



REPORT

PRODUCTIVITY IN ITALY: ANALYSIS AND POLICY

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PRODUCTIVITY IN ITALY
Analysis and Policies

National Productivity Board

Key messages

- Productivity is a complex and systemic phenomenon: its growth depends on a multiplicity of cross-cutting factors, such as the endowment of human capital, innovation, the quality and diffusion of infrastructures, the quality of institutions, and the efficiency of markets. It cannot be addressed with insulated sectoral policies.
- An integrated and coordinated approach to public policies is needed: to stimulate productivity, it is crucial to overcome administrative fragmentation, promoting synergies between industrial, education, labour and fiscal policies, based on empirical evidence.
- European coordination is essential: the slowdown in productivity is a common phenomenon in Europe; European institutions, with tools such as the *National Productivity Boards*, place the issue at the centre of strategies for growth and economic resilience.

Executive Summary

This introductory chapter of the 2025 Report highlights the centrality of productivity for sustainable economic growth and long-term well-being. In Italy, as in the rest of Europe, the stagnant dynamics of productivity represent a structural constraint, often overlooked in the formulation of public policies. Since the determinants of productivity are cross-cutting – from innovation to the quality of institutions – it is necessary to adopt an integrated approach, overcoming the fragmentation between areas of intervention. To reverse the trend, a joint effort is needed at the national and European level, oriented towards the long term and supported by empirical evidence.

1.	INTRODUCTION	4
2.	A SUMMARY OF THE EVIDENCE ON PRODUCTIVITY IN ITALY	7
3.	SOME CRITICAL KEY POINTS FOR PRODUCTIVITY IN ITALY	11
4.	KEY RECOMMENDATIONS FOR SUPPORTING PRODUCTIVITY	18
5.	CONCLUSIONS.....	23

1. Introduction

For advanced economies, productivity is a crucial challenge, being the main driver of economic development and collective well-being in the long term. Productivity growth is in fact the main source of the increase in potential output and real incomes. As evidenced by economic theory and numerous empirical studies, the factors that influence productivity are multiple and crosscutting. They include innovation, human capital quality, managerial skills, organizational models, physical and digital infrastructures, and the efficiency of goods, labour, and capital markets, as well as the overall regulatory and institutional framework.

Given the complexity of the factors involved, there is therefore no single public policy or single area of intervention that can provide the miraculous solution to ensure broad and lasting productivity growth. For example, productivity growth is influenced by industrial policies, fiscal policies, educational systems, labour, competition and innovation policies. It follows that an assessment based on rigid separations by subject, or by areas of administrative competence, is inadequate. In order to effectively promote productivity growth, integrated management between the various economic policy measures is necessary, in order to fostering information flows between the sectors of intervention, evaluating interactions and synergies (or possible substitution effects) between implemented policies, both at the central and local level, favouring choices supported by solid empirical evidence and tending to be oriented to the long term.

Due – among other reasons – to a lack of coordination between the various national and European actors, the potential economic growth of the European Union has slowed down for over twenty years. As the Draghi Report recalls, there is a particular decline in total factor productivity, the component most closely linked to technological progress and innovation.¹ The European institutions, aware of how much the shared prosperity of the Union depends on its ability to increase productivity, have therefore committed themselves to putting this issue at the centre of the public agenda.

To this end, in 2016 the Council of the European Union issued Recommendation 2016/C 349/01², asking the Member States of the eurozone and the Union to set up *National Productivity Boards (NPBs)*. These bodies, which have been active for some time in some advanced countries (such as Australia and New Zealand) and emerging countries (Chile,

¹ See the Appendix at the end of this Chapter for a summary of the main productivity indicators and their measurement.

² Council Recommendation of 20 September 2016 on the establishment of National Productivity Boards

Mexico), have the task of developing in-depth analyses of productivity trends, diagnosing the factors that influence their evolution in the long term, and formulating recommendations aimed at improving their performance.

The Recommendation invites the Committees to consider the main European and national trends and, in line with economic theory, to analyse the factors that determine and promote productivity in the long term: innovation, capital formation and the ability to attract investment, business demographics, human capital, and industrial structure. The analysis must also be based on transparent and comparable indicators so that, where appropriate, the Committees can comparatively assess the effects of economic policy measures that have an impact on productivity, making the pros and cons of the various choices explicit, through an adequate *ex-ante* and *ex-post* evaluation of the proposed and implemented measures. In carrying out their activities, the Committees can rely on their own resources, contributions from other national and international institutions, and existing academic research.

The Recommendation also suggests that the Committees should: be functionally autonomous from decision-makers; be able to communicate publicly and in a timely manner; have robust procedures to ensure *expertise* and competence in the members of the committee; and have adequate access to relevant information and data. Each Committee should publish an annual report to monitor productivity trends.

In reviewing the activities of the first productivity committees set up in Europe, the European Commission identified four main activities in particular: the organization of events, press conferences, specialist seminars and workshops; contributions to the formulation, evaluation and monitoring of National Recovery and Resilience Plans and contributions to the European Semester process of defining economic policy in the various Member States; the publication of annual reports and the publication of further research and analysis related to productivity issues.³

Italy joined the European network of National Productivity Committees in the fall of 2024. The Italian Committee was formally established by the National Council of Economics and Labor (CNEL) with the President's determination no. 69 of July 10, 2024.⁴

³ European Commission (2021). Follow-up of the progress report on the implementation of the Council recommendation of September 20, 2016 on the establishment of National Productivity Boards. Commission Staff Working Document; European Commission (2024) *National Productivity Boards after seven years: An assessment*. Brussels.

⁴ The CNEL is a body of constitutional significance, with important advisory functions with respect to the Government, the Chambers and the Regions. Its constitutional mandate includes the right to formulate legislative proposals in economic and social matters. It also constitutes a permanent forum for consultation between the social partners and representatives of civil society.

Box 1 - The Italian National Productivity Committee

The Italian National Productivity Committee was appointed in September 2024 by the CNEL President and is composed of eight independent experts⁵. The experts are supported by representatives of the Bank of Italy and the National Institute of Statistics (ISTAT), ensuring a solid combination of technical expertise and institutional representation. In addition, representatives of the CNEL Presidency and the Ministry of Economy and Finance participate in the Committee's meetings as observers. The secretariat of the Council is provided by the CNEL, which provides administrative and operational support and research assistance.

