



# BACKGROUND REPORT ON FUTURE OF WORK SCENARIO

## THE DYNAMICS OF NON-STANDARD WORK IN ITALY

*Edited by*  
Irene Brunetti



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# 1. Introduction

## 1.1 The future of work

The context in which work is distributed, organized and performed has deeply changed. The future of work depends on different factors such as long-term competitiveness, globalization, digitalization and demographic development, and these factors can create new opportunities for jobs, improve the quality of existing jobs and help disadvantaged groups to enter the labour market.

Despite workplace regulations, as well as many social benefits, are conceived in the framework of the the “standard employment contract”, i.e. a full-time dependent employment contract with an indefinite duration, the number of workers with this kind of contracts is now declining. Indeed, many European countries have experienced the growth of new contracts, called “non-standard”, which are different from the standard one. The use of non-standard work (NSW), such as temporary, casual or platform work, can bring about advantages, such as flexibility (in terms of both time and place of work) for workers to perform tasks that best fit their abilities and preferences. Life choices and work-life balance issues may make non-standard work desirable for workers, for example in order to allow paid employment to be arranged around domestic work or participation in education. For employers, this can be a way towards a better skill match and the beginning of cooperation while reducing costs (European Commission, 2016). However, a number of issues emerge on job quality and on the potential negative impact that an excessive and/or improper use of such contracts can have on equality, productivity, economic growth, fair competition among firms and on the sustainability of social protection systems. Moreover, the rise of NSW is an issue because it is associated with a high level of insecurity for workers. In some cases, there is evidence that workers have difficulty to exercise their fundamental rights at work or to have access to social security benefits and to on-the-job training. These issues also affect employers by creating productivity losses and underestimating some of the managerial demands that non-standard work entails resulting in high rates of turnover. The negative consequences can lead to under-investments in innovation, to a slowing of productivity growth, risks to the sustainability of social security systems,

to an increased volatility in labour markets, and, more in general, to poor economic performance (ILO, 2016). In addition, what may be desirable for a worker or a firm in the short run, can have negative impacts at more aggregate level in the longer term, warranting policy responses. Finally, the growth of NSW calls for new forms of regulation in turn, in order to both address the issues discussed above and ensure that the future evolution of NSW develops in a sustainable manner for both workers and their employers.

The literature on non-standard work is very rich especially thanks to more recent studies suggesting that understanding the implications of this new kind of work is a relevant political issue across European countries (see, for example, Emmenegger et al., 2012; Eichhorst and Marx, 2015; Oesch, 2015; OECD, 2015). In particular, the accessibility of social protection is a fundamental element to be taken into account since non-standard work is, usually, linked to inadequate levels of social supports and benefits. Before analysing the characteristics of non-standard contracts and understanding which are the potential risks deriving from their use, it is important to identify the factors that led to their diffusion. The spreading use of NSW can be considered, in fact, as the result of the technological innovations that have facilitated the interconnection among firms, institutional reforms, global economic integration, the shifting from the manufacturing sector to the services sector, and the social changes such as demographic ones. In some sense, the use of these forms of work reflects the response to an ever-changing and volatile labour market.

This report seeks to improve understanding of non-standard employment as well as to provide an objective, evidence-based overview of the trends and characteristics of non-standard work in Italy. In the next two sections, we will discuss the effects of the new technologies and demographic changes on the labour market. Chapter 2 reports an explanation of what is meant by non-standard employment, highlighting the characteristics of the main non-standard contracts, their trends at European level, and the risks associated with them regarding social protection. It then provides a definition of each of the different forms of non-standard work, both in law and in practice. Chapter 3 gives an overview of the incidence and trends of the different forms of non-standard employment in Italy. Chapter 4 focuses on platform work providing a discussion on the main characteristics of Italian individuals offering their services on platforms. Chapter 5 concludes.

## 1.2 New technologies and the labour market

New technologies allow people to reach objectives to do things that were previously impossible. The increasing interactions between ever-larger numbers of people, made possible by new technologies, have led to what is commonly considered progress.



However, the fact that the new technologies offer the potential for progress is not sufficient to guarantee they will have these features (Eichhorst et al., 2018).

Technological changes have an impact on the labour market both as to the supply and as the demand of labour, for example, by reducing some types of labour or increasing other types (Autor, 2015). According to a recent World Economic Forum report (WEF, 2018), around 50 per cent of firms expect that, based on the job profiles of their employee base today, automation will lead to some reduction in their full-time workforce by 2022. However, 38 per cent of firms expect to extend their workforce to new productivity-enhancing roles, and more than a quarter expect automation to lead to the creation of new roles in their enterprise. At the same time, the WEF report (2018) shows that firms have the intention to engage workers in a more flexible manner and to decentralize productive operations. According to Graetz and Michaels (2018), from 1993 to 2007, robot density increased by more than 150 per cent in 17 industrial countries. The Boston Consulting Group (2017) reports that the number of industrial robots could increase from 1.75 million to 6 million by 2025.

These significant increases in automation have led to a large debate on the future of work, in particular on whether the demand for human labour might decrease permanently, resulting into a “jobless future” characterized by artificial intelligence and robotics.

The literature highlights some worrying findings. Firstly, technological change is not skill-neutral, but tends to favour some particular skills and makes others redundant. This trend is known as “skill-biased technological change”. The rapid diffusion of ICTs in the workplace is consistent with an increase in the (relative) demand for skills because of complementarity between ICTs and skills. Dachs (2018) shows that the number of jobs and occupations that require only low skills has constantly decreased, even if it is difficult to say if this is due to the introduction of new technologies or to globalization.

However, skill may still be a too broad category to capture all the current developments in labour markets. Autor (2013) and others suggest looking at tasks rather than skills. They found that new technologies increasingly substitute routine tasks and they have labelled this phenomenon as “routine-biased technological change”. Acemoglu and Autor (2011) show that demand for routine jobs and tasks has fallen considerably, and, as a consequence, the demand for people with middle skill levels has decreased, while the demand for both high-skilled and low-skilled occupations has risen. This phenomenon is called job polarisation.

Despite the evidence of job polarization in Europe is weaker than in U.S., we have been witnessing a growth in the employment share of high-wage occupations (e.g. managers and professionals), to a more modest but still positive, growth in the employment share of low-wage occupations (e.g. shop assistants and care assistants), and to a fall in the employment share of jobs in the middle of the distribution (e.g.

clerical jobs and many manufacturing jobs). The use of ICTs increasingly leads to substitute routine and middle-skilled jobs, but, since ICTs are complementary to less routine high-skilled cognitive and to low-skilled manual jobs, firms can be induced, on one hand, to hire more educated workers, and, on the other hand, workers who perform non-routine tasks. In a recent study, Peralta-Alva and Roitman (2018) stress that machines can perform an increasing range of tasks reserved for humans in the past and that the diffusion of ICTs can lead to advances in innovation and the invention of new and increasingly cheap capital goods and production processes. The price reduction of capital goods has incentivized firms to substitute machines for routine tasks contributing to falling labour shares and to the income polarization (International Monetary Fund, 2017).

Finally, the rising use of new technologies has important consequences on the internal organization of firms. Indeed, the economic literature reports a variety of these impacts: changes to authority relationships, decentralization of decision authority, shifts in the task content of clerks', operatives', professionals', and managers' work, and changes in reward schemes (Bresnahan et al., 2002). Moreover, individual tasks performed by people will increasingly become tradable over the internet. Empirical studies demonstrate that the share of tasks performed outside the firm and the share of self-employed people who work on a project-by-project basis for various clients will increase (e.g. platform workers). Therefore, firms will gradually shift to more project-oriented organisational structures instead of fixed hierarchies. Such a "platform" or "gig" economy may lead to more self-determination, but may also result in more insecurity and periods of involuntary unemployment. Moreover, as discussed in next chapters, self-employed workers often lack legal protection and the various social benefits to which employees are entitled.

### 1.3 Ageing and the labour market

Technology changes dominate the debate about the future of work, but for many countries, demographic transformations are also generating a policy debate. Indeed, if on the one hand ageing reflects improvements in health and longevity, on the other the transition towards a much older population places pressure in terms of care responsibilities. In the absence of productivity gains, this will lead to slower growth due to shrinking savings (as older people tend to save less) and is likely to increase pressure on public finances, as demand for pensions and health care will rise, (Mazzola et al., 2015). Moreover, the growing ageing of the population is an important source of rigidity in the labour market, and, under conditions of increasing competition and globalization, this rigidity can become a matter of adapting to rapid economic changes (Serban, 2012).

Looking at the distribution of the Italian working-age population in 2019, the statistics provided by the National Institute of Statistics (hereinafter Istat) indicate that individuals between 40-64 years old account for 37.2% of the population, while the cohort between 15-39 years old make up 26.8% of Italian people. In 2009, the 15-39 age group represented 31% and the 40-64 year group did 34.6%. The increase that occurred for the second age group, to the detriment of the first, confirms the marked aging process also of the working age population and, despite the increase in international migration that has taken place in recent years, the foreign population has failed to compensate for this phenomenon.

Table 1.1 reports the activity rates of Italian population aged 55-64 years old. It shows that from 2008 to 2018, the activity rates increased by about 22 percentage points (pps) and that the higher increase was measured in the North East of Italy (25.5 pps), while the lowest was in the South of Italy (14 pps).

**Table 1.1 Activity rates, 55-64 years old for Italy**

Area	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Italy	35.4	36.9	37.9	39.3	42.5	45.3	48.9	51.1	53.4	55.4	57.0
North West	32.8	35.8	36.4	38.6	42.2	46.5	49.7	52.0	55.0	57.2	59.1
North East	35.3	36.9	38.1	40.4	45.3	47.5	51.4	53.3	55.6	58.1	60.8
Centre	39.4	40.2	41.6	42.5	46.2	49.5	54.8	57.5	59.1	61.2	62.6
South	35.2	35.8	36.7	37.5	39.2	40.6	43.5	45.4	47.6	49.2	49.9

Source: Authors elaboration on Istat data

The data on the employment rate of the cohort of 55-64-year olds, as reported in Table 1.2, confirms the increasingly significant role that the elderly play in the labour market. The employment rate of cohort 55-64 sharply rose in the considered period (+19 pps). From a geographical point of view, Table 1.2 shows that there are wide differences across Italian areas: over the considered period, North Ovest displays the higher increase, equals to 25 percentage points, against the increase of 12 percentage points registered in the South.

The increase in the share of older workers is due not only to the increase in the number of elderly people but also to the increase in retirement age because of the latest pension reforms. The European projections for the average participation rate for men between 55 and 64 years of age show an increase of approximately 12.2 percentage points, while for women it is around 16.2 percentage points. In 2070, men's participation rate in Italy is projected to increase approximately by 14 pps, while for women 26 it will by pps (European Commission, 2018).

**Table 1.2** Employment rates, 55-64 years old for Italy

Area	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Italy	34.3	35.6	36.5	37.8	40.3	42.7	46.2	48.2	50.3	52.2	53.7
North West	31.9	34.6	35.2	37.1	40.3	44.4	47.4	49.5	52.2	54.5	56.5
North East	34.6	36.0	36.9	39.4	43.6	45.4	49.4	51.1	53.4	55.8	58.4
Centre	38.4	39.1	40.4	41.1	44.0	46.9	52.3	54.7	56.0	57.6	59.2
South	33.7	34.2	35.1	35.6	36.3	37.3	40.1	41.9	43.9	45.3	45.7

Source: Authors elaboration on Istat data

The literature on population ageing has found a variety of potential consequences of workforces ageing. Demography can affect the composition of employment in terms of permanent and temporary positions. Bovini and Viviano (2018) highlight that fixed-term positions are particularly concentrated among young people and sharply declines after the age of 30. Regarding the effects on labour productivity, Aiyar et al. (2016) find that an increase of 1 percentage point in the labour force in the age cohort of 55–64-year olds is associated with a decrease in total factor productivity of around 5 percentage points. They argue that the main negative impact is in Spain, Italy, Portugal, Greece and Ireland where rapid workforce aging is expected. Maestas et al. (2016), using data on the United States, show that an increase in the share of the population aged 60 and above slows productivity growth. On the contrary, the results of Feyrer (2007) and of Acemoglu and Restrepo (2017) suggest the existence of positive effects of the aging population on productivity and economic growth. Acemoglu and Restrepo (2017), indeed, point out that the adoption of new technologies, in those countries where rapid population aging is more pronounced, can be the mechanism that neutralizes the potential negative effects of population aging on economic growth. The adoption of models of directed technological change can account for the lack of the negative relationship between population aging and economic growth generating a positive one. Differently from Acemoglu and Restrepo (2017), Daveri and Maliranta (2007) show that the use of ICT leads to a robust growth in productivity especially for young workers. Lallemand and Rycx (2009) analyse the impact of workforce age structure on the productivity of large Belgian firms. They show that the possibility to adjust to new forms of work organisation decreases with age. For this reason, ICT-intensive firms suffer more for the increase of older workers.

Moreover, the impact of aging on productivity may change across professions. Veen's taxonomy distinguishes the exposure to workforce aging risk according to three different groups: the first group includes the occupations and professions in which productivity increases (on average) with as age increases; the second is the group in which age does

not affect professions; the third is the one in which productivity decreases with age. Bank or electronic engineers are examples of professions in the second group. Productivity increases with age when it comes to medical doctors, lawyers etc. (Veen, 2008). Aubert and Crépon (2006) analyse the effect of age groups on productivity for the French manufacturing, trading and services sectors. For the first sector, there is no statistically significant difference between the age cohort 35-39 and older workers, whereas, in trading, 40-59 years old workers are more productive. Regarding services, workers aged 45-54 result to be more productive than the others. Finally, Göbel and Zwick (2012), using an employer-employee German dataset and accounting for several features of the employees, found no significant differences in the age productivity between sectors. Given the increasing importance of population aging, the need of solutions consisting both in birth stimulation and in strengthening of human capital arises. Therefore, the limited demographic growth and the aging of the population lead to paid greater attention to the process of accumulating human capital by promoting the continuous training of workers that, in turn, will lead to an increase in labor productivity. Human capital is in fact one of the levers for the future development of society. Serban (2012) argues that globalisation and the increasing international competition reduce the demand for workers with low skills and increase the one with high skills. People working within multi-disciplinary teams need more knowledge and skills. Dixon (2003) discusses that, to adapt the labour market and workers to future changes, the employability of older workers is to be maintained in order to continue working preserving their skills. Ilmakunnas et al. (2010) highlight that individual productivity deteriorates if no investments are made for the enhancement of human capital. This negative impact could result from the worse job performance of individuals, which decreases in the second half of working life due to the age-related deterioration of cognitive skills, worsening of the health status and lack of motivation. Moreover, older workers may have difficulties if job requirements change over time. Some papers show that training for older workers is not effective in increasing their relative productivity (see, e.g. Göbel and Zwick, 2009). Stamo-vo-Roßnagel and Hertel (2010) highlight that attention in tasks involving the acquisition of new skills, knowledge and opportunities declines with the age. The authors explain that younger workers mainly struggle for gains while older employees focus on maintenance of prior investment returns and the avoidance of losses.

In conclusion, an older population poses supplementary pressure on security social systems, which is added to the pressure due to unemployment, disadvantaged groups etc. Young people can easily adapt to changing economic conditions by being willing to retrain and change occupation and jobs, but this is not true for older workers. These empirical evidences suggest, therefore, that there is a need of a detailed analysis that systematically investigates the relationship among demographic changes, labour productivity and economic growth as well as the channels via which these relationship works.



## 2. Non-standard work

The laws regulating employment have been directed towards a particular type of work: continuous, full-time and part of a direct and subordinate relationship between an employee and their employer. This is the so-called “standard” or “typical” employment relationship (Reyneri, 2011). This kind of employment arrangement usually involves significant benefits for workers, such as health care coverage, contributions to the pension system, training programs and job stability. Employers also perceive and value certain advantages granted by this type of labour relationship: a stable workforce for their firm, which enables the retention of talents and skills of their workers and the possibility of managing the combination of tasks that their employees must perform as part of the production process. However, in recent decades, in both industrialised and developing countries, there has been a shift from standard employment to a more flexible form of employment, commonly called “non-standard employment” (ILO, 2016). Actually, non-standard employment arrangements are not new. Indeed, history is full of examples of work arrangements that did not fit the standard model of work and flexible labour markets in which work is unstable and temporary (see: Morse, 1969; Peck, 1996; Summers, 1997).

