

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

## *Workshop 2B (room 2208) Education and labour market*

### **Written in destiny: background factors and career paths.**

#### **A sequence analysis approach**

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#### **Abstract**

One hundred years after the seminal work by Thomas & Znaniecki (1918-1920), life course analysis has emerged as a notable source of interest for researchers. Especially in the last half-century, most of the life course research focused on finding early determinants of life trajectories and career choices, in order to prevent job failures and long-term unemployment. Researchers stressed the importance of nuclear family as a primary source for individuals to integrate into society. Undoubtedly, kinship bonds and children's experiences continue to shape life courses throughout the individuals' life. Another strand of the literature examines the antecedents of early adult career pathways, accounting for developmental change as well as the myriad contexts within which such change occurs. In addition, as children grow up, other environmental and behavioural features can influence individual abilities and resolution in the pathway through career choice. Primary and secondary education, acquisition of skills and knowledge, relationships with peers and the context during childhood affect individual temperance and disposition. Hence, developmental-contextual conditions in adolescence and young adulthood may affect life-span career. The main concern for researchers and policy makers is to identify determinants and characteristics that are supposed to influence long-term joblessness or sporadic wage-employment and long unemployment spells. Finding the determinants of this social exclusion careers should funnel policy makers into targeted interventions that can prevent labour market failures. Thus, the aim of this research is to identify the key precursors of early adult career pathways.

Following the previous literature, several individual and family traits are taken into account in this study: background characteristics (e.g., context of the family of origin), relevant conditions affecting childhood (e.g., parental socio-economic status) and adolescence (e.g., school performance). The data are taken from a longitudinal study of Swiss individuals entitled "Transitions from Education to Employment" (TREE). TREE was launched in 2000, based upon the Swiss PISA sample. Individuals were followed for nine waves until 2014. This analysis focuses on the period related to transitions from tertiary level education to labour market or consolidation of labour market entry (2008-2014) using monthly data. Four major occupational statuses are selected: education, unemployment, wage-employment and self-employment. Sequence analysis and optimal matching (OM) are used. These are well known techniques for the study of life-cycle events. In particular, OM technique allows to measure pairwise dissimilarities between sequences. The algorithm measures the distance between two sequences through the minimum number of transformations required to turn one sequence into the other. Using sequence analysis and optimal matching, four distinct clusters related to occupational trajectories are identified: wage-employment, unemployment, transition from tertiary education to wage-employment and self-employment. The clusters generated from the optimal matching algorithm are subsequently used as a dependent variable in a Multinomial Logit model. The empirical model allows analysing the impact of background, parental characteristics, school performance and cognitive skills on the likelihood that Swiss working-age individuals will deviate from stable wage-labour career paths, pursuing alternative working trajectories.

Results unveil some notable findings regarding work trajectories. First, background characteristics such as gender and social origin have a crucial role in determining future career paths. Indeed, as previous literature suggests, females are less inclined towards entrepreneurial careers. They are also less likely to pursue a longer educational path and subsequently enter in the labour market. First-generation immigrant males experience difficulties in entrepreneurial careers as well. Immigrants or Swiss born with immigrant origin are more inclined towards long-term joblessness, compared to natives. Distinguishing by gender, females with an immigration background are more likely to deviate from a stable career in wage-labour to chronic unemployment, whereas first and second-generation immigrant males experience the same detriment. Second, school performance and cognitive skills also influence occupational trajectories. Having a high capacity in mathematics fosters pursuing entrepreneurial careers for females. Furthermore, a high reading literacy in adolescence encourages individuals to continue education and obtain a higher educational attainment. The same applies to not participating in remedial courses at school. Third, focusing on parental background, the existence of intergenerational links is confirmed and a same-gender parental role model related to career paths are found. Indeed, parental socio-economic status affects offspring's career. Having a highly educated mother and a parent in supervisory or managerial positions foster children's ambitions to earn a tertiary education degree. According to model

estimates, this intergenerational link is stronger, in most of the cases, for males and their fathers. Having a father in supervisory or managerial positions also fosters males to pursue a longer educational path. Moreover, having a self-employed father prevents males from falling in chronic unemployment and encourages them to pursue an entrepreneurial career.

The contribution of this paper is threefold. Methods like event history analysis focus mainly on specific (single or repeatable) events. Sequence methods allow considering a unitary and holistic perspective by dealing with whole life-cycle trajectories. Thus, researchers are able to determine major career patterns identified through all working states experienced during the period considered. Secondly, most of the previous literature focus on school to work transitions, whereas this study considers working age individuals and entrepreneurial careers. Thirdly, factors determining long-term unemployment in Switzerland have scarcely been investigated. This is a notable issue for the Swiss confederation: albeit since 2000, Swiss unemployment rate has been steadily at only about a half of the OECD average, long-term unemployment rate has increased and today is still higher than the OECD average. Furthermore, from a policy makers' perspective, this research could be a useful tool for an early intervention, especially in order to prevent fragmented work trajectories characterised by long unemployment spells or chronic unemployment.

**Keywords:** *sequence analysis, optimal matching, career paths, work trajectories.*