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## **Causal Returns to Education: A Survey on Empirical Evidence for Germany**

**By Anton L. Flossmann and Winfried Pohlmeier, Konstanz\***

JEL C21, J24, J31

Returns to education, potential outcome approach, instrumental variables, unconfoundedness, control function approach.

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### **Summary**

This paper surveys the empirical evidence on causal effects of education on earnings for Germany and compares alternative studies in the light of their underlying identifying assumptions. We work out the different assumptions taken by various studies, which lead to rather different interpretations of the estimated causal effect. In particular, we are interested in the question to what extend causal return estimates are informative regarding educational policy advice.

Despite the substantial methodological differences, we have to conclude that the empirical findings for Germany are quite robust and do not deviate substantially from each other. This also holds for the few studies which rely on ignorability conditions, regardless of whether they use educational attainment as a continuous treatment variable or as a discrete treatment indicator. Own estimates based on the matching approach indicate that the selection into upper secondary schooling is suboptimal.

## **Heterogeneous Returns to Training**

### **An Analysis with German Data Using Local Instrumental Variables**

**By Anja Kuckulenz and Michael Maier, Mannheim\***

JEL J31, C14, C21

Continuing training, treatment effects, semiparametric estimation, local instrumental variables.

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#### **Summary**

Empirical work on the wage impact of training has noted that unobserved heterogeneity of training participants should play a role. The expected return to training, which partly depends on unobservable characteristics, is likely to be a crucial criterion in the decision to take part in training or not. We try to account for this fact by using recent advances in estimating returns to schooling, which allow for selection on unobservables, and apply it to estimating the impact of training on earnings. Allowing heterogeneity to be unobserved by the econometrician, but assuming that individuals may act upon this heterogeneity, completely changes the interpretation and properties of commonly used estimators. Our results based on local instrumental variables suggest that traditional estimates of the wage impact of training overestimate this effect.

## **Employment Protection: Its Effects on Different Skill Groups and on the Incentive to become Skilled**

**By Nikolai Stähler, Mainz**

JEL J24, J41, J42, J64, J68

Education, employment protection, unemployment, search and matching models.

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### **Summary**

Employment protection affects labour market outcomes and hence the incentive to acquire skills. Using a matching model with two education levels in which workers decide ex-ante on their skill formation, it is shown that employment protection can raise the fraction of skilled workers. This will be the case if workers obtain a sufficiently large fraction of the rent created by skill formation. Furthermore, it will be shown that high-skilled workers face shorter unemployment duration and lower dismissal probabilities.

## **Training, Mobility, and Wages: Specific Versus General Human Capital**

**By Alfred Garloff and Anja Kuckulenz, Mannheim\***

JEL J31, J41, J62

Training, mobility, wages, search, job matching.

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### **Summary**

This paper considers training, mobility decisions and wages together to test for the specificity of human capital contained in continuing training courses. We empirically analyse the relationship between training, mobility and wages in two ways. First, we examine the correlation between training and mobility. In a second step, we consider wage effects of mobility taking training participation into account. First, we find that training participation is negatively correlated with the mobility decision and that training participation decreases the probability of individuals to change the job. Second, we find that wages are lower for job changers for the group of training participants, so wages decrease when trained individuals are mobile. Finally, training participation negatively affects the individuals's subjective valuation of the quality of their last job change. Taken together, these results suggest that there is some specific human capital, which is incorporated into training and lost when moving between jobs.

## **A Duration Analysis of the Effects of Tuition Fees for Long-Term Students in Germany**

**By Martin Heineck, Konstanz, Mathias Kifmann, Augsburg,  
and Normann Lorenz, Konstanz\***

JEL I22, I28

Tuition fees, duration analysis, length of study, dropping out.

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### **Summary**

We examine the impact of tuition fees for long-term students at the University of Konstanz. Applying duration analysis to examine how tuition fees influence when and how students finish their studies in six different majors, we find significant effects with respect to the hazard rates of the various ways of terminating one's studies. Furthermore, we analyze how the probability of terminating one's studies in a certain period of time changes. Students obtain a degree in a shorter period of time in two majors. In three other majors, however, we observe that the probability of obtaining a degree generally decreased.