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Abstract

Next Generation EU is an important opportunity for Italy to relaunch its growth and productivity in discontinuity with the past. However, if on the one hand the National Recovery and Resilience Plan offers many opportunities favoring digital transition, with positive effects on the dynamics of economic growth, on the other hand the characteristics of the country's production system, combined with the recent experiences concerning incentives for investments in digitalization, highlight a series of risks for the goal of full digital transition. The risks regard the asymmetric distribution by territories and firm size, the lack of digital skills, and the presence of inadequate organizational models. Complementarity between investments in digital technologies, training and organizational models and greater synergies between the measures of the Italian NRRP and the strategic lines of the European industrial policy are some of the guidelines that could allow the NRRP to significantly change the pace of Italian structural economic growth.

¹ This policy brief reflects the opinions of the authors only, without binding the institutions to which they belong.

1. Introduction

The Covid-19 crisis has marked an epochal turning point for Italy: if, on the one hand, the country has experienced one of the worst recessions since WWII and among the most pronounced out of all the European countries (in 2020: -8.9%, second country only after Spain, vs -6.0% EU average²), on the other hand, it can now count on an important economic endowment provided by the Next Generation EU (NGEU).

Looking beyond the rebound in GDP expected for 2021 (+ 5.0%³), will the discontinuity marked by the crisis and by the policies adopted to counter it in Europe be able to restart a medium-long term growth process in Italy? To answer this question, it would be useful to look into the factors that have decelerated Italian growth in the last two decades (paragraph 2) and the impact that the measures contained in the National Recovery and Resilience Plan (NRRP), in particular those related to digitalization, may have on these factors (paragraph 3).

2. The structural issues of the slowdown in productivity in Italy

Italy has had two decades of sterile growth: after the 1990s, from the early 2000s the trend in total factor productivity, for example, first began to incline downwards and then show substantial stagnation (Figure 1), when in the other major advanced economies (such as, for example, Germany, France and the United States) - the 2009 crisis apart - it followed a path of growth. Italy's loss of competitiveness over a long-term time horizon highlights the existence of a series of structural issues that have not allowed the Italian productive system to fully grasp the opportunities related to the digital revolution.

Among the factors that to date have contributed to widening the competitiveness gap with other countries, literature has highlighted the small size of the Italian company (employees in micro-enterprises: Italy 42.6% vs EU 29.1%; 2018); the slowdown in investments (average annual 2010-19 % change in real terms: Italy -0.8% vs EU + 2.5%), including ICT investments (Italy +1.9% vs Germany +2.5% and France +7.8%); low spending on research and development (% of GDP: Italy 1.5% vs EU 2.2%; 2019); the lack of digital skills (companies that train for ICT skills: Italy 15% vs EU 20%; 2020);⁴ the high percentage of businesses with family governance. With regard to the latter point, while in terms of family ownership Italy is in line with other European countries with 85.6% of family-owned businesses (close to 80.0% in France, close to 83.0% in Spain and close to 90% in Germany), it is in terms of family management that Italy differs considerably for its low propensity to use managers outside the family. In fact, family businesses where management is in the hands of the same owner family constitute two thirds of companies in Italy (66.3%), compared to a third in Spain (35.5%) and

² Source: European Commission, 2021.

³ Source: European Commission, 2021.

⁴ Data on company size, investments (including ICT), R&D spending and digital skills are sourced from Eurostat.

around a quarter in France (25.8%) and Germany (28.0%) (source: Bugamelli, Cannari, Lotti & Magri, 2012).

All these factors make it difficult for Italy to take full advantage of the digital transition for which managerial skills are fundamental (Schivardi & Schmitz, 2020). The backwardness of the Italian production system in the adoption of digital technologies also clearly emerges from the most recent data: according to the Business Digitisation Indicator included in the Digital Economy Society Index (DESI) of the European Commission, in 2020 Italy was in 22nd place out of 27 countries in terms of the level of digitalization of businesses (Figure 2), down by five notches compared to 2015 (while slightly improving the level).