The Committee's mandate, in line with Recommendation 2016/C 349/01, is to analyse and evaluate the evolution of the productivity of the national economic system, produce an annual report, propose policies and reforms to improve the overall competitiveness of the national system, carry out analysis and research to investigate the factors that contribute to productivity and cooperate with the other committees of the Union. In addition, the Italian Committee, integrated with the CNEL, and therefore with the National Statistical System (SISTAN), has the right to acquire data and information relevant to its analyses and to collect opinions and perspectives from social partners and other stakeholders. To guarantee the independence of the Committee, the experts are chosen from among people of proven professionalism, qualified experience and recognized independence.

Using the classification dimensions proposed by the European Commission, the Italian Committee is an independent Board supported by a secretariat provided by an existing institution, with a technical composition, as summarized in the following Table 1.

Table 1. The Italian Committee in the European context

	<i>Board and Secretariat Format</i>		<i>Other Formats</i>	
	<i>Incorporated into an existing institution</i>	<i>Not incorporated</i>	<i>Incorporated into an existing institution</i>	<i>Not incorporated</i>
Composition composition	Ireland, Croatia, Malta, Spain	Slovakia, Luxembourg, Austria, Latvia, Cyprus		
Technical composition	Germany, Italy	Belgium, Finland, France	Denmark, Lithuania, Netherlands, Slovenia, Portugal, Greece	

Source: Altomonte et al. (2025), CNEL CNP WP 1/2025.

⁵ Carlo Altomonte (president) and Maria De Paola, Vincenzo Galasso, Anna Giunta, Cecilia Jona-Lasinio, Giuseppe Nicoletti and Fabiano Schivardi (experts).

2. A summary of the evidence on productivity in Italy

Based on this institutional design, the Committee has drawn up the first Report on Italian Productivity. The Report, in line with the European standards followed by the other National Committees, summarizes the general dynamics of national productivity by comparing it with other EU countries (Chapter 2). The data clearly show that, since the mid-1990s, Italy has begun to accumulate a significant lag in productivity growth. This ended a virtuous twenty-year period (1970-1990) which, thanks to a robust accumulation of capital and a solid productivity trend, had allowed the country to converge towards the income levels of its main European partners.

Compared with the countries of the European Union, already in the period 1995-2007, Italy was growing at relatively lower rates: +0.9% per year of GDP against +1.6% of the EU27, with a decline in labour productivity, on average equal to just 0.2% on an annual basis, against 1.2% of the European average for the period. This trend continued with the sovereign debt crisis; while starting in 2014, Italian productivity experienced a slight but significant recovery, driven by the private sector. The simultaneous slowdown in other countries led to a reduction in the growth differentials of this indicator.

One of the main causes of this partial recovery in productivity growth in the private sector is undoubtedly the strong selection process that characterized the Italian industrial sector immediately after the financial crisis. This element was combined with the restructuring of the banking sector, the start of a season of labour market reforms and the introduction of innovation incentives (the so-called 'Industry 4.0' program), factors that rewarded the most efficient companies, favouring a reallocation of workers towards them (see Chapter 4), and therefore a more sustained growth in aggregate productivity.

In the most recent period (2019–2024), which includes the pandemic crisis and the subsequent recovery in GDP levels, productivity remained stationary against an average increase in the EU27 countries (+0.4%), particularly marked in Spain (+0.6%). In the non-agricultural private sector, excluding financial and real estate services (ATECO sectors B to N, excluding K and L), productivity growth was 1.6 percent over the five-year period, driven by construction – which in turn benefited from strong fiscal stimuli – and private services, particularly in trade and knowledge-intensive services.

The five-year period was also characterized by a good performance in employment (4.4%, in line with the EU average), the dynamics of which remained marked even in recent years,

affected by the energy shock: between 2022 and 2024, employment increased at a rate almost double the EU average, driven by expansion in certain labour-intensive sectors (but also with lower average productivity) such as construction, catering, health and care. Favoured by restrained wage dynamics, employment has therefore grown, but mainly in low value-added activities, with depressive effects on the average efficiency of the production system.

The dynamics of the labour factor have also been more pronounced than those of capital, which has been recovering since the beginning of this decade after the gradual decline recorded in the previous one. In this regard, two important issues for the national economy are highlighted. On the one hand, Italy lags significantly behind the European average in intangible investments, i.e., those in intangible assets such as software, research and development, and organizational capital. While the latter have grown at a rate three times higher than tangible ones for most advanced economies from 2014 to today, Italy shows an opposite dynamic, with tangible investments surpassing the accumulation of cognitive capital, highlighting the difficulty of our country in keeping pace with the frontier of innovation.

However, in the two-year period 2023–2024, investments in tangible capital also experienced a sharp slowdown, thus highlighting a second critical issue: following the expansionary trend of 2021-2022, spending on machinery and equipment actually decreased in 2024, partly due to the worsening demand outlook. On the other hand, investments in public infrastructure and non-residential works increased, offsetting the decline in investments in housing, which was generated almost mechanically after the “Superbonus” boom.

The Report also highlights how, again between 2023 and 2024, both contributions to labour productivity growth – i.e., total factor productivity (technological progress) and capital per hour worked – are negative (see Chapter Appendix for a precise definition of these indicators). This confirms that the post-pandemic recovery in our country is taking place in a framework characterized by light and shadow.

To understand Italian economic growth and its productivity, however, it is not enough to limit oneself to a historical analysis: the country's territorial disparities are equally decisive (Chapter 3 of the Report). The aim of the evidence presented is a multi-level analysis (regional macro-areas, provinces, municipalities) that allows us to reflect the complexity of the various territorial disparities present in our country, as regards the trends in productivity and its determinants.

Analysing the territorial gaps between macro-areas in a more concise manner, the analysis shows that the *Mezzogiorno* has accumulated a significant delay, especially during the 2008-2014 crisis, when GDP fell by an average of 1.9% per year. Between 2000 and 2023, while the North maintained positive growth (0.5% per year), the South experienced substantial stagnation, in the presence of a decline in the working-age population. This held back GDP per capita growth, with an average annual increase of almost zero (+0.02%) compared to +0.2% in the North West.

The post-pandemic recovery (2019-2023), on the other hand, showed more dynamic GDP per capita growth in the South (+1.5% per year), driven by PNRR investments and the public sector. However, these results did not make up for the accumulated delay. The breakdown of GDP per capita shows that, during the cycles, growth depended more on employment than on productivity: the South suffered a decline in employment during the crisis, which has only recovered in recent years thanks to the dynamics of public investment, while productivity has contributed marginally or negatively.

