

THE INS AND OUTS OF NON-EMPLOYMENT IN ITALY

POLICY BRIEF 11

Employment Skills and Productivity in Italy
A Research Project coordinated
by IGIER-Bocconi, in partnership with
JPMorgan Chase Foundation



**Università
Bocconi**

IGIER
Innocenzo Gasparini Institute
for Economic Research

NEW SKILLS AT WORK
JPMORGAN CHASE & CO.

The ins and outs of non-employment in Italy

By **Jérôme Adda** (IGIER Innocenzo Gasparini Institute for Economic Research, Bocconi University),
Antonella Trigari (IGIER Innocenzo Gasparini Institute for Economic Research, Bocconi University)

Introduction

With the outburst of the financial crisis at the end of 2007 and the sovereign debt crisis in 2012, the unemployment rate rose dramatically in many OECD countries. In Italy the number of people without a job and looking for one rose from about six percent of the labor force in 2007 to thirteen percent at the end of 2014. Further, these numbers hide considerable heterogeneity across demographic groups, with the youngest and those living in the South more severely hit by the Great Recession.

The variation of the unemployment rate may be explained by both a variation in the number of workers who lose a job and enter the jobless pool, and a variation in the number of workers who find a job and exit the jobless pool. Sorting out the contribution of these two margins is key to understanding the mechanisms that underlie unemployment fluctuations. The rise in joblessness at the start of a recession, for example, could be due to a gradual drop in the job finding probability or to an initial burst of

layoffs.

There is a sizeable literature investigating this question, in particular for the United States.¹ These works have found that the job finding rate is most important in accounting for the dynamics of unemployment, although the contribution of the separation rate becomes larger, though never above fifty percent in some studies, depending on the data and the methodology.

With the occurrence of the financial crisis, a number of authors started to investigate the drivers of the unemployment rate also in European countries.² This is interesting since European labor markets are found to be on average more sclerotic than the US labor market, exhibiting both lower job separation and lower job finding probabilities, so that their relative contribution to overall unemployment cyclical could be very different from the US.

Except for Elsby et al. (2013) in their study of OECD countries, to the best of our knowledge this is the first work that studies the ins and outs of joblessness in the Italian labor market. Moreover, we study the relative role of separation and finding rates by demographics, in particular along the dimensions of gender, age, region of residence and qualification.

We exploit a unique administrative data set provided by INPS, the Italian Social Security Agency, which tracks the employment histories of Italian workers from 2005 to 2015. With this data, we construct a two-state representation of labor market transitions, with workers moving between employment and non-employment.³ Although this choice is dictated by the form of our data, which measures the employment state but does not distinguish between inactivity and unemployment, we see several advantages of focusing on non-employment. First, it allows us

¹ See Shimer (2007), Fujita and Ramey (2009), Elsby et al. (2009) and Shimer (2012).

² Hairault et al. (2015) for France; Smith (2011) and Gomes (2012) for the UK; Silva and Vázquez-Grenno (2013) for Spain and the UK; Petrongolo and Pissarides (2008) for France, Spain and the UK; Elsby et al. (2013) for OECD countries.

³ Most papers in the literature focus on two states (employment and unemployment); others explicitly assume that there are three states (employment, unemployment and out of the labor force or inactive).

to also capture transitions to and from employment of workers that are marginally attached to the labor force. This is important, as direct flows between inactivity and employment are present in the data. At the same time, it is well-known that the states of unemployment and inactivity are poorly measured in survey data, making the distinction often immaterial. Further, our measure of non-employment is constructed so that, on average, it does not include individuals who are in education or retirement, a desirable property as these individuals are not only unlikely to be searching for a job but also unlikely to accept one if it was offered. In what follows, we refer to the separation rate to indicate transitions from employment to non-employment and to the job finding rate to indicate transitions from non-employment to employment.

The INPS data set

The data set used for the analysis is compiled by the *Istituto Nazionale di Previdenza Sociale* (INPS), the Italian National Social Security Agency, for the period 2005-2015. INPS assigns to each registered worker an identification number, by which it keeps track of their employment history throughout the years. Specifically, workers appear in the data set when they pay social contributions to the agency, that

is, during periods of employment. By using this codification, we are able to construct a monthly panel data set of employment and non-employment spells. We exploit a sample of the data including *dipendenti* (employees) and *collaboratori* (contractors), for whom INPS provides precise information about periods of employment. In particular, for each registered contract as an employee, activation and termination dates are available (in year, month and day format). The exact activation and termination dates are not provided for contractors, but the months during which contributions are paid is available, and we use this information to build a monthly measure of employment status.

