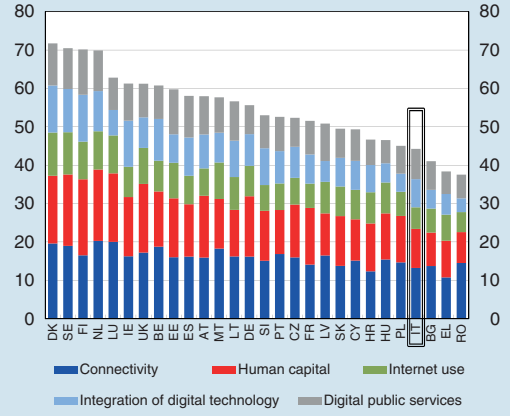
ITALY'S DIGITAL LAG

Since the mid-90s the productivity gap between Europe and the United States has widened, mainly because of how slowly ICT and digital technologies (e.g. advanced robotics and artificial intelligence) have spread within the European economies. Italy lags behind considerably in these fields.[1] According to the European Commission's Digital Economy and Society Index (DESI), which tracks the digital performance of Europe as a whole and of individual Member States, Italy ranks 25th (Figure A).

In Italy in 2010 the digital economy sector[2] contributed 5.7 per cent to value added for the total economy, below the European average of 6.5 per cent. In Italy this share fell to 5 per cent in 2017, in contrast with Germany and with the EU average.

Figure A

The Digital Economy and Society Index 2018 (1)



Source: European Commission, 2018.
(1) DK=Denmark; SE=Sweden; FI=Finland; NL=Netherlands; LU=Luxembourg; IE=Ireland; UK=United Kingdom; BE=Belgium; EE=Estonia; ES=Spain; AT=Austria; MT=Malta; LT=Lithuania; DE=Germany; SI=Slovenia; PT=Portugal; CZ=Czech Republic; FR=France; LV=Latvia; SK=Slovakia; CY=Cyprus; HR=Croatia; HU=Hungary; PL=Poland; IT=Italy; BG=Bulgaria; EL=Greece; RO=Romania.

The rate of adoption of new technologies in various economic activities is low. In 2018, only 10 per cent of Italian firms derived at least 1 per cent of their turnover from e-commerce, compared with a European average of 17 per cent and 20 per cent in Germany. The share of firms that use cloud computing is still lower in Italy, but is closer to the international average (23, as against 26 per cent). The use of industrial robots in Italy (2.6 robots per 1,000 employees) is higher than in France and Spain, but continues to be much less frequent than in countries with a similar sectorial specialization (4.5 robots per 1,000 employees in Germany).

The lag in adopting and utilizing digital technologies is not just related to the fact that small firms, which tend to be less inclined to avail themselves of such technologies, particularly the most advanced ones, make up a large portion of Italian businesses, (see panel (a) of Figure B),[3] but also to the gap between the

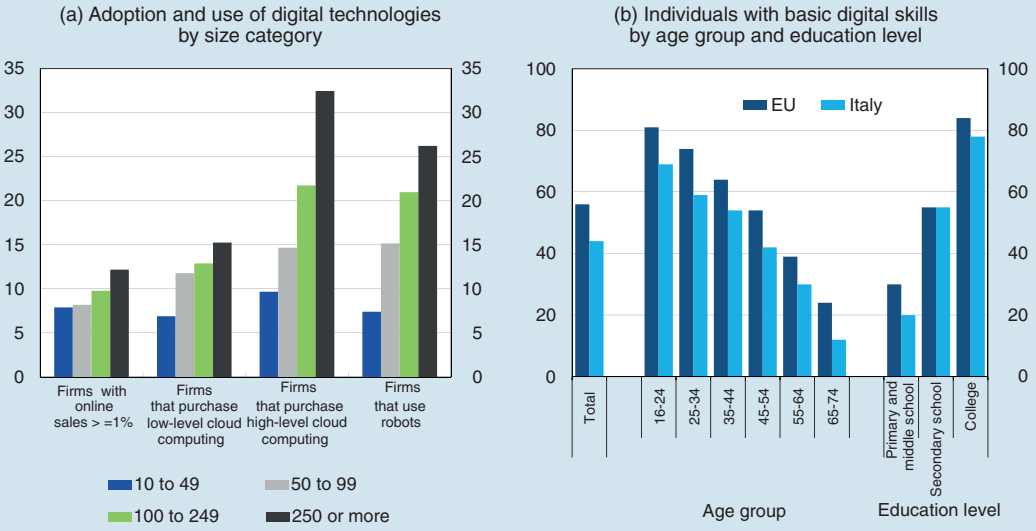
[1] OECD, *OECD Science, Technology and Industry Scoreboard 2017*, 2017.

[2] The digital economy includes the following sectors: ICT, telecommunications, ICT services, programming and broadcasting, publishing, electrical equipment manufacturing, manufacture of computers and electronic and optical products.

[3] 'Low level' refers to cloud computing services such as email, office software, and file storage. 'High level' refers to cloud computing services such as finance and accounting software, customer relationship management (CRM) software and computing processing power.

Figure B

Digital technologies and skills
(percentages)



Source: Based on Eurostat data.

rate of adoption of new technologies by Italian medium-sized and large enterprises compared with that of the main European countries.[4]

The modest degree of digitalization of the productive system is also reflected in the labour demand composition (see the box 'The impact of broadband internet on Italian firms', Chapter 8). Despite the progress made in recent years, in 2018 only 33 per cent of Italians used ICT at work; in the EU this figure rises to 42 per cent. A similar difference can be observed in the share of ICT specialists in the total workforce. A mere 17 per cent of firms have provided on-the-job training in the use of digital technologies, 6 percentage points below the European average.

Digital competence is also lacking among the population: only 41 per cent of adults possess basic digital skills, 15 percentage points fewer than the EU average; the gap is common to all age groups and is especially pronounced among those who never completed secondary school (see panel (b) of Figure B) (see also the box 'Online banking and portfolio choices', Chapter 7). The limited demand for digital competence in the labour market and the population's lack of familiarity with digital technologies reinforce one another:[5] on the one hand, individuals may find little benefit in acquiring skills not much requested by firms, and on the other, the difficulty in recruiting a workforce with adequate skills may discourage firms from implementing innovative production processes.

[4] M. Bugamelli and F. Lotti (eds.), '*Productivity growth in Italy: a tale of a slow-motion change*', Banca d'Italia, Questioni di Economia e Finanza (Occasional Papers), 422, 2018.

[5] P. Sestito, 'Understanding human capital in Italy: an introduction', *Politica economica*, 33, 1, 2017, 3-12.

The slow adaptation of production processes to the new technological paradigm has had negative repercussions on productivity growth and helps widen the efficiency gap between large and medium-sized enterprises and small firms. Because of the delays in digital transformation, Italy risks missing an opportunity that could allow it to regain competitiveness.