

## Box I.1: Vaccines, outbreaks and expected impact on activity

News regarding the development of Covid-19 vaccines seems to lessen the medium-term risks concerning the control of the disease. In fact, health authorities in Chile and other countries have said that the vaccination process is expected to begin soon, and it is possible that in the course of 2021 several countries will achieve herd immunity<sup>1/</sup>. Yet, in the short term, the risks remain, as until such immunity is achieved, the possibility of further outbreaks is still there. What is happening in much of Europe and the United States is a good example of how a second wave could affect our economy in the coming months. In these cases, the reaction of the sanitary authorities has been less drastic than at the beginning of the pandemic, the constraints have been more focused and not as severe, the impacts on mobility have been milder as have the effects on activity. This Box describes advances in vaccines and the recent trends in outbreaks and control measures, as well as the expected impact on activity.

### Developing a vaccine

During November, four laboratories reported successful results in vaccine development, which were announced with the publication of positive results from Phase III of the process. Three of them showed effectiveness above 90% (Pfizer BioNTech, Moderna and Gamaleya) and a fourth one reported 70% effectiveness (AstraZeneca).

If approved by the health authorities soon, which is already happening in some countries, these laboratories would be able to produce and deliver doses to vaccinate about 2% of the world's population in the remainder of 2020 and about 46% next year. This would mean that a large part of the population at risk would be inoculated in the coming months and several countries would achieve herd immunity in 2021<sup>2/</sup>. This process will take place at different speeds throughout the world, depending on the production capacity of the laboratories, their agreements with governments, their distribution and application capacity, and the people's willingness to be vaccinated. In connection with this, based on a survey of more than 13 thousand people in 19 countries, [Lazarus et al. \(2020\)](#) report that 47% of respondents would definitely get

vaccinated if they could and 25% probably would, although this varies across countries, which may slow down the vaccination process in some places. In addition, to build immunity, vaccines will generally require two doses administered within a few weeks, which will require a stronger commitment from the population for them to be effective.

The Chilean government recently announced that the vaccination process will begin during the first quarter of 2021 and will provide for the vaccination of 15 million people. The government has signed and pre-signed contracts with five different laboratories, including the aforementioned Pfizer and AstraZeneca.

The pace of the vaccination process will determine the magnitude and speed of the economic impact, but it will also depend on other factors, including how quickly restrictions will be relaxed and people adjust their behavior, and the pace at which business and consumer confidence is normalized.

The central scenario of this Report assumes that the vaccination process and its economic impact will occur at different speeds around the world. It is expected to begin in some countries in the remainder of 2020 and in most of the world during 2021. Herd immunity will be achieved in some countries by the second and third quarters of 2021, and in the rest of the world between late 2021 and 2022. The end of social distancing, the full lifting of restraints, and the adjustment of population behavior will not be seen until countries achieve herd immunity. Accordingly, the central scenario of this Report assumes that the economic impact of vaccines on growth will be felt in some economies by the second half of 2021 and more generally in 2022.

### Recent resurgence in Europe and the United States

As long as herd immunity is not achieved, countries will remain vulnerable to new waves of the disease, like the ones that have been sweeping through Europe and the US. These outbreaks will continue to affect economic recovery, although to a significantly lesser extent than was seen earlier this year.

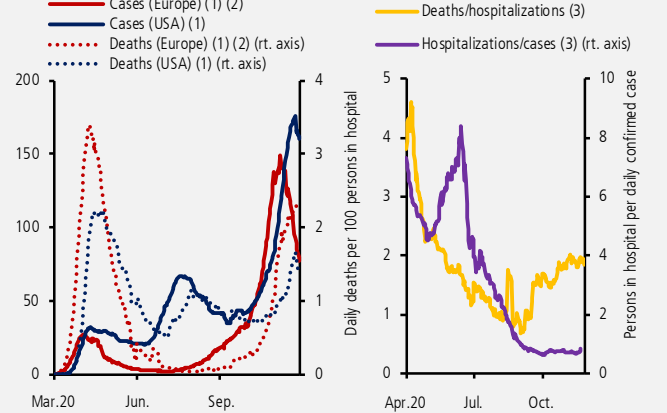
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<sup>1/</sup> Herd immunity is the biostatistic describing a population where a defined portion has become immune to a disease, preventing non-immunized individuals to be infected.

<sup>2/</sup> Estimated based on each laboratory's reports.

This is so because the measures taken by the authorities have been milder than at the beginning of the year, considering several factors. On the one hand, the increase in confirmed cases, which multiplied six- to eightfold compared to March and April, is partly explained by the significant increase in the number of tests, which grew along with the improvement in the capacity for tracking and traceability worldwide<sup>3/</sup>. On the other hand, although hospitalizations have risen and are approaching the levels of the first wave, the number of deaths compared to the total number of people hospitalized is lower in several of the countries that were hit hard during the first wave, such as the United Kingdom, Spain and France, partly due to the increase in hospital capacity and the improvement in the treatment of those infected<sup>4/</sup>. All this points to rather more effective handling in both Europe and the United States (figure I.12).