The interest in this type of employment is also growing given its link with situations of precarious work (Eichhorst and Marx, 2015; Kretsos and Livanos, 2016). The latter refers to jobs with low levels of wages, low job security, bad working conditions, limited access to training and limited social security rights (Kalleberg, 2009; McKay et al., 2012; Keune, 2015). Precarious employment can then be defined as the intersection of three characteristics: vulnerable employees who have a non-secured job and few entitlements to income support. Therefore, the spreading of non-standard employment relationships has become a relevant political issue across European countries, creating new challenges for labour market and social policy.

Despite the growing interest in non-standard employment, the economic and sociological literature contains no official definition, but all labour relationships that differ from standard employment are considered part of this category. In particular, it is possible to identify three major types of non-standard employment arrangement: i) “conventional” non-standard forms of subordinate and bilateral

employment relationships; ii) “new” atypical forms of employment; and iii) “conventional” forms of self-employment. Fixed-term contracts and part-time ones (both vertical and horizontal) mainly make part of the first category. The second group is the widest one, since it covers a large “grey area” of new and evolving forms of employment relationships. In this area, it is possible to find both subordinate and more independent forms of work ranging from temporary agency work, to “very atypical contractual arrangements” such as workers with no employment contract (causal workers; “zero hour” contracts), or those who hold a temporary contract for less than 6 months (Broughton et al., 2010). Moreover, it is possible to mention other types of contractual arrangements like ICT-based mobile work, crowd employment, portfolio work, collaborative employment, parasubordinate workers, freelance and false self-employment where the distinction between subordinate and independent relationship is blurred (Eurofound, 2015). The last category of employment arrangements deals with conventional self-employment that is referred to independent workers who usually have more than one client and can eventually have dependent workers.

In this chapter, we will review the major kinds of non-standard work by highlighting their main characteristics, their trends at European level and the risks associated with them with regard to social protection.

## 2.1 “Conventional” non-standard work

### 2.1.1 Fixed-term work

Fixed-term work is an employment contract under which workers are engaged for a finite period. The contracts can be either written or oral, but they have a predefined term. They are considered as non-standard in recognition of the non-continuous nature of the employment relationship. Fixed-term work is a significant form of non-standard employment, not only for its relevance in numerical terms, but also because the regulation governing it is often used at the national level as a reference for other non-standard forms of employment. Indeed, in most countries, specific legal provisions regulate fixed-term contracts on the maximum duration of the contract, the number of renewals, and valid reasons for recourse. However, they can also be governed by collective agreements at the enterprise, sectoral or national levels, as in the Nordic countries (ILO, 2016).

As regards Italy, the rules governing fixed-term contracts have changed significantly, for the first time, with the approval of Italian Decree 368/2001, with the aim to create a common discipline for fixed-term contracts across Europe. The main novelty introduced by this law is the absence of a list of situations in which a fixed-term contract can be utilised: any technical, productive, or organisational motives are considered as



admissible, and they are permitted up to 36 months. Therefore, the range of situations in which a fixed-term contract may be utilised was significantly enlarged (Tealdi, 2011). Since August 2018, with Italian Law Decree 87/2018, stronger limitations to fixed-term contracts have been introduced. Two major changes have been made: i) a reduction in maximum duration (maximum length of 12 months, and the duration can only be extended up to 24 months); and ii) the introduction of the reason why a fixed-term contract is used.

From a European perspective, an accurate, detailed and comparable cross-country analysis on the incidence and trends of fixed-term employment is difficult mainly because of the different statistical definitions used in national surveys. Nevertheless, a recent report published by the ILO (2016) shows that the share of workers with fixed-term contracts increased on average from around 9% in 1987 to 14% in 2014. The only region that enjoyed relative stability in temporary employment was Northern Europe, but even so, countries such as Ireland experienced a nearly twofold increase between 2003 and 2014. In Cyprus, Croatia, Italy and the Netherlands, over the last decades, a significant increase was recorded. In Spain, the growth in the mid-1980s was dramatic as the share of fixed-term workers grew from its 1987 to 1995. It declined after 2005, but it remains the highest in southern Europe. Among Eastern European countries, Poland stands as a stark example of persistently growing temporary employment. Another report provided by ILO (2015) points out that, overall, fixed-term contracts are more prevalent among women, workers with lower levels of education and workers in elementary occupations. However, the biggest divergence in Europe is with respect to age: the incidence of fixed-term contracts among young people was four times higher than it was for prime-age workers (ILO, 2015).

The main driver of the expansion of fixed-term contracts recorded in Europe consists in policy reforms aimed at increasing labour market flexibility. These “partial” reforms, or reforms “at the margin”, which left employment protection for workers on permanent contracts essentially unaltered, led firms to make increasing use of workers on fixed-term contracts, resulting in an increased duality in most European labour markets over the last two decades (Berton et al., 2015).

### 2.1.2 Part-time work

Part-time work, the kind of work that belongs to the group of “conventional” form of non-standard employment together with fixed-term contracts, can be permanent or temporary. The focus of this kind of work is on the length of the working time rather than on the length of the employment contract. It may be horizontal (reduced daily working time), vertical (full time but for limited periods with reference to weeks, months or years) or mixed (a combination of both). The worker must give their explicit consent to being hired with a part-time contract where not specifically provided for by the relevant collective labour agreement.

In many countries, the legal definition of part-time work refers to a lower number of working hours compared to those of full-time workers, and sometimes specific thresholds. For example, in France, part-time work is defined as at least 20% below the statutory level of working hours, while in Germany it is less than 36 hours of work per week (Houseman, 1995). In Italy, horizontal part-time work was first introduced during the Seventies time as an instrument for the firms facing economic problems. In 2000 (Italian Legislative Decree 61/2000) vertical part-time work was established, in 2001 additional changes were introduced to increase flexibility for both the employer and the employee. In 2003, with Italian Legislative Decree 276/2003, the possibility to work part-time has been extended also to employees hired on fixed-term contracts (Tealdi, 2011).

Moreover, part-time work is linked to two other forms of work: casual work and on-call work. Part-time work can be explicitly encouraged by government policies to promote the access of women to the labour market, and to enable workers with family responsibilities to balance care responsibilities with paid work, as for example in northern European countries where part-time workers, as a percentage of the total workforce is particularly high. Between 2005 and 2012, part-time employment increased in some European countries, mainly as a result of the economic crisis, while remaining stable in others. After 2012, the share of part-time remained substantially stable. In Italy it is around 18%. Moreover, this percentage is significantly higher for women than for men.

The increase of this kind of non-standard work is partly due to also work-sharing policies instituted to lessen job losses (Messenger and Ghosheh, 2013).

## 2.2 “New” atypical work

### 2.2.1 Temporary agency work

Some non-standard employment relations involve the externalisation of administrative control and responsibility, creating “triangular” employment relations where a worker establishes connections with several employers (Pfeffer and Baron, 1988; Bronstein, 1991; Vosko, 1997). An example of such work arrangements is temporary agency work. According to this type of contract, workers are hired by an entity – the temporary employment agency – and then hired out or assigned to perform their work at (and under the supervision of) a user firm. Therefore, temporary agency work is characterised by a multiple-party or “triangular” relationship among the worker, the employment agency and a user firm, and an agency worker is a temporary worker supplied to a third-party employing organisation through an employment agency.

Temporary agency work, used extensively in some European countries such as Spain, France and the Netherlands, was prohibited in Italy by Italian Law 1369/1960. It was

introduced in Italy by Italian Law 196 of 1997, but the section covering this type of employment was repealed in 2003 by Italian Legislative Decree 276/03, which changed the denomination from ‘temporary agency work’ to ‘staff leasing’. The new provisions (with the exclusion of the maximum workforce percentage) provided by Italian Legislative Decree 87/2018 also apply to fixed-term employment contracts between temporary work agencies and employees. Where and when required, the (re)introduced conditions refer to the user company. This contract might satisfy the needs of employers since firms are allowed to deal with workers using private forms of intermediation and without signing a subordinate employment contract.

Temporary agency work has grown rapidly over the past several decades, but it still represents only a small fraction of the labour force. In Europe, the data from the European Labour Force Survey reveals that temporary agency employment ranges from 0.3 per cent in Greece, to over 2 per cent in France, the Netherlands and Spain, in Italy, after its legislation in 1997, it expanded at a very fast rate (ILO, 2015; Carmignani et al., 2001; Nannicini, 2004). In Europe, agency workers are generally more likely to be male (with the exception of Scandinavian countries) and younger than other workers (Storrie, 2002; Eurostat, 2019). For some EU countries, there is also evidence that the proportion of ethnic minorities is higher among agency workers than in other employment forms (the Netherlands, Sweden, and Germany) (OECD, 2002). Finally, a concentration of temporary agency workers emerges in particular occupations, namely production (43.7%) and office jobs (41.2%), most of which were clerical, with the remainder found in technical (10.2%) and managerial and professional jobs (4.0%) (ILO, 2016).

### 2.2.2 On-call work

On-call work, sometimes called “zero-hour” work, is an arrangement where a continuous employment relationship is maintained between an employer and an employee, but the employer does not continuously provide work to the employee. The category of on-call work is a particular type of casual work with a short-term employment contract that overlaps with other forms of non-standard employment, and because of the variability and unpredictability of work, the working hours are generally part-time. At European level, on-call work was defined by judgments from the European Court of Justice (ECJ) that interpret the working time directive (Directive 2003/88 EC of 4 November 2003). In Italy, it was introduced by Italian Law-30/2003, then abolished in 2007 and introduced again in 2008.

On-call work is an employment form for quickly assigning workers to a task at short notice, employers often use a pool of casual workers, either administered by themselves or through intermediaries such as temporary work agencies and online platforms for crowd employment. CIPD – Chartered Institute of Personnel and Development – (2013) discusses that, like other forms of casual work,

on-call work transfers some of the business risk from the employer onto the employee. However, the employer takes on a risk in return: any given individual might decline the job offer because they are working for someone else or have decided to do something else with their time. This kind of employment is mainly used in specific sectors, like retail and catering, and is mainly concentrated in lower-skilled occupations (Istat, 2010; Eurofound, 2015; Brinkley, 2013). Moreover, it is characterised by seasonal activities and variable demand such as hospitality and homecare (Istat, 2010; Pennycook et al., 2013). Workers are paid to perform the activity established by the employer and generally, their wages are low. Comparable data on on-call workers, available for European countries from 2004, suggests that about 2.5 per cent of employees in Europe worked “on-call”, with the highest incidence recorded in the Netherlands, United Kingdom, Ireland and Slovenia, and the lowest being in Cyprus (Eurofound, 2015). In Italy, its recourse concerns 0.7% of employment and it is most related to service sector (tourism, restaurant and commerce).

### 2.2.3 Job sharing

Job sharing refers to employment relationships in which one employer hires two workers to jointly fill a single full-time position, each of them being responsible for completing the entire job. It is considered a particular form of part-time work that ensures that shared jobs are permanently staffed. The legislation or collective agreements available in some countries provide provisions regarding the rights and duties of employers and employees in job sharing situations. However, they do not contain any guidelines regarding the design and implementation of this form of employment, thus it is up to the employer and employees to arrange it among themselves, for example, the choice of contract (permanent versus fixed-term), the number of working hours and the work organisation.

Job sharing is not suitable for all types of jobs or positions. It is necessary that tasks can be divided up, in terms of either time or skills required. Among countries, the application of job sharing across sectors and occupations varies, indicating that it could be used in a wide spectrum of labour market situations. For example, in the UK, job sharing is often used for generalist positions (Wheatley, 2013). In Italy, this type of contract was regulated for the first time by Italian Law-30/2003. The objective of the contract is to balance the flexibility needs of the worker and the employer.

There is not much empirical evidence on job sharing trend across European countries. Indeed, Eurofound (2015) points out that this form of employment in some European countries is already a common employment form, attractive for women with dependent children; in others, such as Poland and Czech Republic, it has only recently emerged. Job-sharing can bring about a range of benefits for both employers and employees. Two people can bring a wider range of skills and experience and can contribute with

new ideas and working approaches. It can help to keep teams motivated by creating a stimulating environment. However, there are concerns about issues such as the loss of benefits that full-time employment would guarantee, conflict between job sharers and lack of control over the nature and outcomes of work. Job sharing requires a high degree of organisation and commitment on all sides, and communication and flexibility are key to making any arrangement work.

#### 2.2.4 Voucher based work

This form of non-standard employment provides for an employer to acquire a voucher purchased from an authorised organisation to be used as payment for the worker instead of cash. The organisation covers both pay and social security contributions, the services provided by the worker are often specific tasks or fixed-term assignments. Eurofound (2015) identified such systems, mainly related to household services and the agricultural sector. From a labour market perspective, voucher work has the potential to legalise undeclared work and contribute to labour market integration of specific groups, notably women, low-skilled workers, young people and workers with a migration background.

In Italy, voucher-based work was introduced by Italian Law-30/2003. It was considered useful for all the occasional activities performed by workers at risk of social exclusion, ready to join the labour market or discouraged. The objective is the regularisation of those activities, which are occasional and cannot be framed in any other contract type. Since 2003, the legal provisions on vouchers have gradually been loosened, boosting their use – especially from 2012 onwards. For all forms of use – except in the agricultural sector – restrictions remained in place only in terms of caps on maximum annual income paid through vouchers. The Italian experience with vouchers has been controversial. If on one side it was introduced with the aim to regulate and protect particular forms of occasional work which otherwise are undeclared, a typical example being domestic services, on the other side, voucher-based work came to be used in all economic sectors (except in agriculture), for all categories of workers and for all kinds of activities. Moreover, there was no limit to their overall use by clients. Voucher workers are able to arrange working time with the employer according to their needs, but at the same time, they are at a higher risk of job insecurity, excessive flexibility and limited employment guarantees.

Italian Decree-Law 25/2017 definitively repealed occasional work on March 2017. The article 54-bis of Italian Decree-Law 50/2017 regulates the new occasional work, including two distinct methods of use: the so-called “*Libretto Famiglia*” (LF), usable by employers, which do not practice professional or business activity; and the so-called “*Contratto di prestazione occasionale*” (CPO), usable by entrepreneurs, professionals, self-employed workers, and other categories of employers.

## 2.3 “Conventional” self-employment

OECD defines self-employment as the employment of employers, workers who work for themselves, own account workers, members of producers’ cooperatives, and unpaid family workers. The latter are unpaid in the sense that they lack a formal contract to receive a fixed amount of income at regular intervals, but they share in the income generated by the enterprise.

According to EU-Labour Force Survey data, in 2018, the EU-28 average of self-employees amounted to 15.3% whereas in Italy they represented about 22.9% of total employment. Such a percentage has declined over the last ten years in most of the European countries. Only in some countries, such as the Netherlands and the UK, a rise in self-employment was recorded. The Bank of England (2015) estimates that half of the increase in self-employment recorded in the UK between 2004 and 2014 could be attributed to an ageing workforce, the self-employed being on average older than employees (Eurofound, 2018a). Looking at the characteristics of the self-employed, the large majority are self-employed persons without employees (16.1% of total employment in Italy, EU-28 average is 10.6%); the percentage of women and young people is lower than that of dependent workers and temporary workers.

The policy debate around self-employment is largely based on definitions derived from legal frameworks and conventions for data collection, and these differ among Member States (Eurofound, 2017). In Italy, self-employment has always been a “heterogeneous universe”, including a variety of occupational groups, with different regulations, status, working conditions, and with important differences concerning also entitlement and access to social protections (Fellini, 2010; Reyneri, 2011; Ranci, 2012). The legislation distinguishes four main groups: i) Self-employed workers in occupations where registration in a professional order is required to practice the profession (for instance doctors, lawyers, business consultants, architects); ii) farmers, artisans and dealers/shopkeepers; iii) self-employed workers in occupations without a professional order; iv) workers with contracts for continuous and coordinated collaboration (the so-called co.co.co).

According to Istat (2017) farmers, artisans and dealers/shopkeepers constitute about a half of the self-employed, whereas workers on continuous and coordinated collaboration contracts are 1.3%. In particular, workers hired with a contract entailing continuous and coordinated collaboration (also called “parasubordinates”) are self-employed, but despite the fact that the main characteristic of this contract is the non-subordinated position of the worker, most of them work only for one firm with a high degree of subordination<sup>1</sup>. The activity is coordinated because the worker is required to adjust

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<sup>1</sup> For this reason, the group of workers with contracts for continuous and coordinated collaboration will form the group of parasubordinate workers that will be discussed in more detail in Chapter 3.

their activity according to the organisational framework and the productive structure of the firm. The parasubordinate contract was introduced during the Seventies, but before 1996, it was impossible to track down the number of parasubordinate workers because they were not required to pay any social security and welfare fee.

