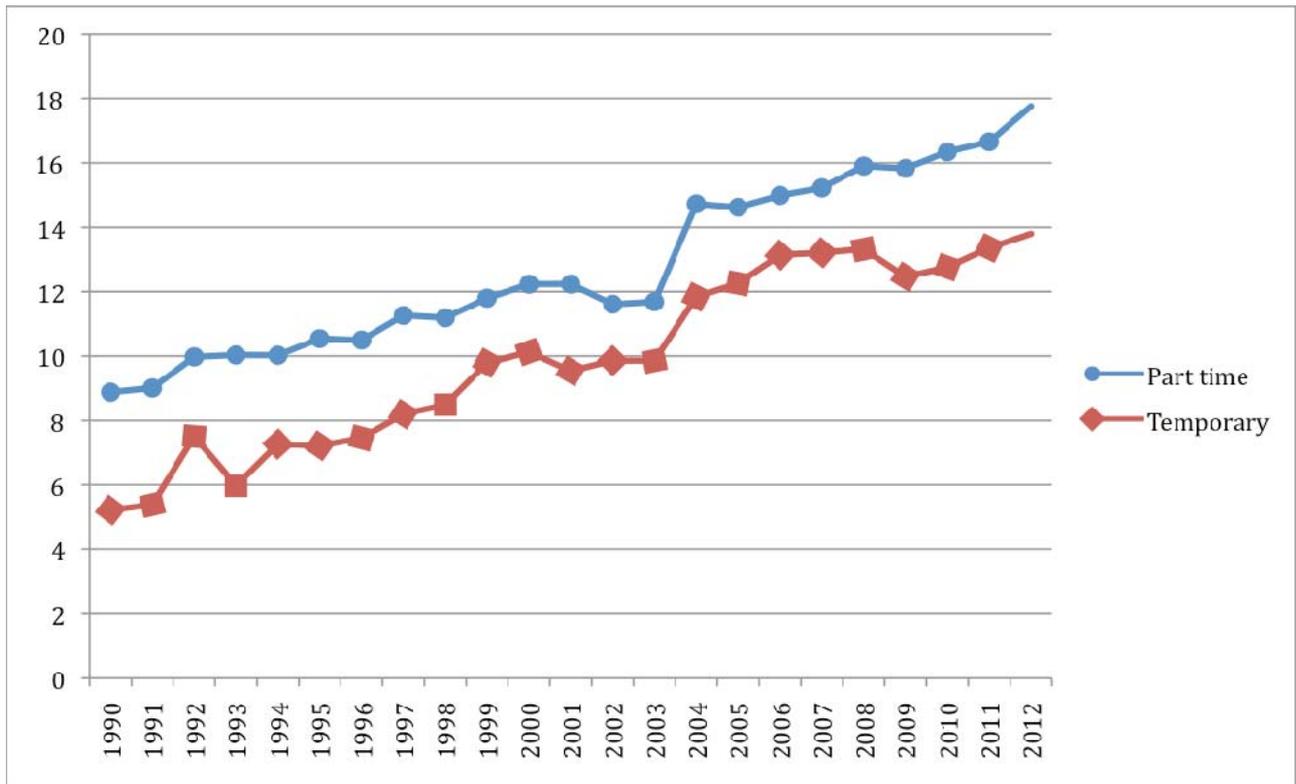
Note: ++ extremely high; + high; x on average; - low; -- extremely low

