

ECA RESEARCH NOTES

Office of the Chief Economist

EUROPE AND CENTRAL ASIA

Digital Technologies
December 2020

Hi Everyone,



We are finally nearing the end of 2020 and it is hard to believe that we have been discussing the impact of the Global Pandemic on different aspects of the economy for almost a whole year. This month, we are considering the role of digital technologies.

Rapid technological change is not a new phenomenon, but with the COVID-19 crisis, it has become even more clear how important it really is. Technology has allowed us to continue to work remotely and educate our children, while staying healthy. Using digital technologies, firms continued to innovate and remain competitive in the post-COVID world. And as we will cover in greater depth in our Spring 2021 Economic Update, digitalization and better use of data can also help governments work more efficiently and implement evidence-based policies to counter the impacts of the pandemic and build trust.

However, not everyone can benefit from technology to the same extent. Infrastructure and access gaps for disadvantaged populations and small firms mean that not only they cannot use these technologies, but also that this will make them fall further behind, worsening existing inequalities. So, technology brings a lot of potential and promise, but also new challenges.

In this month's ECA Talk, technology was the topic of our discussion. If you missed it, you can read more about it below, including the video and presentations. There is also a round-up of interesting papers on the topic.

As the year comes to a close, let me say Happy Holidays to those celebrating this time of the year. We wish you all a pleasant end to 2020 and a much better 2021!

Happy Reading!

Asli

FEATURE STORY



[Europe 4.0 and the Digital Divide](#)

New digital technologies can help Europe become more competitive. However, while some of these new technologies create or expand access to markets for smaller firms and in lagging regions, others can create challenges for the European convergence machine if they concentrate economic activity in large firms and leading regions. In a recent ECA Talk, Mary C. Hallward-Driemeier, one of the authors of "[Europe 4.0: Addressing the Digital Dilemma](#)", discussed how Europe can meet its "triple objective" to improve competitiveness while fostering market inclusion for smaller firms and economic convergence for citizens and regions.

RELATED RESEARCH



[The Effects of Digital-Technology Adoption on Productivity and Factor Demand: Firm-level Evidence from Developing Countries](#)

Ana Paula Cusolito, Daniel Lederman, and Jorge Peña, *World Bank Policy Research Working Paper 9333 – July 2020*

This paper presents firm-level estimates of revenue-based total factor productivity premiums of manufacturing firms adopting digital technology in 82 developing economies over 2002-19. The results show that on average, changes in digital technology adoption, email, and website are labor and capital augmenting.



[Who on Earth Can Work from Home?](#)

Daniel Garrote Sanchez, Nicolas Gomez Parra, Caglar Ozden, Bob Rijkers, Mariana Viollaz, and Hernan Winkler, *World Bank Policy Research Working Paper 9347 – July 2020*

Globally, one of every five jobs can be performed from home. In low-income countries, only one of every 26 jobs can be done from home. Since better paid workers are more likely to be able to work from home, COVID-19 is likely to exacerbate inequality, especially in richer countries where better paid and educated workers are insulated from the shock.



[Political Dividends of Digital Participatory Governance: Evidence from Moscow Pothole Management](#)

Nisan Gorgulu, Gulnaz Sharafutdinova, and Jevgenijs Steinbuks, *World Bank Policy Research Working Paper 9445 – October 2020*

This study focuses on the potential linkage between road quality based on citizens' complaints and electoral outcomes in two rounds of Moscow mayoral elections in 2013 and 2018. The authors argue that greater use of digital technologies results in an increased number of votes and a higher margin of victory for the incumbent.



[Incidence of the Digital Economy and Frictional Unemployment: International Evidence](#)

Daniel Lederman and Marwane Zouaidi, *World Bank Policy Research Working Paper 9170 – March 2020*

This research is the first to quantify the relationship between the incidence of the digital economy and long-term frictional unemployment across countries. The resulting evidence indicates that there is a robust, negative partial correlation between national unemployment rates and the incidence of the digital economy, proxied by the share of the adult population that reports using the internet to pay bills.



[Digital Platforms and the Demand for International Tourism Services](#)

Ernesto Lopez-Cordova, *World Bank Policy Research Working Paper 9147 – February 2020*

The author studies the empirical relationship between international tourism and the adoption of digital technologies. Linking foreign visits with the spread of internet use in sending countries and the level of development of business-to-consumer digital tools in host countries, the results indicate that frictions affecting bilateral tourism flows have been attenuated by the advent of digital tools.

BLOGS



[The solution to Europe's digital challenge should work for everyone, everywhere](#)

Anna Bjerde, November 20, 2020

Throughout this pandemic, tech companies, big and small, have been hailed as the winners in this new economy. But are European tech firms really industry leaders and how are the economic benefits of the digital transformation being shared across firms of different sizes and locations? The recent report, [Europe 4.0](#), provides insight into how the region is performing in the digital arena at the local and global level.

[Read the blog »](#)

Who can really work from home?

Maho Hatayama, Mariana Viollaz & Hernan Winkler, May 28, 2020

The COVID-19 crisis and implementation of social distancing policies around the world has raised the question of how many jobs can be done at home. But answering it has proved an elusive quest, since researchers and policy makers cannot see in real time who is able to work from home during the pandemic. The authors construct a new global work-from-home (WFH) measure in their [new paper](#).

[Read the blog »](#)

Croatia: How investing in information technology and digital competencies of students and teachers paid off during the pandemic

Diego Ambasz & Lucia Bjakovic, May 29, 2020

Among the early COVID-19 pandemic containment measures introduced by the Government of Croatia was the school closure. Even though such disruption in the education process has not been easy for students, parents, and teachers in Croatia, the country's education system has been very well placed to deal with this situation.

[Read the blog »](#)

CALENDAR OF EVENTS

- **January 20, 2021, 10AM:** ECA Talk featuring Sergei Guriev, Professor and Scientific Director of the Master and PhD programmes in Economics at Sciences Po, on "Mobile Broadband Internet and Confidence in Government"
- **February 3, 2021, 10AM:** ECA Talk featuring Luigi Zingales, Professor of Entrepreneurship and Finance at Chicago Booth School of Business

Check [ECA Lectures](#) and [ECA Talks](#) to learn more about our past and future events.

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