



IRPET Istituto Regionale
Programmazione
Economica
della Toscana

What training for the unemployed? An impact evaluation for targeting training courses

S. Durante, V. Patacchini, M. L. Maitino, C. Rampichini, N. Sciclone

In summary

- MAIN OBJECTIVE** To evaluate the effectiveness of training courses in improving the employment prospects of unemployed
- METHODOLOGY** The evaluation is based on non experimental control group design. Exploiting administrative data, impact estimates are obtained controlling for treated and controls initial conditions through statistical matching (propensity score matching and nearest neighbor matching)
- DATA AND PERIOD** Analysis relies on administrative data from three regional archives: the dataset on European Social Fund (ESF) activities, the dataset on unemployed signed up by Public Employment Services and the Labour market information system (hirings, transformations, fixed-term extensions and terminations of employment relationships). All data refer to Tuscany (Italy) in period 2007-2013.

In summary

FINDINGS

We find a positive impact of training on employment outcomes, especially for vocationally oriented courses. Anyway, targeting of activities is essential: long courses for those with worst *a priori* employment chances and short ones for those easiest to relocate in the labour market

VALUE ADDED

Full coverage of the programming period; standard approach to evaluation that can be easily replicated in the future; detailed heterogeneity analysis

Background

- Training is a relevant instrument in the toolbox of active labour market policies, helping unemployed to find work through upskilling and reskilling programs
- No consensus exists on the effectiveness of training. In fact, literature on the evaluation of training courses provides mixed results (Card et al., 2015; Caliendo and Schmidl, 2016). However, differences in the results are due to: the time frame used to estimate the impact of training, the socio-economic and institutional context where the program is carried on and, finally, the outcome variable chosen
- Anyway, there is a general consensus on the heterogeneous effects of training: the effectiveness varies among different types of courses and groups of participants (Biewen et al, 2014; Lechner, 2007; Rinne et al, 2011)
- Therefore, the optimality of the assignment process of jobseekers to courses becomes crucial for the overall effectiveness of training (Bell and Orr, 2002; Lechner and Smith, 2005; Behncke et al. 2007; Frolich, 2008; Barnow and Smith, 2015)
- In the last years, there has been growing evidence on the effectiveness of training in Italy (Irpel, 2011; De Poli and Loi, 2014; Costabella, 2017).

Research questions

- **Has training improved the re-employment prospects of the unemployed?**
- **Which type of training work best and which ones do not work at all?**
- **Which kind of unemployed benefit the most from training courses?**
- **Is the effect of training persistent over time?**

Identification strategy (1)

GROUP OF TREATED

Unemployed who have started a course between 2011 and 2014 Trainees are grouped by two-month periods on the basis of the starting date of the course, in order to match them with the unemployed in the same period not participating in any training course who represent the control group

Source: European Social Fund database

Number: 13.266 treated

GROUP OF OF CONTROLS

For all two-month periods identified on the basis of the courses' starting dates, the control group is represented by a sample of **unemployed people** being **registered by Public Employment Services** in the middle of the period. The controls for a subject participating in a course starting in period t are represented by jobseekers not starting a training course at the same period t .

Source: Public Employment Services database

Number: 264.340 controls (sample)

Identification strategy (1)

.....therefore, the comparison group for participants in a course starting at time t might include people taking part in any course starting at a subsequent period. The proposed approach allows to reproduce a sort of experimental context, where, in each period, an unemployed subject can decide whether to sign up to a training course or to search for work autonomously, conscious that it will be possible to start a course in the next period

Identification strategy (2)

IDENTIFICATION STRATEGY

Counterfactual approach based on
nearest neighbour matching

MATCHING VARIABLES

Exact matching on:

sex, nationality, local labour system and sector of activity in the last two years, period of evaluation

Nearest neighbour matching on:

age, years of education, length of unemployment, days worked in the last 2 years, previous occupation (from intellectual down to unskilled)

Identification strategy (3)

Outcome variables

- At least a hiring within 9, 12, and 18 months since the beginning of the course
- Employment status in every month (1 to 18)