For each worker, the data set also contains information about gender, age, region of residence, year of birth and death, taxable wage, as well as the identification number of the employer, together with its size and sector. For employees, we know the type of contract (seasonal, temporary or open-ended) and the level of qualification (apprentice, white collar or blue collar).

In the box "From the administrative data to the working sample," we describe the adjustments we perform on the original administrative data to obtain our final sample of employment and non-employment spells at the individual level.

From the administrative data to the working sample

We define an employment spell as a period of uninterrupted employment on a single contract or on multiple consecutive or overlapping contracts registered in the administrative data set. That is, we study transition rates into and out of employment, abstracting from job-to-job transitions. Specifically, a worker is defined to be employed in a given month if at least one contract is registered in INPS data during that month. To build this monthly measure of employment status, we exploit the information on activation and termination dates that is provided for employees; for contractors, as mentioned above, INPS directly gives us a monthly employment status variable.

Since we adopt a two-state representation of the labor market, as we said, we define non-employment residually with respect to employment. Generally speaking, we label as non-employment those months during which a worker – who appears in the INPS data set because she has been employed at some point in time – is not employed. In doing that, however, we take care of the concern that a “non-employed” worker according to INPS could be unemployed or inactive, but also employed under a different contract not registered by INPS. We implement adjustments that make it unlikely that we label as non-employed a worker who has moved to (or comes from) forms of employment not accounted for by INPS. Specifically, we build from the Italian Labor Force Survey (ISTAT) a worker-specific duration of unemployment, over years and by demographic characteristics. We then use this measure to identify instances in which a worker is absent from the data set for periods that appear to be too long to reflect non-employment. We similarly identify periods in which individuals are likely to be in education and retirement and do not include them among the non-employment observations. To illustrate the outcome of our adjustment, we compare our measure of the adjusted non-employment rate to both the ISTAT unemployment rate and non-employment rate: as expected, our measure lies in-between the two ISTAT rates; interestingly, it has a correlation close to 0.9 with each of them.

Further, we drop altogether seasonal workers, i.e. workers who have been seasonal for at least one month during their work life. Seasonal workers are problematic as they move in and out of employment for contractual reasons that are orthogonal to the conventional reasons and mechanisms by which workers lose and regain jobs.

Finally, we exploit information on age, gender, macro-region of residence and level of qualification.

Ins and outs: the role of demographics

This section studies the role of demographic characteristics to determine the *ins* and *outs* of non-employment in Italy. To estimate the probability that an employed worker

moves into non-employment and the probability that a non-employed worker finds employment, as well as the contribution of demographics to these probabilities, we exploit a Probit regression that we describe in the box “The role of demographics: the econometric model”.

The role of demographics: the econometric model

The regression specification takes the following form:

$$Y_t = \alpha + \beta_g \cdot gender + \sum_{j=1}^4 \beta_{aj} \cdot age_{jt} + \sum_{j=1}^2 \beta_{rj} \cdot region_{jt} + \beta_q \cdot qual_t + \sum_{j=1}^{131} \delta_j \cdot time_j + \varepsilon_t$$

where, conditional on a worker being employed (non-employed), Y_t is a dummy variable equal to one if the worker makes a transition to non-employment (employment) and zero otherwise. The regression controls for gender, five age groups (15-24, 25-34, 35-44, 45-54, 55-64), three macro-regions of residence (North, Centre and South) and two qualification levels (white or blue collar). It also controls for time-specific fixed-effects via a dummy variable for each month/year. The residual group is male, aged 35-44, resident in the South, and white collar.

Table 1: Average job separation and job finding probabilities

	JOB SEPARATION	JOB FINDING
All workers	.0235***	.0876***
Most advantaged group	.0085***	.1311***
Least advantaged group	.0728***	.0417***

*** p < 0.01, ** p < 0.05, * p < 0.1

Values are obtained from estimating the Probit regression on the constant

Table 1 reports in the first row the average values over the entire sample period of the job separation and job finding probabilities across all demographic groups. The average probability of separating into non-employment is 2.35 percent, implying an average duration of an employment spell equal to 42 months; on the other hand, the average job finding probability is 8.76 percent, implying an average duration of non-employment spells of 11 months.