In recent years, construction and services have supported employment in the South. The southern regions continue to have a lower incidence of employment in high-tech sectors (advanced manufacturing, ICT, knowledge-intensive services), a factor that limits growth potential; however, there are some signs of a shift towards these sectors, for example, the growth of employment in ICT in the South has been 50 percent in the last few years post-pandemic, more than double that in Italy as a whole. Territorial analyses also highlight groups of municipalities in the South with low levels of productivity and reduced capacity to develop agglomeration economies, factors that aggravate the distance from the most dynamic urban areas.

Moreover, according to the data from the corporate financial statements presented by the OECD in a dedicated in-depth study, the North-South productivity gap exceeds 20% even for the same sector and company size, reflecting structural deficiencies: human capital, infrastructure, quality of local institutions and public services. These conditions penalize businesses, limiting their competitiveness and ability to grow.

In the analysis at the provincial level, the areas of the South also show unfavourable demographic trends, with educated young people emigrating, a low share of graduates, a low diffusion of advanced skills, and weak social capital. This hinders innovation, the attractiveness of the territories and the modernization of the productive fabric. Bridging the gaps requires decisive public action: investment in infrastructure, human capital and services, as envisaged by the PNRR and the Medium-Term Budget Structural Plan, to strengthen local administrations and reduce territorial inequalities.

The Report also analyses in detail productivity at the level of individual companies (Chapter 4). The data show a strong heterogeneity, partially explained by the company size, which is in turn correlated with three key factors: propensity to export, digitization and innovation.

The analysis confirms the fragmentation of the Italian production structure: 94.7% of companies have fewer than 10 employees, a much higher share than in Germany or France. More than half of the workers are employed in companies with fewer than 20 employees. This slows down aggregate productivity, because micro-enterprises invest less in physical capital, innovation and technology, have more difficulty investing in knowledge and developing innovative business organization models, and participate little in global value chains.

The analysis confirms a positive relationship between size and productivity: in manufacturing, large companies are more than 70% more productive than medium-sized ones; in ICT services, the gap is even more marked, testifying to the complementarity between scale and intangible capital. In professional services, medium-large companies are the ones that drive productivity.

From 2014 to 2019, the reallocation of employment to larger companies contributed to productivity growth in key sectors such as manufacturing, construction, and commerce. However, after the pandemic, this process slowed down, with an overall shift of employment towards medium-sized companies, mainly in traditional low-tech sectors.

At the sectoral level, in the post-Covid period, the ICT sector saw a recovery in the share of employment in large companies, supported by digitization, while in manufacturing, on the contrary, the reallocation was weaker. However, since the ICT sector weighs relatively less than others on the Italian economy, the overall effect of the reallocation of the labour factor to productivity growth has been interrupted.

Looking at exporting companies, they show a significant productivity premium compared to non-exporting companies, a premium that increases with size. Even exporting micro-enterprises are more productive than small-medium non-exporting firms, confirming the selective role of exports. Exports reward mainly the medium-high technology sectors, while in services the effect is more limited.

The adoption of digital technologies is also associated with a productivity premium, estimated at around 15-30%, but with strong heterogeneity: the productivity premium associated with digitization is in fact very marked in high-knowledge services, weaker in traditional sectors. Digitization amplifies the advantages of larger companies, which better integrate technologies; micro-enterprises remain penalized.

Innovation is another decisive factor: innovative companies have an average productivity of 20%, especially in sectors with a high intangible content such as pharmaceuticals, electronics and ICT. Moreover, the data in the chapter show that the productivity premium is present for all size classes, albeit to a heterogeneous extent, demonstrating that innovation can also generate benefits in SMEs.

In summary, size, exports, digitization and innovation are determining factors of productivity and are often interconnected. Despite some positive signals, such as an increase in the average size of enterprises, the Italian production structure remains dominated by micro-enterprises, hindering the spread of digitization and innovation and maintaining a high concentration of exports in a limited number of large companies.

Public policies aimed at strengthening these factors, combined with regulatory simplification and financial and fiscal incentives that favor growth in size, are essential to support the productivity and competitiveness of the economic system, as discussed in the following paragraphs.

3. Some critical key points for productivity in Italy

3.1. Skills and investments

After the phase of weak productivity recovery between the two crises, and the recovery immediately following the pandemic, Italy seems to have been stuck in a stagnant situation again in the last two years, with a labour market in which low wages and low productivity coexist, albeit in a context of relatively high employment. This equilibrium appears to be characterized by the following evidence.

First, the low productivity recorded since the mid-1990s has historically held back wage growth. Between 2010 and 2019, real wages in Italy grew on average by just 0.2% per year, compared to 1.0% in France and 1.3% in Germany (OECD Employment Outlook 2023). This figure reflects a stagnation in the purchasing power of Italian workers, closely linked to the weak dynamics of labour productivity, which stands at similar growth rates.

In recent years, weak wage growth has been associated with the inflationary shock of 2022–2023, resulting in a lowering of the real cost of labour. The OECD's Employment Outlook 2025 reports that, despite a substantial increase during 2024, at the beginning of 2025, real wages in Italy were still 7.5% lower than in 2021. During the same period, the cost of using capital has progressively increased, both due to the increase in the nominal interest rate, which has

remained relatively high even in the presence of falling inflation, and due to the cost of energy, which has increased by more than 30% compared to pre-crisis levels.

As a result, in recent years companies seem to have preferred to expand the relatively cheaper labour factor rather than invest in capital goods – in particular (but not exclusively) those functional to digitization processes. This, combined with the low availability of digital skills (only 16% of workers have high ICT skills, vs. about 30% in Germany and France, and only 15% of graduates are in STEM disciplines, compared to a European average of 26%), has further slowed down the adoption of digital technologies in our country. According to the ISTAT 2025 Annual Report, between 2022 and 2024, ICT investments grew by only 0.8% per year (compared to 1.9% in the previous three years), and the share of companies using ERP or cloud solutions remained at 38%, twenty points below the European average, signalling a blockage of the digital transition in SMEs.

