Perspectives on the Sharing Economy

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Edited by

Dominika Wruk, Achim Oberg
and Indre Maurer

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DOES EDUCATION STILL MATTER IN ONLINE LABOUR MARKETS?

ANDREA M. HERRMANN
Utrecht University (The Netherlands)
A.M.Herrmann@uu.nl

PETRA ZAAL
Utrecht University (The Netherlands)
Deloitte Consulting, Netherlands

MARYSE M.H. CHAPPIN
Utrecht University (The Netherlands)

BRITA SCHEMMANNN
Utrecht University (The Netherlands)

Introduction

To date, the opinion that higher levels of education lead to higher income levels in dependent employment is virtually uncontested (Day & Newburger, 2002; de Wolff & van Slijpe, 1973; Miller, 1960). Theoretically, this paradigm is founded on the asymmetric information and, thus, the adverse selection problem that employers face before hiring employees. To address this problem, employees signal their qualities to potential employers through their educational certificates. Accordingly, the literature on labour economics demonstrates a link between educational attainment and pay levels.

Online labour markets, or the 'gig economy' – which allows organisations and individuals alike to hire workers through online platforms for a one-time service – fundamentally challenge this paradigm: gig workers do not need educational certificates to offer their services on online platforms, such as Upwork, freelancer or PeoplePerHour. Rather than through educational certificates, adverse selection is prevented through the platforms' review system. This raises the question whether educational attainment still influences wage levels in online labour markets: Do gig workers with higher levels of education have higher levels of income?

Theory

Drivers of income levels have been discussed across different strands of the social science literature, most notably in labour economics and economic sociology. To investigate the importance of education for the income levels of workers, labour economists have importantly relied on principal-agent theories explaining how adverse selection is prevented in labour markets (Jensen & Meckling, 1976): Typically, an employer (the principal) cannot be sure of the capabilities and intentions of a possible employee (the agent) until they have been working together for an extended period of time. The fact that these capabilities and intentions are not known beforehand increases uncertainties. For this reason, the principal will use information that is available to him in order to decide whether, or not, to hire an employee and, if so, at what wage level. This information consists of several characteristics (Spence, 1973), most importantly the agent's (1) ***education***, (2) ***previous work experience***, (3) ***recommendations***, and (4) ***gender***.

(1) ***Education*** is a particularly important measure that a principal can use in order to reduce the effect of adverse selection. A degree can signal to the principal that the agent has not only dedicated his time to studying a specific subject, but also successfully completed this trajectory. This reduces the risk that the principal will hire an inadequate agent. For this reason, agents with a higher educational degree can signal a stronger quality and have a stronger position to negotiate their salaries. Accordingly, both the industrial relations and labour economics literatures agree that the educational degree obtained is an important predictor of income levels: the higher the level of education received, the higher the salary levels of agents. This relationship has not only been established for regular employees (de Wolff & van Slijpe, 1973; Lazear, 1974; Miller, 1960), but also for workers hired on a-typical and temporary contracts (Visser, 2002). Translating these insights to the gig economy, we expect to find that:
H_1: The higher the level of education of a gig worker, the higher his income.

(2) As time passes between the completion of the education and the application for the job, the degree becomes less important. Instead, one's ***work experience*** gains in signalling power. Having had a previous job becomes proof that an agent has a certain set of skills and attitude which signal the quality of work he is capable and willing to do (Spence,

1973). Accordingly, Lazear (1974) and Mincer (1974) both find that previous work experience is correlated to a higher income. Part of this relationship can be explained through on-the-job training which positively influences income and job bids (Krueger & Rouse, 1998). Likewise, it was found for a-typical workers, who gain different skills at each place they work (Friedman, 2014), that working in the same industry for a longer period, closes the initial pay gap between temporary workers and traditional employees (Booth, Francesconi, & Frank, 2002; Jahn & Pozzoli, 2013). Translating these insights to the gig economy, we expect to find that:
H_2: The more work experience a gig worker has, the higher his income.

