Technological Innovation and Labor Income Risk*

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KEEP CONFIDENTIAL: DRAFT INVOLVES SENSITIVE DATA IN APPROVAL PROCESS. DO NOT CIRCULATE

Abstract

We examine the relation between technological progress and labor income risk using administrative data from the U.S. Motivated by a simple model of creative destruction and human capital specificity, we draw a distinction between technological innovation advanced by the firm, or its competitors. We find that own firm innovation is associated with a modest increase in worker earnings growth, while innovation by competing firms is related to lower future worker earnings. Importantly, these earnings changes are asymmetrically distributed across workers: both gains and losses are concentrated on a subset of workers, which implies that the distribution of worker earnings growth rates becomes more right- or left-skewed following innovation by the firm, or its competitors, respectively. These effects are particularly strong for the highest-paid workers. Our results suggest innovation is associated with a substantial increase in the labor income risk, especially for workers at the top of the earnings distribution. Our simulations reveal that the increased disparity in innovation outcomes across firms in the 1990s can account for a significant part of the rise in income inequality.

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