**Figure 1 Employment trends in Italy, 1990-2012**



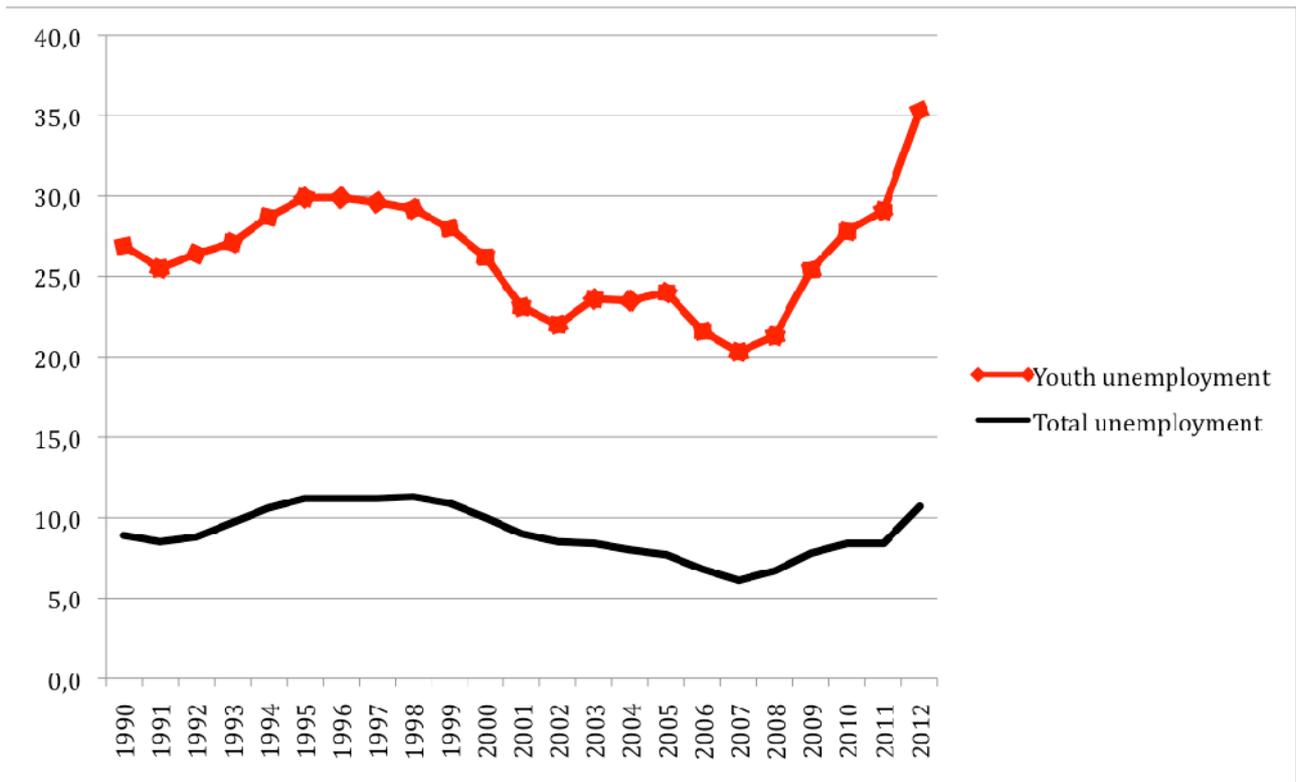
Source: Eurostat, Labour Force Survey

**Figure 2 Part-time and temporary work trends in Italy, 1990-2012**



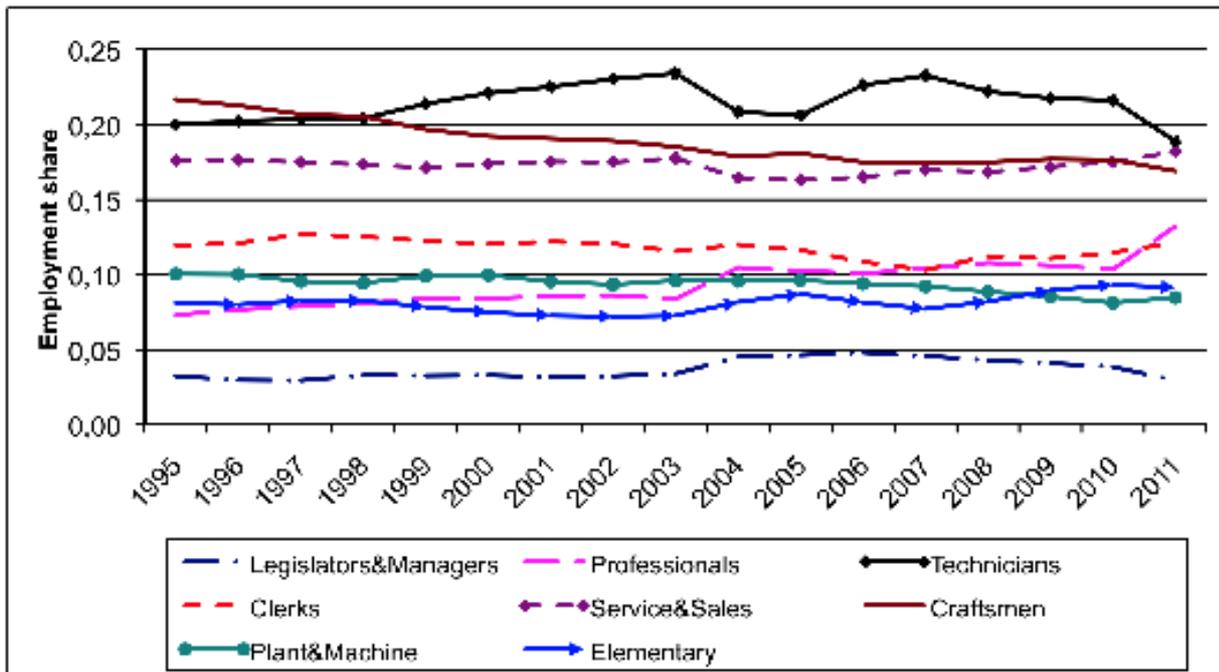
Source: Eurostat, Labour Force Survey

**Figure 3 Total and youth unemployment in Italy, 1990-2012**



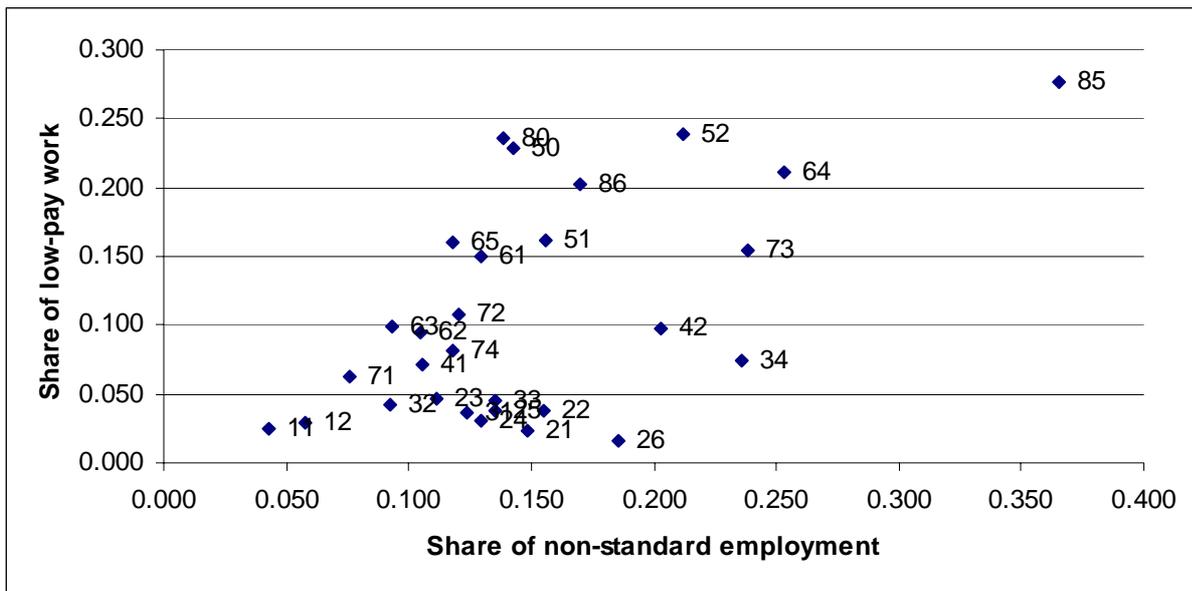
Source: Eurostat, Labour Force Survey