3. Opportunities and risks of the interventions for the digitalization of businesses envisaged by the NRRP

The digital transition will play a decisive role for Italy's medium-long term growth trajectories, considering that it will be Mission 1 in the NRRP concerning digitalization ("M1 digitalization, innovation, competitiveness, culture and tourism") that will have the greater impact on economic growth according to the estimates contained in the NRRP itself: a +3.9 percentage-point increase in real GDP compared to the base scenario in the entire 2021-26 period, representing almost 30% of the entire impact of the NRRP estimated at 15 percentage points.

With particular regard to the business system, within Mission 1 it will be the approximately 24 billion euro allocated to "Digitalization, innovation and competitiveness in the production system" - of which 13 billion are specifically related to "Transition 4.0" - that will play the decisive role in transporting Italy's businesses towards the frontier of the Fourth Industrial Revolution.

The characteristics of Italy's production system, combined with the recent experiences concerning incentives for investments in digitalization, highlight a series of risks for the goal of full digital transition.

The first risk concerns territorial disparities: according to a study by Bratta, Romano, Acciari, & Mazzolari (2020) on 2017 data, the experience of hyper-depreciation has shown an imbalance of the resources absorbed, compared to the entrepreneurial consistency of the territories, towards the North (with particular reference to Lombardy, Veneto and Emilia-Romagna) (Figure 3). And it does not seem that things improved last year: in fact, a survey conducted in 2020 by the Centro Studi Tagliacarne-Unioncamere on manufacturing companies with 5-499 employees shows how the share of companies that had adopted or were planning to adopt Industry 4.0 was higher in the North than in the South (19% vs 14%). This could seriously contribute to widening territorial growth gaps in light of a certain positive relationship between the resumption of post-lockdown activities and the company's decision to accelerate towards the digital transition (Figures 4 and 5) (Meliciani & Pini, 2020).

The second risk concerns the asymmetrical distribution by size class: the same study by Bratta, Romano, Acciari, & Mazzolari (2020) shows how medium-large companies, while contributing about 3% to the entrepreneurial base, have represented almost 20% of the companies that made use of hyper-depreciation (2017 data). Even the most recent data from the Centro studi Tagliacarne-Unioncamere highlight this dimensional asymmetry, with 11% of micro enterprises (5-9 employees) investing in Industry 4.0, against 20% of small ones (10-49 employees) and 38% of medium-large ones (50-499 employees).

The third risk then concerns the lack in companies of the digital skills necessary for the full fulfillment of the potential of the new 4.0 technologies: Italy is in fourth and last place in the European Union for the percentage share of the workforce with digital skills above basic ones (Italy 26% vs EU 36%⁵) (Figure 6); not surprisingly, one third of the hired employees envisaged by Italian companies for which digital skills with a high degree of importance are required are difficult to find.⁶

Finally, the fourth risk could concern the presence of inadequate organizational models, as digital transition implies a real revolution in business models involving all factors of the company organization, with respect to which family management could be an impediment: according to the 2020 survey by the Centro Studi Tagliacarne-Unioncamere, among the family-owned companies, those that have invested in digital innovation (Industry 4.0 and/or digital reorganization to counter the crisis) constitute 23% in the case of family-managed companies against 40% in the case of non-family managed companies.

4. Conclusion

The Next Generation EU is a unique opportunity for Italy and Europe because the resumption of investments (both private and public), after twenty years of stagnation, is an important factor of discontinuity. However, it is necessary to accompany the NRRP with measures that deal more directly with the structural issues of the Italian production system. For example, measures for small businesses mainly concern internationalization, less corporate finance, business networks, participation in global value chains; public investments are biased towards material investments; the structure of incentives for the adoption of new technologies may prove insufficient for smaller companies located in the South.

