The Effect of Temporary Employment on Labour Market Outcomes

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Abstract

We evaluate the causal impact of temporary contracts on future labour market outcomes versus both a spell of unemployment and a spell of permanent employment over the period 2007-2016, using the panel of the Italian Labour Force Survey. We identify the causal effect imposing that, conditional on a suitable set of observable characteristics, the treatment status (temporary job) is ignorable for the outcome, and we build a backward test to validate the ignorability assumption. Then, we propose a new methodology to estimate the remaining selection bias due to the omission of a known variable. Results indicate that experiencing a spell of temporary work instead of a spell of unemployment increases the probability of being employed after twelve months by 35 percentage points; it increases the probability of having a permanent contract by 7.3 p.p. and the probability of having a satisfactory job by 5.7 p.p. Individuals who had a temporary contract work also work longer and earn more. Instead, workers who experience a spell of temporary work rather than a spell of permanent work are less likely to be employed 12 months later (-5 p.p.) and to have a permanent contract (-40 p.p.); they earn less and are also less satisfied. The backward test indicates that large part of the selection bias is eliminated thanks to our estimation strategy, but not all of it; however, our sensitivity analysis suggests that even accounting for the remaining selection bias, the different outcomes between the two groups would remain large and significantly different from zero.

Extended abstract

Over the last twenty years, the Italian labour market experienced several changes in the regulation of temporary contracts, towards more flexible arrangements. Consequently, temporary workers account for an increasing share of employees - 15.5% of the working-age population in 2017 - and in recent years, temporary contracts make up the bulk of new hires, with the use of temporary employment particularly pronounced for young workers.

We address the role of temporary contracts on future labour market outcomes, assessing whether temporary jobs can be regarded as "dead ends", leading to a division of workers between more protected and less protected ones, or rather as "stepping stones", namely ports of entry into permanent employment. Using short panels from the Italian Labour Force Survey (LFS), we identify the causal effect of experiencing a spell of temporary employment on short-term labour market outcomes versus both a spell of unemployment and a spell of permanent employment. With respect to past studies, our contribution is three-fold: (i) we provide results for recent years and for more outcomes, including impact on wage and satisfaction (ii) we test the conditional independence assumptions; (iii) we suggest a new methodology to estimate the selection bias when the omitted variable is known.

We carry out the analyses over the period 2007-2016, including the years immediately before and during of the Great Recession to assess also how the business cycle and policy changes influence the

effects of a temporary spell of employment. Thanks to the richness of the data, we evaluate the impact of temporary employment on several outcomes: not only the probability of being employed and of being employed with a permanent contract, but wages, hours worked, and self-assessed satisfaction.

In the LFS panel, each individual is observed four times, when s/he enters in the sample (*t1*), after 3 months (*t2*), after 12 months (*t3*), and after 15 months (*t4*). In addition, there is retrospective information on the main labour market outcomes 12 months before *t1* (*t0*). We focus on individuals out of the labour force or unemployed in *t1*, i.e. facing the same initial conditions, and in the treated group (temporary workers) or control group in *t2*. The outcomes of interest are observed one year after the "treatment", in *t4*. To rephrase it, the sample is defined in *t1*, the treatment (temporary job) occurs in *t2* and the outcome is observed in *t4*. In the first comparison, controls are unemployed individuals in *t2*; in the second comparison, controls are permanent workers in *t2*.

The parameter of interest is recovered by imposing that, conditional on a suitable set of observable characteristics of the worker, of her household, as well as of the local labour market, the treatment status is ignorable for the outcome. We perform a propensity score matching and apply subclassification combined with regression within each subclass ("blocking with regression adjustment", BRA, see Imbens 2015). We include as matching characteristics not only personal and household characteristics, but also information about job search in *t1* and previous labour market history, as back as 12 months before *t1*, which largely reduce the selection bias.

We first compare temporary workers and the unemployed. Results show that experiencing a spell of temporary work instead of a spell of unemployment increases the probability of being employed after twelve months by 35 percentage points; it increases the probability of having a permanent contract by 7.3 p.p. and the probability of having a satisfactory employment by 5.7 p.p. Individuals who had a temporary contract work 10 hours longer per week and earn about 372€ more (unconditional).

Exploiting the features of the LFS rotating sampling scheme, we build a backward test to validate the ignorability assumption: in the backward test, we focus on individuals out of the labour force or unemployed in *t3* (sample), in the treated or control groups in *t4* (treatment), and compare their labour market transitions between *t0* and *t1* (outcomes), thus 24 months before the individuals enter into the sample. We use the same estimation strategy applied in the main analysis and include the same observed variables. If the conditional independence assumption holds, we should observe no difference between the treated and control group in their past labour market history, which is before the treatment occurs. While a large part of pre-treatment differences is eliminated with our estimation strategy, few differences remain. In particular, treated individuals had been less likely to move into unemployment from employment/unemployment/inactivity between *t0* and *t1*.

Given this result in the backward test, we cannot affirm that the selection bias has been entirely deleted by our estimation strategy, thus the estimated effect is not entirely due to the temporary contract. Instead, the backward test's results show that a difference between treated and controls in their labour market history persists, and more specifically in the different employment transitions from *t0* to *t1*. We propose a new methodology to estimate the selection bias due to the omission of some variables. The methodology is similar in scope to the well-known sensitivity analyses à la Rosenbaum and Rubin (1983), Altonji et al. (2005), Ichino et al. (2008). However, with respect to such models, we know the source of the selection bias, but cannot include it directly in the model because it is not observed when we observe the main outcomes. Estimates show that the selection bias due to past labour market history is very small, and the positive effects of a spell of temporary

contract versus unemployment remain large and statistically significant even if we account for selection bias.

We then apply the same methodology and steps to the comparison between temporary workers (treated) and permanent workers (controls). Results show that workers who experience a spell of temporary work rather than a spell of a permanent contract are less likely to be employed 12 months later (-5 p.p.) and to have a permanent contract (-40 p.p.); they earn less and are also less satisfied. Once again, the backward test indicates that large part of the selection bias is eliminated thanks to our estimation strategy, but not all of it; however, our sensitivity analysis suggests that even controlling for past labour market history, the different outcomes between the two groups would remain large and significantly different from zero.

Finally, we estimate heterogeneous results according to several variables: new entrance in the labour market; business cycle; sex; age; and level of education.

Our results are prone to one main limitation: due to the data, we can only observe short-term outcomes, one year after the "treatment". It is likely that we are estimating a lower bound in the comparison between unemployed and temporary workers, and that transition into permanent work for temporary workers would be even higher over a longer period. Nevertheless, our results clearly indicate that temporary workers are slightly worse off with respect to permanent workers in terms of employment probability, but largely better off than unemployed. On the other hand, they have just slightly more likely than unemployed to be permanently employed one year after.

References

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