In general, these collaborators are not low qualified workers, but young and highly educated professionals. Muehlberger and Pasqua (2009) suggest that continuous collaboration contracts are not a port of entry into the labour market nor are they a vehicle to more stable jobs.

In the next chapters, we will focus on the last three groups of self-employed people. We will exclude from the analysis the category of self-employed workers registered in a professional order.

## 2.4 Implications and main risks of non-standard work

Although very different from each other, non-standard workers and self-employees tend to suffer from several specific deficiencies or disadvantages regarding social protection (Hinrichs and Jessoula, 2012; Emmenegger et al., 2012). Indeed, because of the gap between statutory access and effective access to benefits, a large part of non-standard workers bears risks and restrictions on access to social protection (ILO, 2017, 2016; Matsaganis et al., 2016; Spasova et al., 2017). As discussed by Giubboni (2013), among the main risks for non-standard workers and self-employees, we can mention: the lack of insurance coverage; the lack of minimum insurance requirements; difficulties associated with the calculation methods for benefits. In addition, the impossibility of aggregating periods even when contributions have been made; the risk of inadequate levels of social protection; and the risk of individual myopia or limited financial capabilities.

In particular, some employment contracts provide insurance coverage only for specific risks (e.g. accidents at work) or do not provide any compulsory insurance contribution. This is often the case for some types of self-employees who are excluded from statutory access. In addition, other categories of non-standard workers lack formal access to specific kinds of social benefits in certain countries (for example, this applies to mini job in Germany). Moreover, gaps in social protection between standard employees and other categories of workers may depend on limited possibilities of meeting eligibility criteria. In other words, despite social protection can be formally guaranteed to all categories of workers, when access depends on minimum requirements set at the national level, atypical and self-employed workers risk not reaching these requirements because of their highly fragmented and irregular career paths. The take-up rate of social benefits can be also lower for non-standard jobs and self-employed people because of the calculation rules adopted for the accumulation

of entitlements. The actual calculation methods (e.g. aggregation of working periods) can penalise workers with short or incomplete periods of insurance. Regarding the impossibility of aggregating contribution periods, workers with fixed-term contracts or self-employment have often difficulties in preserving their acquired rights when they (frequently) change employment. Therefore, special attention should be paid to the portability of social entitlements during the entire person's career. These disparities may be also amplified by the fact that atypical employment quite often forms part of a fragmented career pattern (Matsaganis et al., 2016). Despite having access to social benefits, the level of these benefits could be far from providing atypical workers with sufficient protection against social risks, for example because they will not have access to adequate future pension provisions. Finally, when social protection for non-standard employees and self-employed workers is provided only on a voluntary basis, there is the risk that individuals would prefer to forgo or reduce contributions if allowed. On the other hand, the decision not to adhere to a voluntary scheme can be affected by financial reasons rather than individual preferences, since many atypical and self-employed workers have irregular and low revenues.

In conclusion, the gaps in social protection of atypical workers, along with their lower level of job security and salary, can have several impacts both in terms of social consequences and on the functioning of the labour market. Therefore, the question as to whether there is a need for policy intervention be it on the part of governments or social partners arises. However, the European Commission (2018) highlights that a unique regulation of non-standard work could produce more harm than good, and it is thus essential that each Member State to modernise its welfare states in the direction of more fairness and less divide and segmentation across forms of employment.



### 3. Characteristics and trends of non-standard work in Italy

Standard employment contracts, typically a five-day week contracts within an open-ended duration, appear strongly correlated with economic development. However, in the late 1970s, temporary contracts began to grow significantly in many European countries, with bouts of strong growth in specific countries concentrated in different decades up to the recession of 2008. As discussed in Chapter 1, the growth of non-standard work is the outcome of multiple factors. It reflects changes in the world of work brought about by globalisation, technological changes and social changes – such as the increased role of women in the labour force – but also by regulatory changes. Indeed, from a legal point of view, laws have encouraged the use of fixed-term contracts by creating incentives for firms. In addition, in some cases there have been gaps in the law that have favoured the development of such working arrangements (ILO, 2016). In this chapter, we will focus on Italy and investigate the trends and characteristics of five categories of non-standard work: temporary, part-time work, self-employed, parasubordinate and voucher-based work. Parasubordinate work includes workers who, from a legal point of view, are considered as self-employed, but can be equalised to employees from an economic point of view.

Despite the preference for standard work arrangements, Italy, as other European countries, urged on by unemployment, starting from the mid-1990s and up to the outburst of the economic crisis in 2008, tried to avoid the rigidities in open-ended labour contracts by creating types of arrangements in the labour market with less restrictive hiring and firing conditions. The diversification of employment contracts led to an expansion of temporary employment (including seasonal employment contracts, youth work-training, and apprenticeship contracts) and of “independent contractor”, namely that work midway between the dependent and independent work (Houseman and Osawa, 2003).

The dataset used in the analysis is drawn from the administrative archives collected by the Italian National Social Security Institute (Inps). The dataset can be distinguished in three macro-groups: employees, self-employed workers and parasubordinates. The second group comprises craft workers, shopkeepers and farmers, whereas members of professions are excluded. The third group, as it will be discussed in detail in Section

3.4, is an heterogeneous group and it includes two types of workers: collaborators and professionals. The dataset allows one to take advantage of a large set of variables on the employment contract: annual gross wages, annual weeks worked, age of worker, gender, occupation, and information on the type of contract (part time versus full time, temporary versus permanent). However, since the data derives from administrative archives there are no information on individuals characteristics such as educational attainment, marital status or the number of children.

The final sample is composed by individuals aged between 17-64 years, and all workers are assigned a “main” contractual agreement in any given year (the one with the highest number of weeks worked). In the case of multiple contracts associated with the same individual, in the same year and with the same number of weeks, we keep the contract that pays the highest gross wage. We limit our attention to the 1998-2016 period, since the information on the type of contract and part-time/full-time were recorded starting from 1998. Finally, we employ real gross wages (or earning in case of self-employed) using as deflator the national CPI (base year=2017).

### 3.1 Temporary contracts

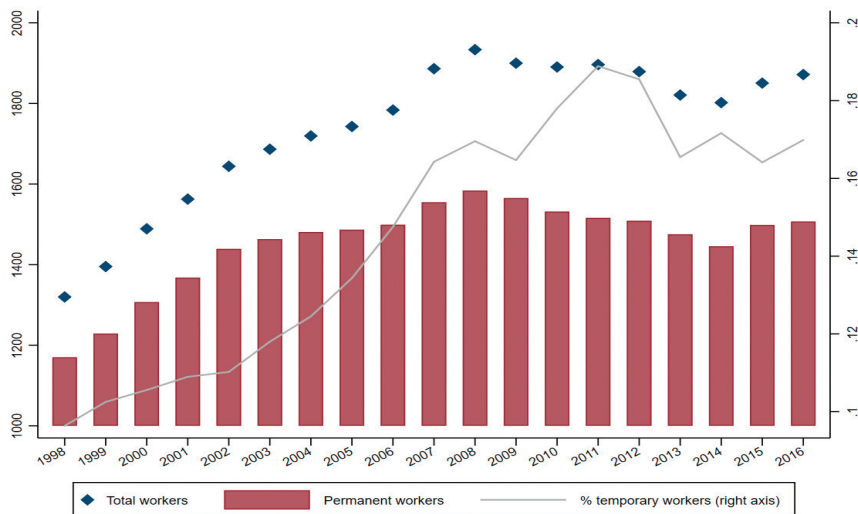
The number of temporary contracts shows a cyclical pattern: it tends to decline at the onset of the recession and tends to increase with the recovery, as many new hires are employed on temporary contracts. In Figure 3.1, we plotted the number of temporary workers and the temporary employment rate (number of temporary employees as a percentage of all employees).

We can notice a strong cyclical pattern: the temporary employment rate increases starting from 1998, decreases at the onset of the recession, around 2008, and tends to increase again with the recovery (with a pick in 2011).

This result suggests that many new hires are employed on temporary contracts. After a period of fluctuations, both permanent and temporary workers have increased steadily since the 2015.

In line with our evidence, a recent report published by Eurofound (2017) stresses that the big increase in temporary employment (at least in the EU15) came much earlier than 2000s. For example, in Spain and France we can observe a huge rise of temporary employment between 1985 and 1995, whereas a similar rise was recorded in Sweden in the early 1990s and in Germany in the early 2000s. Both in Netherlands and in Italy, the increase was strong, but more evenly spread over the period 1985-2014 (see Figure A1 in Eurofound, 2017).

Figure 3.1 Trends in permanent and temporary employment, 1998-2016



Source: Authors elaborations on Inps data

In Table 3.1, we present the main characteristics of temporary workers comparing them with those of permanent workers for the period 1998-2016. More men than women work in temporary employment, but the gender gap is less pronounced than in permanent employment; temporary workers tend to be younger than permanent workers<sup>1</sup>. Moreover, temporary workers seem to be concentrated in elementary occupations, suggesting a negative relationship between the skills intensity of the occupational category and having a fixed-term contract.

Focusing on the total annual worked weeks, a clear gap arises (see Table 3.2). While, on average, in the period 1998-2016 the mean number of weeks worked by a permanent worker was quite constant at around 45, total weeks worked by a temporary worker never reached this level. In 2016, the gap in weeks worked between these fixed-term employees and permanent ones amounted to 17 weeks. Symmetrically, temporary workers display a higher number of weeks not worked during a year (namely weeks of gap). Moreover, Table 3.2 reports the median weekly gross wage (which allows us to exclude the impact of possible outliers at the top of the wage distribution) and a large gap between permanent and temporary employees emerges.

<sup>1</sup> Unfortunately, the data available does not allow the verification of the educational attainment of each worker.

**Table 3.1 Characteristics of Temporary and Permanent Employees, 1998-2016 (%)**

	Permanent	Temporary
<b>Age group</b>		
17–29 years	22.49	41.78
30–39 years	32.46	29.36
40–49 years	28.06	18.79
50–64 years	16.98	10.07
<b>Gender</b>		
Male	61.75	55.85
Female	38.25	44.15
<b>Occupational groups</b>		
Managers	0.84	0.09
Professionals	2.95	0.13
Clerks	33.85	26.54
Blue collars	56.06	72.55
Apprentices and others	6.29	0.70

Source: Authors elaborations on Inps data

During the period 1998-2016, median temporary's weekly gross wage is about 17% lower than the median permanent employee wage<sup>2</sup>.

**Table 3.2 Total weeks worked, weeks of gap and weekly gross wage by type of contract, 1998-2016**

	Mean/Med and (SD)			
	Permanent		Temporary	
Total worked weeks	45	(13.2)	28	(17.5)
Total weeks of gap	7	(14.05)	28	(15.9)
Weekly gross wage (FTE)	441.6€	(584.8)	376.5€	(688.6)

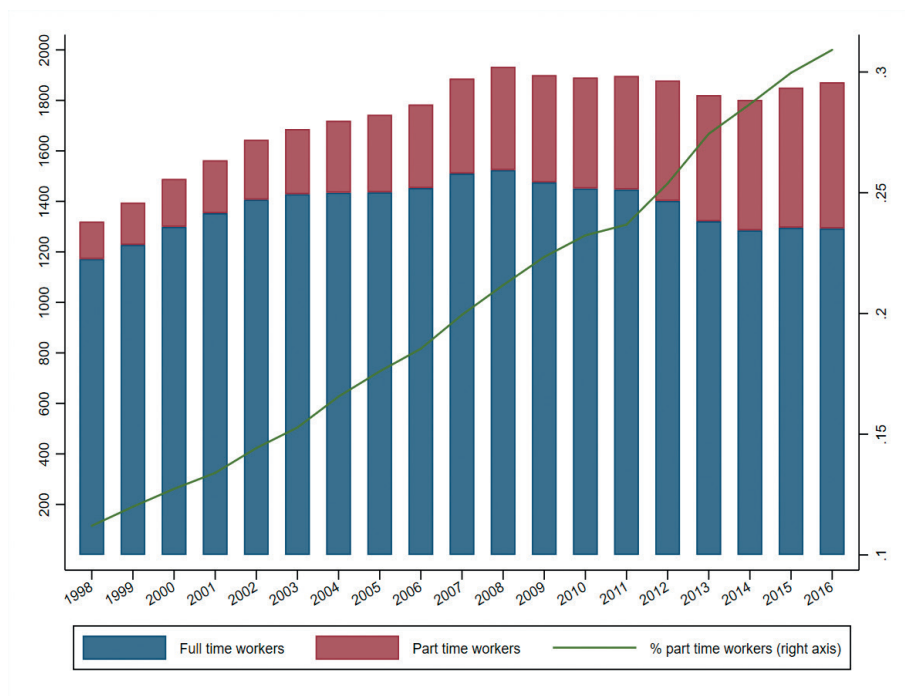
Source: Authors elaborations on Inps data

<sup>2</sup> Wages are adjusted for full-time equivalent.

### 3.2 Part-time work

Part-time work, the second type of non-standard employment, has grown since the onset of the recession. The reasons for this growth can be ascribed to the structural shifts in the economy towards services and references for part-time work and to the increase in female labour force participation. Indeed, in West European countries, it is often used as a means of balancing work and family responsibilities (Avlijas, 2019). In Italy, in 2016, it accounts for about 30% of employment, up from 11% in 1998. Figure 3.2 reveals a constant growth of the part-time employment rate over the period 1998-2016. There was only a slightly decrease in 2011.

Figure 3.2 Trends in part-time and full-time employment, 1998-2016



Source: Authors elaborations on Inps data

Looking at the profile of part-time workers, Table 3.3 highlights that women account for the majority of part-time work, as they amount to 70%; based on the age class, the highest share is recorded amongst workers aged 30-39 years. Moreover, the use of part-time is more concentrated in low skill occupations: only 0.03% of part-time workers are managers (vs 0.89% of full-time) and 0.33% are professionals.

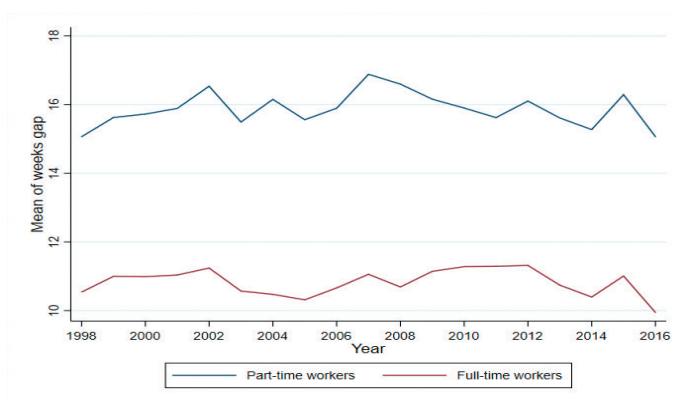
**Table 3.3** Characteristics of part-time and full-time Employees, 1998-2016 (%)

	Part-time	Full-time
<b>Age group</b>		
17–29 years	27.2	25.3
30–39 years	32.0	31.9
40–49 years	26.7	26.5
50–64 years	14.1	16.3
<b>Gender</b>		
Male	29.1	69.0
Female	70.8	31.0
<b>Occupational groups</b>		
Managers	0.03	0.89
Professionals	0.33	3.05
Clerks	36.8	31.6
Blue collars	58.9	58.7
Apprentices and others	3.90	5.7

Source: Authors elaborations on Inps data

Finally, in Figure 3.3 we present the trend of weeks not worked both for part-time and full-time employees. The former shows a higher number of weeks not worked, even if the trend is quite similar to the one of full-time workers, with the exception of the 2003-2006 period.

