

THE LONG-RUN IMPACT OF COVID-19

The COVID-19 pandemic and the accompanying lockdown measures disrupted billions of lives, inflicted unprecedented economic damage, and caused several significant changes in consumer behavior, corporate decision making, and government policy. Whether these changes will be temporary or permanent remains largely unknown, but as the world adapts to COVID-19 it seems more likely than not that some changes will persist long after the virus has receded.

The fourth quarter 2020 edition of Research Digest features three papers discussing potential long-run implications of COVID-19.

- The first paper studies major pandemics since the 14th century and finds that they have significant macroeconomic effects that can persist for decades;
- the second paper suggests that the disruption to global value chains caused by COVID-19 could force some countries to explore diversifying their supply chains geographically or even reshoring some production; and,
- the third paper considers the implications of COVID-19 for the politics of sustainable energy transitions, concluding they are now at a critical juncture, in which the form and direction of state support for post-pandemic economic recovery will be key.

LONGER-RUN ECONOMIC CONSEQUENCES OF PANDEMICS

Oscar Jordia, Sanjay R. Singh, and Alan M. Taylor, Federal Reserve Bank of San Francisco Working Paper, June 2020.

The COVID-19 pandemic caused record declines in economic activity across the globe and introduced heightened uncertainty to the economic outlook. In this study, the authors examine how prior pandemics impacted economic outcomes in the long run by observing the response of several macro variables up to 40 years post-pandemic. They find that pandemics have long-lasting economic effects, reducing equilibrium real interest rates and increasing real wages and labor productivity relative to their expected levels had no pandemic occurred.

Pandemics can have not only an immediate, but a lasting social and economic impact; the longer-run effects are less well known. To study pandemics' long-run economic effects, the authors measure the response of the real natural rate of interest in Europe over 19 pandemics—17 large pandemics and 2 super pandemics—dating back to the Black Death in the early 14th century. They develop a model that predicts the path of the real natural rate of interest had a pandemic not occurred, with the goal of comparing the data's actual behavior during pandemics versus the predicted counterfactual.

The real natural rate of interest is the level of real returns on safe assets that balances an economy's savings supply and investment demand—while keeping prices stable—and is therefore a useful proxy of medium-term changes in economic activity. In stagnant societies, savings are plentiful relative to investment opportunities, putting downward pressure on the natural rate. The authors theorize that pandemics impose downward pressure on equilibrium real interest rates on two fronts: (1) a decline in investment demand tied to labor scarcity in the economy and (2) an increase in savings linked to either a rise in precautionary savings or the replacement of lost wealth. As expected, the authors' model shows that natural rates are lower following pandemics than they would have been otherwise, and these effects persist for decades. After 20 years, natural rates were, on average, roughly 150 basis points lower than they would have been had the pandemic not taken place, and they do not return to the expected level had the pandemic not taken place until approximately 40 years post-pandemic.

The authors also measure changes in real wages and per capita GDP in the United Kingdom during pandemics and find they were roughly 10 percentage points higher four decades after the pandemic than they would have been otherwise, distinguishing pandemics from wars and other natural disaster events. Unlike pandemics, real wages and per capita GDP experienced a limited long-term impact and natural rates tended to increase in a sustained manner following wars. The authors note the likely reason for the difference in economic responses to wars and pandemics is that wars lead to both a decline in the labor force and the destruction of physical capital, whereas pandemics cause the labor force to shrink with no concurrent destruction of physical capital.

Lastly, the authors highlight several factors unique to the COVID-19 pandemic that could prevent real natural rates of interest from falling as steeply as they did following past pandemics, including: the potentially lower per capita death toll given today's large population size, the concentration of deaths among people outside the labor force, such as the elderly, and the aggressive debt-financed fiscal stimulus, which could put upward pressure on the natural rate.

THE IMPACT OF COVID-19 ON GLOBAL VALUE CHAINS

The World Bank, Global Economic Prospects, The World Bank, June 2020.

This entry in the World Bank's June 2020 Global Economic Prospectus examines the impact of the COVID-19 pandemic on global value chains (GVCs). Global economic shutdowns stemming from COVID-19 resulted in a historic disruption to global output and trade, with worse outcomes in regions and sectors more dependent on international trade, particularly through GVCs, and tourism. The authors posit this could have a lasting impact on GVCs well beyond the initial economic shock.

