

XXXII Villa Mondragone International Economic Seminar

Introducing Session 6: Productivity, Digital transition, sustainable growth

The title might look a bit broad. But there is a way of saying: you have to do everything to do anything. Everything means not only building the stock of capital, like development theory argued for half a century, but institutions, education, and helping the diffusion of innovation. The lack of these is why modern nations fail.

Luckily, NGEU initiative -to recover from pandemics- keeps it into account and the Italian Recovery Plan with its wide array of interventions, from infrastructure to justice, is the realization of the dreams of anybody who has thought to increase productivity in Italy.

The exit from the pandemic crisis could become stagnation as after the financial crisis or strong growth as after WWII. The difference will be made by firms willing to act to increase productivity. And by Governments supporting the diffusion of innovation (more effective telecommunication with broader access and training/education) and consumer demand. To achieve the growth rate we need, high productivity should infect (as effectively as Covid19) the largest number of firms in all the sectors.

Therefore, this session reflects not all, but 4 crucial elements of the productivity increase we need for growing in a sustainable and inclusive way: First **diffusion** of innovation, second, upskilling of workers and managers; Third, the role of the State in insuring a competitive framework, where persons, not jobs are protected and re-skilled. Fourth, the compliance of policy measures adopted for the recovery with the target for reducing emissions by considering whether the policies are green or brown.

As reminded by Eichengreen recently, in advanced countries with large capital stock and dwindling labor force, total factor productivity is the major driver of growth: for example, in the US, passing from the recent period of 0,5% productivity increase per year to 2% like in the period 1995-2005, means that incomes will double in one generation!

We are moving now from the phase of blanket support to firms and households during the pandemic to a phase of targeted support for the recovery. How to target? Focusing on what makes the economy grow: innovation and the creator of innovation: human capital. This increases intangible assets, thus productivity.

Targeting is politically difficult, because innovation destroys firms and jobs, although -in time- it creates new firms and jobs with better prospects. The transition to new jobs is not painless: it has deepened social inequalities, contributing to political instability because low skilled workers poured out into low productivity services. But we know from history of previous innovations, like steam power or electricity, that productivity will increase and with it, living standards, freeing- at that time- children from the need to work and making basic education compulsory for every child.

A brighter future doesn't cancel present stress of workers made redundant by technological transition and by the pandemic. Era Dabla-Norris digs into the inequalities of teleworking after studying the inequality arising from having jobs automated. Two years ago at Villa

Mondragone, Era showed how automation was going to substitute routine jobs and affect women, who have jobs with disproportionately routine tasks.

After the pandemic-induced teleworking, Era assesses how the ability to work from remote indicates access and use of ICT in selected occupations. While remote working is common in sectors such as finance and professional services, the people excluded from teleworking are predominantly young, with short term contracts and in small firms.

Data collected in this study **should** inform labor market policies for re-skilling and up-skilling.

Francesco Manaresi' presentation of a very promising OECD/EU project tries to answer the paradox of innovations and digitization that continue to lift the superstar companies, but not the laggards. Diffusion of technologies doesn't spread to the whole economy.

I believe that aggregate TFP for advanced countries will increase when post-pandemic data will become available. Because of the pandemic, for instance, retail has adopted digital sales strategies, before confined to Amazon and the likes.

But this will happen only if public support to the diffusion of technologies and to consumer demand stays.

The data collected in the project show a decrease in entry of new firms and in job reallocation rate. Increasing market power of the superstars adds to the lack of diffusion of digital technologies among the laggards, freezing the dynamics of the economy and creation of better jobs.

Actually there is in the US, an "Amazon effect" on the lowest wages -since 2018 Amazon pays 15\$ an hour, that is the double of minimum legal wage- it is only slowly passing on to the other firms.

While digital transformation has the ability of lower entry costs and ease market penetration, it needs to be complemented by skilled managers and workers **and** other products of intellectual capital which make up **intangible investments**: that is, big data and analytics, cloud computing, Internet of things and patents, as we discovered with Covid19 vaccins.

This trend is confirmed by the research of Mercedes Teruel and co-authors from BEI who use the survey made by the European Investment Bank and ORBIS data. It shows the need of entrepreneurs to be upskilled in order to master digital innovation and reap the rewards of investments in new technology. In the past, Spain wasn't able to increase productivity, despite large investments in ITC.

The authors find that relations among internationalization-digitization- and firm growth are less homogeneous in the EU. They observe that being a High Growth Firm is a pre-condition to enter in international markets, but only firms investing in FDI will be able to obtain higher returns.

Innovation is needed also to reach net zero emissions. Can we assume that innovation good for productivity will also be good for climate? We know that electric vehicles require fewer workers to be produced, thus raise productivity and we can expect that infrastructures to prevent climate disasters will do the same. In Europe, but not only here, governments are committed to build back better. **Miria Pigato**, climate lead at the World Bank, accurately classify "pandemic" policies for rescue and recovery by using a novel

database. She finds the impact on climate is neutral for rescue policies, but the result is not so unambiguous for recovery ones. Another compulsory study for policymakers all over the world!

Speakers

Miria Pigato is Lead Economist and Climate Lead in the World Bank. Is Member of the Secretariat of the Coalition of Finance Ministers for Climate Action. 30+ years of international experience serving in managerial, operational and research positions at the World Bank. Publications include: Technology Transfer and Innovation for Low-Carbon Development (M. Pigato et al.), Fiscal policies for Development and Climate Action (editor) and Strengthening China's and India's Trade and Investment ties to the Middle East and North Africa.

Era Dabla-Norris is a Division Chief in the IMF's Asia Pacific Department. Previously, she was a Division Chief in the IMF's Fiscal Affairs Department, working on structural reforms and productivity, income inequality, debt. She has published several books and papers.

Francesco Manaresi is an economist at the Directorate for Science, Technology and Innovation of the OECD, on leave from the Bank of Italy . His research has been featured in the Economist, Bloomberg and ilSole24Ore e altri.

Mercedes Teruel Carrizosa is senior lecturer in the Universitat Rovira i Virgili and is a member of the research group in Industry and Region. She participated in expert groups of the European Commission and the OECD.