**Figure 3.3** Trends of weeks not worked for part-time and full-time workers, 1998-2016



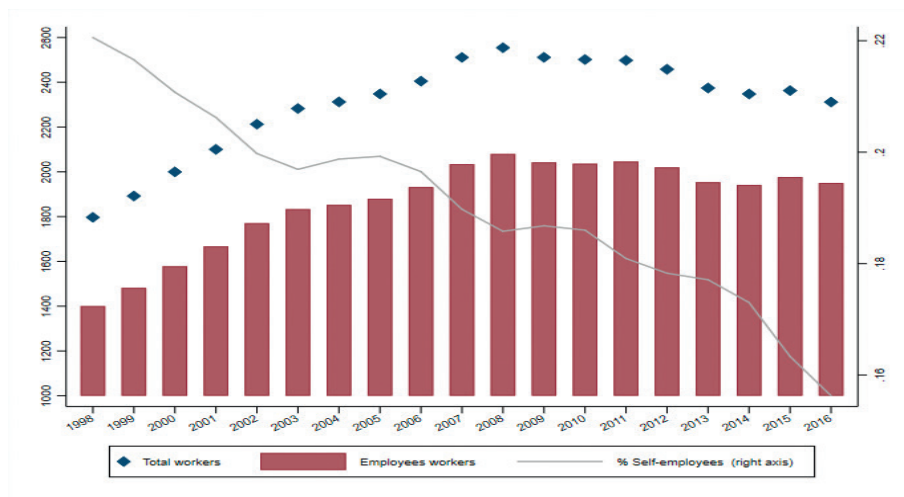
Source: Authors elaborations on Inps data

In a comparative perspective, part-time employment is more widespread in Northern European countries and less frequent in Eastern Europe, reflecting differences in social infrastructure, legislation and the quality of available part-time works.

### 3.3 Self-employed

A different picture emerges when looking at the changes in self-employment trends over the 1998-2016 period. In Italy, the share of self-employment, namely the number of self-employed workers (farmers, artisans, dealers) divided by the number of total workers, has declined through the last decades without showing the cyclical fluctuations typical of temporary contracts or part-time work (see Figure 3.4). A possible explanation of this trend can be associated with a reduction of self-employment in the agriculture sector because of the growing number of people moving into urban areas.

Figure 3.4 Trends in self-employed workers, 1998-2016



Note: Authors elaborations on Inps data

In the EU28, the share of self-employment has remained stable at around 15 per cent of all employment, though with quite significant variations between Member States. For example, in the UK, in the last four years, it has increased by around 1.3 percentage points, and in the Netherlands the self-employment rate has risen from a pre-recession rate of around 12 per cent to over 15 per cent in 2014. The rate has remained rather stable (with a slight decline even) in Germany and Sweden (Hatfield,

2015; Eurofound, 2017). The economies of southern and eastern Europe have the greatest share of self-employed workers, with the highest rate occurring in Greece, where over 30 per cent of workers are self-employed. Among European countries with a high proportion of self-employed workers, there are also Spain and Poland. On the other hand, northern European countries – including Norway, Estonia, Denmark and Sweden – have the lowest proportion of self-employed workers. Packard et al (2012) suggest that countries with more active labour market policies have a lower incidence of informal work, which may be one of the reasons why self-employment is lower in northern and western European countries.

Moving to the characteristics of the self-employed, Table 3.4 shows that self-employed workers are significantly older than employees: 60% of Italian self-employed workers are aged 40 or more, whereas the corresponding figure for employees is 41%. About 69% of the self-employed are men, whereas for employees the gender gap is slightly lower. The highest percentage of self-employed workers is comprised of own-account workers (72%), whereas the other two categories, namely self-employed with employees and collaborators, account for about 17% and 11% respectively. As to the sector of activity, Houseman and Osawa (2003) show that, in Italy, the construction, trade, and tourism sectors are more prevalent among the self-employed. Our data does not allow for a distinction among sectors because, unfortunately, we have no information on them.

**Table 3.4 Characteristics of self-employed and employees, 1998-2016 (%)**

	Self-employed	Employees
<b>Age group</b>		
17–29 years	10.83	25.66
30–39 years	27.84	31.87
40–49 years	32.74	26.57
50–64 years	28.59	15.89
<b>Gender</b>		
Male	68.80	60.75
Female	31.20	39.25
Self-employed with employees	16.6	
Self-employed without (own-account workers)	72.0	
Collaborators	11.4	

Note: Authors elaborations on Inps data



Over the 1998-2016 period, the mean number of weeks worked by private employees was around 43, while those worked by self-employed workers were around 45 (see Table 3.5). The difference between employees and self-employed workers is also evident when we consider the gap of weeks not worked and the real weekly gross wage. Indeed, self-employed workers earn a lower weekly gross wage than employees, but, surprisingly, they experience a lower number of gap than the others.

**Table 3.5** Total weeks worked, weeks of gap and weekly gross wage, 1998-2016

	Mean/Med and (SD)			
	Self-employed		Employees	
Total worked weeks	45	(13.04)	43	(16.67)
Total gap weeks	7	(12.56)	11	(15.08)
Weekly gross wage (FTE)	304.3€	(252.4)	427.3€	(588.4)

Note: Authors elaborations on Inps data

### 3.4 Parasubordinate

In Italy, parasubordinate work is a particular form of non-standard employment that deserves attention. Indeed, parasubordinate workers are, in general, workers who often experience low wages, frequent spells of unemployment and a lower contribution rate compared to the other ones.

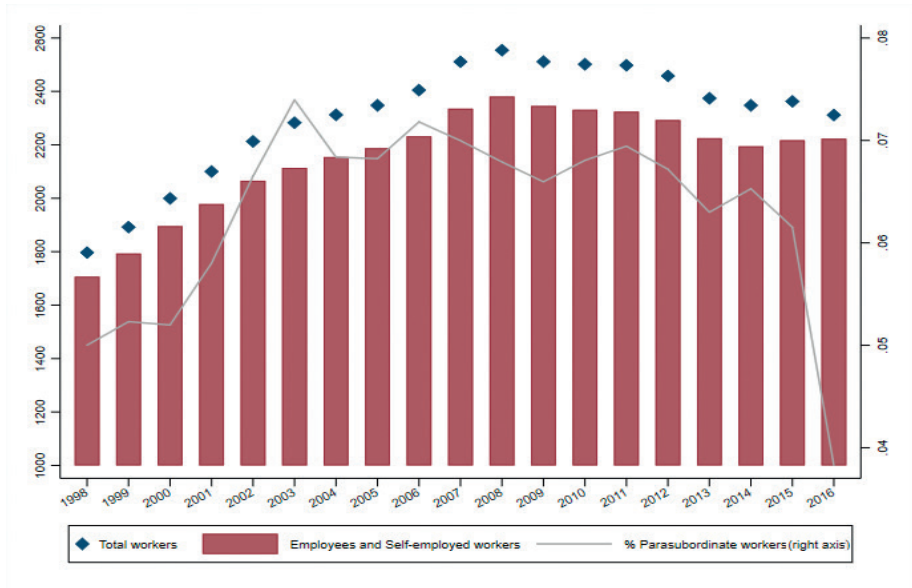
A “parasubordinate worker” is a worker who is self-employed in legal terms, but who is often “economically dependent” on an employer since, in most cases, their activity is reliant upon one or a small number of clients. Parasubordinate workers are mandatorily enrolled in a special public fund called *Gestione Separata* managed by the Italian Social Security Institute (Inps).

Figure 3.5 highlights that between 1998 and 2003 the rate of parasubordinate workers rose by about 2 percentage points, after the 2003 peak, it started to fall down, reaching a minimum value equal to 3% in 2016. The reduction in the use of parasubordinate workers could be ascribed, in part, to the implementation of the Fornero Reform (Italian Law 92/2012) and, in part, to the 2015 Jobs Act, which may have encouraged the adoption of temporary job contracts in place of parasubordinate job contracts (Bovini and Viviano, 2018).

Actually, parasubordinate workers include two different kinds of workers: collaborators, e.g. co-ordinated and continuous collaborators, occasional collaborators, and members of professions, for example marketing consultants, business consultants and dental hygienist. In particular, professionals include professionals without a pen-

sion fund and professionals who have requested to pay contributions to the *Gestione Separata* only for income deriving from professional activities that are not related to their main activity.

Figure 3.5 Trends in parasubordinate workers vs employees and self-employed workers, 1998-2016



Source: Authors elaborations on Inps data

Collaborators are a much more heterogeneous group: in addition to coordinated and continuous collaborators, there are administrators, mayors, company auditors and bodies with or without legal personality, collaboration. Therefore, parasubordinate work is a very heterogeneous category, since it generally includes low-paid workers, hired under short-term arrangements, relatively high-paid workers, and some high-skilled workers at the beginning of their careers (PhD students, postdoctoral fellows and physicians attending a postgraduate qualification course) (Raitano, 2018).

In order to take into account the large heterogeneity of parasubordinate workers, Table 3.6 points out the main characteristics of parasubordinate workers, distinguishing between collaborators and professionals. The use of collaborators is more widespread among workers aged between 17 and 39 years, whereas professionals seem to be older. The share of male parasubordinate workers is always higher than that of females, even though the difference is more evident for professionals (54% vs 46% and 60.5% vs 39%).

**Table 3.6** Characteristics of parasubordinate workers and employees, 1998-2016 (%)

	Collaborators	Professionals	Employees
<b>Age group</b>			
17–29 years	26.31	14.02	25.66
30–39 years	31.69	33.95	31.87
40–49 years	26.27	29.21	26.57
50–64 years	16.67	22.81	15.89
<b>Gender</b>			
Male	53.99	60.56	60.75
Female	46.01	39.44	39.25

Source: Authors elaborations on Inps data

As to the other non-standard workers, parasubordinate workers also suffer from a negative gap both in terms of total worked weeks and in terms of weekly gross wage with respect to employees. In particular, collaborators are those with the lower mean number of worked weeks and then with the higher number of not worked weeks (see Table 3.7).

**Table 3.7** Total weeks worked, gap weeks and weekly gross wage, 1998-2016

	Mean/Med and (SD)		
	Collaborators	Professionals	Employees
Total worked weeks	30 (18.79)	36 (21.58)	43 (15.19)
Total gap weeks	22 (21.47)	16 (18.79)	11 (15.88)
Weekly gross wage (FTE)	362.7€ (470.9)	374.8€ (357.3)	427.3€ (588.4)

Source: Authors elaborations on Inps data

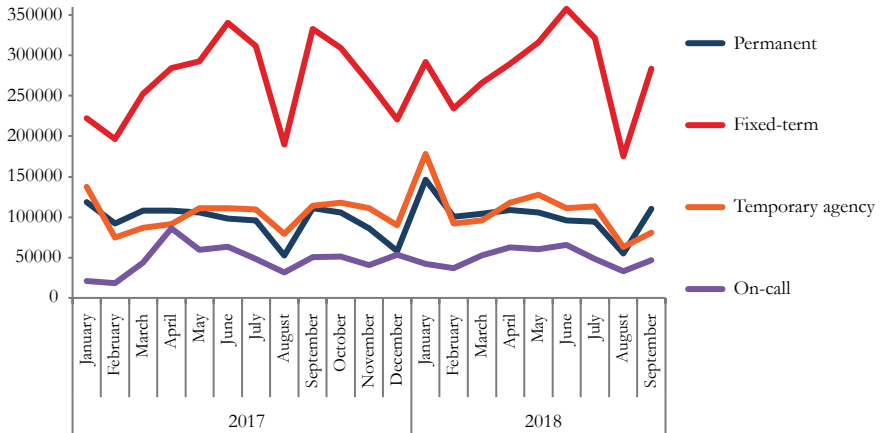
### 3.5 Hires and contractual transformations<sup>3</sup>

In this paragraph, using the data drawn from the *Osservatorio del Precariato* made available by Inps, we report the short-term trend of hires, distinguishing among permanent, fixed-term, temporary agency and on-call workers and taking into account the number of activations of new employment relationships. Figure 3.6 shows the number of hires from January

<sup>3</sup> This paragraph is drawn from Filippi, M. et al. (2018), *La domanda di lavoro discontinuo alla luce delle modifiche normative*. Mimeo online printing.

2017 to September 2018, and the most widespread typology of employment contract is the fixed-term one. The number of hires of temporary agency workers is equivalent to the one of workers with permanent contracts. On-call contracts are the residual category.

Figure 3.6 Total monthly activations of new employment contracts, 2017-2018



Source: Authors elaborations on Inps data – *Osservatorio del Precariato*

During the last decade, one of the most debated issues, as well as one of the main objects of the economic literature, refers to contractual transformations from fixed-term to permanent employment. In particular, the literature tries to understand if fixed-term work is a *stepping-stone* for an open-ended occupation or a *trap* in a situation of uncertainty<sup>4</sup>. The evidence suggests that fixed-term contracts tend to be a trap. Indeed, in 2013, the transition rates from fixed-term employment to permanent employment were low and, in addition, showed a strong heterogeneity among countries. It ranged from 10% in France (lowest value) to 60% in Estonia (highest value). Italy, with a value of just over 20%, showed a transition rate in line with the European one, but higher than France and Spain and lower than Germany: in Italy, therefore, only 1 out of 5 temporary workers turns to be a permanent one during the following year. In addition, this rate is decreasing compared to 2007, when it was equal to 30% (European Commission, 2016).

<sup>4</sup> For a review of the literature see, e.g., Barbieri and Scherer (2009), Berton et al. (2011), Boeri and Garibaldi (2007), Gagliarducci (2005), Ichino et al. (2005), Centra and Gualtieri (2017), Cirillo et al. (2017), Croce (2017), D'Agostino et al. (2018) and Sestito and Viviano (2018) propose a first evaluation of the effects of the Jobs Act.

In the long-run, transition rates improve even if, for some countries including Italy, they are not satisfactory yet. An OECD report (2015) shows that over the course of 10 years, both in Italy and Spain, 1 out of 2 fixed-term workers becomes permanent, while almost all temporary workers become open-ended in Germany, Austria and Estonia. Moreover, in Europe, the negative correlation between youth unemployment rates and the fixed-term probability of becoming permanent workers appears evident, and Italy shows the highest values of youth unemployment, and the lowest transition rates (Eichhorst et al., 2017). Table 3.8 reports a comparative static analysis between 2010 and 2017 of flows in the European labour market to and from three statuses, inactive (I), unemployed (U) and employed (E), comparing Italy with Greece, Spain, France, Sweden, the United Kingdom and the European average.

**Table 3.8 Transition probabilities for three statuses in Europe: from quarter-III 2010 to quarter-III 2017**

	2010 - QIII			2017 - QIII		
	E-E	E-U	E-I	E-E	E-U	E-I
Greece	98.3	1.1	0.6	98.6	0.7	0.7
Spain	93.7	4.1	2.2	93.9	3.5	2.6
France	96.6	1.7	1.7	95.6	2	2.4
Italy	95.7	1.4	3	95.6	1.5	2.8
Sweden	96.1	1.5	2.4	96.1	1.2	2.7
United Kingdom	97.9	1.1	1	97.8	0.7	1.6
<b>Media UE</b>	<b>96.4</b>	<b>1.8</b>	<b>1.8</b>	<b>96.5</b>	<b>1.2</b>	<b>2.4</b>
	U-E	U-U	U-I	U-E	U-U	U-I
Greece	4.7	93.7	1.6	6.8	92.2	1.1
Spain	18.9	60.4	20.6	22.6	60.9	16.5
France	21.7	55.3	23	21.6	56.1	22.3
Italy	15.2	38.1	46.7	15.3	46.6	38.1
Sweden	26.6	46.9	26.6	26.1	48.9	25
United Kingdom	17.1	66.6	16.3	19.1	66.1	14.8
<b>Media UE</b>	<b>17.4</b>	<b>60.2</b>	<b>22.5</b>	<b>23.3</b>	<b>59.2</b>	<b>19.6</b>
	I-E	I-U	I-I	I-E	I-U	I-I
Greece	0.5	0.4	99.1	0.5	0.2	99.3
Spain	4.2	6.7	89.1	4.1	5.6	90.3
France	3.5	3.1	93.4	3.3	4	92.7
Italy	2.7	2.8	94.5	3.4	5.4	91.2
Sweden	7	4.2	88.8	8.2	4.5	87.3
United Kingdom	3.2	3.4	93.3	3.5	2.1	94.4
<b>Media UE</b>	<b>3.5</b>	<b>3.4</b>	<b>93.0</b>	<b>5.0</b>	<b>3.1</b>	<b>92.0</b>

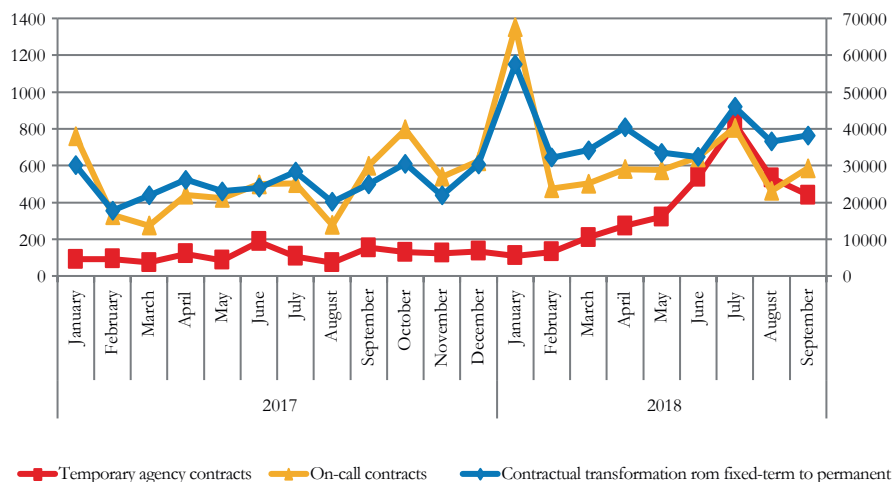
Source: Authors elaborations on Eurostat data

Note: E=employed, U=unemployed, I=inactive.