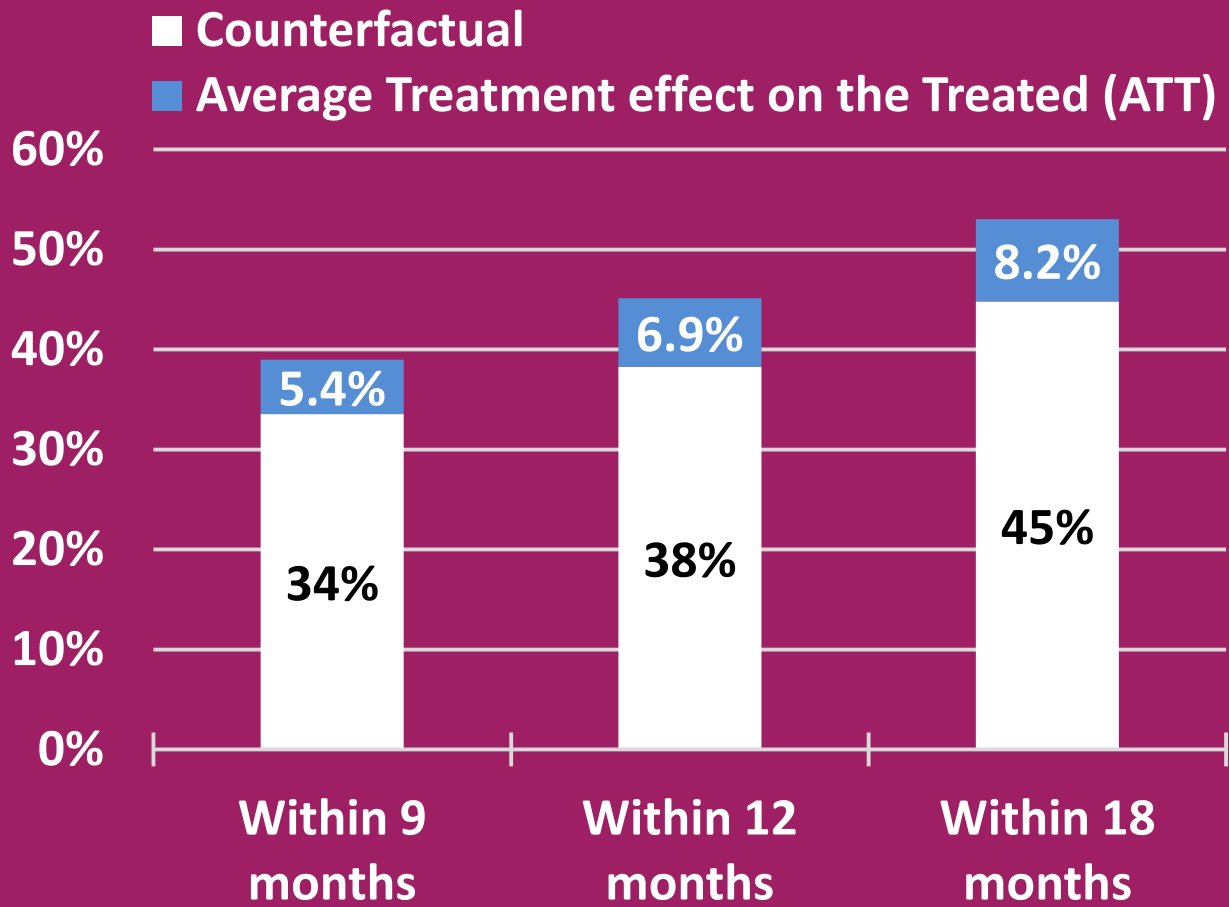
Source: administrative data on labour market flows

Balancing test

	MEAN STANDARDIZED DIFFERENCES		VARIANCE RATIO	
	Pre-matching	Post-matching	Pre-matching	Post-matching
Age	0.19	0.05	0.79	0.99
Length of unemployment	- 0.05	0.01	1.12	1.04
Days worked in previous two years	- 0.15	- 0.01	0.89	1.02
Years of education	0.13	0.00	0.84	1.04

Effect of training courses on employment

EXIT RATE FROM UNEMPLOYMENT TO EMPLOYMENT
Probability of being hired with and without training



Research question n.1.