As a first step, strong awareness measures on the issue of digitalization will be fundamental considering that only 26% of manufacturing companies (with 5-499 employees) know Industry 4.0, with significant differences between North and South (29% vs 22%), as well as between micro enterprises (19%), small enterprises (30%) and medium-large enterprises (44%).⁷

⁵ Source: Eurostat, 2019 data

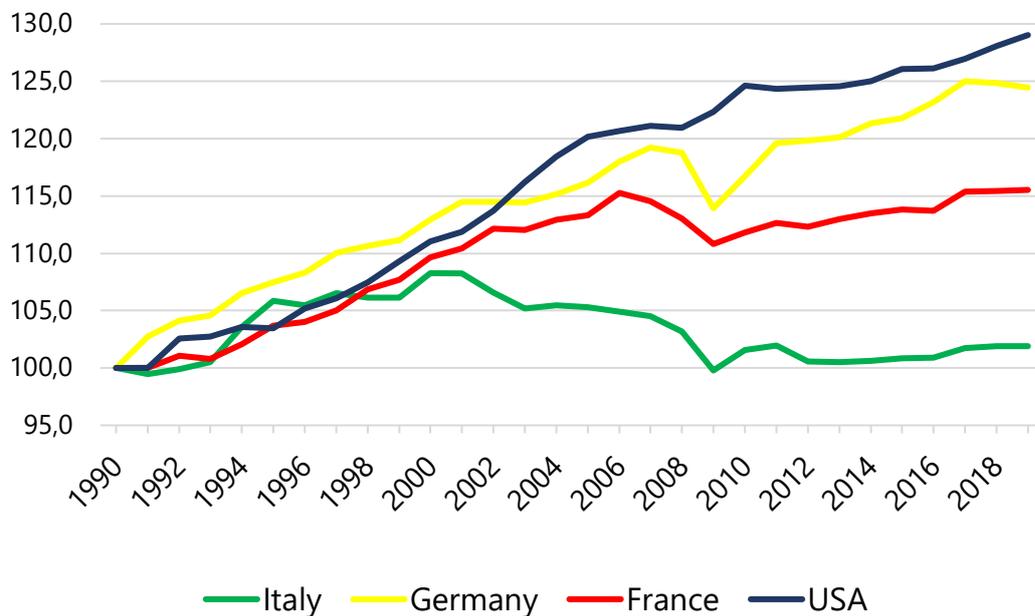
⁶ Unioncamere-ANPAL, Excelsior information system, 2020.

⁷ 2020 survey, Centro Studi Tagliacarne-Unioncamere.

Furthermore, the complementarity between the adoption of technologies, training and organizational models is mentioned in the NRRP, but the measures to overcome the shortcomings in training and organizational models are limited and could be insufficient. Greater synergies will also be needed between the measures of the Italian NRRP and the strategic lines of European industrial policy (alliances in the sector of processors, semiconductors and for industrial data and the cloud).