(3) Another important mechanism to prevent adverse selection are ***references*** of previous employers. Given that references are written on the basis of a worker's previous performance, they serve as a strong signalling mechanism of quality. One of the first studies on the importance of references as signalling tools revealed that most jobs are filled through referrals, rather than on the basis of resumes (Christopherson et al. 1999). A similar phenomenon was identified for the income of freelancers and the reviews they obtain: the more positive the reviews, the more income or job offers a freelancer receives (De Stefano, 2016). The reason for this is that a positive review is considered a proof of quality (Schemmann, Herrmann, Chappin, & Heimeriks, 2016). Translating these insights to the gig economy, we expect to find that:
H_3: The higher the review scores of a gig worker, the higher his income.

(4) Next to factors that can signal worker quality to potential employers, ***gender*** constitutes a major driver of different income levels. Accordingly, research across the social sciences found that women earn systematically and persistently less than men for doing the same work (for example Baroudi & Igbaria, 1994; Bobbitt-Zeher, 2007; Gill, 2002). Men, simply, seem to request and thus receive significantly higher salaries (Barron, 2003). Accordingly, we expect that:
H_4: Male gig workers have a higher income than female gig workers.

Data and Operationalization

To test these hypotheses, this study investigates one of the largest international freelancer platforms, which offers a wide range of high-skilled jobs such as programming, design, translating and writing. To be able and compare educational degrees across economies, the study focuses on 14 Western economies with similar education systems: Canada, France, Germany, Greece, Hungary, Italy, the Netherlands, Poland, Portugal, Romania, Spain, Sweden, the United Kingdom, and the United States of America. To ensure that the analyses include gig workers who are sufficiently experienced about the wage levels they can ask for, the study includes only gig workers with at least three reviews. This also ensure that the review scores of gig workers are not influenced by only one or two referees. After cleaning the data for outliers, the remaining sample includes a total of 2327 gig workers.

For each of these gig workers, we collected and manually cross-checked data on the hourly wage a gig worker asks for, the highest educational degree obtained, the years of relevant work experience, the average review score, as well as the gig worker's gender. In addition, we control for the years a gig workers is active on the platform, they type of job s/he offers, as well as country.

Analyses and Results

OLS regressions analysing how the wage levels of gig workers are influence by (H1) their education, (H2) work experience, (H3) reviews, (H4) gender, as well as their time active on the platform, job type, and country provide the following results. Most importantly, and contrary to the expectation of H1, education does not significantly influence the wage levels of gig workers. Instead, previous work experience, review scores, and gender turn out to be significant predictors of income levels of gig workers. This confirms our expectations of H2-H4. Importantly, these findings are robust as they did not change when we for instance estimated a multi-level model.

Discussion and conclusion

Our findings have several implications: At a theoretical level, they support the idea that signalling mechanisms, addressing adverse selection problems in work relationships, are important drivers of workers' income levels. Importantly though, in the gig economy, these drivers no longer seem to consist in the educational degree of gig workers but rather in their previous work experience and the reviews obtained. It is furthermore striking that women earn significantly less than men also in the gig economy, where contact between work requesters and gig workers is extremely limited. These findings contribute to the existing literatures at the intersection of labour economics and economic sociology investigating the drivers of income levels.

At a practical level, the insight that education does not matter for income levels of gig workers challenges the current education paradigm that higher qualifications are a route to economic wealth. This also challenges the design of

our current education systems: If the gig economy indeed develops into a major labour market of the future, Western education systems would benefit from reconsidering how to better prepare gig workers for their future jobs. Furthermore, our findings also point to the power of platforms' review systems and the potential need to regulate the ways in which they operate: While national education systems are governed and supervised by the state through accreditation systems, review systems are exclusively designed by platforms, which thus have the power to influence the employability of gig workers with a simple change of the algorithm determining the workers' evaluation.

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