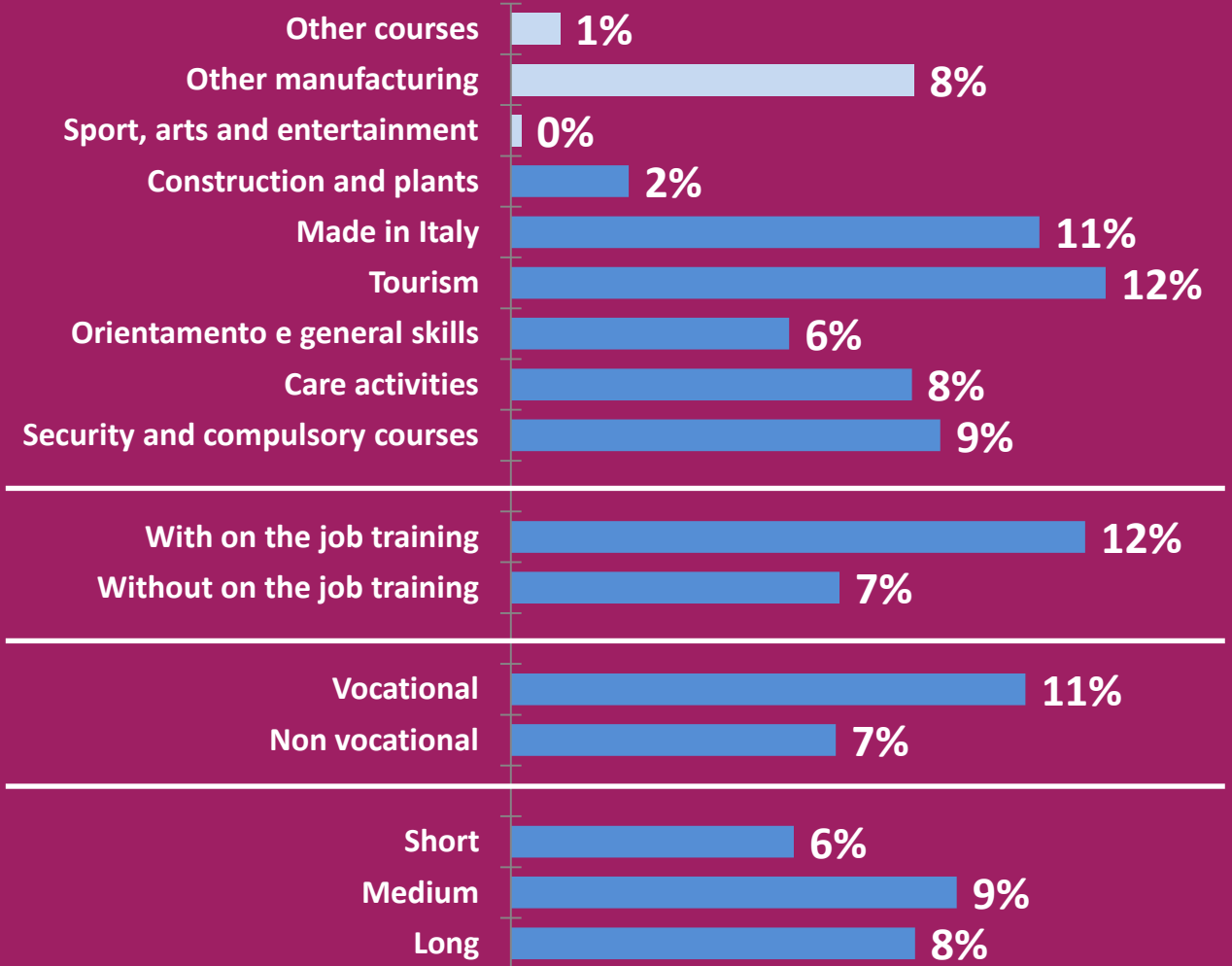
Has training improved the re-employment prospects of the unemployed?

Note: all estimates are statistically significant at 1%

Heterogeneity of effect by type of course

AVERAGE TREATMENT EFFECT ON THE TREATED (ATT)

