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# Computerizing Industries and Routinizing Jobs: Explaining Trends in Aggregate Productivity\*

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## Abstract

Complementarity across occupations and industries implies that the relative size of those with high productivity growth shrinks, reducing their contributions toward aggregate productivity growth and thereby resulting in its slowdown. This force, especially the shrinkage of occupations with above-average productivity growth through “routinization,” was present since the 1980s. Through the end of the 1990s, it was countervailed by the extraordinary productivity growth in the computer industry, of which output became an increasingly more important input in all industries (“computerization”). It was only when the computer industry’s productivity growth slowed that the negative effect of routinization on aggregate productivity became apparent.

*Keywords:* Aggregate productivity slowdown, routinization, computerization, sector-specific and task-specific productivity

*JEL Classification:* E22, O40, O47

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