As a result, as reported in this Report, employment has increased (+1.6% in 2024), but at the cost of a reduction in labour productivity (-0.9% per employee in the same year). This trade-off is largely avoidable, as it depends, for example, on the skills of the employees and the sectors in which employment is generated, and above all it should not exist in the long run, because capital tends to adjust to the number of employees, unless it is prevented by structural factors. The risk for the country, therefore, is that with stagnant wages and declining productivity, a vicious circle is reinforced that, while maintaining high employment levels, discourages investment in ICT and intangible capital (e.g., in innovation or training), and thus hinders the country's potential growth in the long run.

In addition to the provision of technological capital, human capital is a fundamental determinant of a country's well-being and economic performance. Recent OECD studies have linked the level of skills (literacy, numeracy, and problem-solving) and labour productivity.⁶ A higher level of skills is associated with higher labour productivity: about 25% of the gap between the OECD average and the best-performing countries in terms of labour productivity is explained by the different level of skills. The skills of the workforce are also strongly associated with the different levels of spending on Research and Development (R&D). With the same skills, the allocation of workers in the various production sectors and in the various companies is also fundamental: the poor correspondence, or misalignment, between workers' skills and tasks in the workplace (the so-called "*skill mismatch*") in OECD countries alone explains 12% of the productivity gap with the best performing countries. Labor productivity is higher in sectors

⁶ Andrews, D., B. Égert and C. de la Maisonneuve (2025), "Adult skills and productivity: New evidence from PIAAC 2023", *OECD Economics Department Working Papers*, No. 1834, OECD Publishing, Paris, <https://doi.org/10.1787/12ac6e8c-en>.

with less misalignment, and where workers with the highest skills are employed in larger and more dynamic companies.

The gap in terms of knowledge and skills is also evident in the Italian data compared to other European countries. In the Italian data, private spending on Research & Development (R&D) is equal to 0.9% of GDP, compared to 1.5% in France and 2.2% in Germany. The European Union average stands at 1.5%, while countries such as Sweden and Finland exceed 2.7%. From 2010 to today, private spending on R&D in Italy has remained stagnant, with an average annual increase of less than 0.3 percentage points, compared to an EU average of +0.8 points. According to the data illustrated in the Report (Chapter 4), this delay is also reflected in the share of innovative companies: only 30% of Italian companies have introduced a product or process innovation in the last three years, compared to over 50% in Germany and Sweden. Furthermore, the adoption of digital technologies (*ERP, Internet of Things, cloud, big data*) remains limited in Italian SMEs, which show levels of digital maturity that are about 20 percentage points lower than the EU average. This underutilization of R&D and digitization not only contributes to limiting the demand for workers with digital skills, with downward consequences on wages and therefore on incentives to invest in the corresponding human capital but also compromises the propulsive effect of intangible capital on the growth of labour productivity.

As pointed out in the Report, due to these structural elements, Italy has also accumulated delays in terms of the intensity of investment in intangible capital, equal to 9.5% of value added in the latest data, compared to 14.5% in France, 13.6% in Sweden and 16.5% in the United States (Van Ark et al., *World Intangible Investment Highlights 2024*). The average annual growth rate of intangible investments in Italy between 2013 and 2023 was less than 2.5%, compared to +4.7% in France, +6.1% in Sweden, and +5.8% in the United States. As a result, the contribution of intangible assets to labour productivity growth in Italy is 0.4 percentage points per year lower than the EU average over the period 1996–2019. The gap is also clear from an analysis of the share of intangible investment in GDP over the long term. From 1995 to 2023, in the face of a sharp acceleration in France (from 11% in 1995 to 16% in 2023), a significant increase in Germany (from 7% to 10%) and a significant growth in Spain (from 5% to 7.4%), Italy recorded only a slight increase in the share of intangible investments, from 7% to 8.4%. Moreover, after the pandemic crisis, the growth rate of intangible investments has been higher than that of tangible capital investments in all the European countries considered, while in Italy the growth of intangible investments is still very weak.

Moreover, the adoption of good practices related to digital managerialization is not only a problem of supply in the capital factor, but also in the labour factor. As already mentioned, the country also suffers from a structural lag in the digital skills of the workforce. According to OECD PISA 2022 data, only 38% of Italian 15-year-olds reach adequate levels in applied digital skills, compared to 53% in Germany and over 60% in the Netherlands and Finland. This gap is

also reflected among adults: according to PIAAC, only 29% of Italian adults have a medium-high level of digital problem-solving skills, compared to 45% of the OECD average and over 50% in the Nordic countries. This lack of skills historically stems from school curricula that are not consistent with the demands of the labour market, with a lack of effective guidance towards technical or vocational pathways (and the presence of social "stigma" towards ITS), as well as high levels of school dropout, particularly in the Mezzogiorno. This limits the ability of Italian companies to adopt and enhance investments in intangible capital and digital technologies and therefore compresses the wage 'premium' towards these specializations, discouraging investment in training.

Linked to this problem, the ISTAT 2025 Annual Report also points to the aging of the workforce: the over-50s now account for more than 40% of the employed and accounted for 80% of the employment increase observed between 2019 and 2024. The retention of more experienced workers in the company appears to be consolidating, both because of external constraints – in particular, the raising of the retirement age due to pension reforms – and internal needs for business continuity, in line with the experience of other European countries (the phenomenon known as "*labour hoarding*")⁷. However, this growth in stable employment, although positive on the social front, does not seem to be accompanied by real paths of remuneration or professional enhancement, concentrating to date in sectors with low skills and low productivity – such as accommodation, catering, construction – which have absorbed a large part of the increase in labour input (ISTAT Annual Report 2025, Chap. 4). The result is stagnant hourly productivity, compared to more dynamic performance in the main European partners, with recent growth that is confirmed to be driven almost exclusively by the volume of work employed, and not by an increase in efficiency.

3.2. *The productive system structure*

The evidence discussed in this and other reports analysing the Italian economy shows that, between 2022 and 2024, employment in Italy grew, although, as seen, mainly in low-productivity sectors, such as construction, health, social care and catering (63% of the net increase in aggregate employment is in these sectors, according to the ISTAT 2025 Annual Report). The trend is more pronounced in the South, where these sectors have absorbed more than 70% of new employment, while in the North, growth has been more balanced, also including professional services and high-tech industries. This imbalance in the composition of

⁷ The phenomenon is cited, for example, in France's Annual Productivity Report as a factor in the reduction of productivity per hour worked, together with the acceleration of the entry of young apprentices into the world of work due to measures taken by the French government in recent years. See in particular <https://www.banque-france.fr/fr/publications-et-statistiques/publications/comment-expliquer-les-pertes-de-productivite-observees-en-france-depuis-la-periode-pre-covid>

employment growth at the sectoral level limits the contribution of employment to productivity growth.