Since we focus on entry and exit rates into non-employment, it is natural to identify advantaged and disadvantaged groups with respect to both the probability of finding a job and losing one.⁴ Moreover, we find that groups who fare better in terms of higher average job finding probability almost always fare better also in terms of lower average separation probability. Accordingly, we pick the most advantaged group to be male individuals, aged 35-44, living in the North, with a white collar qualification, and the least advantaged group to be women, aged 15-24, living in the South with a blue collar qualification. The second and third rows of Table 1 report the values of the transition probabilities for these two groups, showing significant heterogeneity. The most advantaged group has an average job separation probability

equal to 0.85 percent and a job finding probability of about 13 percent; the probability of separating raises to 7.28 percent and the probability of finding a job decreases to 4.17 percent for the least advantaged group.

Figure 1 reports the average probability gap of each demographic group compared to the most advantaged one, over the entire period. For instance, workers living in the South of Italy have a lower probability of finding a job than their colleagues living in the North (by about 3.5 percentage points). Being a young worker (15-24 years old) is instead associated with a higher probability of losing a job compared to workers who are 35-44 years old (by about 3 percentage points).

From the figure it clearly emerges how the probability of losing a job is indeed particularly high for those who are 15-24 years old, in the South of Italy and for those with a blue collar qualification. Similarly, the probability of finding a job is lower for those who are 15-24 and 55-64 years old, in the South of Italy and for those with a blue collar qualification.

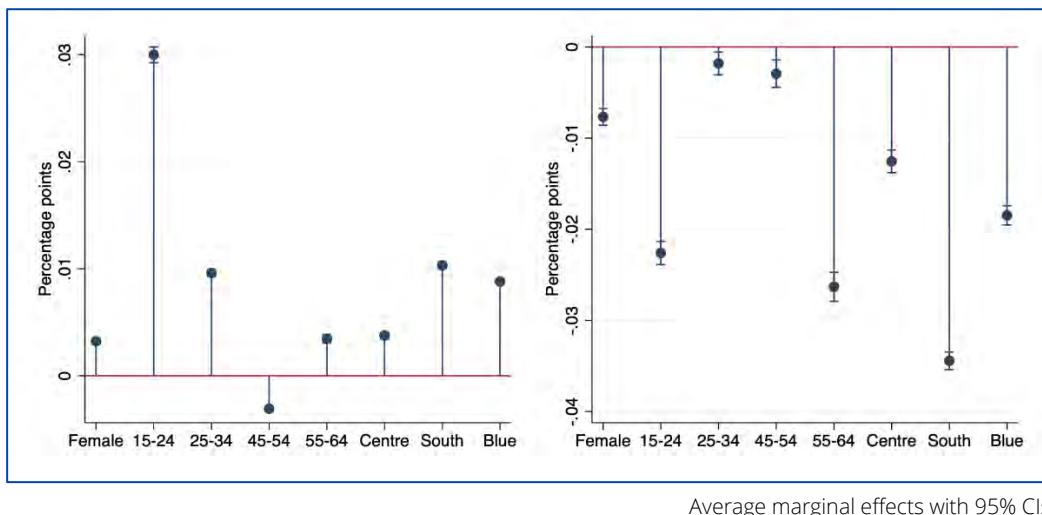
The low job finding rate for the very young may be due to a negative selection: the 15-24 category comprises not only workers with no college degree but, likely, also high-school dropouts. The negative selection probably plays a role on top of the lower education attainment, which is known to be associated with worse employment outcomes. Finally, part of the gap may be simply due to a lower likelihood of finding a job when entering the labor force the first time, all other things being equal. Belonging to the youngest age group is also associated with a separation rate almost twice as large as the one for other age categories. Besides the negative selection, a further cause of higher separation may be the fact that young workers are undergoing their first employment experiences, so that several trials may be necessary before finding the best

⁴ This would not be the case if we were also accounting for job-to-job transitions, as we would need to distinguish workers who move to "better" jobs from workers moving to "worse" ones.

occupational match, and these trials may be interspersed with non-employment spells. Instead, older workers losing their job close to the end of their career may find it difficult to find another one because, on the one hand, they are likely to have a high reservation wage and, on the other, they may be subject to severe skill-

mismatch. Besides age, the other demographic characteristic that has most impact on the probabilities of losing and finding a job is the region of residence, highlighting structural factors specific to the Italian labor market.

