

Task-Biased Technology Adoption Across Countries

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Abstract

This paper explores how differences in the adoption of task-biased technologies contribute to GDP gaps across countries. We introduce a country-specific measure of task intensity to quantify the relative importance of tasks within occupations, which can be readily applied in quantitative analysis. Using this measure, we show that as GDP increases, the share of routine work declines while cognitive work increases. Moreover, differences in task content within specific occupations explain more than half of the cross-country differences in routine work. We then develop a production framework where technology is task-specific, and occupations are aggregates of tasks, with which we rationalize both optimal task and occupational demands. We use this model to quantitatively assess the differences in task-biased technology adoption across countries and its implications for GDP gap.

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