This is consistent with the evidence that in low-productivity sectors – such as commerce and construction – the link between firm size and productivity is weaker. Chapter 4 of the Report shows that the productivity gap between companies with more than 50 employees and those with fewer than 10 is less than 30% in these sectors. In contrast, in knowledge-intensive sectors such as ICT, professional services, and high-tech manufacturing, the productivity of large companies exceeds that of micro-enterprises by 70–80%. However, in Italy, these high-potential sectors, particularly services, are characterized by a relatively small average firm size, and in the period 2022-2024 they experienced much more modest employment growth.

A particularly relevant area for the relationship between size growth and productivity is that of professional services, a sector that, due to its high intensity of knowledge and digitization, drives productivity in several European countries. As highlighted by the 9th Report on the Liberal Professions 2024 produced by the CNEL, the total number of professionals has increased by 30% in the last decade, exceeding 1.4 million active professionals in Italy. However, more than 85% work on an individual basis and with modest average incomes. In comparison, in Northern European countries (such as Denmark and Germany), a growing share of professionals operates in aggregate or consortium form, with more complex organizational structures and greater access to technologies, international clients, and training. There are also interesting consolidation trends for Italy, partly due to the dynamics of demographic aging, whereby compared to 2019, the absolute number of professionals is reduced in all sectors by about 4.5%, except in the ICT sector (+15.9%, but with a still low share at 4.2%). The number of professional firms that are employers, and therefore larger, is also growing, and there is also a growing trend towards the stabilization of employment relationships, with transformations from fixed-term contracts to permanent contracts. However, the consolidation trend underway in the sector is still slow, and the transition is also partly delayed by the reduction in the youth component.

More generally, ISTAT data show that Italy has experienced a reduction in the size fragmentation of enterprises in recent years. In manufacturing, between 2008 and 2022, the number of companies decreased by 110,000, of which 105,000 had fewer than 20 employees. The recent ISTAT Report on the Competitiveness of Productive Sectors (2025) confirms that this trend, already underway before the outbreak of the Covid-19 pandemic, has continued in the post-pandemic period, accompanied by an increase in employment and turnover and, therefore, in the average size of enterprises. This phenomenon is not limited to the manufacturing sector but is widespread in all economic sectors.

In recent years, however, this consolidation has not been matched by a proportional improvement in productivity. The reason seems to lie in the nature of the changes that occurred in the post-pandemic period: growth resulted from a process of selection and development within companies, rather than from a shift of workers to larger and, therefore, more productive companies. Indeed, the data show that, except for the ICT sector, the process of reallocation between size classes has lost momentum following the pandemic.

In addition, digitization is still limited, especially among small and medium-sized enterprises. Many of these not only have not invested in digital technologies, but, considering the sample evidence, do not seem to intend to do so. As a result, the percentage of small businesses that underestimate the importance of digitization for their competitiveness is high. There are few exporting and innovative companies, compared to the total number of companies, and even among them, there is a concentration, whereby about a quarter of the largest exporting companies account for about 80% of total Italian exports.

The overall picture therefore denotes an inefficient dynamic in the contribution of factor allocation to the overall productivity of the national economy: employment expands in sectors with lower productivity, or where in any case the growth in company size is less associated with higher levels of efficiency, while it remains stagnant in sectors where it could produce the greatest benefits for aggregate productivity.

This lack of dynamism in the reallocation of workers between companies is probably aggravated by the issue of the low skills of the workforce mentioned above, a factor that limits the ability of companies to adopt innovative capital – especially digital – and limits their growth. The brake in terms of profits and turnover, in turn, reduces the expected return on investment in human capital and, together with factors such as predominantly family management and the adoption of managerial practices that are not oriented towards efficiency (which in turn are associated with lower investment in innovation and intangible capital), fuels a vicious circle of underutilization of skills and lack of vigour in the labour market with a view to boosting productivity.

3.3. Territorial gaps

The importance of the factors mentioned above as critical hubs for productivity in Italy is also confirmed by observing the high level of heterogeneity that characterizes the Italian territories. In general, when comparing Italian regions with their European counterparts, the evidence is confirmed that the regions of Southern Italy recorded, in all the periods considered, a negative GDP per capita growth differential compared to other less developed areas of the EU-27, attributable to the reduced growth in labour productivity, only partially offset in recent years by the increase in the employment rate.

An analysis with data on the financial statements of joint-stock companies (OECD-Orbis data) for Spain and Italy contained in the Report shows, however, that the productivity gap between the less developed areas and the more developed territories of the country is not closely linked to the different sectoral specialization or dimensional heterogeneity of the company, and should therefore be attributed to a different endowment of the structural factors previously mentioned among the Italian territories.

The analysis at the provincial level reported in Chapter 3 shows, in fact, that indicators of human capital (share of graduates and cognitive skills on INVALSI statistics), infrastructure (both physical and digital), entrepreneurial dynamism and PA efficiency (and in general quality of local services) are all factors associated with higher productivity.

In support of a widespread territorial heterogeneity, a further in-depth analysis in the Chapter reveals that productivity is strongly concentrated in the urban areas of the North and along the route outlined by the Via Emilia, often coinciding with provincial capitals or large cities, while the peripheral municipalities record much lower levels of productivity than the central poles. In an intermediate situation are the networks of some specialized municipalities (partly coinciding with the old industrial districts), although these networks show greater vulnerability to fragmentation and lack of common services than large urban aggregates.

This polarization at the municipal level, moreover, is also observed in provinces with high average productivity, but behind which there are still strong internal inequalities. In this regard, the CNEL Notebook on the desertification of services in peripheral territories (2025) together with the document of Observations and Proposals on the regeneration and repopulation of marginal territorial areas (2025), show evidence of the need for integrated interventions in these territories, with particular attention to the strengthening of essential public services and digital and logistical infrastructures in inland areas, including through forms of public-private partnership, as well as the creation of multi-service territorial facilities for the integration of business, research and training, services and innovation networks, capable of attracting qualified human capital and supporting innovative entrepreneurial projects. These are highly heterogeneous territories, the development of which requires targeted and differentiated interventions, integrating and strengthening the current National Strategic Plan for Inland Areas with complementary policies and incentive mechanisms.