Figure 1: Average gap in the probability of losing and finding a job



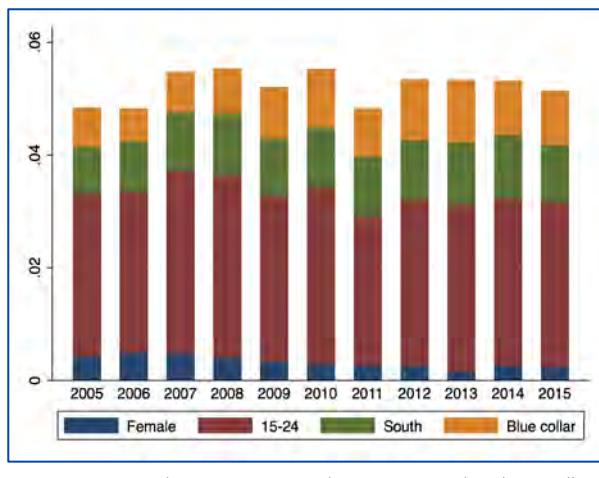
Average marginal effects with 95% CIs.

Figures 2 and 3 plot the evolution over time of the two probability gaps, between the most and the least advantaged group. For each of the ten years we observe in the data set, the figures decompose each of the two gaps to show the contribution of each demographic characteristic in generating the gaps.

The figures show that while the gap in the separation probability has remained relatively stable over time, the gap in the job finding rate has shrunk from 2005 to 2015. More specifically, the contribution of age is relatively constant in both rates and the contribution of gender has become less important. The path in the gender gap can be explained by the fact that the crisis mostly impacted male-dominated sectors, such as construction and finance. A similar path is also apparent in the gap between white and blue collar workers, and between those living in the North and in the South. The reduction in the regional gap is particularly important for the gap

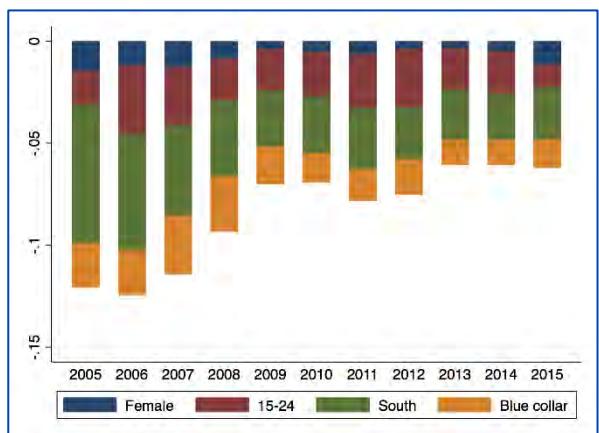
in the job finding rate and explains a large part of its overall reduction. These patterns are consistent with the crisis having most severely affected white collar workers in the private sector whose activity in Italy is mainly located in the North.

Figure 2: Gap in the probability of losing a job
From the most to the least advantaged



Baseline category: male, 35-44, North, white collar.

Figure 3: Gap in the probability of finding a job
From the most to the least advantaged



Baseline category: male, 35-44, North, white collar.

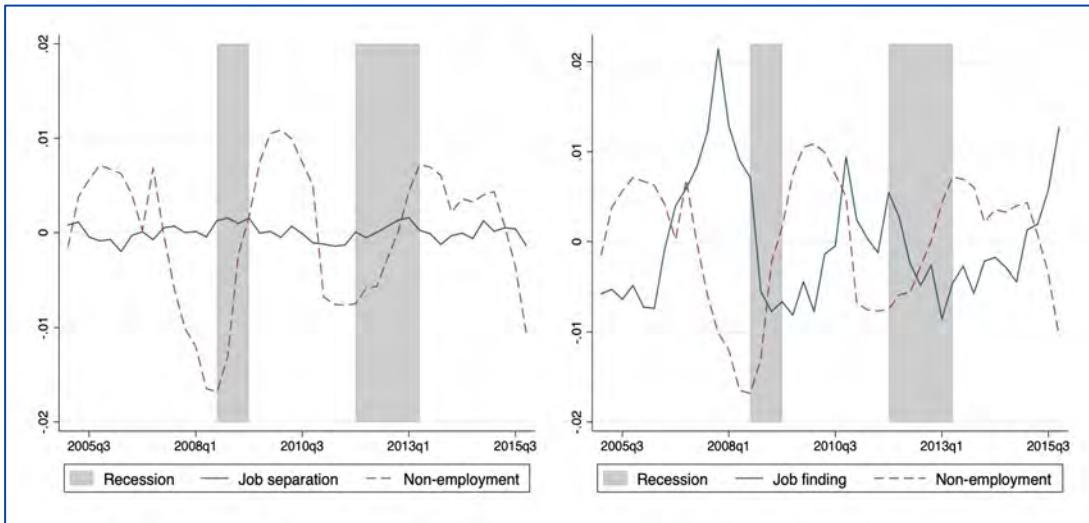
The cyclicality of the ins and outs

This section computes time series for the job separation and job finding probabilities derived from the INPS administrative data, and studies their cyclical properties, as well as their contribution to the fluctuations in the non-employment rate. The box “Cyclicality: measuring the ins and outs” describes how we compute the transition probability series.