Probability of exiting from unemployment to employment within 18 months



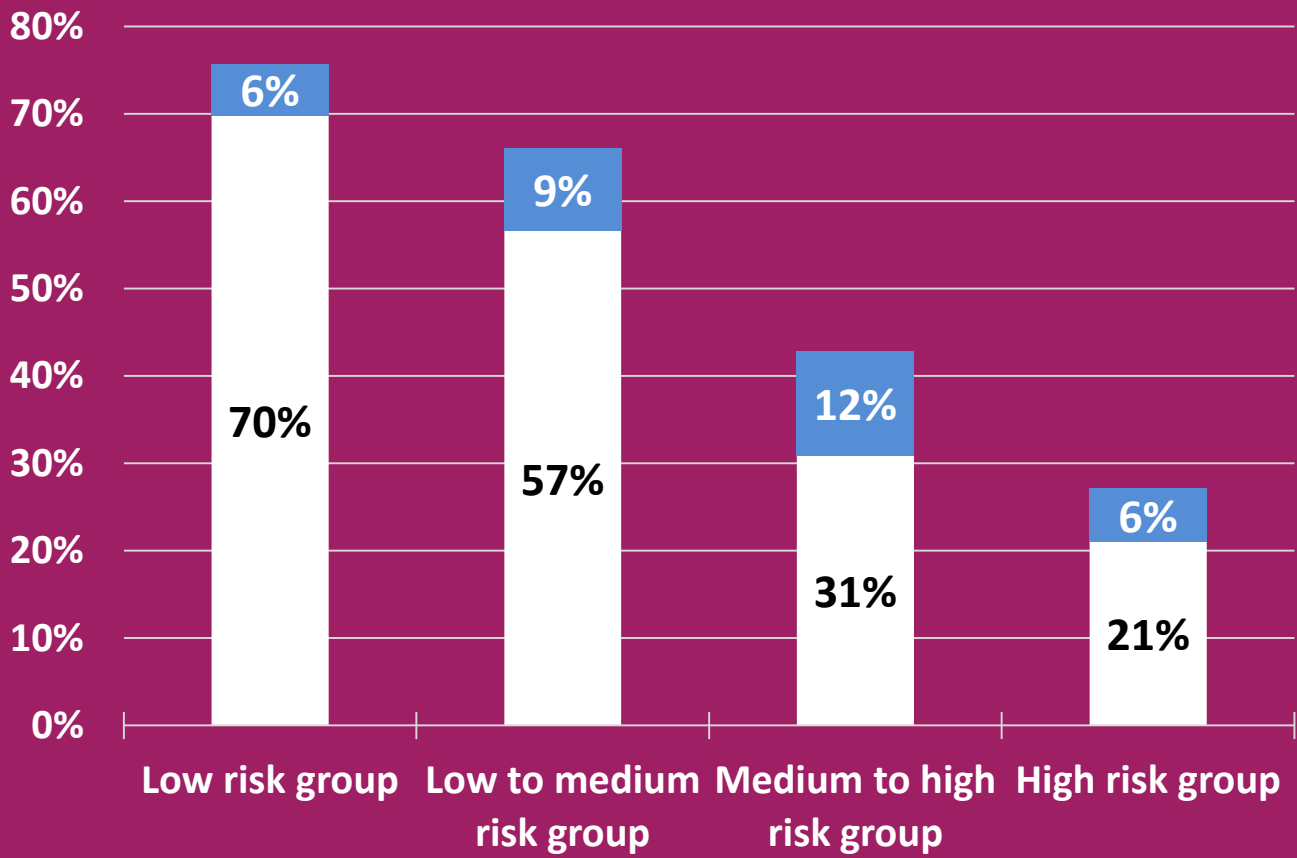
Research question n. 2.

Which type of training work best and which ones do not work at all?

no statistically significant effect statistically significant effect

Heterogeneity of effect by type of unemployed

PROBABILITY OF EXITING FROM UNEMPLOYMENT TO EMPLOYMENT WITHIN 18 MONTHS
Probability of being hired with and without training



Research question n. 3.

Which kind of unemployed benefit the most from training courses?

■ Counterfactual ■ Average Treatment effect on the Treated (ATT)

Heterogeneity of effect by type of unemployed and course

AVERAGE TREATMENT EFFECT ON THE TREATED (ATT)

