### Iceland R Liechtenstein Norway Norway grants Can a short-term job trial programme kick-start young jobseekers' career?

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#### Youth employment partnerSHIP

**COUNTERFACTUAL EVALUATION OF THE 90-DAY JOB TRIAL PROGRAMME IN** HUNGARY

Youth employment partnerSHIP: evaluation studies in Spain, Hungary, Italy and Poland

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### **BACKGROUND AND MOTIVATION**

The Youth Guarantee is a commitment by all Member States to ensure that all young people under the age of 25 years receive

- a good quality offer of employment, or continued education, or apprenticeship, or traineeship
- within a short period (4 months) of becoming unemployed or leaving formal education
- priority: long-term unemployed, vulnerable and socially excluded groups
- Supported by EU financial sources:
  - Young Employment Initiative, European Social Fund
  - 8,8 billion EUR for 2014-2020

Hungarian context:

- Young unemployment is not especially high,
- But high NEET rate is an issue, especially for women
- NEET: Not in Education, Employment or Training



NEET rate 2004-2019, age group 15-24

### **90-DAY JOB TRIAL (90 NAPOS MUNKATAPASZTALAT-SZERZÉS)**

- One of the various programmes within Youth Guarantee of EU, introduced in 2015
- Short term wage subsidy, up to 100% of total labour costs,
- Subsidized period: 90 days, no obligation of further employment
- Under 25 years of age

#### Cheaper than longer wage subsidies, but provides:

- Gain of real work experience
- No need for longer term commitment by either party  $\rightarrow$  lower risk
- Work experience increases the value of the CV
- Helps in overcoming negative stereotypes and reducing informational asymmetries

#### **Potential risks:**

- Firms may regard this program as a short-term cheap labour  $\rightarrow$  integration is not considered
- Deadweight losses

## **QUESTION, IDENTIFICATION STRATEGY**

**Q1** Who are selected into the program from the pool of registered jobseekers?

• Principle of Youth Guarantee: priority to long-term unemployed, vulnerable and socially excluded groups

**Q2** What is the effect of participation in the job trial program on

- Work: probability of being employed 6 months after the program and cumulative days within 6 months after completing the programme
- Wages: cumulative wages within 6 months after completing the program

(Q3 What about the deadweight losses?)

#### **Identification strategy:**

1) Propensity score matching

2) Alternative identification for assessing the impact the YG as a whole:

- Difference in difference exploiting that YG has has started later, only in October 2015 in Central Hungary

## **DATA, OUTCOME VARIABLES**

**Data:** linked public employment service (PES) register to admin social security data (Admin3)

- Individual level, random 50% sample of the population
- Data on program details, employment, wages, benefits from 2003

#### **7 Outcome variables:**

- Work 6 and 12 months after completig the program
  - Employee
  - Any employment contract with wage exceeding 80% of the minimum wage
  - Cumulative number of days in work after completing the program (all days, employee)
- Wage to minimum wage, with and w/o public work

### **TREATMENT AND CONTROL GROUPS**

#### **Treated:**

- Participants of wage subsidy, with length of 90 days, started between January 2015 March 2017
- combination is allowed in YG)  $\rightarrow$  selection issues

#### **Control 1**:

Registered jobseekers, who enrolled into public work after 2015 January 1, but have not entered into YG, below 25 years

#### **Control 2:**

Registered jobseekers, enrolled into any training programme, but have not participated in any other wage subsidy programme, below 25 years



• Excluding participants who combine 90 day programme with a 8+4 month 70% wage subsidy (this

## **CONTROL VARIABLES**

- Education
- Labour market history:
  - employment, unemployment, NEET history, public work, parental transfer
- Geographical
- Healthcare expenditures

- Compared to public workers: occupation code (FEOR)
- Competence test scores (available to a subsample)

• Type of settlement, development of the district, public employment service at the county seat, share of public workers in the settlement, distance of the settlement from the public employment service



#### SELECTION INTO THE TREATMENT GROUP

• Job trial (and YG) participants are the most

Employable registered jobseekers

- More educated
- Longer employment history, shorter NEET history
- Shorter maternity history
- Lower prob. to live in small villages
- Lower prob. to search elemantery jobs
- Contradicts principle of YG:

priority should be given to most vulnerable groups

and long term unemployed





#### **MATCHING DETAILS AND BALANCE**



- Kernel based macthing, exact matching on education and gender
- Imposing common support