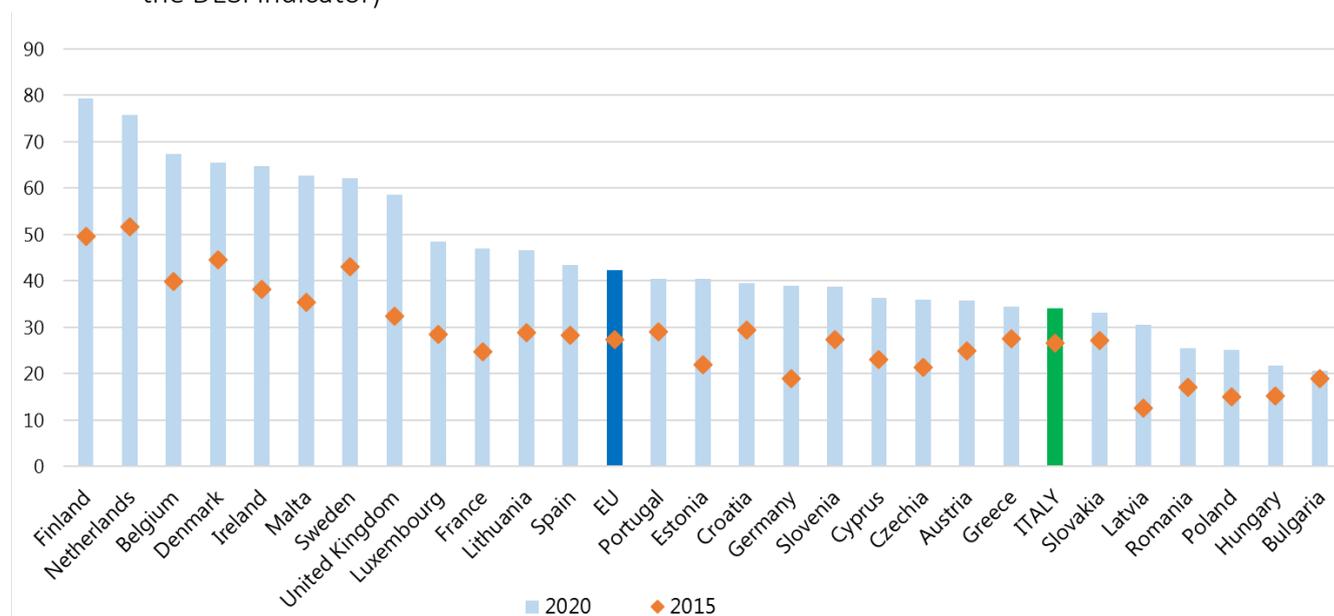
Finally, all these considerations can be fully and effectively implemented if at least three conditions are met: clarity of the priorities of the medium-long term economic policy; resource management to minimize transition costs from the emergency to the growth phase; medium-long term certainty in politics, with strong relationships and broad agreements between the main political and social stakeholders (Bastasin et al., 2021).

Figure 1. Total factor productivity (Index number 1990=100)



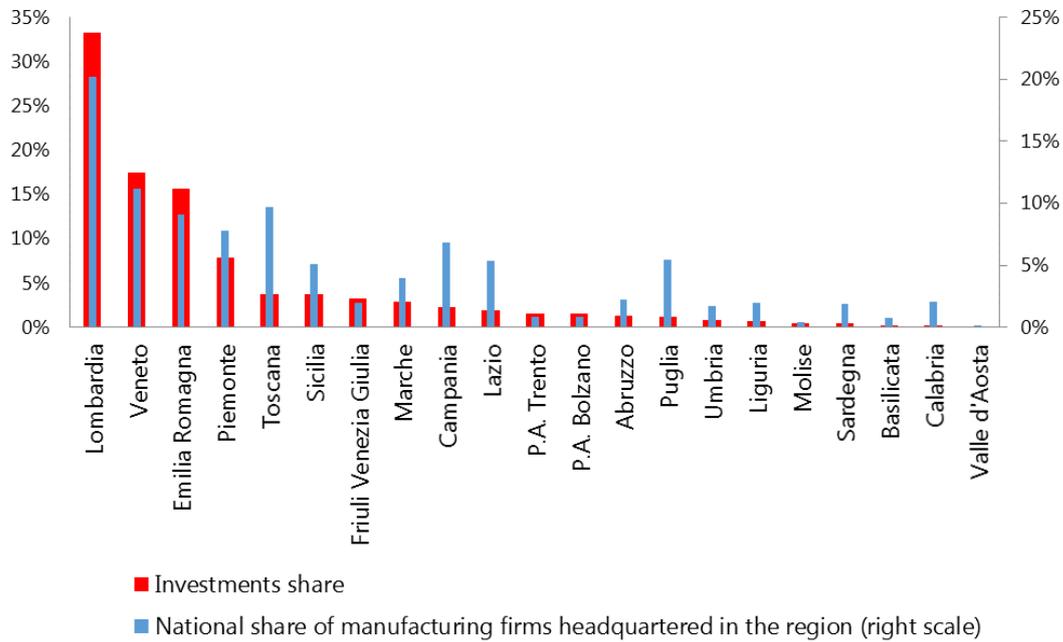
Source: OECD data

Figure 2. Degree of digitalization of businesses (0-100, Business digitisation sub-indicator of the DESI indicator)