Italy shows a 6.5% increase in the unemployment rate between 2010 and 2017, all absorbed by a corresponding decrease in unemployment flows, which are still high compared to other countries. Therefore, compared to the other European countries, in Italy the transition probability from the unemployment to employment status is still low. Italy does better only when compared to Greece, which shows high levels of immobility rates for all three statuses. Finally, Italy shows a reduction in the immobility rate for the inactivity status, in line with the European mean trend, to which corresponds an increase of the probability of passing from inactivity towards employment and towards unemployment.

Looking at Inps data, contractual transformations have been increasing in the last two years, more frequently for on-call contracts than for employees (see Figure 3.7).

Figure 3.7 Contractual transformations by month, 2017-2018



Source: Authors elaborations on Inps data – *Osservatorio del Precariato*

### 3.6 Occasional collaborations and voucher-based contracts<sup>5</sup>

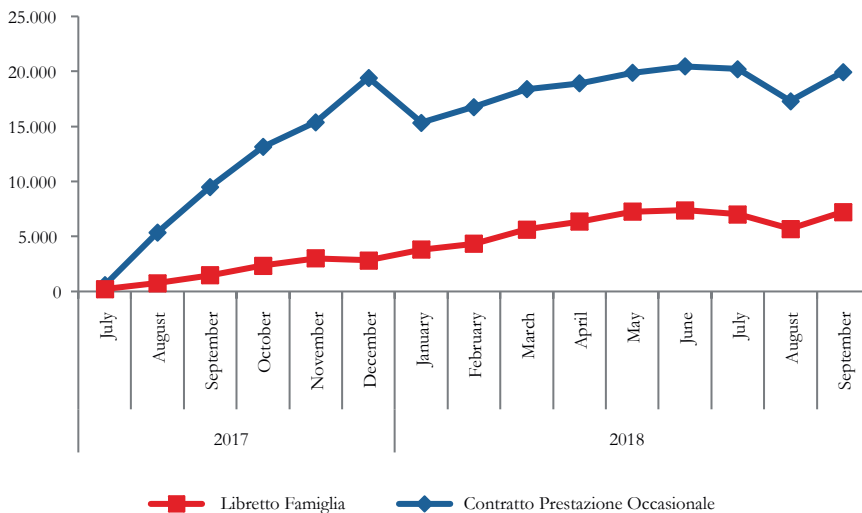
As discussed in paragraph 2.2.4, a voucher-based contract is established when an employer buys a voucher from, for example, a government authority and uses it as a salary. When the task is completed, the worker receives the voucher that can be exchanged for

<sup>5</sup> This paragraph is drawn from Filippi, M. et al. (2018), *La domanda di lavoro discontinuo alla luce delle modifiche normative*. Mimeo online printing.

money. It usually applies to specific tasks, often limited to certain sectors or occupations that are characterized by high levels of undeclared work. This kind of work is widely used to cover part of the demand related to discontinuous work. In Italy, probably as a reflection of the scope of undeclared work, voucher-based contracts came to be used in all economic sectors (except in agriculture), for all categories of workers and for all kinds of activities (except when being carried out within subcontracting arrangements). Following the repeal of vouchers on March 2017, two new instruments of casual work are now planned and regulated: the so-called “*Libretto Famiglia*” (LF) and the so-called “*Contratto di prestazione occasionale*” (CPO). The former is composed of payment instruments, whose nominal value is set at 10 euros, which can be used to offset services lasting no longer than one hour. Only private users who do not have a firm and are not freelancers can use the LF. The latter is the contract through which a user acquires, with simplified methods, occasional work. The CPO can be used by entrepreneurs, professionals, self-employed workers, associations and other private institutions, as well as public administrations, with specific regulations valid for the Public Administration and for the firms of the agricultural sector (see, Article 1 of Italian Legislative Decree 165/2001). The parties set the amount of the net compensation, but it should be: a) minimum € 9 per hour; or b) minimum € 36 for each working day.

Figure 3.8 shows the total of activations of LFs and CPOs over the 2017-2018 period. Activations with CPOs are more numerous than those activated with a LF, and the gap between the two instruments appears wide, as the CPO continues to be the tool of choice.

**Figure 3.8 Total activations of occasional work, 2017-2018**



Source: Authors elaborations on Inps data – *Osservatorio del Precariato*

Finally, looking at the activation of new occasional work contracts, both CPO and LF have seen a significant increase both in terms of the number of workers involved and of the work performed (see, Table 3.9). Among them, CPOs are those currently most needed, in terms of the number of workers involved, total hours and total gross amount. Regarding the amount of the gross amount per-capita and hours per-capita, CPO and LF do not differ substantially.

**Table 3.9** New occasional work arrangements – CPO and LF, 2017-2018

		Number of workers	Total gross amount	Gross amount per capita	Total hours	Hours per capita
<b>CPO</b>						
2017	Total	33,987	20,426,766	601	1,473,620	43
2018	Total	57,016	42,494,127	745	3,171,185	56
<b>LF</b>						
2017	Total	4,430	2,457,740	555	219,860	50
2018	Total	15,280	17,534,040	1,153	1,517,688	100

Source: Authors elaborations on Inps data – *Osservatorio del Precariato*

### 3.7 A regression analysis for non-standard workers

In order to investigate the role of professions and contractual arrangements, and in particular fixed-term contracts, we performed a pooled OLS regression for three occupational groups on the (log of) weekly wage of employees: managers, white-collars and blue-collars. Explanatory variables measure the main demographic and employment characteristics as well as the career trajectories of workers during the 1998-2016 period. Table 3.10 highlights the results of the estimates. First, the wage penalty suffered by females is evident, as is the fact that it is higher for managers (-19%) and white-collars (-20%) than for blue-collars (-13%), confirming that, in the Italian labour market, the glass-ceiling phenomenon compresses the career prospect of females (see, e.g., Biagetti and Scicchitano, 2011). Moreover, being employed under a temporary contract reduces the wage earned by managers and white-collars (-0,6%), whereas it increases the wage of blue-collars (+0,2%). These results suggest that for the first two professional groups, temporary arrangements are a “dead-end” for their social contribution accumulation prospects. Finally, the gap in the total worked weeks during a year is negatively correlated with the weekly wage for each professional group. In the second specification of the regression model, we used, as an additional explanatory variable,



the interaction between gender and the amount of not worked weeks: being female worsens the negative effect of the gap on the wage, but this is true only for manager.

**Table 3.10** Pooled OLS of (log) weekly wage of employees

	First specification			Second specification		
	Manager	Office worker	Blue-collar	Manager	Office worker	Blue-collar
30-39 years	0.257*** [0.008]	0.106*** 0	0.095*** 0	0.257*** [0.008]	0.104*** 0	0.092*** 0
40-49 years	0.412*** [0.008]	0.203*** [0.001]	0.129*** 0	0.410*** [0.008]	0.201*** [0.001]	0.126*** 0
50-64 years	0.449*** [0.008]	0.294*** [0.001]	0.156*** [0.001]	0.447*** [0.008]	0.293*** [0.001]	0.155*** [0.001]
Fixed-term	-0.110*** [0.009]	-0.066*** [0.001]	0.028*** 0	-0.112*** [0.009]	-0.064*** [0.001]	0.030*** 0
Seasonal	-0.781*** [0.073]	-0.009*** [0.002]	0.155*** [0.001]	-0.779*** [0.073]	-0.009*** [0.002]	0.149*** [0.001]
Female	-0.194*** [0.003]	-0.202*** [0.001]	-0.128*** 0	-0.166*** [0.003]	-0.220*** [0.001]	-0.197*** [0.001]
Gap	-0.005***	-0.007***	-0.000***	-0.004***	-0.008***	-0.001***
Gap*Female				-0.006***	0.002***	0.003***
Experience	0.029***	0	0.001***	0.029***	0	0.002***
Extra	0.153*** [0.009]	0.011*** [0.002]	-0.026*** 0	0.152*** [0.009]	0.011*** [0.002]	-0.024*** 0
Constant	6.714*** [0.012]	6.263*** [0.002]	5.864*** [0.001]	6.706*** [0.012]	6.274*** [0.002]	5.879*** [0.001]
R2	0.112	0.262	0.217	0.115	0.263	0.221
<b>Obs</b>	<b>1,050,809</b>	<b>10,740,653</b>	<b>21,073,170</b>	<b>1,050,809</b>	<b>10,740,653</b>	<b>21,073,170</b>

Source: Authors elaborations on Inps data

Note: Other controls: experience squared, gap square, year fixed effects. Weighted estimates. \*  $p < 0.05$ , \*\*  $p < 0.01$ , \*\*\*  $p < 0.001$ .

Moreover, to verify whether factors behind the growth of wages (and social security contributions) differ among employees, self-employed and para-subordinate workers, we ran separate pooled OLS for (log of) wage equations for employees, self-employed workers and parasubordinate workers. As to the previous regression models, the set of explanatory variables formalize the main demographic and employment characteristics as well as the career trajectories of individuals during the considered period.

Table 3.11 suggests that the positive association between the age of workers/cohorts of age and social security contributions is higher for employees than self-employed workers, while the opposite is true if we consider labour market experience. In other words, the wage premium correlated with the labour market experience of both self-employed workers (+1.2% each year) and “para-subordinate” workers (+1.1%) is higher than that of employees (+0.7%).

**Table 3.11 Pooled OLS of (log) weekly wage of employees and self-employed workers**

	First specification			Second specification		
	Employees	Self-employed workers	Para-subordinate workers	Employees	Self-employed workers	Para-subordinate workers
30-39 years	0.156*** (0.000)	0.055*** (0.001)	0.101*** (0.002)	0.156*** (0.000)	0.055*** (0.001)	0.101*** (0.002)
40-49 years	0.234*** (0.000)	0.101*** (0.001)	0.252*** (0.003)	0.234*** (0.000)	0.100*** (0.001)	0.252*** (0.003)
50-64 years	0.292*** (0.000)	0.118*** (0.001)	0.314*** (0.003)	0.292*** (0.000)	0.118*** (0.001)	0.314*** (0.003)
Female	-0.089*** (0.000)	-0.103*** (0.001)	-0.180*** (0.002)	-0.089*** (0.000)	-0.078*** (0.001)	-0.490** (0.002)
Gap	-0.008*** (0.000)	-0.001*** (0.001)	-0.272*** (0.079)	-0.008*** (0.001)	-0.001*** (0.002)	-0.013*** (0.004)
Gap*Fe- male				0.0026*** (0.000)	-0.001*** (0.001)	-0.277*** (0.079)
Experience	0.007*** (0.000)	0.012*** (0.000)	0.011*** (0.002)	0.007*** (0.000)	0.012*** (0.001)	0.011*** (0.002)
Extra	-0.124*** (0.001)	-0.034*** (0.002)	-0.001 (0.004)	-0.124*** (0.001)	-0.035*** (0.002)	-0.001 (0.004)
Other controls	Yes	Yes	Yes	Yes	Yes	Yes
Constant	5.983*** (0.002)	5.801*** (0.002)	11.968*** (0.003)	5.983*** (0.002)	5.791*** (0.002)	11.917*** (0.003)
R2	0.233	0.051	0.085	0.233	0.051	0.085
<b>Obs.</b>	<b>32,488,958</b>	<b>8,168,334</b>	<b>2,335,814</b>	<b>32,488,958</b>	<b>8,168,334</b>	<b>2,335,814</b>

Source: Authors elaborations on Inps data

Note: Other controls: experience squared, gap square, year fixed effects. Weighted estimates. \* p<0.05, \*\* p<0.01, \*\*\* p<0.001.

The wage penalty suffered by women in the Italian private sector differs among groups: the gender gap is equal to -18% in the sub-sample of “para-subordinate” workers, -10% for self-employed workers and -8.9% for employees (in this case, the log of wages is corrected for part-time).

Finally, we show that spells of unemployment (as measured by the total number of weeks not worked during a year) are associated with a substantial reduction of the wages earned by para-subordinate workers (-27%), while the penalty is limited for employees (-0.8%) and virtually not empirically relevant for self-employed workers (-0.1%). This result is interesting: while “para-subordinate” workers have negative prospects as they experienced a gap in the total number weeks worked (or, in the worst case, a loss of the job), this does not happen for the self-employed. This evidence does not imply that the design of social protection should be necessarily differentiated among occupational groups; however, it makes it clear that the pension system will face a growing phenomenon of heterogeneity of career trajectories and social security contributions.



## 4. Platform workers in Italy

In this chapter, we will focus on the main characteristics of individuals offering their services on platforms. It is generally pointed out that workers whose main activity depends on digital platforms are a small proportion of all workers participating in digital labour markets. Indeed, the share of workers earning more than the 50% of their income in connection to the platform (for more than 20 hours per week) are about the 2% of the adult population (Pesole et al., 2018). However, the relevance of digital platforms in terms of the number of workers involved varies significantly across countries: the UK displays the highest share of workers participating in digital labour markets, followed by Germany, the Netherlands, Spain, Portugal and Italy. Combining various estimates at country level, Eurofound (2018b) states that the average share of the working population participating in digital platforms represents around 0.5% of the active population.

According to COLLEEM (COLLaborative Economy and EMPloyment) data, the typical European platform operator is a young male with tertiary education; the percentage of women, in turn, decreases as the intensity of platform work increases. In terms of social protection schemes, the situation faced by platform workers is even more challenging as opposed to non-platform NSW (Cirillo, 2019; Bogliacino et al., 2019a).

As compared to standard workers, NSW tend to benefit from a lower degree of social protection, particularly concerning income, employment and health-related risks. Nevertheless, the social protection gap dividing standard workers and NSW has been recently reduced following labour market reforms aimed at providing workers with a common safety net independent of the contractual form.

The ambiguous legal status characterising platform workers (i.e. as illustrated at length in Eurofound (2018b) platform workers are often identified as ‘partners’ or, more broadly, autonomous workers), however, makes this class of ‘digital workers’ not entitled to benefit from almost all existing social protection schemes, thereby exposing them to a significant risk burden vis a vis the rest of the workforce (Collier et al., 2017). In 2018, as part of the European framework of social pillar rights, the European Commission launched a recommendation on the accessibility of social protection,

which sets the minimum standard, for all workers, regardless of the type of contract (European Commission Act No. 13.3.2018 COM(2018)). However, the discussion is far from being resolved at national level, given the ongoing debate on the status of platform work. According to Berg (2016), only 8.1% of workers economically dependent on platform work in the United States make regular contributions.

In a recent work, Bogliacino et al. (2019a) analysed the relationship between participation in digital labour markets and the demand for social protection systems using an original dataset built on the basis of an ad-hoc survey carried out for the European Commission's initiative on the extension of social protection among different forms of employment. The data contain information on socio-economic characteristics, employment status, the perception of the adequacy of social transfers to which one is entitled and the demand for better forms of social protection. The sample includes 8,000 adults surveyed in 10 European countries (800 for each of the 10 countries: France, Germany, Italy, the Netherlands, Poland, Portugal, Romania, Slovakia, Spain, Sweden). The study highlights a pattern of polarisation in platform participation between standard workers *tout court* and NSW (for the self-employment component). This pattern is particularly evident in Germany, Spain, Italy, Poland and Portugal; while in France, the Netherlands and Sweden, the share of platform participants is higher among full-time permanent workers (over 35%) suggesting a model of platform participation likely to complement income from standard work. Finally, in Romania and Slovakia, Bogliacino et al. (2019a) show that it is mostly the self-employed without employees who work in the digital markets (almost 40%).

In this chapter, we will explicitly focus on Italy, providing some fresh evidence on the main socio-demographic characteristics of platform workers by relying on the Survey on Labour Participation and Unemployment (PLUS) run by Inapp and containing an ad-hoc module on platform workers.

