

# How ICT Can Restore Lagging European Productivity Growth

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To restore robust productivity growth, Europe must fully embrace information and communication technologies (ICT) throughout its economy.

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Notwithstanding the emergence of artificial intelligence (AI), robotics, and the Internet of Things (IOT), European productivity growth has slowed, and continues to lag U.S. growth. Since the financial crisis, labor productivity in the 28 EU member states has grown just 0.7 percent annually. And while Europe decreased the productivity gap with the United States before 1995, since then, the gap has only widened.

Increasing productivity is how countries raise per capita income. It should therefore be no surprise that over two decades of lackluster productivity growth have left European incomes stagnant, many European companies uncompetitive, and European government finances shaky. Given the demographic challenges and increasing international competition Europe faces in the coming decades, it is crucial Europe find a way to reverse these growth trends. To do that it needs more ubiquitous use of information and communication technologies (ICTs) by all organizations (for-profit, nonprofit, and government) throughout all of Europe.

ICT is a general-purpose technology (GPT) that reshapes systems of production and distribution, with wide-ranging effects throughout entire economies. Scholarly evidence strongly suggests that increased ICT adoption, particularly the technologies underpinning the “next production revolution” (AI, IOT, and robotics) and the transformative change ICT can bring to organizations, is a key component of fixing Europe’s lagging productivity.

Compared with the United States, Europe has had far smaller productivity gains from ICT. Although the contribution of ICT varies between European countries—only two Scandinavian nations (Denmark and Sweden) have gained more from ICT than the United States—other EU nations have

been able to reap fewer benefits. This variation between countries, along with variation at the industry and firm levels, makes clear, however, that those countries, industries, and firms that do invest in and use more ICT reap significant benefits.

The primary proximate cause for Europe's limited gains is simply lower levels of capital investment in ICT. Since the 1990s, European countries have significantly lagged behind the United States in levels of ICT investment, both as percent of total fixed capital investment and as percent of GDP. And this is true not just of the ICT-producing sector itself. ICT-using sectors, primarily the service sector, have invested less in ICT than their counterparts in the United States. Productivity in European private-sector services grew less than half as fast as it did in the United States between 2006 and 2016, because the positive effects of ICT production didn't spill over into use.

This report examines EU and U.S. productivity trends; discusses why higher productivity is critical for the future of Europe; examines both the relationship between ICT and productivity in the United States and Europe, and major causes of EU lag; and lays out in further detail the eight key policy principles for attaining EU digital prosperity:

- Focus on raising productivity;
- Focus on across-the-board productivity growth, particularly through greater use of ICT;
- Actively encourage digital innovation and transformation of all economic sectors;
- Use tax policy to spur ICT investment;
- Create larger markets for EU firms, especially in the services sector;
- Reduce regulatory and tax preferences for small businesses;
- Embrace a light-touch regulatory framework, including with regards to data; and
- Help workers make transitions.