

Digitalization and gender (in)equality: a qualitative comparative analysis of Austrian industries

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Abstract

While the impact of technological change on vertical inequality has been studied intensively in economics, the relationship between technological change and horizontal inequality is much less understood. Some scholars argue that digitalization might lead to greater gender equality as the anticipated wave of automation will hit men more severely as they predominantly work in routine jobs, especially in the manufacturing sector. Furthermore, it is argued that digital technologies enable the emergence of new forms of work characterized by higher flexibility as well as the re-organization of existing structures towards greater flexibility – such developments are assumed to be beneficial for women as they still carry the main burden of unpaid care work. However, digitalization is expected to increase demand for digital competencies and as the vast body of literature on digital inequality shows, there are significant differences between men and women in terms of digital skills and ICT use. Since women are still less digitally engaged than men, the existing gender segregation patterns in education, occupations and industries may ultimately lead to women falling even further behind as digitalization of the workplace progresses and relative demand for digital skills increases.

With these conflicting views in mind, we study in this paper if the process of digitalization can help to reduce gender inequality in Austria. We combine data from several sources to distinguish between direct and indirect effects of digitalization. Direct effects are captured by robot use and ICT capital intensity provided by IFR and KLEMS, respectively. To consider indirect effects associated with the widespread use of digital technologies at the workplace, we use information on what people do at work from the PIAAC survey. PIAAC allows us to compare the flexibility as well as the ICT task intensity of workers across industries. We apply qualitative comparative analysis to identify combinations of conditions, related to digitalization as well as other industry characteristics, that are sufficient for improved gender equality at the industry level. We define two possible outcomes as indicators for a reduction of gender inequality within industries between 2010 and 2018 based on data from the earnings structure survey: (a) a reduction of the gender pay gap and (b) a convergence towards a balanced gender composition of the workforce (i.e., a female employment share in the range of 40 to 60 %).

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