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## EVALUATING THE YOUTH GUARANTEE INCENTIVE: EVIDENCE FROM EMPLOYER-EMPLOYEE DATA

62° RSA online - *Economia e sfide globali. Salute, cambiamenti climatici,  
tecnologie digitali*

29 ottobre 2021

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Il presente contributo è stato realizzato da INAPP in qualità di Organismo Intermedio del PON SPAO con il contributo del FSE 2020-2023 - Azione 8.5.6.3

## MOTIVATIONS AND AIM OF THE PAPER

- Young people are generally an at-risk population: they face a **high risk of unemployment**, they are **more likely to switch between states of joblessness** or to enter **precarious types of employment**, and they face **skills' mismatches** and **low levels of wages**.
  - Youth has been one of the groups most affected by the recession of 2008–09 inducing most of OECD countries to adopt many different policy interventions.
  - The coronavirus pandemic has emphasised this difficult situation: unemployment rose especially among youth!
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- This paper proposes a **counterfactual evaluation** of the hiring incentives relating to the Youth Guarantee programme established in Italy for the year 2017 using an **innovative dataset**

## PRIVATE SECTOR INCENTIVES FOR EMPLOYERS

- Demand-side measures that include making available to employers wage subsidies or reductions in social security contributions for employers
- Hiring incentives can also be measures that point at favouring the conversion of temporary contracts into open-ended ones (see, Bovini and Viviano 2018, Sestito and Viviano 2018).

### AIMS:

- To reduce part of the wage costs and thus encouraging employers to hire new workers.
- To reintegrate long-term unemployed into the labour market
- To stimulate the labor demand in particular areas and sectors characterized by high unemployment
- To support people at risk of labour-market exclusion such as women, older workers or the young.

- Immervoll and Scarpetta (2012): a well-designed policy strategy can contribute to better labor market outcomes minimizing the possible interferences on work incentives for beneficiaries.
- Kluge et al. (2019): only slightly more than one on three evaluations found positive effect for youth programs
- Rinne et al. (2011): vocational courses have positive impact on younger employment; Hardoy et al. (2018): training programs and employment incentives generally positively affect young people employment outcomes than internships

### FOR ITALY

- Duranti et al. (2018), Pastore and Pompili (2019): positive and statistically significant effect of training courses on young people employment prospects.
- Isfol (2016): a positive impact on the employment prospects of young people participating in YG programme
- Anpal (2019): more stable contracts for young people participating in Youth Guarantee measures, especially internship.

- Few papers examine the effectiveness of active policies targeted to young people from the demand side:
- Alfonsi et al. (2020) compare the impact of vocational training for workers to the impact of wage subsidies to train workers on the employment



- They confirm the positive effect measured on the employment rate of treated workers also looking at the firm-side. The result is explained by a better match of these workers to more productive firms
- Sianesi (2008): the incentives for private sector firms have generally positive effects on employment of disadvantaged people
- Ciani and De Blasio (2015): only very few firms took advantage of the incentives

- The programme is **targeted and selective**
- **Target population:** all firms operating in the private sector hiring young people (under-30) enrolled in the Youth Guarantee Programme
- A job-specific application submitted by firms to the National Social Security Institution (INPS) is requested.
- The program is **selective** because: each incentive must be approved by INPS
- The incentive is due for **all hires made from 1 January 2017 to 31 December 2017** with: permanent contract; apprenticeship contract with a duration of 12 months or more; fixed-term contract equals to or greater than six months
- It is paid as a **contribution break** (*sgravio contributivo*) by adjusting the social security contributions paid by the employer within the maximum limit of € 8.060 (€ 4.030 if the worker is hired under a fixed-term contract) to be used over 12 months starting from the hiring date
- The incentive **cannot be cumulated** with other incentives

The baseline model:

$$\text{HShare}_{i,t} = \alpha + \beta_1 \cdot \text{YG}_{i,t} + \beta_2 \cdot t + \beta_3 \cdot \text{YG}_{i,t} \cdot t + \gamma \cdot \text{M}_{i,t} + \delta \cdot \text{W}_{i,t} + \lambda \cdot \text{F}_{i,t} + \mu_i + \varepsilon_{it}$$

$t = [2010, 2015, 2018]$

- $\text{HShare}_{i,t}$  is the share of newly hired with less than 30 years old over the total employment
- $\text{YG}_{i,t}$ , is a dummy equal to 1 whether the  $i$  firm hired by using the incentive YG in the sample year 2017, 0 otherwise
- $\text{M}_{i,t}$  is the vector including managerial and corporate governance characteristics;
- $\text{W}_{i,t}$ , represents the workforce characteristics
- $\text{F}_{i,t}$  formalizes a rich set of firms' productive characteristics, geographical location and sectorial specialization