Figure 4 plots the cyclical components of the transition probabilities and the non-employment rate.⁵ The shaded areas indicate recession periods, from the third quarter of 2008 to the second quarter of 2009, and from the last quarter of 2012 to the third quarter of 2013. The figure highlights that our measure of the non-employment rate is distinctly countercyclical. It increases in periods of negative GDP growth and decreases during expansions. The figure also emphasizes the relatively large and procyclical fluctuations in the job finding probability and the relatively small and countercyclical fluctuations in the separation probability. In particular, the correlation between detrended real GDP and the job finding probability is positive and large (equal to 0.83); the correlation between the GDP and the job separation probability is negative but lower (equal to -0.34). If we instead use the unemployment rate as the cyclical indicator, the correlation of the job separation rate is positive but not significant, while the correlation of the job finding rate is equal to -0.47 and significant. We conclude that the job finding rate is highly procyclical and the separation rate mildly countercyclical.

⁵ All series are detrended using an HP filter with smoothing parameter equal to 1600.

Figure 4: Job separation and finding probabilities, non-employment rate (HP Filtered)



Cyclicalities: measuring the ins and outs

To develop measures of the transition probabilities between employment and non-employment, we follow the approach first developed by Shimer (2007) and Shimer (2012) to study US labor markets. The approach avoids the time aggregation bias that results from the discrete-time measurement of worker status, in turn failing to capture transitions that are reversed within the month. While this bias has been shown to be quantitatively important for the dynamic US labor market, it is presumably less severe for Italy where both the probability of finding a job during the month one was lost and the probability of losing a job during the month it was found are comparatively smaller. Our results confirm this intuition.

As in Shimer, we compute aggregate job finding and job separation probabilities by assuming that all workers are ex-ante identical, and in particular non-employed workers have the same probability of finding work and all employed workers have the same probability of losing their job. Note that while we do not explicitly evaluate the role that composition may have in explaining the dynamics of aggregate transition probabilities, we compute transition probabilities by demographic groups and study their cyclical properties.

In the data we can only measure the gross flows. At each time t a worker can either be employed (E) or non-employed (N). Let F_t^{EN} denote the gross flow of workers who are in state E at time t and in state N at time $t+1$ and F_t^{NE} denote the gross flow of workers who are in state N at time t and in state E at time $t+1$. Also, let f_t^{EN} and f_t^{NE} denote the associated share of workers who were in state E and N in period t :

$$f_t^{EN} = \frac{F_t^{EN}}{E_t}$$

$$f_t^{NE} = \frac{F_t^{NE}}{N_t}$$

where E_t denotes the number of employed workers in period t and N_t the number of non-employed workers.

Time aggregation bias is accounted for by modelling a continuous time environment in which data are available only at discrete dates t . Let λ_t^{EN} and λ_t^{NE} denote the Poisson arrival rates of shocks moving a worker between employment and non-employment during period t . The continuous-time transition rates will satisfy (see Shimer, 2007):

$$f_t^{EN} = \lambda_t^{EN} \left(\frac{1 - e^{\lambda_t^{EN} - \lambda_t^{NE}}}{\lambda_t^{EN} + \lambda_t^{NE}} \right)$$

$$f_t^{NE} = \lambda_t^{EN} \left(\frac{1 - e^{\lambda_t^{EN} - \lambda_t^{NE}}}{\lambda_t^{EN} + \lambda_t^{NE}} \right)$$

These equations can be solved for the continuous-time rate series λ_t^{EN} and λ_t^{NE} . The associated full-period transition probability series Λ_t^{EN} and Λ_t^{NE} are then given by:

$$\Lambda_t^{EN} = 1 - e^{-\lambda_t^{EN}}$$

$$\Lambda_t^{NE} = 1 - e^{-\lambda_t^{NE}}$$

To obtain a quarterly series for monthly job finding and job separation probabilities, we proceed as follows. We first compute monthly sample-weighted transition probabilities f_t^{EN} and f_t^{NE} from the INPS administrative data; we seasonally adjust the series using an X-13ARIMA methodology; we adjust for time aggregation and recover the instantaneous transition rates λ_t^{EN} and λ_t^{NE} and probabilities Λ_t^{EN} and Λ_t^{NE} ; finally, we convert the monthly rates and probabilities to quarterly frequency by simple averaging.