### **PSM MATCHING: MAIN RESULTS**

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	(1)	(2)	(3)	(4)	(5)	(6)	(7)
ATT	Employme	Employm	Cumula	Cumulati	Cumulati	Cumulati	Cumulative
	nt (above	ent	tive	ve days	ve days	ve wage,	wage, excl.
	80% of	(employe	days	worked	worked	incl.	public work
	mw)	e)	worked	earning	as	public	
				above	employe	work	
				80% of	е		
				min.			
				wage			
Control: Public	0.0408**	0.0760***	22.77***	13.99***	19.96***	-0.201*	0.667***
works participants	(0.0197)	(0.0203)	(2.435)	(2.415)	(2.421)	(0.116)	(0.117)
n_treat	3291	3291	3291	3291	3291	3291	3291
_n_used_cont	18670	18670	18670	18670	18670	18670	18670
Control: Training	-0.0165	0.00880	10.60***	7.725***	11.60***	0.243**	0.121
Participants	(0.0143)	(0.0145)	(2.052)	(2.056)	(2.074)	(0.0986)	(0.101)
n_treat	3313	3313	3313	3313	3313	3313	3313
n_used_cont	6016	6016	6016	6016	6016	6016	6016

- •
- Smaller difference compared to training programmes, only in cumulative days •
- No significant effect on cumulative wage to minimum wage, only if exlude public work wages (compared to pw)
- $\rightarrow$  job trial improves employment prospects, but does not ensure higher wages than public wor

Job trial increases probabity of being employed 6 months after the programme and cumulative days significantly compared to public works



### **HETEROGENEITY AND ROBUSTNESS**

Combination of YG with long term wage subsidy raises selection issues  $\rightarrow$  estimations only on 4 counties, where subsequent wage subsidy was not allowed as a robustness check

Impact on employment probability diminishes on 12 months horizon

covariate give similar results : control for abilities

• Estimations adding competence test scores (10. class, available for a large subset of the sample) as a

### **GENDER DIFFERENCES IN THE EFFECT OF THE JOB** TRIAL

In contrast to the bulk of the literature,

(e.g. Bergemann and Bulk, 2006, Kluve, 2017, Kluve, Card, Weber 2015, Lechner - Wiehler, 2011)

the employment effect on females is weaker than on males compared to public works



## **SELECTION OF FEMALES AND FERTILITY**

What is behind the gender differences?

- Selection of most employable unemployed 1) is even stronger in case of women
- Female paricipants are more educated, have shorter uemployment and NEET history, even without maternity leave than males
- Maternity reduces the chance of participating in YG than in public work and training even after controlling for differences in all characteristics (except history)

Main argument of the literature (women have more elastic labour supply as have more options and a greater distance to the labour market) does not hold





### **SELECTION OF FEMALES AND FERTILITY**

#### 2) Programme participation does not reduce or postpone pregnancies

- Explanation for stronger programme effect on women, e.g. in Lechner Wiehler, 2011)
- Matching: participation doesn't have an impact on the probability of being on maternity leave 12 months after the programme ullet

Propensity score matching estimates for the parental status of young women, 12 months after the beginning of treatment

	Control: Public works participants				
	Raw difference	Matched difference			
ATT	-0.03643***	-0.000673			
	(0.00584)	(0.00489)			
n_treat	1562	1361			
n_used_cont	8592	6192			



#### DEADWEIGTH LOSSES AND DISPLACEMENT

- High risk of deadweight losses
- Requirement of job trial: average workforce must increase, may not be binding during a economic boom
- Basic ide: compare firms, who hire young pepople with subsidy, with similar firms which do not hire subsidied youth
- By linking admin3 with the NAV database

Basic specification:

 $\Delta emp_{it} = emp_YGnew_{it} + X_i + Z_{i,t-1} + v_t + \varepsilon_{it}$ 

 $X_i$ : district (174), two-digit NACE, employment change in the preceding years,

 $Z_{i,t-1}$ : employment change in the preceding 2 years, average wage, revenue/employee

industry



Alternative: propensity score mathing comparing firm w/wo YG wage subsidy, with exact macthing on size category, district,

### **ESTIMATION OF DEADWEIGTH LOSSES**

	(1)	(2)	(3)	(4)	· · · · · · · · · · · · · · · · · · ·
	All firms	Firms below	Firms 26-100	Props	score matcing <sup>**</sup>
	amployees	25 employees	employees		
Independent/outcome variable	d (emp)	d(emn)	d(emn)	d(emn)	d(share under 25)
	d (enp)	u(cmp)	u(cmp)	u(emp)	
# of new hires with YG wage subs	0.449***	0.412***	0.414***		
	(0.0371)	(0.0363)	(0.0691)		
d(emp) (between t-3 and t-1)	0.0159	-0.0969***	1.395***		
	(0.0378)	(0.0249)	(0.114)		
log average wage (t-1)	0.325***	0.253***	0.909***		
	(0.0229)	(0.0203)	(0.145)		
log revenue/capital (t-1)	0.273***	0.230***	1.229***		
	(0.0129)	(0.0101)	(0.0823)		
share of staff below age 25 (t-1)	0.168***	0.205***	3.474***		
	(0.0319)	(0.0268)	(0.623)		
share of staff unskilled work (t-1)	0.0163	0.118***	0.528*		
	(0.0278)	(0.0204)	(0.304)		
Constant	-5.124***	-3.965***	-5.841**		
	(0.200)	(0.172)	(2.875)		
District dummy	YES	YES	YES		
2 digit industry dummy	YES	YES	YES		
Year dummy	YES	YES	YES		
Size category dummy	YES	YES	YES		
ATT				0.969***	0.128***
				(0.0771)	(0.036)
Observations	354,280	333,125	18,638	346,911	340,587
R-squared	0.014	0.019	0.158		