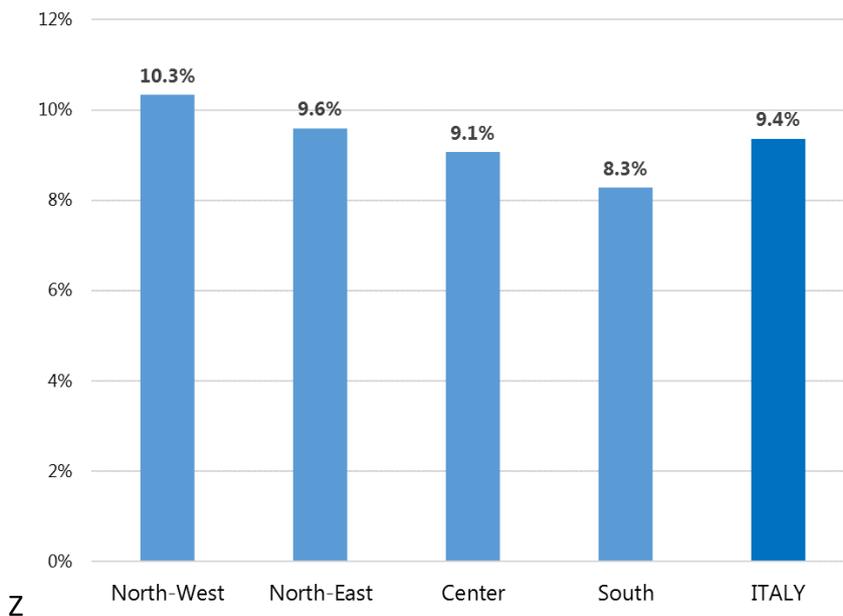
Source: European Commission

Figure 3. Subsidized investments in 4.0 capital goods by companies benefiting from hyper-depreciation (distribution in regional %, 2017)



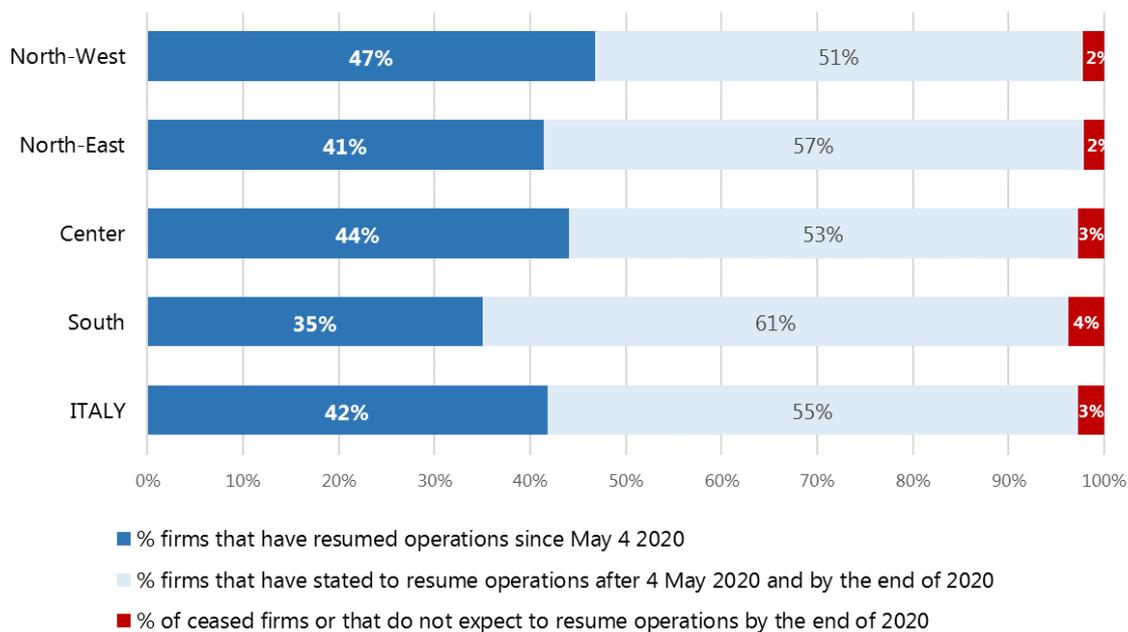
Source: Bratta, Romano, Acciari, & Mazzolari (2020)

