

# *10th International Conference of Panel Data Users in Switzerland*

## **Workshop -**

**Workshop 5A (room 2207)**

**Longitudinal methods**

## **Title**

***Long-term returns to Professional Education: Applying a quasi experimental design on a quasi-panel***

## **Authors**

*Fabian Sander, Swiss Federal Institute for Vocational Education and Training*

*Irene Kriesi, Swiss Federal Institute for Vocational Education and Training*

## **Abstract**

In Switzerland vocational education and training (VET) diploma holders may enter a vocationally oriented track of the tertiary education system, called professional education. It teaches in-depth vocational knowledge and prepares for managerial positions. It accounts for one third of all tertiary-level students and includes Federal and Advanced Professional Education Diplomas and Professional Education colleges. Despite its high prevalence, long-term returns of this type of education are not well investigated. The main reason is a lack of data covering long time periods. However, estimates based on cross-sectional data may often be inadequate due to wage changes over time, due to economic downturns or a change in the demand for certain skill sets. Our article proposes a novel design that overcomes this problem. It aims at estimating the size of the long-term returns to professional education. Analyses are based on the Swiss Labor Force Survey from 1991-2016, which is a rotating panel covering a maximum of five consecutive years. In order to estimate the effect of professional education on yearly gross income over more than five years, we create a quasi-panel by aggregating data on a cohort level. After combining a quasi-experimental design with these data, distributed fixed effects show the long-term income development after earning a professional education degree over a period of 24 years. Compared to other studies, this approach allows the estimation of causal effects on the cohort level over long time periods. Our results show, compared to the time before professional education, a positive effect of professional education on income up to 17 percent and an average income increase over the whole time of about 11 percent. Further, we find diminishing returns after a threshold in the 15<sup>th</sup> year after graduation.