

CompNet - ProdTalks 6

Covid and Productivity: One year after

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02 February 2021.

CompNet and Banque de France



The COVID crisis and productivity growth

Filippo di Mauro, Chad Syverson 16 April 2020

The world went into the COVID crisis in the midst of a 15-year-long productivity growth slowdown. This column considers the channels through which the crisis might shift the growth rates of productivity and output. Globalisation, labour mobility and small firms may all fall victim to the crisis if the world does not succeed in reopening borders, refraining from trade and currency wars and focusing on policies to boost productivity. On the upside, the broad adoption of new technologies – such as IT skills during the epidemic – and strong reallocation pressures may provide an independent boost on productivity as we come out of the crisis.

- Optimistic view: The pandemic might “become a source of **cleansing** effects that eliminate the least efficient firms and encourages the adoption of more efficient production technologies”.

- **Accelerate Productivity Growth through:**

- ▶ **Within firm changes: Technology adoption and Innovation.**

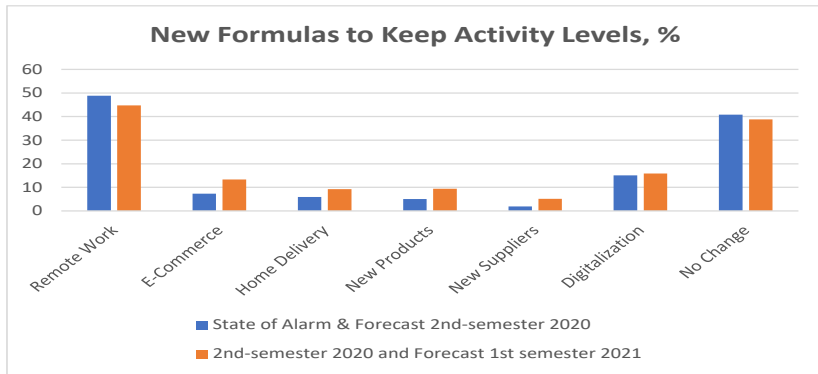
- ★ Evidence
 - ★ Challenges
 - ★ Long-lasting effects?

- ▶ **Reallocation effects: Exit of low productivity firms.**

- ★ Zombie firms – businesses that continue to have access to borrowing despite their operating profits being insufficient to service outstanding debt.

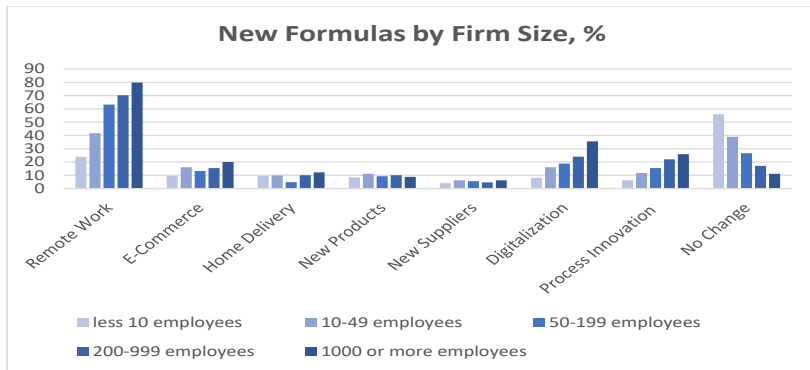
Technology Adoption: Evidence

- Bloom, Valero and Van Reenen (2021) and Riom and Valero (2020) survey of UK businesses.
 - ▶ More than 60% of firms had adopted new digital technologies (remote working or cloud computing) or new management practices.
 - ▶ 40% invested in new digital capabilities (e-commerce or advanced analytics).
- Spanish National Statistical Office (INE) survey:



Technology Adoption: Evidence

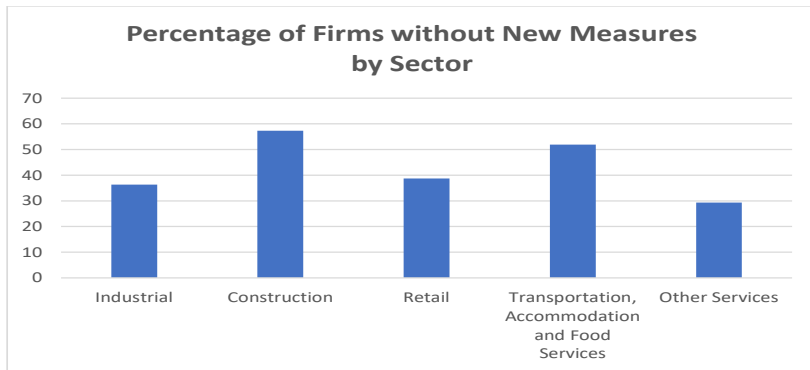
- Implementation of new measures by firm size.