4. Key recommendations for supporting productivity

With respect to the critical productivity hubs identified in the Report, several economic policy recommendations can be identified, which should be organized into the three main areas identified: skills and investment; structure of the production system; and territorial gaps.

In terms of *skills and investments*, a starting point is the Government's commitments with the European Commission outlined in the 2025-2029 Medium-Term Budget Structural Plan (PSBMT). The Plan commits to continuing the skills enhancement action already initiated with the PNRR, and to supporting incentives for technological adoption by companies, increasing the ratio of public spending on R&D to GDP. The Plan also envisages the provision of resources to accelerate the full implementation of the reform of the technological-professional training system (Law 121/2024), which provides for four-year secondary education courses integrated with higher technological education courses, implemented through network and partnership agreements between technical and professional educational institutions, ITS Academies, universities, and other public and private entities.

These commitments should be progressively articulated in a precise design of objectives and targets that are articulated, both in terms of business support measures and in terms of training, in a coherent and measurable action plan with time monitoring from now to 2029. In particular, the key elements of this set of measures dedicated to supporting the knowledge economy should be the following.

1. The strengthening of the R&D tax credit for investments in digital technologies and intangible capital (software, patents, design), so as to make it applicable in a homogeneous manner to all sectors, including from the point of view of the use of the instrument, in particular for knowledge-intensive services and digitized professions.⁸ The resources for this instrument, in addition to those already mentioned in the Plan's commitments, can be further increased by the rationalization and simplification of the numerous incentive programs for businesses, another commitment of the PSBMT to the European Commission. The plethora of incentive measures available today should be reshaped to make such incentives as automatic as possible based on ex-ante criteria, and not discretionary, increasing their effectiveness, as the evidence shows⁹. The design of the new R&D tax credit should include some elements of flexibility, including the possibility of a transferable tax credit ("*refundable tax credit*") for companies (such as startups) that, by not making profits, cannot scale the credit from taxes; the possibility

⁸ For an evaluation of the measure (also in relation to the heterogeneity of the effects for different company sizes) see Bank of Italy: <https://www.bancaditalia.it/media/notizia/online-il-rapporto-gli-incentivi-in-investimenti-4-0-una-valutazione-dell-impatto-della-misura/>

⁹ In particular, a series of studies on incentives in the Mezzogiorno (Law 488/92) show the inefficiency of discretionary subsidies compared to automatic measures.

of postponing the credit over time; the substitutability of the credit with discounts on social contributions paid to workers. To take greater advantage of economies of scale, it is appropriate to imagine a modulation of credit based also on the total volume of R&D spending, and not only on its increase, for small and medium-sized enterprises.

2. The creation of a tax credit for training 4.0 activities, with reference to certified skills in key sectors with high productivity potential, such as advanced manufacturing (mechatronics, robotics), ICT and digital services, high-efficiency construction, technological healthcare, intelligent logistics and renewable energy. The list of these skills can be updated according to the sectoral impacts of the expenditure envisaged in the PSBMT according to the investments activated, assessed with respect to the availability of skills in the area. The progressive feeding of the new centralized digital platform SIISL (Information System for Social and Labor Inclusion) should be used in this regard, also for the purpose of a targeted strengthening of employment centres and their coordination throughout the territory with respect to the types of training identified, with the aim of bringing the share of unemployed people trained (currently around 25%) towards the European average (over 40%). The resources needed for this enhancement can also be found through the revision of programs co-financed by the European Structural Funds, while it will be important to introduce a mechanism to control the training provided, also to improve the verification of the parameters related to decentralized productivity contracts.
3. Implement the reform of the technological-professional training chain (Law 121/2024), strengthening the ITS and the connection with university stem courses through measurable targets and specific resources allocated for this purpose. In this regard, the recent Legislative Decree 45/2025 establishes the instrument of the "Territorial Educational Pacts 4.0", i.e., agreements signed at the local level that involve a plurality of actors: educational institutions, training bodies, ITS, universities, research centres, companies and public and private entities in the territory, in order to share material and professional resources (laboratories, teaching and technical staff, equipment) to build training courses focused on the specific production needs of the territories. It allows greater integration with the business world, building dynamic, open and adaptable training chains. However, the specific directions and articulations of the new pathways have not yet been defined, nor have the detailed timetables. In particular, based on the analysis of skills needs arising from the analysis of planned investments and business demands, quantitative targets should be identified for the extension of ITS courses within the horizon of the Structural Budget Plan, and the consequent expansion of the technical and scientific training offer, in conjunction with the university system and the Ministry of Education as regards the training and recruitment of teaching staff. These coordinated targets should be included in the development of the Territorial

Educational Pacts and monitored annually, with the provision of additional actions and resources in the event of significant deviations from the planned path.

Regarding the critical issues related to the functioning of the *production structure* and the *size of the enterprise*, the Government's commitment, contained in the PSBMT, to a framework law on Small and Medium Enterprises by 2026 is important. This law, again in line with the Government's commitments, must contain provisions aimed at facilitating the growth in size and aggregation of companies; providing for administrative simplification; improving the conditions for starting and running a business; facilitating generational change, including through managerial management by professionals; boosting investment; and increasing skills. In this regard, based on the evidence presented in this Report, it is important to highlight several key elements that should inform the legislative measures being defined.

1. In terms of skills, the development of the framework law on SMEs, in addition to the business support initiatives discussed above, should be coordinated with the government's commitment to continue to enhance the National Centres, Extended Partnerships and Innovation Ecosystems, funded by the PNRR, to strengthen cooperation between universities, research centres and businesses. In this regard, it seems appropriate to initiate a rationalization of the various initiatives in support of emerging technologies contained, among others, in the document 'Made in Italy 2030' and in the 'Operational Plan of the National Strategy for Digital Skills' (by way of example: Fund for AI and IOT; IPCEI; Transition 5.0; Digital Innovation Hubs; Cases for Emerging Technologies).¹⁰
2. In terms of improving the conditions for starting and running a business, it will be important to finalize the PNRR goal of simplifying and digitizing 600 procedures by 2026, intervening with additional actions and resources in the presence of significant deviations from the targets agreed with the European Commission.
3. To foster better management practices, it also seems useful to extend and strengthen programs to support the managerialization and internationalization of companies. Managerial skills and participation in global value chains are in fact associated with better business performance, and the evaluation of certain policies – such as the internationalization voucher, aimed at covering part of the expenses incurred for consultancy of temporary managers accredited to support exports – show promising results. There is indeed evidence that interventions of this type, rather than interventions aimed at supporting specific sectors or geographical areas, have greater positive effects

