

The returns to voucher-financed training on wages, employment and job tasks

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Motivation

- Many European countries provide training vouchers to subsidize employees' training costs.
- For training in general, the large literature on the wage returns finds mixed results, varying between zero returns to training and large positive effects.
- The impact of training on non-pecuniary returns is small(er): Employment was less often investigated. And there is no paper analyzing how training influences what people do at work, i.e. whether training affects individuals' job tasks.
- For voucher-finance training, only a few studies analyze training returns.

Research Question:

- Does training co-financed by a German voucher program affect wages, employment and job tasks?

The Voucher Program and Data

- Since 2008, the German training voucher program *Bildungsprämie* reduces training costs by 50% up to 500 Euro. 2/3 of the employees from the lower part of the wage distribution were eligible for the voucher (~25 million employees with low and medium income).

Data:

- The survey was conducted with voucher recipients who received a training voucher in 2010. Individuals were interviewed by telephone for the first time shortly after they had received the voucher. The second interview took place 12 months after the first interview.
- For both panel waves, information on 1,102 individuals is available.

Identification Strategy

- The returns to training are estimated by comparing the change of the outcomes across time of a treatment group (i.e. participants in voucher-financed training) with the corresponding change of a control group.
- The control group consists of non-participants who intended to participate in training and who received a training voucher, but had to cancel their plans due to a random event (e.g. cancellation of the course or change of time/location by the training provider, illness or a family-related reason).
- Socio-demographics and job characteristics are balanced between the groups: Out of 17 variables, only age, married and part-time contract differ slightly. Pre-treatment outcomes do not differ significantly (Table 1).

Table 1: Comparison of average outcomes in the pre-treatment period

	Treatment	Control	Difference	t-stat
Training, wages and employment				
Number of trainings in previous 2 years	2.596	2.947	-0.352	-0.89
Observations	933	161		
Gross monthly income	1,396.049	1,385.311	10.737	0.12
Observations	814	147		
Employed (y/n)	0.935	0.922	0.013	0.56
Observations	938	164		
Months employed in previous 2 years	20.234	20.346	-0.113	-0.19
Observations	927	163		
Months unemployed in previous 2 years	0.972	1.000	-0.028	-0.11
Observations	930	164		
Job tasks of employees				
Task index routine manual	0.074	0.095	-0.021	-1.00
Task index nonroutine manual	0.405	0.378	0.027	1.16
Task index routine cognitive	0.249	0.296	-0.047	-1.11
Task index nonroutine analytic	0.393	0.419	-0.026	-0.93
Task index nonroutine interactive	0.487	0.484	0.003	0.15
Observations	839	144		

Notes: All variables are measured in the first interview wave in 2010. Significance levels: * p < 0.10, ** p < 0.05, *** p < 0.01.

Results and Conclusion

Table 2: Estimated effects of voucher-financed training

	Coefficient (Std. Err.)	Observations
Training, wages and employment		
Number of training courses	1.0370 *** (0.2038)	2,186
Gross monthly income	-17.2099 (75.8419)	1,762
Employed (y/n)	-0.0141 (0.0288)	2,204
Unemployed (y/n)	-0.0018 (0.0202)	2,202
Job tasks of employees		
Routine manual tasks	-0.0057 (0.0173)	1,828
Nonroutine manual tasks	0.0009 (0.0206)	1,828
Routine cognitive tasks	0.0277 (0.0486)	1,828
Nonroutine analytic tasks	0.0565 ** (0.0287)	1,828
Nonroutine interactive tasks	0.0061 (0.0228)	1,828

Notes: All regressions control for marital status and children, and apply individual fixed effects. The regressions of job tasks also control for employment variables. Standard errors (shown in parentheses) are clustered at the individual level. Significance levels: ** p < 0.05, *** p < 0.01.

Conclusion

- Training has no impact on wages and employment, but increases the likelihood to be engaged in nonroutine analytic tasks (see Table 2).

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