In what follows, we will firstly provide an overview of platform workers as non-standard employees in order to set the background (paragraph 4.1.1) and introduce the platform as a multi-sided market (paragraph 4.1.2). Then, we will provide some descriptive statistics on the main features of the individuals taking part in platforms; with regard to digital labour market based on PLUS Inapp data (Section 3), we estimated four probit models in order to pinpoint the main drivers behind platform participation in terms of socio-economic characteristics and employment features. Furthermore, based on peculiar information on the years of pension contributions paid by workers, we will study whether participating in platforms and specifically labour platforms might affect the number of years of pension contributions paid.

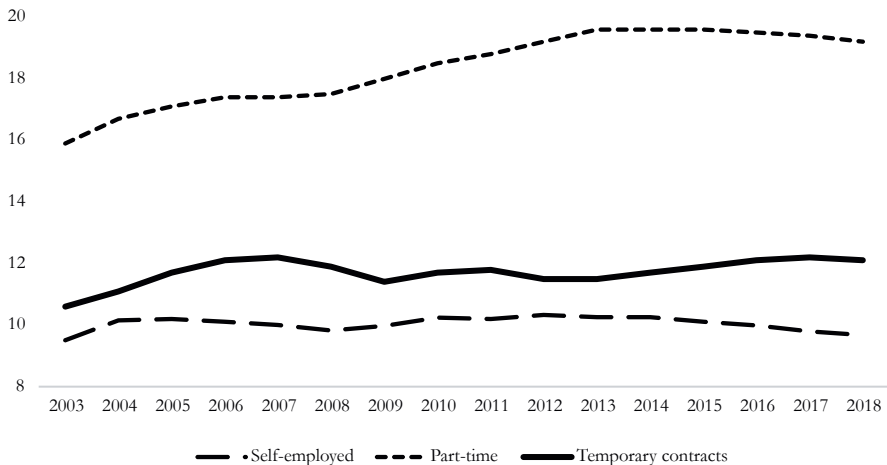
## 4.1 Platform workers as non-standard employees<sup>1</sup>

The European labour market has been profoundly reshaped over the last decade, recording a huge increase of non-standard work (NSW). By non-standard work (NSW), as discussed in Chapter 1, the international literature means all forms of employment contracts that are placed outside permanent and full-time employment, such as fixed-term, part-time and on-call contracts or other form of salaried work disguised as self-employment. NSW has increased over the last decade, although with strong heterogeneity among the various components of NSW as well as countries: the share of non-standard work is only 20% in Eastern Europe and reaches 46% in the Netherlands. From the 1990s until the beginning of the 2007-2008 recession, the NSW as a whole accounted for around 50% of all job creation in OECD countries, reaching 60% in the 2008-2013 period. Among the non-standard forms of work, part-time work is by far the component that has grown the most in the last decade; in addition, in 2018, part-time work was involuntary for 24.8% of part-time workers in Europe and 65.7% in Italy. The expansion of non-standard work has been stimulated in the last decade by the implementation of policies aimed at increasing the flexibility of the labour market on the basis of the assumption that greater flexibility would favor the employment of more marginal categories such as young people and women. Indeed, the EU employment guidelines and recommendations have called on the social partners and public authorities to promote flexible working arrangements (see in this respect Directives 97/81/EC concerning the framework agreement on part-time work; 1999/70/EC concerning fixed-term work and 2008/104/EC concerning atypical work through temporary employment agencies). Focusing on Italy, the expansion of fixed-term and part-time work from 2003 to 2018 clearly emerges: the first increased by about 6 percentage points (from 7.3% to 13.4%); the second increased by more than 10 percentage points (from 8.4% to 18.4%), as highlighted in Figure 4.1. The increase in NSW goes along with an ongoing process of digitisation of the economy, offering the possibility to reorganise production processes on an international scale by fragmenting productions into micro-tasks to be allocated to workers willing to offer their workforce through a digital platform (Cirillo and Molero Zayas, 2019; Tubaro and Casilli, 2019). Indeed, platforms represent one of the main channel through which workers can offer their work due to the peculiarity of the platform working as a multi-homing intermediary. Labour platforms can be defined as digital labour markets where labour-intensive services are traded by matching requesters (employers and/or consumers) and providers (workers).

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<sup>1</sup> This paragraph is based on Cirillo, V. (2019). *Lavoratori Non-Standard e Sistemi di Protezione Sociale: il caso dei lavoratori delle piattaforme digitali*. Menabò di Etica&Economia 106.

Figure 4.1 Non-Standard Employment in EU-28 (% on total employment)



Source: Own elaboration on *European Labour Force Survey* (Eurostat)

Though still limited, the share of workers whose main occupation is managed by a platform is increasing, and there is no sign of this trend being reversed in the immediate future. As discussed in Bogliacino et al. (2019b), platforms have been studied extensively because they appeared to be a conundrum for the standard toolkit of industrial regulation and because they pose several challenges to standard pricing theory and market analysis. Indeed, the rise of labour platforms as new actors in the labour market raises major concerns. Labour platforms can be classified according to the degree of control exerted over workers, according to the geographical location of the task and the need (or lack thereof) of physical delivery, and the characteristics of the traded task (for an extensive analysis on that, see Bogliacino et al. 2019b).

#### 4.1.1 Platforms as two-sided or multi-sided markets<sup>2</sup>

The emergence of new online platforms intermediating labour-intensive services (i.e., Upwork, Uber, Amazon Mechanical Turk, Task Rabbit, just to name a few) have led to as many controversies and rhetorical disputes as other consumer-oriented platforms. Certainly, they have been the object of many more legal disputes, especially concerning the legal status of those providing the services (i.e. contractors vs employees). As they

<sup>2</sup> This paragraph draws on Bogliacino et al. (2019b). Quantity and quality of work in the platform economy. In *Handbook of Labor, Human Resources and Population Economics*. Zimmermann, K.F. (ed.), Springer.



concern labour issues, digital labour platforms have been alternatively presented as a source of opportunities for people and of market efficiency or instead of precarisation and further encroachment on labour.

This section develops a conceptual background based on the related work in Codagnone et al. (2019), where the reader can find a more detailed discussion on the topic. Before presenting a definition and a typology of digital labour platforms, the first question to ask is to what extent platforms are different from other forms of using and employing labour (on this point, see also Evans and Noel, 2005; Evans and Schmalensee, 2007). More concretely, the question is: can these digital platforms be considered simply as a case of two-sided or multi-sided markets? Are they a pure form of two-sided market or a hybrid between market and hierarchy? Depending on the answers to such questions, one could apply to these platforms consolidated analytical and theoretical approaches and the corresponding policy ‘tool box’.

Two issues depending on the answer to such question are particularly relevant: what competition policy to implement (Evans and Noel, 2005; Evans and Schmalensee, 2007) and whether labour providers in the platform are indeed contractors or de-facto subordinated employees. The main issues from the economic literature on two-sidedness and multi-sidedness are worth reviewing.

Two-sided or multi-sided markets or platforms are situations where a platform enables two or more groups of users to transact or at least interact in ways whereby at least one group and usually all groups benefit directly or indirectly from having a growing number of users on the other side(s)’ (Codagnone et al., 2019; p. 18).

Since 2002 (see, for example, Rochet and Tirole 2006; Parker and Van Alstyne, 2005; Eisenmann et al, 2006; Rysman, 2009), a growing body of economic literature has analysed situations that broadly qualify as two-sided markets (henceforth 2SMs), although the conditions for two-sidedness (or multi-sidedness) still remain an empirical matter to be ascertained on a case-by-case basis (Filistrucchi et al, 2014).

In the literature, the first to address the chicken and egg problem (i.e. workers and consumers are both required for platforms to function) were Gawer and Cusumano (2002) and Caillaud and Julien (2003), whereas the first to introduce the expression 2SM were Rochet and Tirole (2003; 2006), but there were contributions from other fields, such as network theory, which studied 2SMs from the perspective of strategies rather than markets (Parker and Van Alstyne, 2005; Eisenmann et al, 2006), claiming that this type of market structure is endogenous and not imposed ex ante (Rysman, 2009). Evans was probably the first to use the term platform and focus on the web economy in a number of articles and contributions (Evans, 2003, 2011).

The conditions to be met for two-sidedness vary according to different authors. According to Roche and Tirole (2003) the role of platforms is to internalise the externalities on both sides, i.e. network effects are assumed to be two-way. They study cases

where the two sides cannot coordinate and there is no possibility of pass-through in that the amount charged on one side cannot be translated onto the other.

On the contrary, Armstrong (2006), Evans (2003), Evans and Schmalensee (2007), and more recently Filistrucchi et al. (2014) consider the more general case where the network effect can exist on only one side of the market, and both ‘membership’ (access) and ‘transaction’ (usage) are used. In this setup, the important thing is that having one side coordinated by an intermediary is more efficient than by a bilateral relationship. For instance, the TV market can be a 2SM, although viewers generally do not like TV advertising.

In their second contribution, Rochet and Tirole (2006) proposed yet another definition: “A market is two-sided (a two sided platform exists) if the platform can affect the volume of transactions by charging more to one side of the market and reducing the price paid by the other side by an equal amount; in other words, the price structure matters, and platforms must design it so as to bring both sides on board” (Rochet and Tirole, 2006, p.664-665). Network externality ceases to be a necessary condition, although they may be assumed to make the cross externality possible.

A further generalization is provided by Hagiu and Wright (2015a; 2015b), according to which the features of two-sidedness and multi-sidedness are the following: i) enabling of direct interactions between two or more distinct sides; ii) affiliation of both sides with the market/platform.

Direct interaction entails that sides maintain control over key terms of the interaction (pricing, bundling, delivery, marketing, quality of the goods or service offered, terms and conditions) as opposed to a situation where the intermediary takes control over such terms. Affiliation means that at each side, the users make the investments needed to join the market/platform and interact with the other sides; such affiliation generates cross-group network effects. In this perspective, a company endogenously chooses to become a platform, as an alternative to being a reseller or a Vertical Integrated (VI) conglomerate. The cost and benefit of vertical integration stand in retaining control and coordination, at the price of organisational difficulties.

The cost and benefit of platformisation lies in cost saving in exchange for less control and of efforts needed to motivate professionals to adapt their decisions to the new arising information. Moral hazard is possible by professionals in VI because of incomplete contracts (non-negotiable effort), whereas in platforms, the intermediary can extract rents from the generated data.

Labour platforms are those who are normally labelled as “sharing economy”, “collaborative economy”, “crowd-working”, “crowd-sourcing”, “gig economy”, and “on-demand economy”.

A possible definition is in Codagnone et al. (2019, p. 74 and pp. 76-83). Digital labour platforms: (1) work as digital marketplaces for non-standard and contingent work; (2) are where services of various nature are produced using preponderantly

the labour factor (as opposed to selling goods or renting property or a car); (3) are where labour (i.e. the produced services) is exchanged for money; (4) are where the matching is digitally mediated and administered, although the performance and delivery of labour can be electronically transmitted or physical; (5) are where the allocation of labour and money is determined by a collection of buyers and sellers operating within a price system.

Notice that this definition excludes various online players, such as LinkedIn (which does not match condition 1), Airbnb (condition 2), and so on. They display network effects, price non-neutrality, control on some terms of exchange and platform affiliation. In this regard, they can be treated as 2SM.

The real issue is related with control, i.e. whether there is direct interaction or rather the control exerted by platform operators introduces an ambivalence between market and hierarchy.

A growing body of economic literature has studied platforms such as Uber, Airbnb, oDesk (today Upwork), TaskRabbit simply as two-sided labour markets with some consideration of the issue of control (Cullen and Farronato, 2015; Farronato and Fradkin, 2015; Hagiú and J. Wright, 2015a, 2015b, 2015c; Horton, 2010). As a result, the answer from such literature is that digital labour markets are either pure two-sided market or a hybrid of market and hierarchy, and it needs to be ascertained empirically case by case.

## 4.2 Descriptive evidences from Inapp PLUS

In line with the developments observed in many advanced and developing countries, Italy experienced a significant increase in the activity of digital platforms (Guarascio and Sacchi, 2018). The platforms that increased the most in terms of economic and employment relevance are both global platforms such as Amazon, Google and Facebook as well as global platforms operating for food-delivery or intermediating supply and demand in sectors such as tourism, real estate and retail.

As a preliminary introduction, we will report the evidence stemming from Guarascio and Sacchi (2018) regarding the economic and employment dynamics of the major digital platforms operating in Italy. The authors report that, for all platforms taken into consideration, there has been a significant growth in both revenues and wages per employee as opposed to a reduction (or at best a lower growth) in the related sectors. Focusing on the big Internet platforms, it turns out that Google's revenues outpace wages in terms of growth, while the opposite holds for companies such as Facebook and Amazon.

When it comes to employment, the analysis shows that all Italian platforms are characterised by a relatively low employment intensity. This evidence is remarkable

in particular if contrasted with the just mentioned massive growth of platforms' revenues (according to Guarascio and Sacchi (2018), Google and Facebook have, in 2016, respectively 195 and 22 employees).

Part of the explanation of digital platforms low employment intensity has to do with the technological and organisational nature of digital platforms. Web platforms, for example, offer mostly intangible services (see the discussion above) that can be replicated without additional costs once they are put on the network. As a result, the number of employees shrinks, the platforms' workforce tending to include mostly technical and high-level managerial profiles. This evidence emerges also with regard to labour platforms, such as those providing food-delivery services. In this case, the employment base is reduced due to the fact that this type of platforms often "outsource" a large part of their tasks, relying on individuals classified as "partners" or collaborators, not signing any labour contract with them. In 2016, the total number of employees declared by labour platforms was less than 200. On the other hand, all digital platforms show a positive employment dynamics confirming the expansionary trend characterising this sector.

The empirical investigation provided by Guarascio and Sacchi (2018) reports, in addition, the results of a comparative analysis of employment dynamics (as reported in Italian platforms' financial statements), on the one hand; with that of contracts (both new contracts and terminations, on the other. A significant overlap between the dynamics of labour contracts and that of employees seems to emerge: the number of new contracts is relatively lower where the employment intensity as reported in financial statements is also low, and vice-versa.

In terms of 'occupational volatility' (measured in terms of Gross Worker Turnover (GWT)), only Amazon shows high levels of GWT. While Amazon Logistica shows an extremely high GWT value, the other platforms (leaving aside the labour platforms analysed below) are characterised by lower values, between 34% (Facebook) and 60% (Google).

As for the distribution of contracts by type, in platforms as Amazon, Facebook and Subito.it open-ended contracts emerge as the prevalent form; while Google, Booking and Casa.it display a much more mixed situation (fixed-term contracts and temporary agency work).

Overall, according to Guarascio and Sacchi's (2018) findings, Italian large web platforms turn out to be characterised by an intense growth (observed in the period 2012-2016) in both revenues and wages per employee, added value and, to a lower extent, profits. In terms of intensity, however, all the investigated platforms display significantly low values (especially when compared to the size and dynamics of revenues).

A paradigmatic example is the one of Facebook. In 2016, against revenues of 426,355 euros per employee, this platform reported only 22 employees. In what

follows, we push forward the empirical exploration of Italian platforms by descriptively investigating the Inapp PLUS survey.

#### 4.2.1 The Survey on Labour Participation and Unemployment (Inapp PLUS)

The data we use in this chapter is from the last Eighth Survey on Labour Participation and Unemployment (PLUS), a sample survey on the Italian labour market supply developed and administered by the National Institute for the Analysis of Public Policies (Inapp). The primary objective of the PLUS survey is to provide statistically reliable estimates of phenomena that are either rare or marginally explored by other surveys concerning the Italian labour market. In fact, if Istat's Labour Force Survey provides the aggregates and official indicators on the labour market, the PLUS survey is mainly aimed at deepening specific, particularly problematic aspects such as non-standard work.

The survey was released in the first half of 2019 and collected in 2018 on a sample of about 45,000 interviewed. Individuals were contacted through dynamic computer-assisted telephone interviewing (CATI). One of the key characteristics of this dataset is the absence of proxy interviews: only survey respondents are included in order to reduce the extent of measurement errors and partial nonresponses.

The questionnaire was submitted to a sample of residents aged between 18 and 74 years, being the sample design stratified over the Italian population: strata are defined by region (20 administrative Regions), type of city (metropolitan/nonmetropolitan), age (five classes), sex and the employment status of the individual (employed, unemployed, student, retired, other inactive). The reference population is derived from the annual averages of the Istat Labour Force Survey. Inapp provides weights to account for the probability of attrition based on surveyed characteristics: all estimates reported in the chapter apply those weights<sup>3</sup>.