¹⁰ The Operational Plan for Digital Skills is aimed at achieving the digital transition targets set by the European Commission by 2030, i.e., 75% of EU enterprises using Cloud, Artificial Intelligence or Big Data, and 90% of small and medium-sized enterprises with at least the basic level of digital intensity; as far as the public sector is concerned, the European targets to be achieved are 100% of essential public services online, and 100% of citizens with access to their health records and digital identity

- on the internationalization of small businesses and on various indicators of business performance, including labour productivity, business size and job quality. Like the already tested issue of vouchers for export managers, which should be repeated, a form of support for the recruitment of managers responsible for innovation could also be tested, in line with some of the actions outlined in the Operational Plan for Digital Skills.
4. With regard to the issue of generational change, the evidence of which is well represented by the indicators of demographic aging of the workforce discussed in the Report, it seems necessary to reform as soon as possible the taxation of inheritance and the transfer of family-owned shares, in order to eliminate the fiscal disincentives to the opening of capital and the transfer of control, in line with the proposals of the Green Paper 'Made in Italy 2030', without, however, having identified precise legislative targets or a targeted timeframe in this regard.
 5. There is also an issue related to the financing of business growth by the market, both in terms of credit and with respect to the capital market. In terms of access to credit, the financing of intangible capital is complicated for the banking system, which tends to favor tangible capital as collateral. From the point of view of the capital market, there are still several regulatory obstacles, which is why in Italy, less than 3% of pension fund assets are currently allocated to alternative investments, compared to a European average of more than 10%. The ongoing revision of the Consolidated Finance Act (TUF) aims to facilitate the financing of the dimensional growth of companies, with an overall reorganization of the subject. In this regard, two relevant issues are highlighted to be monitored during the approval of the enabling bill. First, it will be important to facilitate the possibilities of direct investment in companies by venture capital and private equity funds, also using public-private partnership funds linked to technology transfer (e.g. through the role of CDP Venture Capital), as well as business accelerators oriented towards the adoption of advanced technologies, for SMEs. Secondly, to incentivize the banking sector to provide loans guaranteed by IP (*Intellectual Property*) through public instruments or credit insurance, not limited to financing R&D activities but also investments related to organizational capital, software and brand management.
 6. More generally, it seems appropriate to reformulate the legislation to rationalize the different size thresholds of companies provided for by regulatory and contributory obligations, with the aim of eliminating disincentives to growth and promoting the transition from micro to medium size, through gradual simplifications, growth support programs and incentives that offset the net charges related to exceeding the size thresholds. These measures should be included in the new editions of the annual Competition Law that the Government has already agreed with the European Commission under the PSBMT.

A third area of recommendations concerns the reduction of the significant productivity gaps on a territorial basis that our country has been experiencing for decades, between urban centres, service hubs and inland areas, not only within the Mezzogiorno but at the national level. In this regard, the European Commission's proposal on the 2021-2027 mid-term review of the Cohesion Policy (COM(2025) 123 final) emphasizes the need for an approach aimed at the quality of interventions and policy coherence, strengthening the link between spending and results, realigning cohesion policy resources to achieve the new EU priorities: strategic autonomy in the most advanced sectors, competitiveness and innovation of industry, security (defence), green, digital and social transition.

As part of the Cohesion Policy, the Commission encourages the use of ex-ante conditionality based on validated territorial strategies and impact monitoring systems, including metrics on productivity and qualified employment, with an integration between structural funds, PNRR and national instruments to support territorial innovation ecosystems and ensure expected results in terms of competitiveness and development. In particular, the key elements that seem to emerge from the most recent experience are the following.

1. It is important to systematically monitor the results of the implementation of the instruments in support of the investments of the single SEZ in the South. The sixth report to Parliament on the state of implementation of the PNRR points to the need to strengthen coordination between the tax measures provided for within the single SEZ and support for the adoption of technologies, integrating tax credits with active technological support programs (digital vouchers, tutoring services, targeted training) and with the selection of projects with high innovative content through territorial structures (e.g. competence centres, *digital innovation hubs*), in order to ensure that the tax incentive actually translates into technological adoption and diffusion in disadvantaged territories, including through closer integration with ITS programs, competence centres and territorial innovation ecosystems. More generally, the single SEZ risks producing limited effects if it is not fully integrated into industrial, national and regional policies, and into the broader development strategies, including technological ones, of the country.
2. The innovation networks planned in the area should be strengthened with precise indicators to be monitored over time, with particular reference to the number of companies and entities involved in collaborative projects, private spending on R&D activated through co-financing, and the rate of diffusion of digital technologies among the participating entities, enabling the participation of micro-enterprises, local networks, and self-employed workers. The 'densification' of a widespread productive fabric, with

the physical presence of multiservice facilities, community cooperatives and local digital infrastructures can constitute an enabling infrastructure for the effective absorption of SEZ resources, strengthening the impact of investments and promoting functional integration between large and small economic actors in the most fragile areas.

3. Together with these instruments, it is advisable to continue investing in the PA's implementation capacity, with specific measures to strengthen administrative action provided for in the Structural Budget Plan, which should in particular focus on the efficiency of local administrations in the South, confirming the centrality of the functions of evaluating and monitoring the impact of the measures, including through reward and penalty mechanisms for delays or non-compliance. Moreover, these instruments are fully consistent with the ex-ante conditionality and territorial strategies required by the European Cohesion Policy, and by European legislation on public spending.
4. Finally, as part of the ongoing PNRR review process, it will be necessary to pay adequate attention to compliance with the constraint of allocating at least 40% of the resources that can be allocated territorially to the regions of Southern Italy – while guaranteeing the principle of additionality of the Community and national Cohesion Policy provided for by the European Treaties and the Italian Constitution – in order to promote quality investments capable of producing long-term structural effects on competitiveness and balanced territorial development.

5. Conclusions

The evidence contained in the Annual Productivity Report, and in the documents analysed for its preparation, shows that the stagnation of Italian productivity stems from a mix of systemic delays in workforce skills, intangible capital, enterprise size structure, access to quality services and infrastructure conditioned by unresolved territorial gaps.

Each recommendation in these areas within the Report -- in terms of (i) investment in skills, intangible capital and digital technologies; (ii) improvement of the conditions for starting, managing and financing companies by orienting them towards dimensional growth; (iii) reduction of territorial disparities, through localized strategies and strengthening of the implementation capacity of public policies – is based on quantitative and comparative evidence with respect to the main developed countries, in line with a policy analysis model anchored to international standards on productivity, based on data and objective results of research and impact assessment.

