

Long-Term Effects of Start-up Subsidies for the Unemployed in Germany

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*Active Labour Market Policies for the EU2020 Strategy:
Ways to Move Forward*

October 28, 2010, Antwerp

Start-up subsidies as a (not so) new ALMP instrument!

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- **Additionally:** Re-integration of individuals whose work is undervalued in paid employment (low formal skills, migration background).
- **Previous evidence** on the long-term effects of these programs is scarce/non-existent.

Programs and Research Questions

- For a certain period individuals could choose between **two programs**.
Main difference: Amount and length of the transfer payments
 - **Bridging Allowance (BA)**, unemployment benefits plus 70% (for SSL), maximum duration: six months
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 - ① **Are these programs effective in...**
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 - ...first descriptive evidence on the extent of these potential effects
- Combine recently available **administrative** data from the FEA (Entries in both programs from 2003) with **survey data** (2005, 2006, 2008).

Participants in both programs differ!

Table: Selected Descriptive Statistics

	Men		
	NP	SUS	BA
Number of observations	929	486	780
<i>Socio-demographics and qualification</i>			
Age	38.78	39.72	38.46
Upper secondary schooling	0.29	0.27	0.34
High-skilled worker	0.17	0.14	0.23
Unskilled worker	0.16	0.23	0.13
<i>(Un)Employment and earnings history</i>			
Last UE \geq 1 year	0.19	0.23	0.14
Daily unemployment transfer	24.91	21.49	29.80
Remaining benefit entitlement	5.33	4.22	6.32

Additional Variables: 7-years employment and earnings history including, months in regular employment and unemployment, transfer receipt, daily earnings, desired working time, health restrictions, family status, children, nationality, work experience, placement propositions, regional labour market indicators

60% are still self-employed after 56 months!

Table: Labor market status

	Start-up subsidy	Bridging allowance	Non-participants
<i>After 28 months</i>			
Self-employment	67.6	71.5	12.7
Unemployment	15.2	11.1	35.9
Regular employment	11.7	14.0	35.9
Others	5.6	3.4	15.5
<i>After 56 months</i>			
Self-employment	59.7	67.9	14.1
Unemployment	11.7	6.7	19.9
Regular employment	20.9	21.1	49.1
Others	7.6	4.3	16.9

Note: Results are in percent.

Income is considerably higher than in the control group!

Table: Income 56 months after start-up

	Start-up subsidy	Bridging allowance	Non-participants
Total income	1,672.0 (1,720.4) [1,276.3]	2,336.0 (1,962.9) [1,942.3]	1,581.1 (1,601.6) [1,338.0]
Working income	1,498.5 (1,780.2) [1,145.3]	2,167.4 (2,006.3) [1,815.2]	1,302.8 (1,662.5) [1,190.1]

Note: Depicted are average monthly net incomes in Euro; standard deviation and median are provided in parentheses and square brackets respectively.

20% (SUS) and 40% (BA) have employees after five years!

Table: Development of employee structure

	Start-up subsidy	Bridging allowance
Fraction with at least one employee		
After 16 months	9.8	29.8
After 28 months	14.8	32.9
After 56 months	21.0	41.9
Number of employees¹⁾		
After 16 months	2.4	3.4
After 28 months	2.6	4.1
After 56 months	2.6	4.7
Number of full-time equivalents¹⁾		
	1.3	3.4
Firms without employees so far: Hiring employees prospectively?		
Yes, for sure	7.1	7.4
Rather yes	15.9	20.7
Rather no	38.3	34.4
Certainly not	38.7	37.4

Note: Only firms with at least one employee are included. For the calculation of full-time equivalents 'part-time employees' and 'other employees' were weighted by 0.5 and 0.25 respectively.

Identification and Implementation of PS Matching

- Average Treatment Effect on the Treated:

$$\tau_{ATT} = E(\tau \mid D = 1) = E(Y^1 \mid D = 1) - E(Y^0 \mid D = 1)$$

- Selection Bias if: $E(Y^0 \mid D = 1) \neq E(Y^0 \mid D = 0)$

- Conditional Independence Assumption: $Y^0 \perp\!\!\!\perp D \mid X$

- Implementation of Propensity Score Matching:

- Estimation of propensity scores: $P(D = 1 \mid X_0) \rightarrow$ (Probit).

Variables: Socio-demographics, (Un)employment history, Regional characteristics, risk attitudes, parental self-employment, etc.

- Matching procedure: *Kernel Matching* (efficiency gain, bootstrap possible, Abadie and Imbens, *Econometrica*, 2006).

- Matching quality: very good!

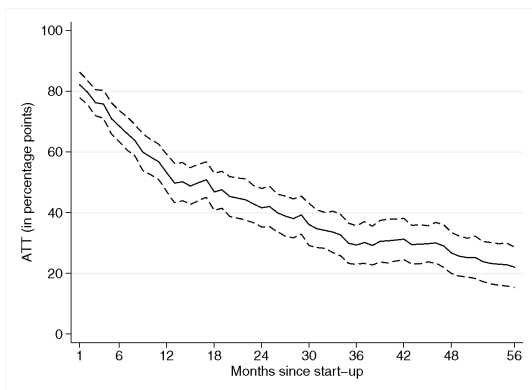
- Sensitivity analysis: Results turned out to be robust against different matching procedures, different specifications of PS estimation and unobserved heterogeneity.

