The impact of technology and trade on migration: Evidence from the US

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Abstract

Trade shocks are known to have long-lasting effects on local labor markets partly because displaced workers do not move away from depressed regions. This paper examines whether this immobility of workers is a general feature of demand shocks or specific to trade. For this, we analyze how migration responses differ between two types of shocks – technology and trade – using data from US local labor markets between 1990 and 2015. We use industrial robots and Chinese imports as examples for a technology and a trade shock, respectively. In a first step, we confirm that both shocks reduce employment in affected areas to a similar extent. Next, we show that robots cause a sizable migration response whereas trade with China does not. We provide evidence for two potential mechanisms behind this result: First, robots are more pervasive as they affect a wider range of industries and skills than Chinese imports. This leaves workers who are replaced by robots with fewer job opportunities in other industries or occupations in the same location. Second, robots replace more mobile (i.e., foreign-born, more educated, younger) individuals than Chinese imports. These results challenge the view that migration responses to demand shocks are generally low. They rather suggest that whether or not demand shocks affect migration patterns depends on the pervasiveness of the shock and the people affected by it. This has implications for the impact of other fast-growing, labor replacing technologies such as Artificial Intelligence (AI), which is expected to affect a wide range of industries as well as highly mobile individuals. Our results imply that AI will likely affect migration patterns, which would attenuate its effects on local labor markets.

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