As already mentioned, there is no miraculous solution to boost productivity in our country: rather, a systemic and coordinated approach at different levels of government is needed, which is the requirement to transform productivity into a stable lever of inclusive and sustainable growth for the Italian economy. The recommendations presented here are therefore an agenda that must be appropriately integrated among the various central and local government actors and uniformly equipped with analytical tools and indicators for the evaluation and coordination of policies at both sectoral and territorial levels.

Evidently, this first annual productivity monitoring exercise analysed the main factors that, from an international comparison, contribute to the stagnation of Italian productivity. The latter are the result of a series of structural "defects" in the Italian economic system, such as the slowness of civil justice, the inefficiency of public administration, and the lack of competition in some service activities.

The next Annual Reports prepared by the Productivity Committee will examine these reforms in greater depth, to assess the relationships between their implementation and the mix of factors previously analysed that influence the dynamics of productivity in the country, together with the monitoring of the public policies suggested here.

Box 2 - Measuring productivity

The analyses presented in the Report are based on official statistical sources, produced within the National Statistical System and international databases coordinated by Eurostat, the OECD, and the European Commission. Although these sources offer a solid and coherent framework for measuring productivity, it is useful to recall some methodological elements that help to correctly interpret the results.

1. Labor productivity

Labor productivity can be expressed both in terms of the number of people employed and the hours worked. In the presence of significant variations in the intensity of work (e.g. because of layoffs, involuntary part-time or *labour hoarding* phenomena), the two measures can differ significantly. In such contexts, hourly productivity is generally preferable, as it reflects the actual efficiency per unit of work used. In the analyses proposed in Chapter 2, labour productivity is expressed in terms of hours worked. The latter are given by the number of hours worked, paid and unpaid, in any professional position (employee and independent), as long as they are aimed at producing income.

2. Total factor productivity

Total factor productivity (TFP) is a useful indicator for analysing the efficiency with which an economy combines labour and capital inputs to generate value. It captures the effects of economic growth not directly attributable to the increase in observable inputs, such as innovation, technological progress, quality of management and work organization. Total factor productivity (TFP), in line with the definition adopted in the national accounts, is calculated as the ratio between the added value in volume and an overall measure, also in volume, of the use of capital and labour (see the methodological references contained in Chapter 2). In other words, the TFP represents the part of the product growth that is not directly explained by the increase in measured production factors. It is therefore a residual measure, which captures the overall efficiency with which capital and labour are used in the economy. This approach requires the adoption of binding assumptions on the measurement of capital and labour, for example, on the useful life of capital goods, the form of depreciation, the function of withdrawals and the qualitative composition of labour inputs. These choices, although based on shared statistical criteria, can significantly affect the estimates and must be carefully considered in the interpretation of the results, in particular in the comparisons between countries. ISTAT, for example, uses the permanent inventory method (PIM), with useful lives differentiated by type of asset and sector and a linear depreciation. The estimates published by the OECD are based on standardized parameters

and on a geometric depreciation, with the aim of ensuring consistency and comparability between countries. In this regard, see Box 4 - *Differences in the measurement of capital between Italy and the OECD: a methodological note, reported at the end of Chapter 2.*

3. Real added value and sectors with high service intensity

The dynamics in real terms of the added value derive from the deflation of nominal quantities, according to the procedures harmonized and codified by Eurostat. In some sectors of advanced services – such as professional, digital, financial and consulting services – the measurement of real added value can present greater technical difficulties, linked to the complexity in detecting the quantity and quality of the outputs produced. These difficulties are particularly relevant in the Italian context, where these sectors are often characterized by a prevalence of small and very small companies, for which the availability of detailed information is more limited. This could influence, to varying degrees, the accuracy with which the sectoral dynamics of added value are estimated and, consequently, the productivity indicators.

4. Intangible capital and technologies

Intangible capital – which includes software, R&D, organizational capital, skills and other intangible assets – is now a crucial factor for productivity growth, particularly in the most knowledge- and innovation-intensive sectors. Its economic relevance is recognized by numerous official sources, which document its expansion over time. However, the coverage in the national accounts is still partial, since many intangible assets, such as R&D expenses, may not be fully accounted for among investments. This can lead to an underestimation of total factor productivity (TFP), since the efficiency gains associated with the use of intangible capital are not fully reflected in the measurement models of official statistics.

5. EU KLEMS as a source of international comparison on intangibles

In the international comparison of productivity, an important reference is the EU KLEMS database, which provides harmonized historical series for employment, hours worked, physical and intangible capital, and total factor productivity (TFP), at the sectoral level. The EU KLEMS estimates are consistent with the national accounts, but may differ from those of ISTAT in some methodological choices, such as the inclusion of additional intangible assets (e.g. organizational capital) or the use of standardized models to estimate capital and TFP. These differences reflect different purposes: EU KLEMS is designed for comparisons between countries and harmonized time series, while ISTAT estimates respond to national monitoring and official accounting needs. In this context, EU KLEMS is a useful

complementary tool for analysing the evolution of productivity, in particular to capture the contribution of intangible capital, in line with what is discussed in the Report.

6. The shadow economy, undeclared work and territorial comparisons

The presence of undeclared work and unregistered economic activities continues to be a significant component of the Italian economic system. According to official ISTAT estimates, the unobserved economy accounts for about 10% of GDP (2022 figure). This phenomenon particularly affects certain sectors with lower productivity, such as trade, construction and personal services, and is unevenly distributed across the country. As a result, it can affect the interpretation of productivity measures, especially in sectoral and territorial comparisons. Although estimates of the shadow economy are integrated into the national accounts, it is useful to take into account that they are produced using indirect and aggregate methodologies, which is an element to be considered in the analysis of production dynamics.

In conclusion, the analyses presented in the Report are based on official statistical sources and internationally recognized methodologies. Despite some critical issues related to the nature of the phenomena observed and to sectoral or territorial specificities, the available data allow a robust and consistent reading of productivity dynamics. Looking ahead, to improve analytical capacity and deepen the relationships underlying the observed dynamics – also in terms of temporal evolution, quantification of impacts and direction of relationships – the integrated use of enterprise microdata can be a useful tool for more detailed analyses of productivity and for more informed guidance of public policies.