Contributions to non-employment variability

We now quantify the contributions of job separation and job finding rates to overall non-employment variability.⁶ The methodology we follow is described in the box ‘Measuring hypothetical non-employment rates’. Table 2 presents the results for the entire sample period; for three sub-periods, capturing the expansion of 2005-2008, the prolonged recession of 2009-2013, and the recovery in 2014-2015. It also considers two sub-periods capturing the effect of labor market reforms introduced in Italy from 2012.

We find that the job finding rate explains about 78 percent of the variation in the non-employment rate in Italy from 2005 to 2015, and the separation rate only 22 percent. The dominant role of the *outs* relative to the *ins* in driving the joblessness rate is consistent overall with the existing literature, across methods, data sets and countries. If anything, we find a contribution that lies toward the high side of the range of values.

Interestingly, the contribution of the job finding rate to non-employment in Italy decreases over

the years. Splitting the sample into three periods, we find that the contribution of the separation rate rises from 19 percent in 2005-2008, to 38 percent in the recession years, and to 44 percent in the recovery phase. These facts seem consistent with the idea that separations may be more important during recession years, particularly at the start of a downturn. At the same time, there could also be a role played by changes in the employment protection laws over time. Labor market reforms introduced in Italy from 2012 – the Fornero reform in June 2012 and the *Jobs Act* in May 2015 – have mitigated the extent that employees are protected against the risk of dismissal. Specifically, they have introduced specific cases in which the reinstatement of the worker is replaced with a severance payment that increases with tenure. When we consider a pre- and a post-reform split of the sample period, we find suggestive evidence in this direction since the contribution of the separation rate more than doubled after the second quarter of 2012, rising from 16 percent to 36 percent.

⁶ The analysis is based on the dynamics of the steady-state unemployment rate. Since this approach is only reasonable if the separation and job finding rate are high enough, as a robustness check not presented in this policy brief we also study a decomposition of actual non-employment, finding similar results.

Table 2: Contributions to steady state non-employment fluctuations

	JOB SEPARATION	JOB FINDING
Aggregate		
2005-2015	.21733***	.78626***
Three sub-periods		
2005-2008	.18713*	.81653***
2009-2013	.38618***	.61364***
2014-2015	.43859***	.55821***
Two sub-periods		
2005q1-2012q2	.16401**	.83946***
2012q3-2015q4	.35578***	.64003***

*** p < 0.01, ** p < 0.05, * p < 0.1

Our further contribution is to study the contributions of the two transition rates to non-employment variability by demographic groups, defined by gender, age, macro-region of residence and level of qualification. Table 3 reports the results.

We find that the job finding rate is particularly important in explaining the variability of non-employment for the two demographic groups found to be most disadvantaged according to our previous results – i.e. for those aged 15-24 years and for those living in the South of Italy. In particular, the probability of finding a job explains almost 90 percent of the variation in the non-employment rate for workers living in the South, and about the 85 percent for young workers below 24 years of age. A related result is that for all the other age groups and for workers living in the North and the Centre, the decomposition of non-employment variability is less tilted toward a dominant role of the job finding rate, with the role of the job separation rate reaching the peak contribution for workers

(36 percent) and for those living in the Centre of Italy (38 percent). Finally, the separation rate is more relevant for women than for men, and for white collar workers than for blue collar workers.

Measuring hypothetical non-employment rates

Given the continuous-time transition rates λ_t^{EN} and λ_t^{NE} , the expression for the steady state non-employment rate is:

$$n_t^{SS} = \frac{\lambda_t^{EN}}{\lambda_t^{EN} + \lambda_t^{NE}}$$

Shimer (2012) found that the correlation between the actual and the steady-state unemployment rate in the US is 0.99. Other studies have found lower correlations for unemployment rates in European countries (0.91 and 0.83, depending on the data set, for France in Hairault et al. (2015) and 0.94 for Spain in Silva and Vázquez-Grenno (2013)). In our data the correlation between the actual and the steady state non-employment rates is even lower: equal to 0.74. However, we still consider it high enough to pursue a decomposition of the steady-state non-employment rate.

Exploiting the relationship between the actual and the steady-state non-employment rates, we decompose the dynamics of the steady-state non-employment rate into the contributions of the separation rate λ_t^{EN} and the job finding rate λ_t^{NE} .