**Figure 4: Employment shares by occupation, 1995-2011**



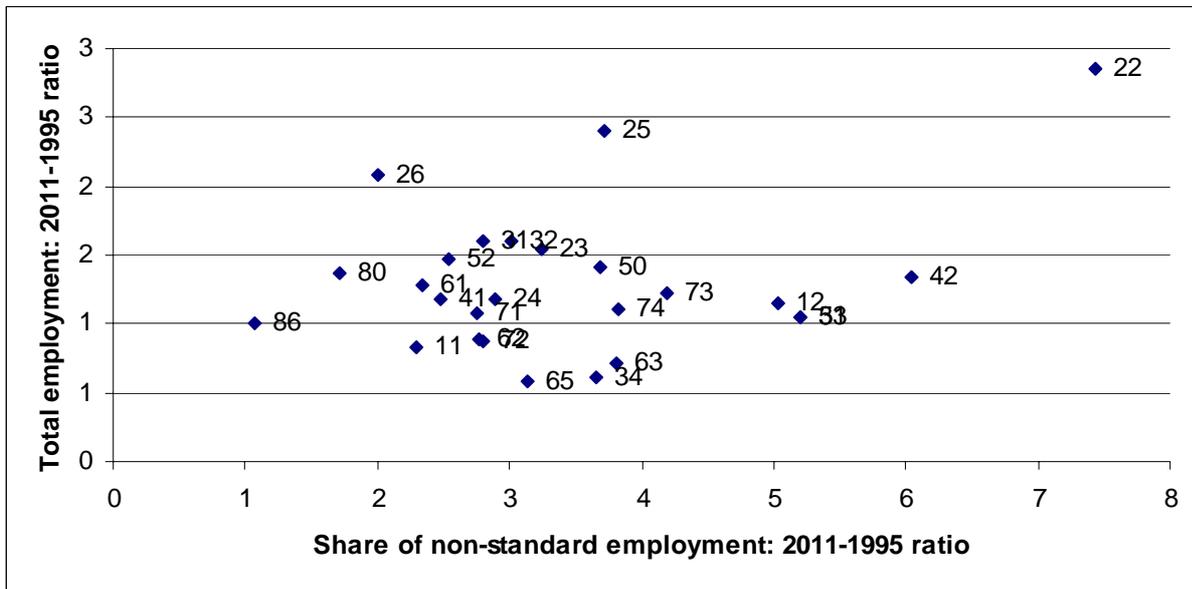
Source: own computations on ILFS data.

**Fig. 5: Share of low-pay work vs. share of non-standard work, 2011**



Source: own computations on ILFS data.

**Fig. 6: Variation in total employment vs. variation in non-standard employment share, 1995-2011**



Source: own computations on LFS data.