For OLS: clustered standard errors in parentheses \*\*\* p<0.01, \*\* p<0.05, \* p<0.1

## CONCLUSIONS

- public works participants significantly (ATT),
- But no significant difference compared to training participants
- However, the impact is diminishes with time
- Positive effect on cumulative wages excluding public work, but zero or negative including pw...

• Clear sign of "cream skimming": the programme does not help reach those who need the help the most

• Participation in job trial increases the probability of working 6 months after the programme compared to

Gender dimension: mothers are less likely to participate, the participant women are even more selected than

#### males and the policy effect is weaker $\rightarrow$ Policy should foster participation of young mothers

• Share of young increased at firms with subsidized young employees, but sign of deadweight losses





# Thank you for your attention!

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Youth employment partnerSHIP

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### **GENDER DIMENSION**

• Gender NEET gap in Hungary is one of the highest in Europe

Main factor behind gender gap : generous maternity leave (available until age 3 of the child) •

Main question: does YG help young mothers to return to the labour market? 

1) Motherhood and gender differences in selection into job trial 2) Gender differences in the effect of the job trial on outcomes

#### Estimating the effect of the introduction of YG on young jobseekers' re-employment

Basic idea: use the fact that the introduction of the YG was staggered by regions:

- In most of HU, starting in early 2015, in Central HU (the most developed) starting in October 2015
- Thus we can rely on this to use a diff-in-diff: 2014 vs 2015, treated regions vs Central HU

Sample selection: needs careful consideration

- Treated regions: use the two regions which were the closest in development to Central HU We estimate an ITT (all eligible youth are included)
- Only those individuals who entered the unemployment registry in January-September of each year
  - And were not unemployed in the previous 6 months
    - Initially, those who were unemployed for 6+ months were the target group of YG

Outcomes: number of days worked in months 7-12,13-18 etc. after registration ALMP participation: entry into ALMPs within 6 months of registration

In Treated regions, increased from around 15% to 21%; in Central HU, it remained around 6% 

#### Results: only temporary increase, for young men

a 7% increase), but this effect disappears (so no knock-on effect)

	(1)	(2)	(3)	(4)	(5)	(6)
	Days of work	Days of				
	months 7-12	work;	work;	work, above	work, above	work, above
		month 13-18	month 18-24	80% MW;	80% MW;	80% MW;
				month 7-12	month 13-18	month 19-24
Women	-2.992	-3.974	-1.796	2.114	0.339	-0.032
	(2.902)	(2.975)	(3.028)	(2.909)	(3.028)	(3.087)
Men	2.975	-0.054	2.456	5.690**	0.398	2.915
	(2.839)	(2.877)	(2.894)	(2.845)	(2.962)	(3.000)

• Young men work 5.7 days more (total over month 7-12 after registration) in 'decent work' (this corresponds to





### **MATCHING RESULTS BY LEVEL OF EDUCATION**

Propensity Score Matching estimates by level of education							
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
	dolg_mw_	dolg_alk_6	dolg_incl_km	cumw_to_mw	cumw_to_mw	cum_nap_incl	cum_nap_6
	6		_6	_ incl_km_6	_6	_km_6	
ATT for low	0.0631***	$0.0807^{***}$	0.00555	0.0858	$0.670^{***}$	-7.799***	$15.12^{***}$
educated							
	(0.0169)	(0.0186)	(0.0204)	(0.109)	(0.111)	(2.927)	(2.831)
n_treat	1060	1060	1060	1060	1060	1060	1060
n_used_cont	3714	3714	3714	3714	3714	3714	3714
ATT for higher	0.0152	$0.0540^{**}$	-0.0111	-0.326**	0.311*	-15.24***	$17.92^{***}$
educated							
	(0.0241)	(0.0244)	(0.0206)	(0.147)	(0.167)	(3.274)	(3.803)
n_treat	2700	2700	2700	2700	2700	2700	2700
n_used_cont	2384	2384	2384	2384	2384	2384	2384