Source: Author calculations based on Spanish National Statistical Office (INE) survey.

Technology Adoption: Evidence

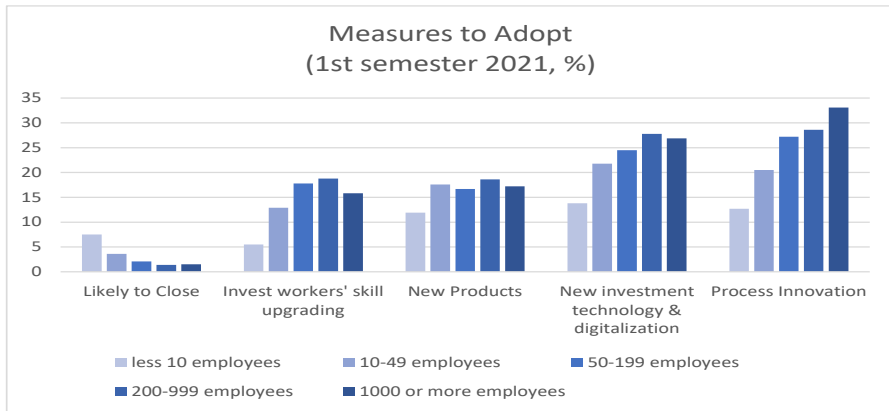
- Percentage of Firms NOT implementing new measures by sector.



Source: Author calculations based on Spanish National Statistical Office (INE) survey.

Technology Adoption: Future

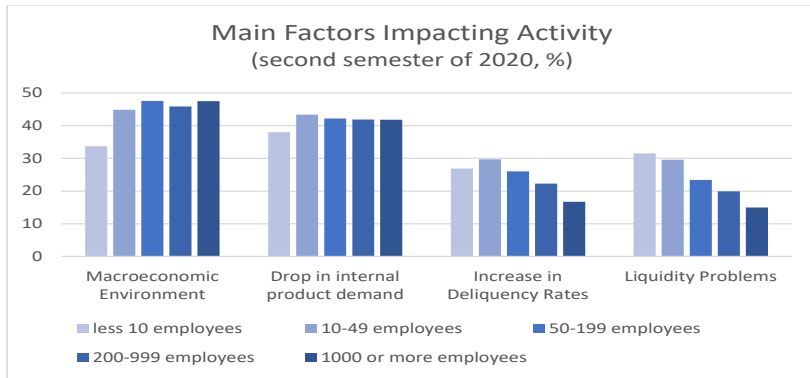
- Measures to be taken in the first semester of 2021:



Source: Author calculations based on Spanish National Statistical Office (INE) survey.

Technology Adoption: Challenges

- Main factors that have impacted the economic activity your business:



Source: Author calculations based on Spanish National Statistical Office (INE) survey.

Exit of Low Productivity Firms: Drop in Demand

- Credit Card Expenditure in Spain. Consumption through debit and credit card as well as TPV from BBVA. 7-day moving average, interannual rate in %.



Source: *El Pais*, February 1st 2021 and BBVA.

Exit of Low Productivity Firms

- Low Demand + Low or non-existent changes to the business model + High levels of debt: insolvency concerns and the raise of zombie firms.
- Early official response measures successful in avoiding large number of bankruptcies.
- The key issues now:
 - ▶ How/When to stop official stimulus packages.
 - ▶ Distinguish between viable firms (with no liquidity) and inviable firms.
- Important implications for the banking sector that would otherwise have to absorb the losses.
 - ▶ Gourinchas, Kalemli-Ozcan, Penciakova and Sander (2021) point to the risk of a credit contraction that would disproportionately impact “strong” firms (i.e. firms that otherwise would not need fiscal support to survive COVID-19 in 2020).

Long-Lasting Effects through Innovation?

- Innovation?

- ▶ Low Demand & Financial Constraints → low R&D spending.
- ▶ At the same time, evidence on increasing patents in certain sectors (i.e., healthcare, green energy, working from home) (Bloom, Davis and Zhestkova (2021)).
- ▶ Productivity “J-curve”: new technologies are first adopted and then firms shift resources towards investment in intangibles (Brynjolfsson, Rock, and Syverson (2021)).
- ▶ Evidence on large amounts of innovation after crises (Babina, Bernstein and Mezzanotti, 2020)

- Evidence on technology diffusion?

References

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- 5 Gourinchas, Kalemli-Ozcan, Penciakova and Sander (2021), Covid-19 and SMEs: A 2021 "Time Bomb"?, NBER working paper,
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- 8 Riom and Valero (2020), Innovation in the time of Covid-19, CentrePiece - The Magazine for Economic Performance 590, Centre for Economic Performance, LSE.
- 9 Valero and Van Reenen (2021), The Impact of Covid-19 on Technology Adoption, IFOW.