August 3, 2015

Productivity statistics

Years 1995-2014

Istat releases productivity statistics for the period 1995-2014. The productivity series are coherent with the results of the latest release of national accounts.

The adopted methodology follows closely the approach outlined in the OECD Manual on Productivity Measurement. Productivity is defined as the ratio of a volume measure of output to a volume measure of input. Both single factor productivity measures (relating a measure of output to a single measure of input) and multifactor productivity measures (relating a measure of output to a bundle of inputs) are estimated.

Output is the chain linked valued added at basic prices. Labour input is measured as total hours worked by all persons engaged in production (both employees and self-employed). Capital input is measured as the volume of capital services provided by the stocks of three categories of ICT assets (hardware, communication equipment and computer software), eight categories of tangible non-ICT assets (non-ICT machinery and equipment, furniture, road transport equipment, other transport equipment, livestock, tree and plant resources, construction works, and ownership transfer costs) and three categories of intangible non-ICT assets (research and development, entertainment, artistic and literary originals, and mineral explorations). Productivity measures are estimated using national accounts data released in accordance with NACE Rev.2 classification. Estimates are provided for 38 industries (and their aggregation in 21, 10 and 3), as well as for the total economy. Both industry level and aggregate estimates are calculated net of real estate activities, of activities of households, of activities of extraterritorial organizations and of all activities of the General government sector. In the benchmark year 2011 the total of the above defined sectors accounted for 70.4% of total value added and 83.0% of total hours worked.

Labour productivity in the measured sector fell by 0.7% in 2014, as value added decreased by 0.7% and hours worked increased by 0.2%. In the same year capital productivity rose by 0.8%, as capital input fell more than value added (-1.8%) and total factor productivity decreased by 0.2% as the combined inputs of capital and labour fell less than value added (-0.2%).

The decrease in labour productivity in 2014 is mainly accounted for by a fall in capital deepening (i.e. a reduction of capital input relative to labour input) which contributed -0.5 percentage points, with total factor productivity contributing for -0.2 percentage points.

Over the entire period 1995-2014, average annual growth rate in value added was 0.5%. Labour productivity rose by 0.3% due to labour input (0.2%) increasing by less than the growth in value added. In the same period capital input (+1.7%) and the combined inputs of capital and labour (0.7%) rose more than value added and both capital productivity and total factor productivity fell (respectively -1.2% and -0.3%).

The growth in labour productivity in 1995-2014 was driven only by capital deepening, which contributed +0.5 percentage points, with total factor productivity contributing for -0.3 percentage points. Tangible non-ICT capital contributed 0.4 percentage point, while intangible non-ICT capital (mainly research and development) and ICT capital (i.e computer hardware, communications equipment and computer software) both contributed 0.1 percentage points.

Over the last cycle (2009-2014) value added decreased by 0.4% on average. Labour productivity, capital productivity and total factor productivity all rose (respectively by 0.6%, 0.1% and 0.4%) due to hours worked, capital input and the combined inputs of capital and labour all decreasing more than value added (respectively -0.1%, -0.6% and -0.9%).

The growth in labour productivity in 2009-2014 was driven mainly by total factor productivity, which contributed 0.4 percentage points, with capital deepening contributing only for 0.1 percentage points.

TABLE 1. VALUE ADDED, INPUTS AND PRODUCTIVITY STATISTICS. TOTAL ECONOMY (a). Years 1995-2014, compound average annual rates of growth

	Value added	Inputs			Productivity statistics		
		Hours worked	Capital input	Combined inputs	Labour productivity	Capital productivity	Multifactor productivity
1995-2014	0.5	0.2	1.7	0.7	0.3	-1.2	-0.3
2003-2014	-0.3	-0.4	0.7	0.0	0.1	-1.0	-0.3
2003-2009	-0.2	0.1	1.8	0.7	-0.3	-1.9	-0.9
2009-2014	-0.4	-1.0	-0.6	-0.9	0.6	0.1	0.4
2012	-3.3	-2.8	-0.8	-2.2	-0.4	-2.4	-1.0
2013	-1.9	-2.1	-1.3	-1.9	0.3	-0.6	0.0
2014	**-0.5**	**0.2**	**-1.3**	**-0.2**	**-0.7**	**0.8**	**-0.2**

(a) Net of real estate activities, of activities of households, of activities of extraterritorial organizations and of all activities of the General government sector .

PROSPETTO

TABLE 2. CONTRIBUTIONS TO LABOUR PRODUCTIVITY GROWTH. TOTAL ECONOMY (a). Years 1995-2014, compound average annual rates of growth

	Labour productivity	Contributions to labour productivity growth (percentage points)				
		Capital input per hour worked	*ICT capital input per hour worked*	*Tangible non-ICT capital input per hour worked*	*Intangible non-ICT capital input per hour worked*	Multifactor productivity
1995-2014	0.3	0.5	*0.1*	*0.4*	*0.1*	*-0.3*
2003-2014	0.1	0.4	*0.0*	*0.3*	0.0	*-0.3*
2003-2009	-0.3	0.6	*0.0*	*0.5*	0.0	*-0.9*
2009-2014	0.6	0.1	*0.0*	*0.1*	0.0	*0.4*
2012	-0.4	0.6	*0.1*	*0.4*	0.1	*-1.0*
2013	0.3	0.2	*0.1*	*0.2*	0.0	*0.0*
2014	**-0.7**	**-0.5**	***0.0***	***-0.5***	**0.0**	***-0.2***

(a) Net of real estate activities, of activities of households, of activities of extraterritorial organizations and of all activities of the General government sector ..

For more details please refer to the Italian version

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