#### 4.2.2 Who are platform workers in Italy?

In the last 2018 wave of PLUS, a specific module on Gig Economy was added to the main questionnaire<sup>4</sup>. Three specific economic activities carried out for profit were considered: i) the online sale of consumer goods; ii) the provision of works and services through platforms that intermediate work (so-called *labour platforms*); iii) the lucrative sharing (leasing) of real estate (so-called *capital platforms*).

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<sup>3</sup> For further details on previous edition of the PLUS survey, see Aina and Pastore (2012), Clementi and Giammatteo (2014), Filippetti et al. (2019), Meliciani and Radicchia (2011, 2016). Information about the 2018 wave of Plus survey is in Bonacini et al. (2019), Esposito and Scicchitano (2019), Gallo and Scicchitano (2019), Van Wolleghem et al. (2019).

<sup>4</sup> A deeper investigation is in De Minicis et al. (2019).

They were respectively asked: i) “Thinking about how you made money in the last year, did you make money selling something online?”; ii) “In the last year, have you ever earned money by accepting jobs through this type of site or mobile app, for example by taking someone from one place to another by car, delivering meals at home, cleaning someone’s house or performing work tasks online?”; iii) “In the last year, have you ever earned money by renting a house or apartment through the use of an online home-sharing site, such as Airbnb or VRBO?”.

Thus, according to the PLUS 2018 survey, those who carried out one of the three economic activities mentioned above constitute 5.96% of the population aged 18-74 years, that is approximately 2 million and seven hundred thousand individuals (see Table 4.1).

In the following graphs, we will consider the three types of platform participants, while we will use “platform workers” to refer to gig workers.

**Table 4.1 Share on the population (adults 18-74 years old) (Italy, 2018)**

Platforms	Numbers of individuals	Share on the population
At least one platform	2,592,603	5.96
All platform types	4,350	0.01
Selling goods online	2,088,002	4.8
Capital platforms	413,250	0.95
<b>Gig workers</b>	<b>213,150</b>	<b>0.49</b>
Population 18-74 years old	43,500,048	

Source: Informations drawn from the General Director speech to the Italian Parliament (Inapp website)

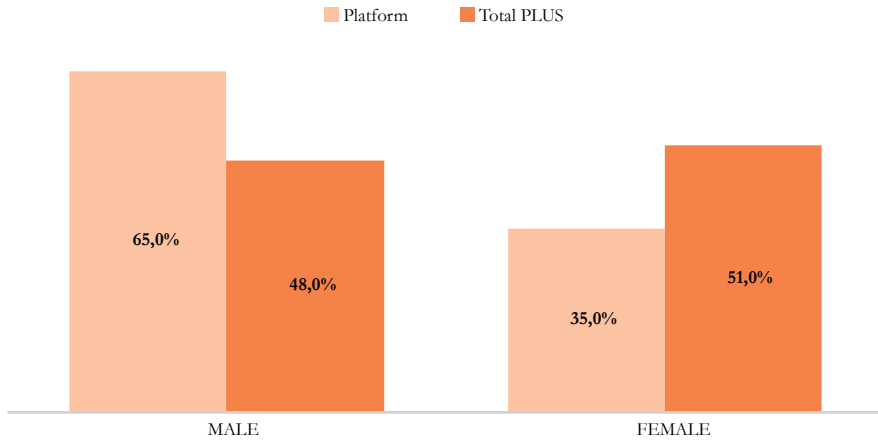
Looking at the regional distribution of platform workers, they are concentrated in the center-north of Italy (Figure 4.2).

Lombardy is the Italian region with the highest number (18.1% of the total platform workers), followed by Campania (11%).

What are the characteristics of individuals who participate in the platform for profit? What is the profile of the individuals that populate the gig economy? When investigating the distribution of platform workers by gender (Figure 4.3), it comes out that they are mostly men (65%), contrary to what happens for the rest of the Italian population, where the number of women is slightly higher (51%).



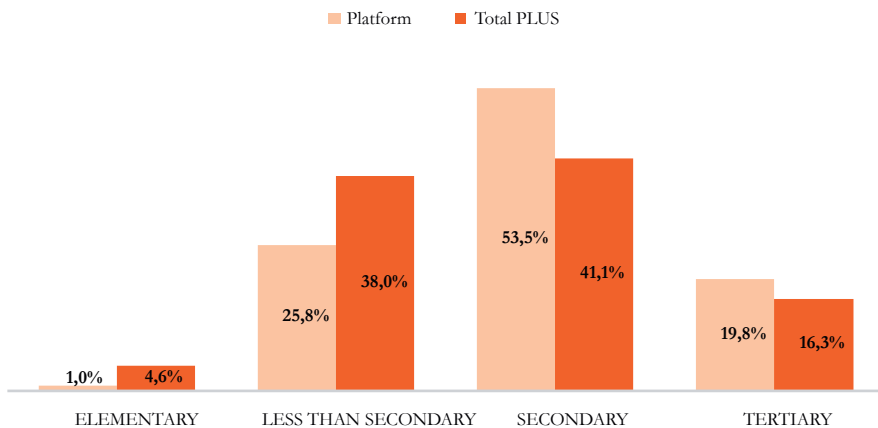
Figure 4.3 Platform participants by gender (% , comparing to the population)



Source: Authors elaboration on Inapp PLUS 2018  
 Note: Weighted estimates.

It is relevant to investigate the level of education of these workers. Platform workers are generally better educated than the rest of the Italian population (Figure 4.4). More than half have a secondary school level (53% against 41% of the rest of the Italian population) and almost 20% (16% of the rest of the population) have a tertiary level of education.

Figure 4.4 Platform participants by education (% , compared to the population)

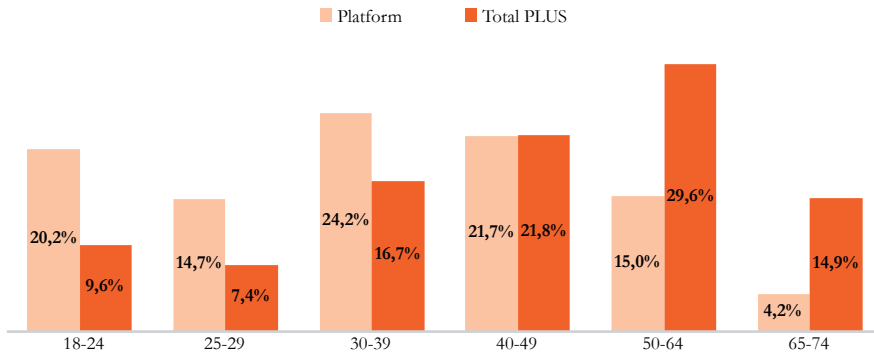


Source: Authors' elaboration on Inapp PLUS 2018  
 Note: Weighted estimates.



On average, platform workers are younger than the rest of the population (Figure 4.5), and are concentrated in middle age groups, 30-39 and 40-49. The most numerous age group for platform workers is 30-39 (24.2%) while the most widespread for the rest of the population is 50-64 (29.6%).

**Figure 4.5 Platform participants by age class (% , comparing to the population)**

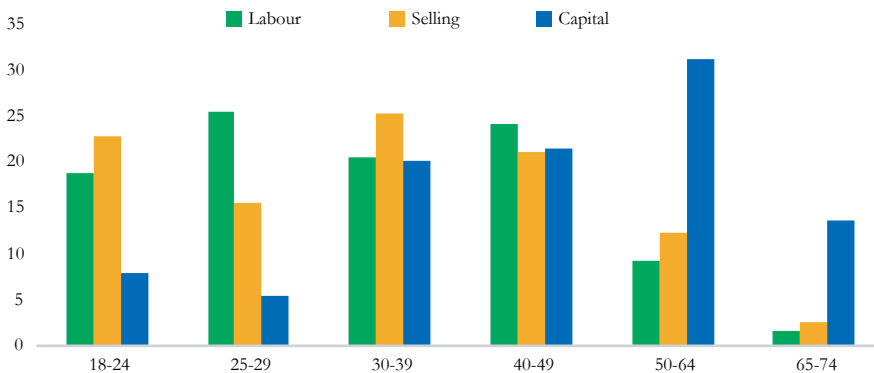


Source: Authors' elaboration on Inapp PLUS 2018

Note: Weighted estimates.

Distinguishing between the different categories of platform workers, labour and selling workers are generally younger than capital ones (Figure 4.6). The most frequent category for labour workers is 25-29, while for selling it is 30-39 and for capital it is 50-64.

**Figure 4.6 Categories of Platform participants by age class (% , comparing to the population)**

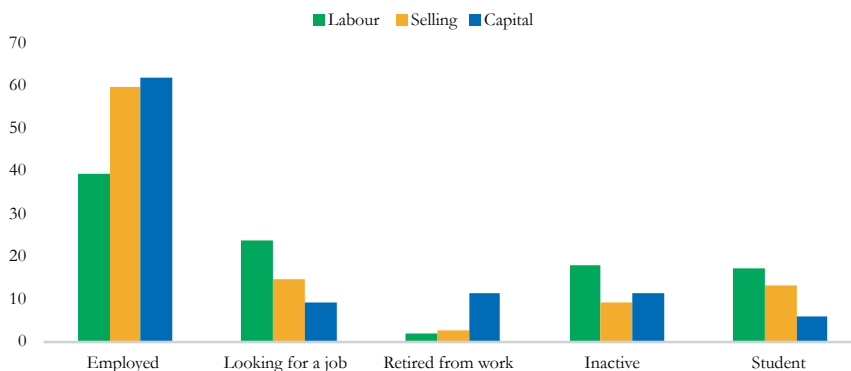


Source: Authors' elaboration on Inapp PLUS 2018

Note: Weighted estimates.

Examining the prevailing employment status (Figure 4.7), platform workers are mostly already employed (59.2%). 14.2% declare they are looking for work, 12% are students, 10% are inactive and only 4% are retired. Amongst platform workers, labour platform workers show the lowest percentage of already employed individuals (with respect to selling and capital ones) and the highest share of individuals looking for a job, inactives and students (Figure 4.8).

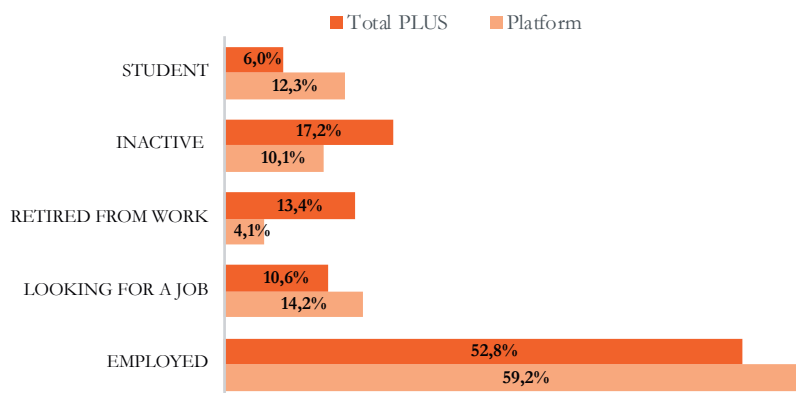
**Figure 4.7 Categories of Platform participants by occupational status (% , comparing to the population)**



Source: Authors' elaboration on Inapp PLUS 2018

Note: Weighted estimates.

**Figure 4.8 Categories of Platform participants by working condition (% , comparing to the population)**



Source: Authors' elaboration on Inapp PLUS 2018

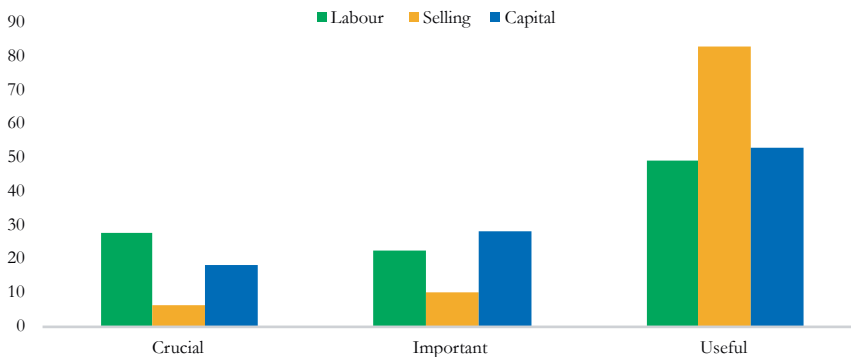
Note: Weighted estimates.

Significant differences amongst platform participants and platform workers emerge with respect to the relevance of income earned (Figure 4.9)<sup>5</sup>. More specifically, all three segments were asked: “In relation to the income you earn from online platforms, which of the following statements best describes it?”:

- It is essential to meet my basic needs.
- It is an important component of my budget, but not essential.
- It suits me to have it, but I could easily live without it.

Labour platform workers are the category with the highest necessity of income: almost 1/3 of labour platform workers declare that the earned income is essential to meet their basic needs (6.5% for selling workers), while more than 80% of selling workers report that the income is useful, but they could easily live without it (49.2% for labour platforms). This evidence seems to confirm that job insecurity is more relevant at the bottom of the wage distribution (Scicchitano et al., 2018).

**Figure 4.9 Categories of Platform participants by relevance of earnings (% , comparing to the population)**



Source: Authors' elaboration on Inapp PLUS 2018

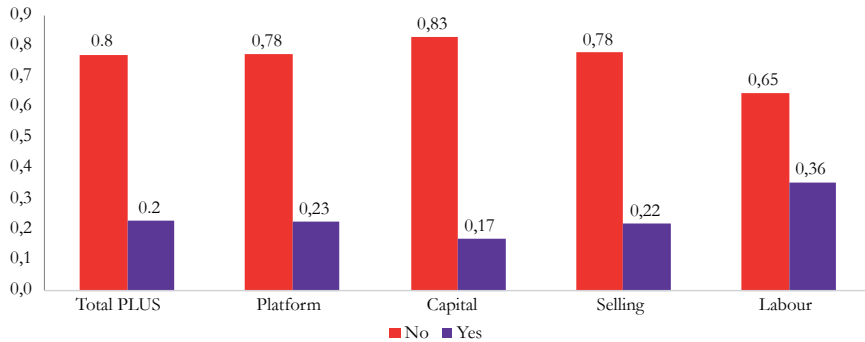
Note: Weighted estimates.

Another relevant economic indicator is the ability to deal with unexpected expenses (Figure 4.10). The question contained in the PLUS survey is as follows: “Have you had

<sup>5</sup> This question has been added to the “gig Economy” section of the main Inapp PLUS questionnaire because the economics and finance literature has recently shown that the wage premium is a relevant component for individuals to choose the country where to live and work, especially across European economies (Leonida et al., 2019). This research issue is relevant especially because individuals are more likely to migrate to higher-paying economies. In turn, they will better adapt to the context and living conditions and, through accumulation of human capital and as a rational voters, they will likely produce higher economic development in the country where they settle (Leonida et al., 2015).

to postpone medical treatment (including dental care) in the last year for economic reasons?”. The percentage of platform workers able to deal with unexpected expenses is equal to 78%, more or less in line with the rest of PLUS survey (80%). Again, labour platform workers are the most fragile component, showing a higher share of individuals who have had to postpone unexpected expenses (36%).

**Figure 4.10 Ability to deal with unexpected expenses(%)**

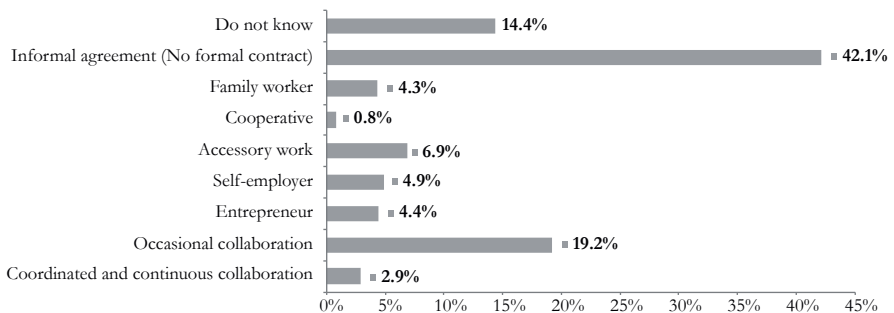


Source: Authors' elaboration on Inapp PLUS 2018

Note: Weighted estimates.

