

Is precarious employment damaging to health? A longitudinal study on Italian workers

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Short abstract

Forms of insecure employment have dramatically increased all over Europe in recent decades. These changes are sometimes viewed in terms of benefits for workers, when they allow controlling work time, sampling a variety of work experience, preparing for permanent employment, and positively combining work and family life, particularly for women. This vision is contrasted by other scholars, who argued that flexible employment could have negative consequences for both occupational prospects and private life since it is often associated with greater insecurity and poorer working conditions. It has been suggested that temporary employments can damage health, whatever measured: psychological distress, depression, physical health, morbidity, chronic diseases, self-rated health.

This paper contributes to the topic of social consequences of precarious employment by investigating the relation between temporary contracts and self-rated health, posing the following research question: are workers on a temporary contract more likely to report poor health than those who are employed in permanent jobs?

Most of previous research addresses this topic simply examining associations, where health and employment are measured at the same time and without considering selection effects. In this study, applying the method of inverse probability treatment weights on EU-SILC Italian 2007-2010 panel data, we estimate the causal effect of temporary contracts on self-perceived health. This method enables to control for the potential endogeneity between employment status and health, addressing the problem of self-selection.

Our results show that precarious contractual conditions have a negative influence on health, also once controlled for previous health status and endogeneity. Moreover, we find that the negative impact of precariousness is damaging particularly for women's self-perceived health.

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Extended abstract

1 Introduction and objectives of the study

Over the last decades, temporary employments have gained relevance in the European Union. Research suggests that this form of employment may lead to benefits for workers. These positive effects may derive from the fact that it allows controlling work time, sampling a variety of work experience, preparing for permanent employment, and positively combining work and family life, particularly for women. This vision is contrasted by other scholars, who argued that flexible employment could have negative consequences for both occupational prospects and private life since it is often associated with greater insecurity and poorer working conditions. Furthermore, from another perspective, it has been claimed that temporary employments can damage health, whatever measured: psychological distress, depression, physical health, morbidity, chronic diseases, self-rated health. In general, no agreement exists as to whether the health and well-being of the employed population are unevenly distributed by types of contracts.

Research focusing on the relationship between health and forms of precarious or temporary employment requires special care with respect to the analytical and methodological framework. Individuals who have bad health conditions may also systematically vary in their propensity to find a stable work. Most of previous research addresses this relation examining associations, when both health and employment are measured at the same time and without considering selection effects.

Our objective is to contribute to the debate on the consequences of certain employment contracts on individual self-rated health, answering to the following research question: are workers on a temporary contract more likely to report poor health than those who are employed in permanent jobs? In this study, through the method of inverse probability treatment weights, we estimate the causal effect of precarious work on self-perceived health. Data come from the EU-Silc Italian Panel 2007-2010. This method enables to control for the potential endogeneity between employment status and self-assessed health, addressing the problem of self-selection. The outcome is self-rated health, and confounding factors are included. Precarious employments are generally defined as various kinds of unstable and insecure work arrangements: fixed-terms contracts, temporary contracts, seasonal/casual jobs, part-time employment. In our empirical investigation, precarious employment and temporary employment are used as synonymous, and they refer to fixed-term contracts.

2 Health and precarious employment: an empirical and theoretical literature overview

There exists a substantial literature that has tried to investigate the consequences of job contracts on individual well-being using several indicators such as job satisfaction, life satisfaction and health. Even in the field of consequences in terms of health, a plethora of outcomes can (and has been) considered. With few exceptions, previous research seems to indicate adverse consequences of temporary contracts on all measures. The evidence comes primarily from Western countries, but in latest years also studies on Eastern countries have been increasing.

Some studies report that workers with fixed-term contracts have worse self-rated health than workers with permanent contracts. Gash et al. (2007) consider Spanish and German data from the respective national Household and Socioeconomic Panel surveys, and they show that when unemployed people find a job, the health improvement they obtain is lower if the job is a fixed-term rather than a permanent one. Similar results refer to Sweden, where a negative association between temporary employment and health status has been found (Waenerlund et al., 2011). Following a counterfactual approach applied to Korea Labor and Income Panel Survey data, Myoung-Hee et al. (2008) established that precarious workers are in a lower socioeconomic position and have worse self-rated health status. Job satisfaction is found to attenuate this effect, but the disadvantage remains significant.

For Great Britain, the relation seems to be not well established. Using British Household Panel a negative influence on self-rated health and psychological well-being exerted by both contractual and working conditions is found (Robone et al. 2011); however, there are also research according to which atypical employment does not have long-lasting detrimental effects on self-rated health of workers (Bardasi and Francesconi, 2004).