- **First step:** cross sectional specification of equation (1) by imposing:  $t=2018$ ,  $\mu_i=0$ ,  $\beta_2=\beta_3=0$
- Standard Ols estimates of  $\beta_1$  may be biased because of: confounding factors related to firms time invariant unobserved heterogeneity and/or endogeneity issues
- **Second step:** exploit a unique information reported in RIL questionnaire for 2018 that allows to build the counterfactual scenario: we can compare the observed results to those you would expect if the intervention/policy had not been implemented

***In assenza di questi incentivi l'impresa avrebbe?***

- 1. effettuato comunque le assunzioni, per lo stesso ammontare*
- 2. effettuato comunque le assunzioni, per un ammontare minore*
- 3. non avrebbe effettuato le assunzioni.*

- Replacing **YG** with the counterfactual variable, we estimate the following model:

$$HShare_{i,t} = \alpha + \beta_1 \cdot \mathbf{Count}_i + \gamma \cdot M_{i,t} + \delta \cdot W_{i,t} + \lambda \cdot F_{i,t} + \varepsilon_{it}$$

- **Count<sub>i</sub>** is equal to **1** if the firm claims that it used the incentive to hire and that, in the absence of it, it either would not have hired or would have done so but for a lower amount

Two kinds of “control” group (Leuven and Oosterbeek 2008):

- **Control group I (Count<sub>i</sub> equals to 0)** composed by the firms have not hired, by firms have hired but without using the incentive, or by firms whose behavior was not affected by the incentive (answering (1) to the survey question)
- **Control group II (Count<sub>i</sub> equals to 0)** composed by the firms have hired but without using the incentive and by firms whose behaviour was not affected by the presence of incentive programme

- **Third step:** additional estimation to control for possible biased due to **time invariant unobserved heterogeneity:**

*Difference-in-Difference* with firms FE

$$\text{HShare}_{i,t} = \alpha + \beta_1 \cdot \text{YG}_i + \beta_2 \cdot t + \beta_3 \cdot \text{YG}_{i,t} \cdot t + \gamma \cdot M_{i,t} + \delta \cdot W_{i,t} + \lambda \cdot F_{i,t} + \mu_i + \varepsilon_{it}$$

$t = [2010, 2015, 2018]$

- **Treated group** is now composed by firms declaring to have used the YG incentive in 2017 (YG=1)
- **Control group** is now composed by all firms that did not use the YG incentive to hire in 2017 (YG=0)

- **Comunicazioni Obbligatorie (COB):** an administrative dataset provided by the Ministry of Labor and Social Policies. It tracks all events related to a job position (hiring, contractual transformation – e.g. from a fixed-term to an open-ended arrangement - firing, dismissal). For each job relationship experienced by the individuals from 2009, it records the date of activation and termination of the relationship. These two last information allowing to compute the total number of workers hired for each firm and year, distinguishing for age
- **ASIA Archive (Firms):** the Statistical Register of Active Firms provided by ISTAT. It covers the universe of Italian firms and records in detail the productive sector and the geographical location of each firm, as well as, their size and legal form
- **Rilevazione Imprese e Lavoro (RIL):** a survey conducted periodically by the National Institute for Public Policies Analysis (INAPP). It records in detail numerous firms' characteristics (e.g. the **use of the incentive**, costs of training, ownership structure, type of industrial relations, organization and management of personnel)

- The matching key: **tax codes of firms**  **employer-employee dataset** in which firm is the unit of analysis
- We start from RIL 2010, 2015 and 2018 waves. RIL has been used to select a representative sample of firms to which we add information from COB and *ASIA-Imprese* archives
- **Outcomes:** The share of newly hired workers with less than 30 years old (**COB**) over the total employment (**ASIA**)
- **Treated variable:** Dummy YG and the Counterfactual variable (**RIL**)
- **Control variables:** i) management and corporate governance of companies, ii) workforce characteristics, and iii) other firm characteristics (size, product and process innovation, exports) (**RIL**)
- **Selection on sample:** firms with at least 1 employee, with no missing values for variables used in the analysis and firms that in 2015 did not have used hiring incentives  16,000 observations (cross-section); 7,000 (panel)

	Whole sample*	YG=1	YG=0	Treated group=1	Control group I=0	Control group II=0
Share of hired <30	0.084	0.081	0.084	0.096	0.082	0.074
Share of separated <30	0.068	0.053	0.070	0.066	0.070	0.050
Hire Incentives	0.210					
Youth Guarantee	0.073					