Outcome Variables

- Results over time: $t + 1, \dots, t + 56$
- Cumulated Effects
- Effects on Labor Income
- Effects on Total Income

Start-up Subsidy vs. Non-Participation

Outcome variable: "Self-employment or regular employment"



Effect at month 56:

τ_{56} (in %-points) = 22.1

Total cumulated effect:

$\sum_{t=1}^{56} \tau_i$ (in months) = 23.5

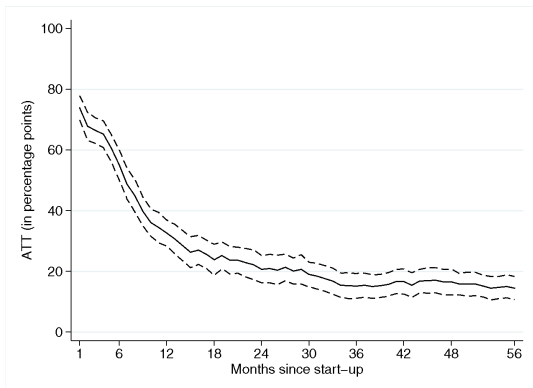
Partly cumulated effect:

$\sum_{t=37}^{56} \tau_i$ (in months) = 5.5

Note: Matching estimates are based on *kernel matching*. *Bootstrapped* standard errors with 200 replications; 5% confidence interval is depicted by dashed lines.

Bridging Allowance vs. Non-Participation

Outcome variable: "Self-employment or regular employment"



Effect at month 56:

τ_{56} (in %-points) = 14.5

Total cumulated effect:

$\sum_{t=1}^{56} \tau_t$ (in months) = 14.6

Partly cumulated effect:

$\sum_{t=7}^{56} \tau_t$ (in months) = 10.8

Note: Matching estimates are based on *kernel matching*. *Bootstrapped* standard errors with 200 replications; 5% confidence interval is depicted by dashed lines.

Income effects

Table: Income effects 56 months after start-up

	SUS vs. NP	BA vs. NP
Working income	435 (135)	618 (110)
Total income	270 (121)	485 (110)

Note: *Bootstrapped* standard errors with 200 replications are in parentheses.

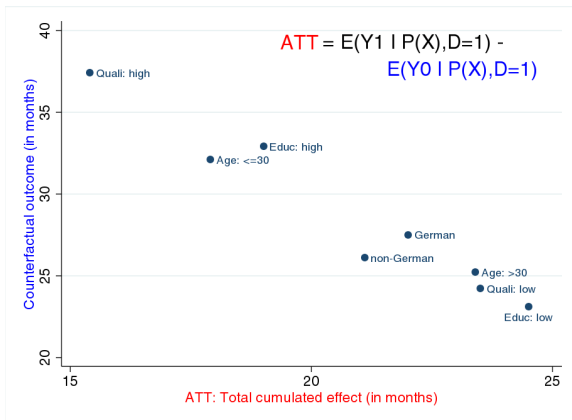
Effect heterogeneity 1

We split the estimation sample with respect to:

- Educational attainment
 - High: Completed upper secondary school
 - Low: No degree, lower or middle secondary school
- Professional qualification
 - High: Tertiary or technical college education
 - Low: Skilled or unskilled workers
- Age
 - 30 years and younger
 - Above the age of 30
- Nationality
 - German citizen
 - Non-German citizenship

Effect heterogeneity 2: Start-up Subsidy vs. NP

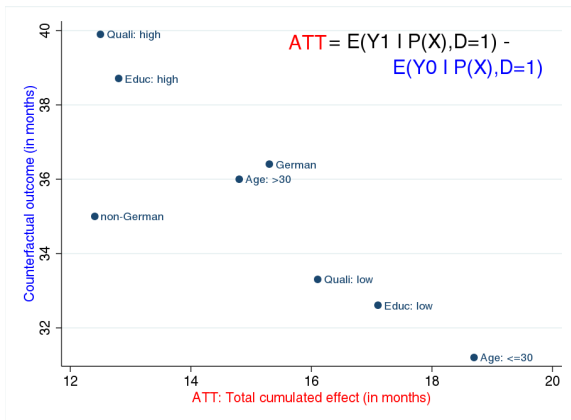
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Note: Depicted on the horizontal axis are the cumulated average treatment effects on the treated for the outcome variable "self-employment or regular employment". On the vertical axis we provide the average months spent in "self-employment or regular employment" within the observation period of 56 months for the matched non-participants.

Effect heterogeneity 3: Bridging Allowance vs. NP

Outcome variable: "Self-employment or regular employment"



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Conclusion 1: Labour market integration and double dividend!

Labour Market Integration

- Both programs attract very different individuals and the created businesses are very different, too. (see IZA-DP 3220, *SBE* 2009)
- The start-up subsidy attracted a ‘new clientele’
- High survival rates in self-employment for participants (60% of SUS; 68% of BA) after nearly 5 years since start-up.
- Moreover, high and persistent labor market integration of participants (80% of SUS; 89% of BA).

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Additional Job Creation

- Both programs have generated additional jobs (SUS (BA) 21% (42%) of the businesses have on average 1.5 (3.4) employees (FTE) after 56 months since start-up).
- For each 100,000 subsidies 142,000 (BA) and 27,300 (SUS) additional jobs were created.

Conclusion 2: Substantial causal effects in the long-run!

Causal Employment and Income Effects

- Both programs are successful in terms of avoiding unemployment and increasing labor market attachment. (see IZA-DP 4790)
- Participants also have a higher personal income (not always significant).
- Positive employment and income effects compared to non-participants in the long-run.

Conclusion 3: (Partly) higher effects for disadvantaged groups

– Education:

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- Others:
 - Slightly higher effects for natives. Mixed results with respect to age.

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- Comparison with **other start-ups** (not from unemployment)...
- What about **extending** the programs?
- **Macroeconomic** effects? Deadweight losses? **Displacement effects?**
- **New research project** will allow additional answers:
 - Since August 2006 we have a new program ('Gründungszuschuss')
 - Somewhat a combination of SUS and BA.