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Wages of Czech graduates: The positive effects of work experience gained before graduation

Martin Guzi

Assistant Professor: Department of Public Economics, Masaryk University (Czech Republic)
Martin.Guzi@econ.muni.cz

Introduction

This study evaluates the wage effects of student employment. According to the 2016 Eurostudent survey more than half of university students in the EU combine studies and paid work [1]. The motives to work are primarily financial but gaining experience is also important [1,2]. Previous research mostly finds that student employment increases wages after graduation [3,4]

Masaryk University alumni survey

This empirical analysis employs data from a Masaryk University alumni survey conducted in April 2020. Masaryk University is the second-largest university in Czechia with approximately 33,250 students enrolled in 10 faculties. The invitation to participate in the survey was sent to all graduates of Master's level programs graduating in 2017 and 2018 i.e. graduates were surveyed one or two years after graduation. In total 805 graduates replied (22.5%). Presumably, the COVID-19 pandemic was one of the factors contributing to low response rate.

Descriptive evidence

The data include the individual and employment characteristics of graduates. The final sample is restricted to graduates who report working at least 20 hours per week

(N=684). Importantly, the survey includes job search questions, which identify graduates who worked before graduation and continued the same employment after graduation (N=265) and those who started employment after graduation (N=419). The results reveal that the wages of graduates with work experience are 17% higher relative to those without work experience. First, the difference in wages may arise due to favourable characteristics that allow graduates to find paid work during their studies and to advance their careers after graduation. For instance, males and students in STEM subjects may find it easier to find employment during their studies and earn more after graduation. Second, the difference in wages is attributed to better job characteristics. Graduates who gain work experience during their studies are employed more in private and foreign firms (rather than in public sector or NGOs), run their own business, or work in supervisory positions.

Results from the wage regression

The wage effects of student employment are further tested by estimating the wage equation. The dependent variable is the logarithm of gross monthly wage, and control variables include gender, field of study, year of graduation, academic performance during studies (GPA), city size, logarithm of working hours per week, type of company (public sector, Czech private firm, foreign firm, self-employment) and an indicator for a supervisory position. Estimates show that wages are 8% higher for graduates with work experience in the full model. A surprisingly high gender pay gap (23%) has emerged within two years of graduation. Graduates with STEM education earn on average 16% more, and wages do not depend on GPA. Self-employed graduates and those working in foreign companies earn 22–24% more than graduates employed in public sector or in private Czech firms. Graduates in supervisory positions earn 9% more, and those settled in towns with less than 100,000 residents earn 12% less. Graduates graduating in 2017 earn 6% more than the cohort graduating in 2018 which reflects a steep wage increase in the early career of graduates.

Conclusion

University students are attractive to businesses struggling to find skilled workers. This research shows that students who worked before graduation and continued the same employment after graduation earn 8% more relative to graduates who started a new employment after graduation. The results are robust to the inclusion of controls for student academic performance, education specialization, and job characteristics. A striking result is that a high gender pay gap (over 20%) emerges very early in the career of university graduates and persists in the Czech labour market [5].

The study has several limitations. First, the survey does not include information about the quality and length of the work experience before graduation. Second, the low response rate may influence the representativeness of collected data. Third, talented and more able students are more likely to combine study and work [2] and also

to earn more after graduation. Fourth, combining study and work delays the graduation and negatively influences student academic performance [1,3]. In our sample graduates with working experience have worse GPA but findings from wage equation show that the GPA has no association with wages. These shortcomings should be challenged in future research.

Acknowledgements

Financial supported from Grant Agency of Masaryk University (specific research funding) is gratefully acknowledged.

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Student employment in Poland: evidence from the Polish Graduate Tracking System

Tomasz Zajac,

*Research Fellow: Institute for Social Science Research,
The University of Queensland*
t.zajac@uq.edu.au

Student employment has not been at the centre of the debate on higher education in Poland and remains under-researched. The discussion on the relationship between university education and the labour market focuses on graduate employability. However, recent regulatory changes led to the inclusion of pre-graduation employment re-

cords in the Polish Graduate Tracking System (ELA), which offers a glimpse into student employment in Poland.

Educational expansion

The Ministry of Science and Higher Education created ELA in response to concerns about graduates' labour market prospects that arose after the previously elitist higher education system massified within two decades. The liberalisation of tertiary education in Poland in the early 1990s, which was a part of the transformation after the fall of communist rule, created the conditions for the rapid expansion of the sector by allowing increases in enrolment at public institutions and the creation of new private institutions. The changes enabled the university sector to respond to society's demand for university credentials. The result was an almost fivefold increase in the number of students between 1990 and 2006 [1]. Since then, enrolment has been slowly declining, primarily due to demographic dynamics [2].

The breakneck growth in the number of students resulted in a deterioration of the labour market advantage of HE graduates [3]. This sparked a heated debate on graduate employability and the merits of at least some degrees. One of the consequences of this debate was the establishment of the ELA system in 2015, which monitors post-graduation labour market outcomes. It supports evidence-based policymaking and guides prospective students in their choice of educational paths.

Data on student employment

The ELA system utilises administrative records collected in POL-on, the Polish integrated system of information on science and higher education, linked to data extracted from the database of the Social Insurance Institution (ZUS) [4]. The primary goal of the system is to track post-graduation labour market performance. However, the latest edition includes ZUS records on the pre-graduation employment and self-employment histories of graduates stretching back to their first enrolment recorded in POL-on. This change created an opportunity to measure the extent to which students undertook economic activity before graduating and ascertain the effects of such activity on their post-graduation outcomes. Accordingly, this paper focuses on the youngest cohort of graduates, i.e. those who finished their studies in 2018, for which the data are most accurate [5].

Employing administrative data has tremendous benefits, chief among them is access to detailed records on the entire population. Unfortunately, those benefits come at a cost. Researchers have little impact on data collection. For student employment analysis, the most significant caveat is that the data do not include records of any civil law contracts of students. A civil law contract is a kind of work arrangement usually meant for casual work. Its flexibility and cost efficiency, especially when employing students, led to its adoption in situations of extended employment as well. Therefore, the actual share of working students is likely even higher.