Specifically, following Shimer (2012), we first compute hypothetical steady-state non-employment rates that hold the separation rate or the job finding rate constant at their sample averages ($\bar{\lambda}^{NE}$ and $\bar{\lambda}^{EN}$). This gives:

$$n_t^{SS_EN} = \frac{\lambda_t^{EN}}{\lambda_t^{EN} + \bar{\lambda}^{NE}}$$

$$n_t^{SS_NE} = \frac{\bar{\lambda}^{EN}}{\bar{\lambda}^{EN} + \lambda_t^{NE}}$$

The log detrended hypothetical steady-state non-employment rate series, dn^{SS_EN} and dn^{SS_NE} , are plotted in Figure 5, along with the log detrended steady-state non-employment rate, dn^{SS} . The figure clearly highlights that the job finding rate accounts for most of the variation in the non-employment rate.

To develop a single measure of the contribution of each rate to the non-employment rate, we then regress each counterfactual steady-state non-employment rate, dn^{SS_EN} and dn^{SS_NE} , on the steady-state non-employment rate, dn^{SS} .

Figure 5: Hypothetical non-employment rates

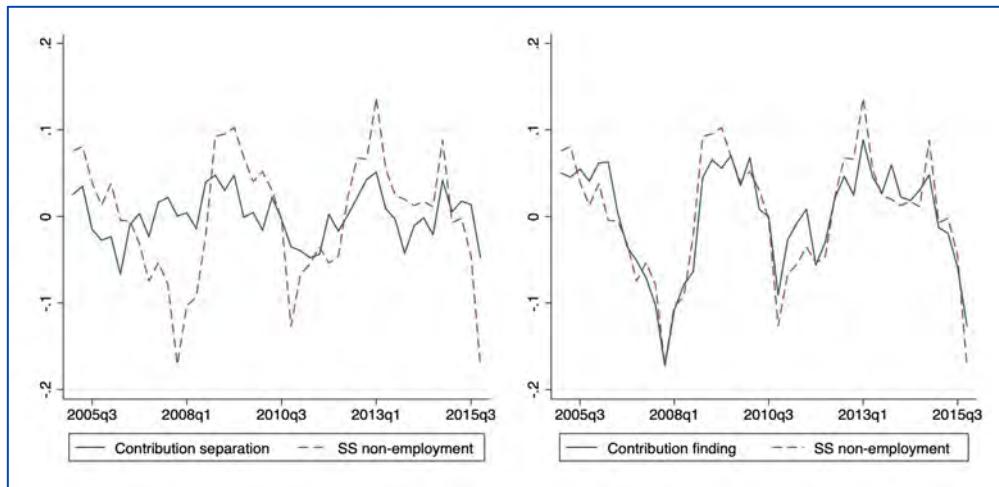


Table 3: Contribution to steady state non-employment fluctuations

By demographic groups

	JOB SEPARATION	JOB FINDING
Gender		
Male	.21526***	.78690***
Female	.29347***	.71516***
Age		
15-24	.17895**	.84451***
25-34	.28957***	.71167***
35-44	.32667***	.67485***
45-54	.34244***	.66030***
55-64	.35771***	.65496***
Macro-region		
North	.23607***	.76510***
Centre	.37906***	.62387***
South	.12167*	.88647***
Qualification		
White collar	.28231***	.72295***
Blue collar	.24391***	.75821***

*** p < 0.01, ** p < 0.05, * p < 0.1

Summary and policy implications

We have studied the job separation and finding probabilities in the Italian labor market, from January 2005 to December 2015. The evidence we find can be summarized as follow:

- The average monthly probability of finding a job from non-employment is about 9 percent; the average monthly probability of losing a job into non-employment is about 2 percent.
- We find significant heterogeneity across

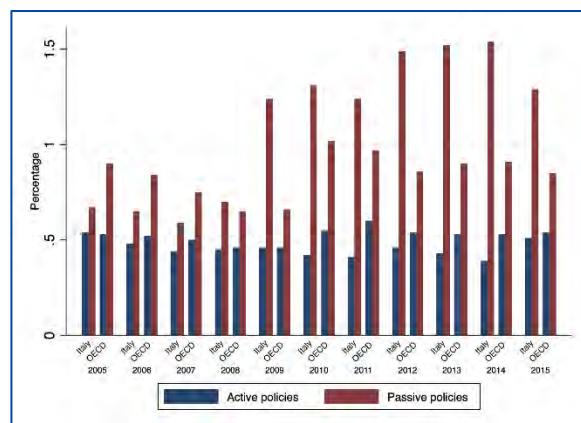
demographic groups, in particular along the age dimension and with respect to the region of residence. Both young and older workers have a job finding probability that is about 2 percent lower than prime-age workers; young workers have a separation probability that is 3 percent higher than prime-age workers. Workers living in the South of Italy have a probability of losing a job that is about 1 percent higher than those living in the North and a probability of finding a job that is about 3 percent lower.

