

The Long-Term Effects of Start-Up Subsidies and the Role of Personality Traits



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1 Motivation

- Start-up subsidies important tool of Active Labor Market Policy (ALMP):
 - Primary goal: encouraging unemployed individuals to start a business.
 - Focus: Self-employment.
- Previous evidence** (Caliendo/Künn, 2011):
 - Bridging allowance and former start-up subsidy show significant and substantial positive long-term effects on being employed and on income for West-German men.
- Our focus:**
 - New start-up subsidy (*Gründungszuschuss*) which replaced those two programs (§§ 57, 58 SCB III, in effect from 08/2006-11/2011).
 - Innovative sensitivity and effect heterogeneity analysis with respect to personality traits.

2 Start-Up Subsidy

- Entrance requirements:**
 - Unemployed and eligible for unemployment benefit I (ALG I) for at least another 90 days at time of business foundation.
 - Proof of sustainability (*Tragfähigkeitsbescheinigung*) of business intention issued by external institution.
- Payment:**
 - 9 months (legal entitlement): SUS equal to UB I plus lump sum of 300€ to cover social security costs.
 - 6 months (discretionary benefit): lump sum of 300€ to cover social security costs.

	2006	2007	2008	2009	2010	2011
Entries (in 1,000)	34	126	119	137	147	134

3 Data and Strategy

- Treatment group** (SUS, n=583): Random sample of unemployed entering SUS in 1st quarter of 2009.
- Control group** (N-SUS, n=698): Random sample of unemployed eligible but not entering SUS in 1st quarter of 2009.
- Data sources:**
 - Administrative records from Federal Employment Agency.
 - Survey data from CATI interviews conducted in 4th quarter of 2012.
- Estimation strategy:**
 - Propensity Score Matching: 70 covariates in probit estimation, kernel matching.
 - Innovative sensitivity analysis with respect to inclusion of 8 personality traits.

4 Empirical Results

Descriptive Statistics

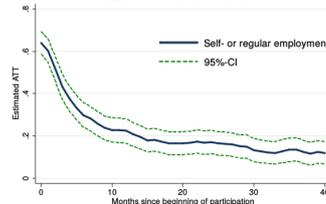
Sample averages	SUS	N-SUS
Selected covariates:		
Age (years)	41.07	40.86
Male	0.63	0.62
Upper second. school certificate	0.54	0.56
SE before entering UE	0.15	0.03 ***
Unemployment benefit (€/month)	984.33	976.26
Remain. UB entitlement. (months)	7.36	6.95
Main outcomes 40 months after start:		
Self- or regular employment	0.93	0.76 ***
Monthly net working income (€)	2,343	1,439 ***

Average Treatment Effects on the Treated

Outcome after 40 months	Raw Gap	ATT
Self- or regular employment	0.168 ***	0.124 ***
Cumulated effect (months)	12.03 ***	9.20 ***
Monthly net working income (€)	904 ***	807 ***

Note: Epanochikov kernel propensity score probit matching with optimal bandwidth and bootstrapped p-values with 301 replications. *****/*** denote statistical significance at 1/5/10 % level.

Effect over Time



Note: *****/*** denote statistical significant difference in means at 1/5/10 % level.

5a The Role of Personality

- Concern:**
 - Entrepreneurs are different with respect to personality traits like big five, locus of control, risk preferences.
 - Remaining positive sample selection? Overestimation of the treatment effects?
- Strategy:**
 - Reestimating effects with additional inclusion of 8 personality variables from survey.
 - Key assumption: Stability of personality.
 - Robustness check: Sample restriction to age 30-60 where assumption is most plausible.
- Effect heterogeneity:**
 - Is there effect heterogeneity with respect to these personality traits?

5b Sensitivity Analysis and Effect Heterogeneity

Descriptive Statistics

Sample averages	SUS	N-SUS
Big five:		
Conscientiousness	6.04	6.00
Extraversion	5.79	5.59 ***
Agreeableness	6.09	6.08
Neuroticism	3.99	4.22 ***
Openness	5.06	4.81 ***
Locus of control		
	5.45	5.15 ***
Readiness to take risks		
	6.15	5.92 **

Note: Big five and locus of control measured on a Likert scale from 1 to 7; readiness to take risks measured on a scale from 0 to 10. *****/*** denote statistical significant difference in means at 1/5/10 % level.

Sensitivity Analysis

Outcome: Self- or regular employm. after 40 months	Baseline	Extended	Diff.
Full Sample	0.124 ***	0.107 ***	0.017
Subsample: age 30-60	0.111 ***	0.101 ***	0.010

Note: Epanochikov kernel propensity score probit matching with optimal bandwidth. P-values of effects and standard errors of differences based on bootstrapping with 301 replications. *****/*** denote statistical significance at 1/5/10 % level.

Effect Heterogeneity

Outcome: Self- or regular employment after 40 months			
Locus of control	High	Medium	Low
Baseline	0.099 ***	0.196 ***	0.143 ***
Extended	0.076 **	0.188 ***	0.108 ***
Readiness to take risks			
Baseline	0.166 **	0.096 **	0.122 ***
Extended	0.108 **	0.113 **	0.091 **
Conscientiousness			
Baseline	0.191 ***	0.087 **	0.141 ***
Extended	0.166 ***	0.066	0.137 ***
Openness			
Baseline	0.104 **	0.134 ***	0.147 **
Extended	0.109 *	0.118 ***	0.069

6 Findings

- Start-up subsidy shows positive and substantial effects in the long term.
- Openness to new experiences and locus of control significant in propensity score estimation.
- Personality traits are relevant in the process of selection into the start-up subsidy.
- Estimated treatment effects decrease only slightly and insignificantly after inclusion of personality traits.
- Remaining bias without controlling for personality (usual case with administrative data) only small.
- Broader perspective: Personality most relevant for selection into start-up subsidy, role of personality for other programs probably even less pronounced.
- Effect heterogeneity.

Key References:

- Caliendo, M., F. Fossen, and A. Kritikos (2011): *Personality Characteristics and the Decision to Become and Stay Self-Employed*, IZA Discussion Papers 5566, Institute for the Study of Labor (IZA), Bonn. [forthcoming in: *Small Business Economics*]
- Caliendo, M., S. Künn (2011): *Start-Up Subsidies for the Unemployed: Long-Term Evidence and Effect Heterogeneity*, *Journal of Public Economics*, 95(3-4), 311– 331.