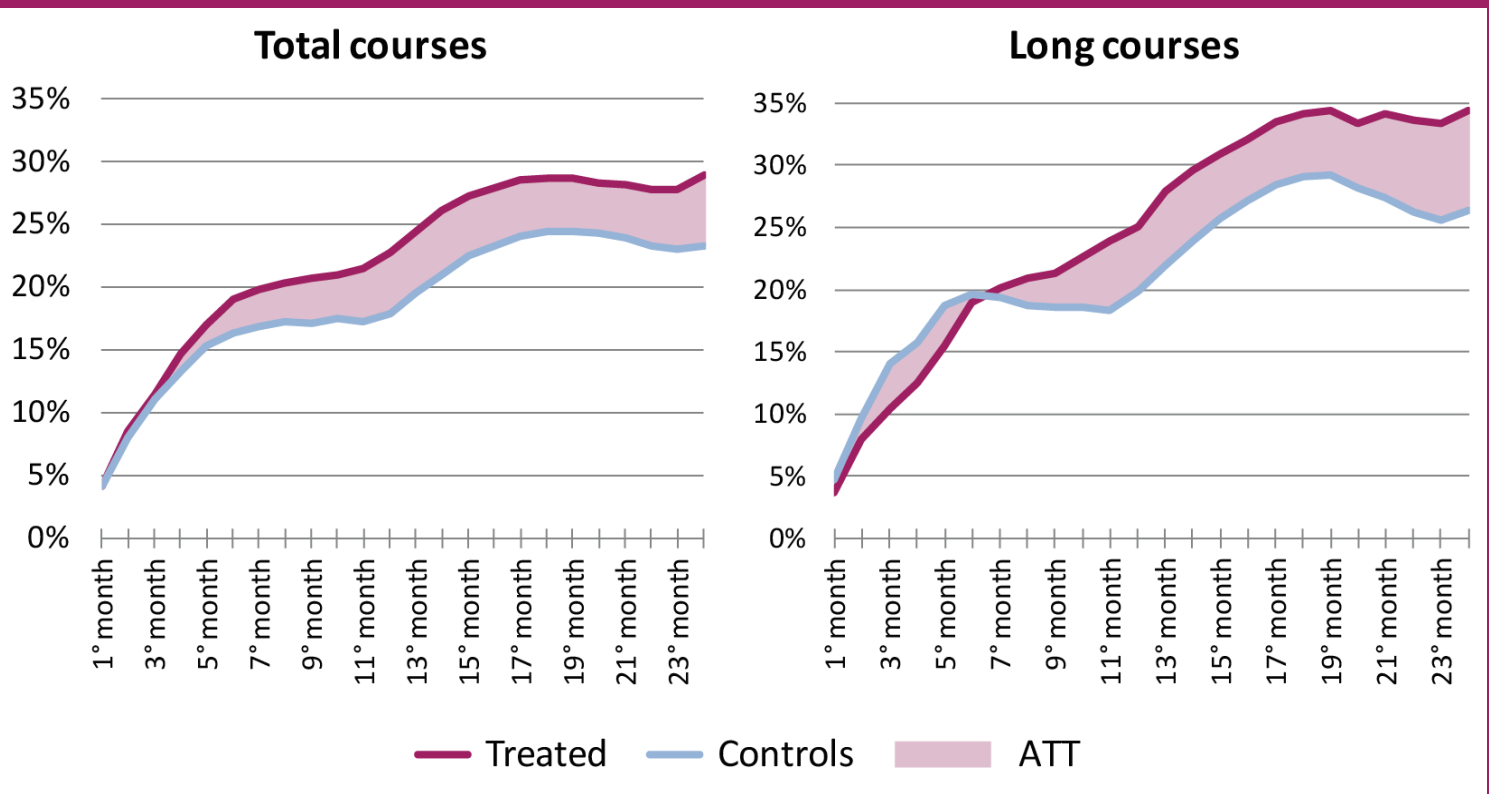
Probability of exiting from unemployment to employment within 18 months

	Length of course			Content of course		Job training included	
	Short	Medium	Long	Vocational	Non vocational	Yes	No
Low risk group	7.6%	5.6%	5.2%	6.8%	4.9%	4.3%	6.7%
Low to medium risk group	7.4%	10.0%	11.1%	8.4%	9.6%	8.7%	9.9%
Medium to high risk group	6.1%	14.5%	11.7%	14.8%	8.8%	15.3%	10.8%
High risk group	0.7%	9.4%	9.7%	10.0%	2.9%	14.4%	4.1%

Note: Estimates in bold are statistically significant at 5%

Persistence of the effect of training over time

Monthly probability of being employed



Research question n. 4.

Is the effect of Training persistent over time?

Conclusions

- Training improves re-employment prospects of the unemployed.
- This positive effect varies between type of courses and type of unemployed.
- The matching between unemployed and type of courses is essential to improve the overall effectiveness of the training system.
- Our analysis provides the policy maker some findings useful to better target training courses.

Future research developments

- To collect reliable data (e.g. cost of training activities, employment income) to carry on a cost-benefit analysis.
- To collect data on self-employment outcomes to increase the robustness of results.
- To extend the analysis to first time jobseekers.
- To compare the effect of training with that of other active labour market policies (job search assistance and monitoring, public sector work programs, internship, apprenticeship, employment incentives etc.).