## MAIN RESULTS: THE SHARE OF NEWLY HIRED UNDER 30

	[1]	[2]	[3]
YG	<b>0.014***</b>		
	[0.004]		
Counterfactual I		<b>0.016**</b>	
		[0.006]	
Counterfactual II			<b>0.011*</b>
			[0.007]
ln (n of employees)	-0.021***	-0.021***	-0.020***
	[0.001]	[0.002]	[0.004]
Managment characteristics	Yes	Yes	Yes
Workforce characteristics	Yes	Yes	Yes
Firm's characteristics	Yes	Yes	Yes
Constant	0.056	0.057	0.088
	[0.038]	[0.039]	[0.063]
N of Obs	16066	14140	1446
R2	0.247	0.245	0.242

## MAIN RESULTS: THE SHARE OF NEWLY HIRED UNDER 30



	Centre-North			South		
	[1]	[2]	[3]	[4]	[5]	[6]
YG	<b>0.014***</b>			0.006		
	[0.004]			[0.013]		
Counterfactual I		<b>0.017***</b>			0.016	
		[0.006]			[0.013]	
Counterfactual II			<b>0.009*</b>			0.013
			[0.007]			[0.025]
ln (n of employees)	-0.020***	-0.021***	-0.019***	-0.026***	-0.024***	-0.020*
	[0.002]	[0.002]	[0.004]	[0.003]	[0.004]	[0.011]
Managment charact	Yes	Yes	Yes	Yes	Yes	Yes
Workforce charact	Yes	Yes	Yes	Yes	Yes	Yes
Firm's charact	Yes	Yes	Yes	Yes	Yes	Yes
Constant	0.070**	0.077**	0.052	0.026	0.000	0.344**
	[0.032]	[0.031]	[0.060]	[0.039]	[0.043]	[0.167]
N of Obs	11945	10595	1113	4121	3545	333
R2	0.252	0.248	0.254	0.248	0.251	0.279

## MAIN RESULTS: DIFF-IN-DIFF WITH FE

	Whole sample	Centre-North regions	Southern regions
<b>YG*2018</b>	<b>0.016*</b>	<b>0.018**</b>	<b>-0.032</b>
	[0.009]	[0.008]	[0.082]
<b>YG*2015</b>	0.008	0.013	-0.092
	[0.010]	[0.010]	[0.067]
<b>Year 2018</b>	<b>-0.017**</b>	<b>-0.018***</b>	<b>-0.013</b>
	[0.007]	[0.007]	[0.018]
<b>Year 2015</b>	<b>-0.022***</b>	<b>-0.022***</b>	<b>-0.035**</b>
	[0.005]	[0.005]	[0.017]
<b>Managment characteristics</b>	Yes	Yes	Yes
<b>Workforce characteristics</b>	Yes	Yes	Yes
<b>Firm's characteristics</b>	Yes	Yes	Yes
<b>Constant</b>	<b>0.142***</b>	<b>0.156***</b>	<b>0.543***</b>
	[0.049]	[0.054]	[0.132]
<b>N of Obs</b>	6091	4977	1114
<b>R2</b>	0.079	0.059	0.213

## MAIN RESULTS: THE SHARE OF SEPARATIONS UNDER 30



	[1]	[2]	[3]	[4]
YG programme	<b>0.003</b>			
	[0.003]			
Counterfactual I		<b>0.006</b>		
		[0.007]		
Counterfactual II			<b>0.005</b>	
			[0.007]	
YG* year 2018				<b>0.011</b>
				[0.007]
YG* year 2015				0.009
				[0.011]
ln(n of employee)	-0.026***	-0.027***	-0.012***	-0.026*
	[0.002]	[0.002]	[0.004]	[0.014]
other controls	Yes	Yes	Yes	Yes
constant	0.128**	0.136**	0.093	0.229***
	[0.061]	[0.063]	[0.063]	[0.072]
Obs	16290	14463	1357	6210
R2	0.218	0.213	0.235	0.033

- This paper provides the more updated evidence of the effectiveness of the YG employment incentive on firms' hiring decisions in the short run
- Thanks to an innovative dataset built by linking three different sources of data, we show that **the introduction of the YG hiring incentive programme for year 2017 causes, in the short-run, a relatively weak increase of the share of newly hired workers under-30 (about +1,6%).**
- The positive impact is more pronounced for firms located in the North and Centre of Italy
- No effect on the share of separated workers under 30 → no substitution effect
- No role seems to be played by the firms' time-invariant unobserved heterogeneity
- **However**, the analysis did not allow us to infer any result about the long run impact of hiring incentives on employment evolution and on productivity growth



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**THANKS FOR YOUR ATTENTION**

