

Deferred Permeability in Swiss Higher Education: A Multilevel Analysis of Universities and Universities of Applied Sciences, 2011–2024

Kevin Schoenholzer, Benedetto Lepori

Università della Svizzera italiana, USI, Lugano, Switzerland

Research Domains

Academic practice, work, careers and cultures (AP)

Abstract

Switzerland's binary tertiary system channels academically tracked youth into research universities (UNI) and vocational-track youth into universities of applied sciences (FH); since Bologna, however, FH graduates may "upgrade" to UNI master studies, creating a deferred permeability route. Leveraging the Longitudinal Analyses in the Field of Education (LABB)—linked registers covering $\approx 420\,000$ first-time enrollees between 2011 and 2021. We combine discrete time event history, multistate and multilevel models to examine how social background shapes (i) initial sector choice, (ii) study progress and sectoral transfers, and (iii) labour-market outcomes. Guided by secondary-effects theory and compensatory-advantage perspectives, we expect socio-economic stratification to persist at entry, to re-emerge within sectors along prestige and resource gradients, and to only partially alleviated by the FH-to-UNI pathway. By tracing entire educational and employment sequences for complete cohorts, the study offers population-level evidence on whether delayed permeability can soften long-standing inequalities in highly differentiated higher-education systems.

Full paper

Background

Tertiary-entry rates have risen across the OECD, yet horizontal inequities persist: young people from socio-economically advantaged families remain over-represented in high-status programmes and institutions (Triventi 2013). Switzerland's binary system sharpens this tension. Research universities (UNI) mainly enrol graduates of academically tracked schools, whereas Universities of Applied Sciences (Fachhochschulen, FH) attract vocational-track completers; direct cross-sector mobility at the point of entry is negligible (Lepori & Kyvik 2010). Since 2001, Bologna reforms have allowed FH bachelor graduates to enrol in UNI master programmes, creating a deferred-permeability route that policy discourse

celebrates for widening participation while preserving scholarly excellence (Lepori 2012). Yet the reform may simply redistribute social selection across parallel tracks and outcomes (Palmisano, Biagi, & Peragine 2022). We ask whether the anticipated equity gains have materialised during the past decade and how they unfold across successive educational and early-career transitions.

Theory & Hypotheses

Boudon's (1974) distinction between primary (achievement-driven) and secondary (choice-driven) effects frames the UNI-FH bifurcation as a critical secondary-effect node. Bernardi and Triventi's (2018) compensatory-advantage model predicts that high-SES families can offset mediocre grades by steering children towards prestige-rich universities. Organisational-ecology research adds that competitive pressures blur sectoral boundaries while reproducing symbolic hierarchies (Lepori, Huisman, & Seeber 2012). These perspectives motivate three expectations:

H1) Sectoral stratification: controlling for achievement, students from higher-SES families will remain more likely to begin their studies in UNI or ETH/EPFL than in FH.

H2) Within-sector differentiation: as inter-sector borders blur, inequality should re-emerge inside sectors, yielding social-origin gaps among ETH/EPFL, cantonal UNI and FH.

H3) Deferred permeability: FH graduates who progress to UNI master can mitigate, but are unlikely to eliminate, their initial disadvantages in completion speed and early earnings.

Data & Measures

The study exploits the Longitudinal Analyses in the Field of Education (LABB), a register system that links educational, labor market and demographic files for the entire resident population (FSO 2023). Educational episodes available from 2011, together with the higher-education register. Employment histories, unemployment spells, migration status and parental education are taken from STATPOP. The data contains roughly 420 000 individuals who first matriculated between 2011 and 2021, observed annually. Core variables capture the sector and institution of first enrolment, term-to-degree, drop-out, sectoral transfers, and labor market status and earnings eighteen months after graduation. Parental ISCED level measures social origin, supplemented by household migration background; missing parental data are multiply imputed. Models adjust for gender, discipline, upper-secondary track and canton of domicile. Institution-level moderators such as expenditure, prestige, student-staff ratio, publication intensity and cooperative-education share come from the European Higher Education Observatory. We include six canton-level labor market controls (Glauser and Becker, 2016).

Analytical Strategy

The longitudinal structure supports a three-stage design. First, discrete-time event-history models estimate how social background shapes the chance of entering UNI rather than FH, thereby testing H1 on sectoral sorting. Second, time models trace complete post-secondary sequences—enrolment, completion, sectoral transfer and labor market entry, permitting explicit counterfactual comparisons between students who do and do not use the FH-to-UNI pathway (H3). Third, cross-classified multilevel models, nesting individuals in both institutions and cantons, quantify graduation and earnings differentials and include cross-level interactions between social origin and institutional resources to probe whether well-resourced settings buffer disadvantage (H2). Because LABB covers whole cohorts, survey weights are unnecessary; inverse-probability weights correct the small share of missing parental information, and robust standard errors accommodate residual clustering.

Expected Patterns

Existing theory suggests that, net of grades, advantaged students will continue to exhibit a stronger inclination toward UNI or ETH/EPFL, reflecting persistent secondary effects. Inside sectors, prestige and resource gradients are likely to magnify social-origin gaps in completion rates and early earnings, especially at symbolically dominant institutions such as ETH/EPFL. Compensatory advantage arguments imply that the FH-to-UNI master route will be selectively exploited by high-SES students with weaker prior achievement, narrowing but not fully closing subsequent labor market gaps. We use modelling to quantify the size and timing of these mechanisms and assess how far institutional resources moderate them.

Contribution

By tracing entire cohorts across education and early employment, this study furnishes population-level, attrition-free evidence on whether binary systems redistribute or reduce social inequality. Switzerland's combination of early tracking and a sizeable vocational sector provides a crucial test bed for evaluating deferred permeability as an equalization strategy. Beyond its substantive insights for equity policy, the project demonstrates the analytical leverage of linked administrative registers for cross-national research on educational stratification and labor market integration.