Finally, examining the contractual forms used only for labour platform workers on the platform, a worrying figure emerges: more than 42% of the workers are framed informally, that is they do not have a contract (Figure 4.11). This can be taken as a confirmation of the fact that the Gig Economy is often an informal economy.

**Figure 4.11 Type of contract of platform workers (%)**



Source: Authors' elaboration on Inapp PLUS 2018

Note: Weighted estimates.

### 4.3 Socio-occupational characteristics of platform workers

In order to explore the main socio-demographic characteristics of individuals taking part in platforms and labour platforms, we carried out tests the following empirical specification by means of a probit model due to the dichotomous nature of our dependent variables: *Platform* / *Labour Platform*.

Variable “*Platform*” takes value 1 if the individual  $i$  participates in platforms – selling goods and products or labour or capital goods, and 0 otherwise. Variable “*Labour Platform*” takes value equals to 1 if the worker provides their own work on the platform, and zero otherwise. Therefore, in specification (2) we only consider crowd workers selling their own work through the platform.

$$Platform_i = \alpha + \beta X_i + \varepsilon_i \quad (1)$$

$$Labour Platform_i = \alpha + \beta X_i + \varepsilon_i \quad (2)$$

We include in equation (1) and (2) a set of controls referring to age, education, family background, health conditions, marital status, gender, citizenship. The estimates include robust standard errors and probability weights in order to compute the marginal effects for the entire population.

In Table 4.2 we show the marginal effects of *probit* estimations of equation (1) and (2), where the set of controls (X) have been included accounting for the demographic and socio-economic characteristics of those taking part in platform (1) and labour platform (2).

The probability to participate in platforms – whatever the kind of platform – is higher for individuals 18-24 years old; this probability decreases while age increases.

Focusing on educational profiles, it emerges that those people who declare to participate in platforms are on average highly educated, as confirmed by the negative sign of the marginal effect of primary and secondary school on the probability of taking part in platforms. Furthermore, in the PLUS sample it emerges that women on average register a lower participation in platforms compared to men. Focusing on social features, participation in platforms is higher for those individuals whose household includes disabled people. Moreover, Table 4.2 shows that those people unable to cope with unforeseen expenses have on average a higher probability to participate in platforms. However, this potential fragility of the household is not entirely confirmed when we focus on the family background of the individual – see the positive marginal effect for mother’s education.

Finally, from a geographical point of view, platform participation is higher in Northern Italy, where this new way of participating in the labour market seems to be more widespread compared to Central or Southern Italy.

**Table 4.2 Socio-demographic characteristics of Platform participants and Platform workers (marginal effects)**

		Platform (1)	Labour Platform (2)
Age classes	18-24 years old	0.083*** (0.01)	0.009** (0.00)
	25-29 years old	0.077*** (0.01)	0.014*** (0.00)
	30-39 years old	0.057*** (0.01)	0.009** (0.00)
	40-49 years old	0.037*** (0.01)	0.009** (0.00)
	50-59 years old	0.010 (0.01)	0.004 (0.00)
Education	No education	0,022 (0,044)	
	Primary school	-0.061** (0.02)	0.001 (0.01)
	Secondary school	-0.024** (0.01)	-0.001 (0.00)
	High School	0.000 (0.01)	-0.001 (0.00)
	Degree	0.000 (0.01)	-0.002 (0.00)
Education	Woman	-0.038*** (0.00)	-0.002* (0.00)
	Having children	0.008 (0.00)	0.002 (0.00)
	Having disabled people	0.016** (0.01)	0.002 (0.00)
Macro-region	Northern Italy	0.009* (0.00)	-0.001 (0.00)
	Center Italy	0.008 (0.00)	-0.001 (0.00)
	Inability to cope with unforeseen expenses	0.014*** (0.00)	0.003** (0.00)
	Number of observations	44964	44926
	Wald chi2(16)	1022.98	258.10
	Prob > chi2	0.0000	0.0000
	Pseudo R2	0.0786	0.0892

**Source:** Authors' elaboration on Inapp PLUS 2018

**Note:** Weighted estimates. Other controls included: Mother and Father's Occupation (ISCO 1 digit), Marital status (single, couple with children, couple without children, single mother/single father), citizenship. \* p<0.05, \*\* p<0.01, \*\*\* p<0.001.

Summing up, Table 4.2 depicts a higher platform participation for younger individuals (18-24 years old) who have a higher education, are males and live in Northern regions. They mostly come from households with some kind of fragility – households with disabled people or unable to cope with unforeseen expenses.

Shifting the focus on labour platforms (column 2), that is the group of individuals selling their own work through the platform (crowd workers), it emerges that they are on average between 25-29 years old. The latter is the group with the higher probability to take part in the platform as workers. Males have a higher likelihood of participating and, as to platforms in total, these workers come from more fragile households, declaring to be unable to cope with unforeseen expenses. Summing up, among the main features of individuals taking part in platforms, gender, education, age and socio-economic background are strong predictors of platform participation.

#### 4.4 Platform workers and pension contributions

As a further step of the analysis, we considered the years of social contributions paid by each worker considering participation in platforms and labour platform, including a wide set of controls referring to socio-demographic background and occupations. The equation estimated is expressed by Eq. (3):

$$\text{Years of pension contributions}_i = \alpha + \theta \text{Platform}_i + \beta X_i + \gamma Z_i + \varepsilon_i \quad (3)$$

where the number of years of pension contributions of individual  $i$  is regressed on the participation in *platform* and *labour platform* controlling for socio-demographic characteristics ( $X$ ) – age classes, marital status, education, gender, nationality, occupational status, family background – and occupational features ( $Z$ ) – tenure, experience, classification of occupations, income. The equation (3) is estimated through an OLS model. The results presented in Table 4.3 do not show a significant association between platform participation (or labour platform participation) and the number of years of pension contributions.

As expected, a higher number of years of pension contribution is associated to older, higher educated (having secondary, high school and a tertiary degree) individuals. Women have on average a lower number of years of pension contributions. Those individuals born in Italy register on average a higher number of years of pension contribution with respect to those workers with a migratory background; the same occurs for those living in Northern and Central Italy with respect to those living in the Southern regions.

Table 4.3 Platform participants and years of pension contributions (marginal effects)

		Years of pension contributions (1)	Years of pension contributions (2)
<b>Platform participants</b>		<b>0.200 (0.18)</b>	
<b>Platform workers</b>			<b>-0.385 (0.53)</b>
Age classes	18-24 years old	-10.209*** (1.36)	-10.190*** (1.36)
	25-29 years old	-9.331*** (0.97)	-9.308*** (0.96)
	30-39 years old	-7.070*** (0.81)	-7.060*** (0.81)
	40-49 years old	-3.663*** (0.68)	-3.657*** (0.68)
	50-59 years old	0.341 (0.60)	0.344 (0.60)
Education	No education	-2.576 (1.52)	-2.592 (1.52)
	Primary school	-1.398 (1.20)	-1.413 (1.20)
	Secondary school	1.217*** (0.32)	1.207*** (0.32)
	High School	1.204*** (0.27)	1.202*** (0.27)
	Degree	0.635** (0.21)	0.632** (0.21)
	Woman	-1.359*** (0.13)	-1.369*** (0.13)
Macro-region	Born in Italy	2.251*** (0.50)	2.255*** (0.50)
	Northern Italy	1.786*** (0.18)	1.790*** (0.18)
	Central Italy	0.998*** (0.19)	1.001*** (0.19)
<b>Inability to cope with unforeseen expenses</b>		<b>-0.435* (0.17)</b>	<b>-0.430* (0.17)</b>
	Bad Health	0.460 (0.65)	0.467 (0.66)



	Years of pension contributions (1)	Years of pension contributions (2)
Permanent job	1.530*** (0.23)	1.530*** (0.23)
Part-time	-0.460** (0.17)	-0.460** (0.17)
Public employee	0.087 (0.14)	0.085 (0.14)
Total years of work	0.495*** (0.04)	0.496*** (0.04)
Total years of work <sup>2</sup>	-0.000 (0.00)	-0.000 (0.00)
Tenure	0.037 (0.02)	0.037 (0.02)
Tenure <sup>2</sup>	0.003*** (0.00)	0.003*** (0.00)
Income (log)	0.419*** (0.08)	0.418*** (0.08)
Managerial professions	0.040 (0.42)	0.033 (0.42)
Professionals	-1.192** (0.37)	-1.205** (0.37)
Technicians	-0.995** (0.37)	-1.008** (0.37)
Clerks	-0.904* (0.37)	-0.918* (0.37)
Sales workers	-1.486*** (0.40)	-1.501*** (0.40)
Craft workers	-0.759 (0.42)	-0.774 (0.42)
Plant and machine operators	-0.432 (0.50)	-0.448 (0.50)
Elementary professions	-1.746*** (0.44)	-1.761*** (0.44)
Constant	4.928*** (1.47)	4.957*** (1.47)
R-sqr	0.822	0.822
Number of observations	15406	15406

Source: Authors' elaboration on Inapp PLUS 2018

Note: Robust standard error. Weighted estimates. \* p<0.05, \*\* p<0.01, \*\*\* p<0.001.

Focusing on occupational characteristics, it emerges that having a permanent contract is associated to a higher number of years of pension contributions, while part-time workers register a lower number of years of contributions. Both tenure and experience are associated with a higher number of years of pension contributions. Finally, a higher work income as well as apical professions seem to be associated to a higher number of pension contributions.

Summing up the evidence from Tables 4.2 and 4.3, it emerges that the likelihood of participating in platforms, and specifically labour platforms, is higher for younger individuals, more often males, with a high education and living in Northern Italy. Interestingly enough, it emerges that individuals taking part in platforms are usually from households unable to foreseen unexpected expenses and, therefore, quite fragile. They come also from households with disabled people (in case of both capital and labour platforms).

## 5. Conclusions

In this report we discuss how the world of work is changing. The context in which work is distributed, organised and performed has deeply changed. All European countries, and in particular Italy, during the last two decades, have experienced the growth of new forms of work, known as “non-standard”, characterised by unconventional work patterns, places of work, or the irregular provision of work. This report aims at providing a description of the features and trends of non-standard employment arrangements, and to provide implications for working conditions and the labour market. Chapter 1 introduces the issues related to the birth of new employment contracts and the general effects that both new technologies and an aging population have on the labour market. It highlights the dual impact of technological changes, and this brings to the forefront the importance of the role that social and economic policies have in making sure that opportunities outweigh risks. Additionally, demographic changes are another important aspect of socio-economic life, considering the aging and decreasing population prospects that affect with different intensities all European Union countries. As a matter of fact, an older population poses other pressures on security social systems in addition to the pressure due to unemployment, long term unemployment, and disadvantaged groups. Aging also has an impact on the occupation structure by economic sectors due to changes in consumption and demand. An older population means a more rigid labour force that fails to adapt to changing economic conditions. Chapter 2 describes the characteristics of the main non-standard works, pointing out their trends at a European level. The shares of part-time (especially involuntary) and temporary work have risen, and, as a consequence of digital economy transformations, new forms of employment have emerged, for example in the platform-driven part of the economy. In this context, new forms of self-employment, such as ‘dependent self-employment’ or parasubordinate work, emerged. Even though non-standard work shows different features, it displays the same disadvantages with regard to social protection. Indeed, since the social protection system covers mainly the needs of salaried employees, and in particular those in standard employment, standard workers are in a more insecure and precarious situation regarding access to schemes and receipt of insurance-based benefits (ILO, 2016; Matsaganis et al., 2016). Non-standard workers

and the self-employed often encounter difficulties in fulfilling the eligibility conditions for receiving benefits from insurance-based schemes (e.g. interrupted contribution periods).

Chapter 3 focuses on the Italian labour market and investigates the trends and characteristics of five categories of non-standard work: temporary, part-time, self-employed, parasubordinate and voucher-based work. The analysis demonstrates that the number of temporary contracts shows a cyclical pattern: it declines at the onset of the recession and tends to increase with the recovery. Focusing on total annual working weeks a clear gap between permanent and temporary workers emerges. According to the real wage, in general temporary workers receive lower weekly wages compared to permanent workers. In 2016, the median temporary gross weekly wage was 23% lower than the median permanent employee wage. Part-time work, the other type of non-standard employment, has grown since the beginning of the crisis due to a structural shift in the economy towards services and preferences for part-time work. In Italy, in 2016, it accounts for about 18,6% of employment, up from 11% in 1998. The third important category of non-standard workers is represented by the self-employed. The self-employment share has declined through the last century and it does not exhibit the cyclical fluctuations typical of temporary contracts or part-time work. Over the 1998-2016 period, the mean number of weeks worked by private employees was at around 42, whereas those worked by the self-employed and collaborators are well below this level. Regarding voucher-based work, the administrative data shows an increase of the total activation of this kind of contracts over the 2017-2018 period. The results deriving from the analysis on the role of profession and contractual arrangements on the weekly wage suggest that, for managers and white-collars, temporary arrangements are a “dead end” for their prospects of social contribution accumulation. Moreover, the gap experienced in the total worked weeks during a year is negatively correlated with the weekly wage for each professional group. If we look to the factors behind the growth of wages (and then social security contributions), it emerges that the wage premium correlated with the labour market experience of both the self-employed and “para-subordinate” workers is higher than that of employees. Spells of unemployment or, more in general, the events that break the employment history of an individual are associated with a substantial reduction of the wages earned by para-subordinate workers. This result does not imply that the design of social protection should be differentiated among occupational groups; however, it makes it clear that the pension system in the future will face a growing phenomenon of heterogeneity of the career trajectories and social security contributions. Finally, Chapter 4 analyses, in more detail, how the unfolding of digitalisation goes along with the increase in non-standard work in the Italian labour market. That is, the diffusion of business models based on digital platforms aimed at organising and providing in a highly efficient way a large array of services (i.e. transport, food deliv-

ery, home caring, on-line services, etc.) is mirrored by a more generalised increase in the share of flexible and non-standard work. This trend of labour market ‘flexibilisation’ originates well before the emergence of digital platforms. However, platforms contributed to further pushing the process of production fragmentation and task externalisation, reshuffling balances in existing markets or favouring the emergence of new ones (Cirillo and Molero Zayas, 2019 and Tubaro and Casilli, 2019).

The empirical evidence concerns the socio-demographic characteristics of individuals participating in platforms and, specifically, offering their work on the digital labour markets. Three specific economic activities carried out for profit have been considered: i) the online sale of consumer goods; ii) the provision of works and services through platforms that intermediate work (so-called labour platforms); iii) the lucrative sharing (leasing) of real estate (so called capital platform). According to the PLUS 2018 survey, those who carried out one of the three economic activities mentioned above constitute 5.96% of the population aged 18-74 years, that is approximately 2.7 million individuals. Preliminary evidence has also shown that Gig Economy workers are i) concentrated in the center-north of Italy; ii) are mostly men (65%), contrary to what happens for the rest of the Italian population, where the number of women is slightly higher (51%); iii) are generally better educated than the rest of the Italian population; iv) are younger than the rest of the population; v) are already employed (59.2%).

Moreover, the likelihood of participating in platforms (and specifically labour platforms) is higher for younger individuals, more often males, with a high education and living in Northern Italy. Interestingly enough, it emerges that individuals taking part in platforms are members of families unable to deal with unexpected expenses (i.e. families exposed to higher risks or characterised by a stronger social fragility vis a vis the rest of the population). Confirming this, it turns out that many gig-workers come from families with disabled people (in case of both capital and labour platforms). Finally, we estimate the existence of a ‘pension gap’ expressed in terms of years of pension contributions for those individuals taking part in platforms and working as gig workers. There are platform participants and gig workers not formally in employment who more probably come from vulnerable households; but there are also platform workers already in employment. When the focus of the analysis is shifted to individuals who are already employed, we do not detect a penalty in terms of years of pension contributions due to platform participation.

Concluding, the new non-standard contract employment arrangements can offer many advantages to firms and workers, but, at the same time, since most employment and labour laws were written for the standard employment contract, they can expose workers to risk. Firstly, workers can suffer from a higher job insecurity. Agency temporaries, on-call workers and part-time employees are more likely to switch employers, become unemployed, or involuntarily drop out of the labour force. Non-standard workers can be at risk of lacking adequate access to social protection systems and benefits.

These workers are in fact much less likely than regular full-time workers to have health insurance or a retirement plan through their employer. Policy makers need to assess whether the laws, including unemployment insurance laws, and the social protection systems protect the large and growing number of non-standard work arrangements, and in case of a negative response, they should be ready to provide possible reforms.

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