

# Gender wage differences and GVC involvement based on Structure of Earnings Survey

**Joanna Wolszczak-Derlacz\* & Dagmara Nikulin\*\***

## Abstract

In this paper we examine the linkages between involvement in global value chains (GVCs) and gender wage inequalities which can be view as part of more general discussion about association between trade/openness and gender wage gap (e.g. Bamber and Staritz 2016, Coniglio, and Hoxhaj 2018, Seguino 2005; Shepherd 2018, Tallontire et al. 2005). We use merged data from the wide-ranging Structure of Earning (SES) database and the World Input Output Database (WIOD) for the years 2002, 2006, 2010 and 2014 covering manufacturing industries in 18 European countries. We employ a wealth of information on employees' personal characteristics (sex, age, education level, tenure, type of employment contract and occupation), company characteristics (size, form of economic and financial control and bargaining scheme coverage) derived from SES together with the sectoral variable reflecting the foreign added value embodied in exports (FVA/Exp) proposed by Robert C. Feenstra (2017) based on WIOD (release 2016). Using OLS regressions with robust standard errors clustered at the industry level we have estimated the association between individual, company-level, sector and country-level determinants on the wage level. We have found gender wage discrimination among European employees regardless of the model specification. Additionally, we have found that lower wages are typical for younger people, those with low and medium levels of education, those in temporary employment, those with shorter tenure and those in lower skilled occupations. Moreover, employees in small and medium-sized enterprises and those with industry-level collective pay agreement schemes are also exposed to lower wages. Additionally, in countries with

centralized wage coordination and greater openness, wages turn out to be higher. When analyzing the influence of GVC involvement, significant patterns have been noticed. First, the impact of FVA/Exp on wages is negative and statistically significant in our baseline estimations based on a pooled sample and this negative effect of GVCs on wages is lower for male workers. In view of this, we can conclude that involvement in GVCs can indeed lead to higher gender wage differences. However, when splitting the sample into workers with different education and/or skill levels, it is notable that involvement in production sharing mostly negatively affects workers in the middle of the distribution and in specific occupation groups. Finally, we have tried to assess whether involvement in GVCs causes similar effects on female/male wages in concentrated and non-concentrated sectors. We have tested the assumption of a positive impact of rising international trade competition narrowing the GWG. When expanding our baseline estimation with measures of sector concentration, we found that a greater involvement in GVCs only results in higher GWG in less competitive sectors, which is in line with the labor market discrimination theory proposed by Gary Becker (1957).

In short, this study has tried to fill an existing research gap on the trade and GWG nexus in an international setting. We have added to the literature with evidence on the female aspects of trade expansion in developed countries, showing its complicated and mixed consequences, taking into account gender, skill, education and occupation diversity together with sector heterogeneity.

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\*Gdansk University of Technology, Faculty of Management and Economics, [jwo@zie.pg.gda.pl](mailto:jwo@zie.pg.gda.pl)

\*\*Gdansk University of Technology, Faculty of Management and Economics, [dnikulin@zie.pg.gda.pl](mailto:dnikulin@zie.pg.gda.pl)