- The job finding rate explains about 80 percent of the variation of non-employment over the business cycle, and the job separation rate the remaining 20 percent. Comparing this to the numbers found for other European countries, we find a lower contribution of the separation rate.
- The job finding rate is even more important in explaining the variability of non-employment for the most disadvantaged demographic groups: it explains up to 85-90 percent of the variation in the non-employment rate for workers living in the South and for workers below the age of 24.

The finding that the variation in the probability of losing a job plays only a limited role in explaining the fluctuations of the non-employment rate, implies that labor market policies may have to be directed at sustaining the probability of finding a job, particularly in periods of recession. This goal could be achieved through the implementation of active labor market policies, i.e. policies aimed at facilitating entry into the labor market. Figure 6 shows that public expenditure for the labor market in Italy is however mostly directed towards passive policies, i.e. policies aimed at preserving income in periods of non-employment, more so than in other OECD countries: passive measures

account for about 70 percent of public spending in the Italian labor market.⁷ In addition, these policies should be targeted at the young and those living in Southern regions of Italy as these workers not only have lower probabilities than others of finding jobs on average, but also see these probabilities going down relatively more than for other demographic groups in recessions. While in Italy there are a number of programs targeted at the young and the *Mezzogiorno*, these policies have not been sufficient so far to close the gaps, both cyclical and average, which we document.⁸ While there may be some reasons that justify to some extent a gap for the young (e.g. experiencing shorter employment spells before finding the true call), this is less the case for the South. At the same time the gap for the young remains too high to be seen as fully justifiable.

Figure 6: Public expenditure on labor market, as % of GDP



References

- Boeri, Tito, and Pietro Garibaldi. "A Tale of Comprehensive Labor Market Reforms: Evidence from the Italian Jobs Act." *Labour Economics* (2019).
- Elsby, Michael, Ryan Michaels, and Gary Solon. "The ins and outs of cyclical unemployment." *American Economic Journal: Macroeconomics* 1.1 (2009): 84-110.
- Elsby, Michael, Bart Hobijn, and Aysegul Sahin. "Unemployment dynamics in the OECD." *Review of Economics and Statistics* 95.2 (2013): 530-548.
- Fujita, Shigeru, and Garey Ramey. "The cyclicity of separation and job finding rates." *International Economic Review* 50.2 (2009): 415-430.
- Gomes, Pedro. "Labour market flows: Facts from the United Kingdom." *Labour Economics* 19.2 (2012): 165-175.
- Hairault, Jean-Olivier, Thomas Le Barbanchon, and Thepthida Sopraseuth. "The cyclicity of the separation and job finding rates in France." *European Economic Review* 76 (2015): 60-84.
- Petrongolo, Barbara, and Christopher Pissarides. "The ins and outs of European unemployment." *American Economic Review* 98.2 (2008): 256-62.
- Pissarides, Christopher. "The unemployment volatility puzzle: Is wage stickiness the answer?" *Econometrica* 77.5 (2009): 1339-1369.
- Sestito, Paolo, and Eliana Viviano. "Firing costs and firm hiring: evidence from an Italian

⁷ It should also be noted that most active interventions involve temporary employment incentives, while little spending is devoted to longer-term oriented policies, such as investment in training and matching services.

⁸ Among these policies, for example, there are the programs *Occupazione Mezzogiorno* and *Garanzia Giovani*.

reform." *Economic Policy* 33.93 (2018): 101-130.

Shimer, Robert. "Reassessing the ins and outs of unemployment." NBER Working paper 13421 (2007).

Shimer, Robert. "The probability of finding a job." *American Economic Review* 98.2 (2008): 268-73.

Shimer, Robert. "Reassessing the ins and outs of unemployment." *Review of Economic Dynamics* 15.2 (2012): 127-148.

Silva, Josè, and Javier Vazquez-Grenno. "The ins and outs of unemployment in a two-tier labor market." *Labour Economics* 24 (2013): 161-169.

Smith, Jennifer. "The ins and outs of UK unemployment." *The Economic Journal* 121.552 (2011): 402-444.