

# Is green technological change skill-biased?

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## Abstract

Technologies that reduce greenhouse gas emissions have become a key component of modern technological change. In the past, technological change has been associated with increased relative demand for highly educated workers leading to higher income inequality between the high- and low-skilled. Whether the same holds true for green technology will determine the income inequality effects and if there are winners or losers of the green transition.

Green technologies do not augment types of labour, but improve clean relative to dirty production. Therefore, the direction of skill-bias depends on whether clean or dirty production are relatively more intensive in high- or low-skilled employment. This paper uses linked employer-employee data to show that both the magnitude and the direction of the skill-bias of green technological change depends on the sector where the technology is introduced.

The paper proposes a novel shift-share instrument based on firm-level exposure to technology spillovers. Firms in manufacturing increase their share of high-skilled workers in response to a green shock, while firms in construction decrease their skill ratio. However, I find no impact on worker wages or the wage premium, and find no clear losers of the green technologies studied in this paper.