

Exposure to Digital Automation and Jobs in Global Value Chains

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Author: santiago Picasso

Co-Authors: Filippo Bontadini, Maria Savona, Tommaso Ciarli

This paper offers evidence on how exposure to different emerging digital automation technologies -- identified on the basis of a uniquely granular classification provided by Prytkova (2024)-- is associated with employment changes in Global Value Chains (GVCs). We study in particular how exposure to digital automation technologies is related to the reconfiguration of GVCs across countries, and GVC specific jobs. We match several databases, and decompose employment growth in GVCs in three components: labour productivity, GVC linkages and final demand. The novelty of our contribution is in (i) the granularity of the heterogeneous digital technologies considered; (ii) the analysis of the joint effects of digital exposure, adoption and GVC integration. We find that (i) Job growth is associated with exposure only to specific digital technology families; (ii) Exposure to digital automation is significantly mediated by three components: final demand, GVC linkages and productivity; (iii) Final demand and productivity most often offset each other, particularly when considering total employment in all countries; (iv) GVC linkages play a role only in specific sectors; (v) Looking at exposure to digital automation in manufacturing and services separately entails different results, with exposure related to productivity increases in manufacturing and to market expansion (both domestic and through GVC linkages) in services.