GVCs are international production-sharing trade channels, which are often dependent on “just in time” deliveries of intermediate inputs from abroad to create lean inventories and higher productivity. These characteristics made output and trade dependent on GVCs particularly vulnerable to the supply disruptions caused by regional COVID-19 quarantines, production shutdowns, and border closures. The authors attempt to assess the role GVCs played in the heterogeneous impact of COVID-19 on output and trade

across emerging markets and developing countries, regions, and sectors. They simulate a COVID-19-like shock to employment, import/export prices, tourism, and household consumption patterns and incorporate GVCs through input-output linkages in production networks.

In the short run, while they find that the combination of these four shocks causes a severe global recession, countries, regions, and sectors with more exposure to GVCs or more dependence on tourism were among the worst affected. Country-specific results show differences reflecting the composition of output and exports by sector and destination, as well as relative levels of openness and reliance on tourism. All countries suffered a decline in exports, but the East Asia Pacific and Europe and Central Asia regions were among the worst affected, consistent with their significant exposure to GVCs and tourism. On a sector level, services affected by social distancing and tourism experienced a sharper decline than agriculture and manufacturing. The worst-affected sectors were those with a high share of foreign value added in the production process, such as textiles and transport equipment. Furthermore, GVCs in emerging markets and developing economies rely on external US financing, which has become more expensive from risks created by the pandemic. The authors point out this could further disrupt agriculture supply chains, causing higher food prices and food insecurity and leading to extreme poverty in the world's most vulnerable countries.

In the long run, the combination of the shock from COVID-19 and deteriorating US-China trade relations could cause countries dependent on GVCs to reassess their production networks and explore diversifying their geographical supply chains or consider reshoring production. For regions already well-integrated in GVCs, these efforts could reduce productivity and incomes and threaten the gains from trade for many emerging market and developing economies. For regions that aren't well-integrated in GVCs, this could be an opportunity to achieve greater integration. The authors argue that more protectionism would not solve the problems of scarcity highlighted by the pandemic. Rather, shortages would be even more likely if offshore suppliers are shut out and there are disruptions to heavily concentrated domestic production centers.

COVID-19 AND THE POLITICS OF SUSTAINABLE ENERGY TRANSITIONS

Caroline Kuzemko, Michael Bradshaw, Gavin Bridge, Andreas Goldthau, Jessica Jewell, Indra Overland, Daniel Scholten, Thijs Van de Graaf, and Kirsten Westphal, Energy Research & Social Science, June 2020.

In recent years, the world has seen positive developments in four key trends in the politics of sustainable energy transitions: (1) changes in the global energy mix, (2) increased economics of green energy, (3) increased role of government authorities, and (4) changes in social and political values. In this paper, the authors explore how COVID-19 might affect these trends. While they are hopeful it will accelerate many of these trends, the shape of the policy response and the economic recovery will be critical to the success of sustainable energy transitions post-pandemic.

COVID-19 has already had a significant impact on emissions, fossil fuel, and sustainable energy. Because of global lockdowns, daily CO₂ emissions are likely to drop to a ten-year low in 2020, and demand for fossil fuels fell dramatically, resulting in oil

prices briefly becoming negative. In contrast, renewable demand was less affected, and the share of renewables in the overall energy mix is expected to jump several years ahead of pre-pandemic expectations. However, the implications of COVID-19 for the politics of sustainable energy over the long term will likely be determined by the shape of the economic recovery and the policy response.

There are concerns that the desire to protect existing jobs and incumbent industries will slow the momentum toward a more sustainable future, like the experience following the 2007–09 Global Financial Crisis, which saw limited green stimulus and a rapid recovery in global emissions. But, the authors see a stronger economic and political case for green energy this time around. For one, the cost of renewables has fallen rapidly since 2008, and many OECD countries had already started efforts to divest from fossil fuels and introduce policies that support green energy investments prior to the pandemic. As a result, energy is now greener than it was in 2008 for many countries. Additionally, new global accords now exist that provide targets for policymakers to strive toward and by which the public can hold them to account. Furthermore, stronger demand and price performance of renewables and the superior investment returns of renewable stocks versus fossil fuel stocks during the pandemic (and over the past five years) help build the case for higher returns on investment for both investors and governments alike.

Lastly, COVID-19 has resulted in significant changes to social practices—such as means of transportation and work habits—that demonstrated the link between human activity and the environment, and highlighted the consequences of ignoring the warnings of “black swan” events like pandemics or climate change. Whether changes to social practices will persist remains unknown; some government authorities have announced policies aimed at reinforcing these shifts, but the devastating consequences of COVID-19 call for an accelerated shift in political focus to long-term measures of broad resilience and away from short-term gains, which could support sustainable energy transitions.■

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