Fixed-term employment is traditionally assumed to negatively affect also psychological well-being, and this assumption is confirmed by several studies. At the end of '90s, two empirical studies showed that French and Dutch workers with a temporary contract reported lower psychological well-being than those with a permanent one (Lasfargues et al., 1999; Klein-Hesselink and Van Vuuren, 1999). A propensity score analysis, recently performed on a national representative cohort of American men and women followed from 1979 to 2010 (Quesnel-Vallee et al., 2010), found a significant effect of temporary work on depressive symptoms for those who had been exposed to temporary work in the two years preceding the outcome measurement. Similar adverse effects on mental health are reported by Cottini and Lucifora (2010) by performing a panel data analysis based on three waves of the European Working Conditions Survey (EWCS) which comprises 15 European countries. However, also in this domain, results are not always consistent. Artazcoz et al. (2005), for instance, report no differences for Spain in mental health between workers with fixed-term and permanent contracts.

Finally, it is worthwhile to note that various studies suggested that the health effect of temporary employment may be outcome-specific and that the work conditions and health of temporary workers may depend on the social and environmental context (Scherer, 2009; Cottini and Lucifora, 2010; Laszlo et al., 2010; Ehlert and Schaffner, 2011).

There are different theoretical considerations helping in explain why a temporary work should reduce health more than a permanent one does.

Temporary contracts may be negatively associated with health via job insecurity and unemployment. It is well known the fact that temporary employment is often accompanied by higher (subjectively assessed and objective) employment insecurity and stressfulness: fixed-term contract workers lose their jobs more frequently than those on permanent contracts simply because their contracts run out within short periods (usually from some months to one

year). This job loss often results in unemployment, which usually causes a deterioration of general health indicators and self-reported health status (e.g., Schwefel, 1986; Murphy and Athanasou, 1999) due to the financial difficulties or the extreme psychological strain the unemployed people face (Pearlin, 1989). Employment is also seen to provide a structure to one's day, regular contact with others, as well as a sense of self-worth (Burchell, 1994; Warr, 1987) and temporary works may not completely fulfill these functions associated to employment. Moreover, it has been argued that job insecurity has negative effects on physical and psychological wellbeing (Burchell, 1994; Bohle et al., 2001). Overall, temporary workers tend to be less satisfied with their job than permanent workers, and dissatisfaction is attached to insecurity (OECD, 2002; Myoung-Hee et al., 2008).

In addition, another explanation refers to the economic strain linked to the comparatively lower job quality and protection of some fixed-term jobs. Fixed-term jobs are, on average, connected with relatively lower remuneration (OECD, 2002, Gash and McGinnity, 2007;), and reduced access to benefits (Houseman, 2001; McGovern et al., 2004).

Moreover, temporary contracts often involve poor working conditions (Gash, 2004) or physically heavy work, a higher risk of accidents and exposure to harmful substances. Such workers are subject to more monotonous and repetitive work, less work autonomy and stricter supervisory control. Non-permanent employees in general have less control over decisions relating to working hours and are more often affected by "unsocial" working hours or irregular and unplanned working time (e.g. European Foundation 2001, 2008; Nolan et al. 2000; Burchell et al. 2002). It is clear how these working conditions may distress both the physical and psychological health of the workers involved.

Summarizing, regarding the well-being and health status of permanent and temporary employees, there is no unanimous consensus on the disadvantage of the latter group. It is worthwhile to note that, apart from some exceptions, most available studies do not overcome the problem of selection of intrinsically healthier persons into the sample of individuals who find a permanent job.

The Italian context

Until the end of '90s, permanent contracts have represented the large majority of contracts in Italy, so maintaining fairly low levels of job insecurity. Reforms of the beginning of 2000s have progressively introduced several new contractual forms with a high degree of flexibility (or precariousness) both in working time and duration. The spreading of these types of contracts in Italy has been the highest in Europe over the period 1997-2008 (OECD data) and it has involved mostly young workers.

Notwithstanding the acknowledged increasing importance of job precariousness and of the central role of the link between job insecurity and health in the political and sociological debate, literature on this topic has been rather absent for Italy, also due to the lack of appropriate data. To the best of our knowledge, very few empirical studies have investigated these issues for this country. Moreover, results are not always consistent.

Based on a multi-country study encompassing different European countries – among which also Italy – differences between permanent and temporary contracts arise for self-rated health, with precarious employees found to be more likely to give the worst evaluation of their overall health (Laszlo et al., 2010). They show also that the relation between health status and duration of the contract has not always or everywhere the same significance, and that a gender gap exists. Ehlert and Schaffner (2011) found a health gap in favor of permanent employees; this difference persists also when taking into account the potential endogeneity between status and self-rated health and it is especially relevant after some time in temporary employment. However, some health differences vanish in analysis carried out for different sub-groups of countries: differences in self-rated health appear to be significant only in

countries where permanent and full-time employment plays a major role. Notwithstanding the high levels of Italy for these indicators, the coefficient is significant only for part-time temporary contracts. Considering 16 EU countries altogether and applying OLS regression models, Scherer (2009) found small differences in health problems related to the type of contract, explaining that with different working conditions; she argued also the role of country specific characteristics in shaping these negative consequences so, again, the position of Italy in this domain appears unclear.