Standard errors in parentheses

a pair-matching based algorithm following the proposition of Huber et al. (2013, 2015). \* p < 0.1, \*\* p < 0.05, \*\*\* p < 0.01

Epanechnikov kernel propensity score matching combined with exact matching on gender and level of education, with replacement. Bandwidth is calculated with

#### **MATCHING RESULTS FOR 4 COUNTIES**

Propensity Score Matching estimates in 4 counties (No. 8, 17, 18, 20)								
	(1)	(2)	(3)	(4)	(5)	(6)		
	dolg_mw	dolg_alk_	dolg_incl_km_	cumw_to_mw_	cumw_to_mw_6	cum_nap_incl_km_	cui	
	_6	6	6	incl_km 6		6		
ATT	0.0101	0.0900	0.0380	0.218	$1.034^{***}$	7.593	30	
	(0.0594)	(0.0554)	(0.0460)	(0.353)	(0.388)	(7.529)	(7)	
n_treat	407	407	407	407	407	407		
n_used_cont	1064	1064	1064	1064	1064	1064		

Standard errors in parentheses

a pair-matching based algorithm following the proposition of Huber et al. (2013, 2015). Counties in sample: Győr-Moson-Sopron, Tolna, Vas, Zala. \* p < 0.1, \*\* p < 0.05, \*\*\* p < 0.01

Epanechnikov kernel propensity score matching combined with exact matching on gender and level of education, with replacement. Bandwidth is calculated with



#### **MATCHING RESULTS: 6 vs. 12 months**

#### Treatment effects on the treated

	(1)	(2)	(3)
	dolg_mw	dolg_alk	dolg_incl_k
ATT, 12 m.	-0.00786	0.0127	0.0156
	(0.0205)	(0.0210)	(0.0210)
ATT, 6 m.	0.0140	$0.0467^{**}$	0.0136
	(0.0199)	(0.0206)	(0.0214)

Standard errors in parentheses

proposition of Huber et al. (2013, 2015). Standard errors in parentheses. \* p < 0.1, \*\* p < 0.05, \*\*\* p < 0.01

(4)(5)(6)(7)cum\_nap\_incl cumw\_to\_mw cumw\_to\_mw m cum\_nap \_km \_pr  $12.95^{*\overline{*}}$  $-12.77^*$ -0.384 0.0177 (0.282)(0.284)(6.567)(6.427)-10.29\*\*\* 12.26\*\*\* -0.233\*  $0.237^{*}$ (0.140)(0.141)(3.350)(3.236)

Table shows estimates of average treatment effect on the treated. The underlying matching algorithm is epanechnikov kernel propensity score matching combined with exact matching on gender and level of education, with replacement. Bandwidth is calculated with a pair-matching based algorithm following the

#### **MATCHING RESULTS WITH ST. TEST SCORES**

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### **DOES JOB TRIAL PROMOTE LONG TERM WORK RELATIONS?**

- Some firms misuse the subsidy:
  - worker and 8% as a public worker
- subsidy, 67% if including subsequent (8+4 month wage subsidy)
- Who stays at the same firm?
  - Best workers are enrolled into 8+4 month wage subsidy after the 90 day job trial
  - another firm

• of those who stay at the same workplace where received the subsidy, 12% work as a temporary

• Of those who employed 6 months after the programme, 45% works at the same firm where received the

Only treatment group: no difference between participants who stay at the same firms and work at

#### **COVARIATE BALANCE (CONTROL GROUP: PUBLIC WORKERS)**

#### Variable

working history, number of months

# of months in empl.

# of months in empl. in last 2 years

# of months as NEET, excl. parental leave

# of months as NEET in last 2 years, excl. parental leave

# of months with child benefit

# of months with child benefit in last 2 years

Received child related transfer ever

Has a max 3 years old child

Time since registry more than 12 months

Time since registry less than 4 months

Number of registry spells

**Education elementary** 

**Education secondary** 

Education tertiary

Number of observations

Mean			T-test	
<b>Freated</b>	Control	%bias	t	p> t
14.464	10.464	28.9	14.3	0.000
8.232	5.769	33.4	16.5	0.000
12.200	14.169	-13.3	-6.5	0.000
6.336	8.139	-26.7	-12.9	0.000
0.970	2.016	-14.1	-6.6	0.000
0.483	0.870	-10.9	-5.1	0.000
0.032	0.062	-14.1	-6.6	0.000
0.012	0.021	-7.2	-3.4	0.001
0.159	0.215	-14.4	-6.9	0.000
0.625	0.507	24.0	11.6	0.000
1.503	1.503	0.0	0.0	0.997
0.282	0.487	-43.1	-20.7	0.000
0.680	0.505	36.3	17.5	0.000
0.038	0.009	19.7	10.4	0.000
3760	26631			