Figure 4. Companies that have adopted or are considering adopting the acceleration of the digital transition as a strategy in response to the crisis from Covid-19 (% share of total businesses)



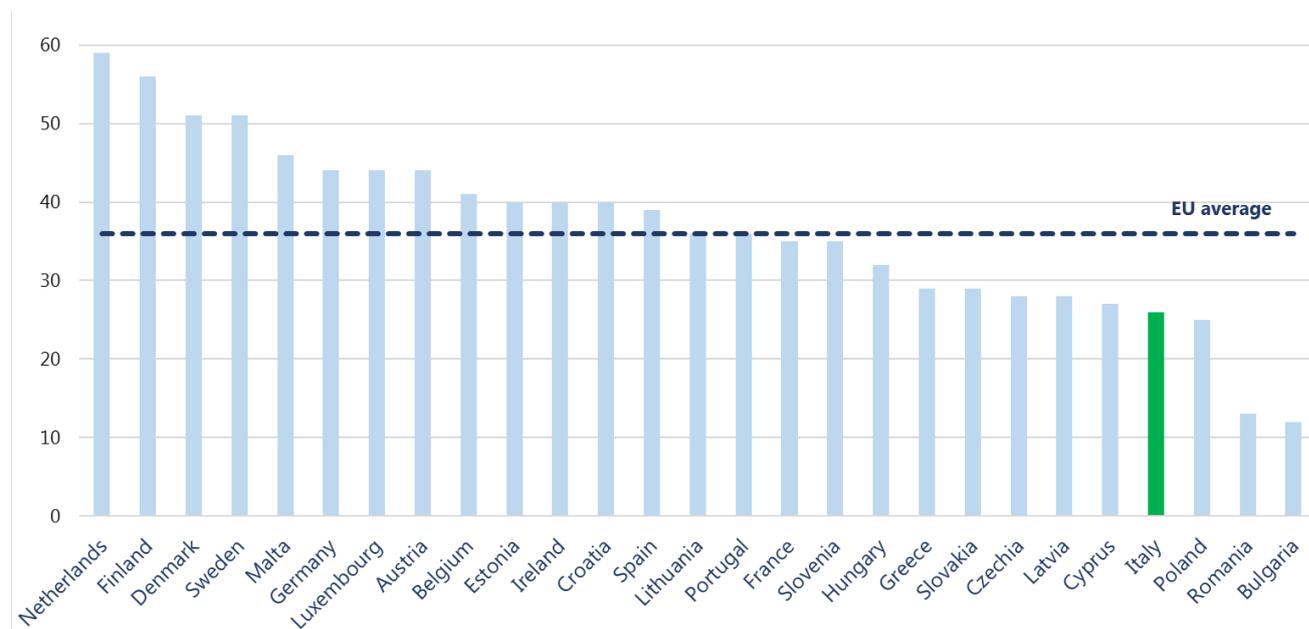
Source: Istat, 2020 survey

Figure 5. Resumption of post-lockdown activities (distribution in %)



Source: Istat

Figure 6. Workforce with digital skills above the basic level (% of the total workforce, 2019)



Source: Eurostat

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