Our preliminary and explorative analyses show that people with a permanent contract declare a better health status with respect to fixed-terms employees. For example, using the survey on health conditions carried out by the Italian National Statistical Institute (ISTAT) in 2004–2005 we find that people who have a temporary contract have worst performances in terms of mental health but not in terms of physical health (through regression models controlled for confounders like age, gender, area of residence, education, presence of chronic diseases and disabilities); at the same time, also the self-evaluation of health is significantly reduced for temporary workers.

Similar results are obtained using the cross-section component of EU-SILC survey. Using these data we estimate that the risk to rate one's own health worse than good is 25% higher for temporary workers with respect to permanent ones, and the risk is more than double when comparing the evaluation "very bad" versus "very good".

Again, all these results refer to associations between the two components of this link – type of contract and health – without considering selection effects and reverse causality. Our aim is to contribute to this debate verifying whether this effect persists once accounted for endogeneity.

3 Data and methodological framework

The empirical analysis is based on the European Union Statistics on Income and Living Conditions (EU-SILC) carried out for Italy ISTAT. We use data from the panel of the years 2007 to 2010. This source of data follows individuals during 4 years, so offering the possibility to trace their history of job contracts and, in parallel, their evaluations of health during time.

Our objective is to evaluate whether having a temporary contract leads to a different assessment of one's own health with respect to having a permanent employment, taking into account potential selection effect. In other words, our aim is to estimate a causal effect. Moreover, the history of temporary contracts may be long, and the fact to be a "precarious employee" may in turn increase the risk to have another temporary contract in the future.

In order to properly address these issues, we rely on Marginal Structural Models (MSM) (Robins et al, 2000), which use inverse-probability-of-treatment weights (IPTW) estimators. MSMs aim at estimating the effect of a treatment (i.e. a temporary contract) on a certain outcome (i.e. the self-rated health) by appropriately controlling for time-dependent confounders affected by prior treatment. This kind of models pertains to population-average effects and describes causal (and not associational) effects.

The model is fitted in a two-stages process: first one derives the probability of receiving the treatment in each interval, conditional on past time-varying covariates, including baseline covariates and previous treatment, and compute its inverse (IPTW); secondly IPTWs are used to estimate the causal effect of treatment on outcome.

The aim of IPTW is to create a pseudo-population consisting of w_i copies of each subject i . In the pseudo-population, unlike the actual population, the treatment T and measured covariates L are unconfounded (i.e. unassociated). Moreover, in the pseudo-population the probability to have the outcome equal to 1 for a treated, $P(Y_i = 1)$, and the probability to have

the outcome equal to 1 for a control, $P(Y_c = 1)$, are the same as in the true study population. In this way, the causal estimated coefficient is the same in both populations, and it can be unbiasedly estimated by a standard crude analysis in the pseudo-population.

The probability to have a temporary contract in each year is estimated conditional on one's own history of permanent-temporary contracts and the values of individual covariates in previous years.

As mentioned, we use a longitudinal survey, in which problems of attrition due to the impossibility to follow individuals over time may be present. It has to be noted that the attrition may be a selective process with respect to individual characteristics (included the contract form), so in order to account for this in the analysis, we "correct" the IPTW with the inverse-probability-of-exit weight (Fewell et al. 2004).

The causal effect of the form of contract in 2009 on the self-rated health declared in 2010 is finally estimated through a logit model, in which IPTW are used as standard population weights. These models are controlled for individual confounders.

4 Main preliminary findings

Our results show that precarious contractual conditions have a negative influence on health. The OR to report a level of health less than good for temporary workers, estimated adopting a standard regression logistic model is 1.4, meaning that having a precarious employment in a given year is associated to about 40% higher risk not to be in good health in the following year. Once controlled for endogeneity using IPTW in a marginal structural model, the estimated OR raises to 3.7. This result, which can be interpreted in a causal way, not only does confirm previous association, but strengthens the negative link.

We find also that in situations where a permanent contract is followed by a temporary one, the risk to report a level of health less than good dramatically increases compared to people with a history of permanent contracts (OR equal 4.4); having temporary contracts for two consecutive years corresponds to a risk 3 times higher. In order to verify the existence of differential effects for sub-groups of population, we estimated causal models with interaction between the type of contract and, alternatively, gender, age, level of education and area of residence. Only the gender matters in this issue, proving a more damaging impact of precariousness for women than for men.

Overall, we showed that the negative association between precarious employment and health is not simply due to a selection effect, but it results in a causal effect from the first one to the second one, and this effect is particularly damaging for women. The dramatic expansion of fixed-term employment in recent years should therefore raise concerns for the health and the overall well-being of workers.

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