**Figure I.12**  
Confirmed cases and deaths (left panel) — Deaths/hospitalizations and hospitalizations/cases (right panel)  
(thousands of persons, ratios)



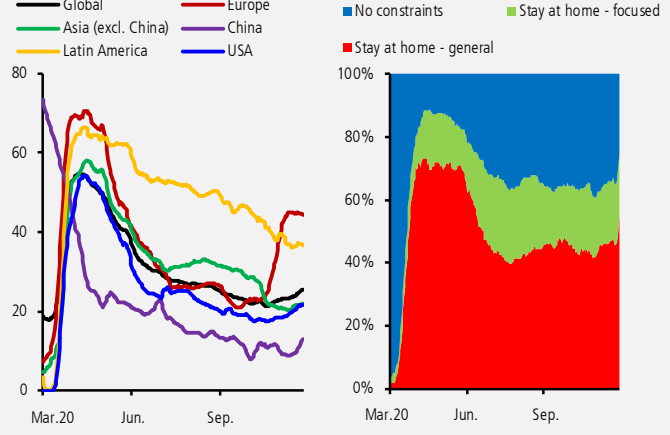
(1) Seven-day moving average. (2) Europe includes France, Germany, Italy, Spain and the U.K. (3) Ratios of daily deaths to hospitalizations due to Covid-19 in seven days, and of hospitalizations to daily cases in seven days (median considering France, Italy, the U.S. and the U.K.).  
Source: Our World in Data.

With few exceptions, since mid-year countries have refrained from imposing restrictions as harmful to activity as those of March and April. Thus, the share of countries with nationwide confinements dropped from 70% in March and April to 40% in recent months. In Europe, measures were imposed at the end of October that reduced mobility substantially less than at the beginning of the year, but have been sufficient to show a slight improvement in contagion indicators in recent days. In

<sup>3/</sup> There are different estimations of the number of true infections, which vary among them, but they all suggest that the real level of infections is significantly more than confirmed cases, especially compared with the onset of the pandemic. See [Giattino \(2020\)](#).

the U.S., restrictions have been even more localized and have not affected mobility significantly (figure I.13).

**Figure I.13**  
Effective lockdown index (left panel) — distribution by country according to stay at home requisite (right panel) (\*)  
(percent; ratios)



(\*) Seven-day moving average effective lockdown index.  
Sources: Goldman Sachs and University of Oxford.

The impact of new outbreaks on activity depends not only on the constraints but also on other factors, most notably the precautionary behavior of individuals. The evidence analyzed in [Bertinatto et al. \(2020\)](#) suggests that the economy's sensitivity to restrictions has been falling with the passing of time. Thus, between March and April 2020, the strict confinements imposed and the precautionary behavior of individuals led to a collapse in global activity unseen since World War II. These contractions were most intense in countries where containment measures were more severe and extensive, and the virus was more widespread. In the following months, the level of global activity recovered substantially, beyond what the easing of constraints and the recovery of mobility would have suggested. Thus, more recently, the level of activity associated with a certain degree of restrictions or spread of the virus has been high compared with the beginning of the year (figure I.14).

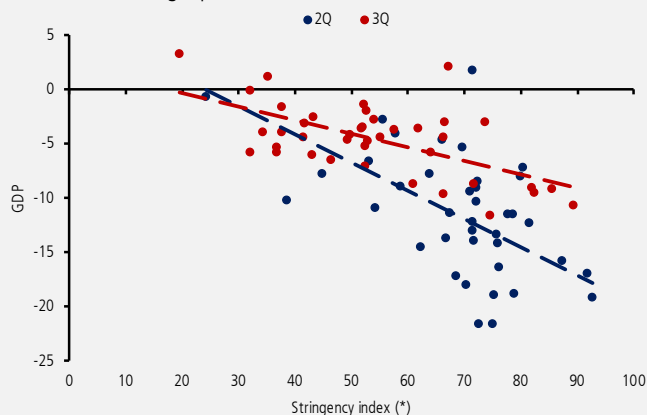
Multiple factors explain this more favorable economic performance. In particular, companies from diverse sectors and households managed to adapt to the constraints through teleworking, taking precautions to circulate despite the high spread of the virus and the use of other technological tools, such as increased online shopping. At the same time, several

<sup>4/</sup> [Horwitz et al. \(2020\)](#) and the Center for Evidence-Based Medicine—in an article published in *The Economist*—present evidence of the fall in the mortality rate in the U.S. and the U.K., controlling for the age of those infected.

countries began to tackle the pandemic with fewer restrictions and, therefore, less reductions in mobility. These are also explained, in some economies, by the size of their informal sector, which in general cannot make use of teleworking and needs to mobilize to work and generate income. Finally, the exceptionally expansionary fiscal and monetary policies also favored a rapid economic recovery supported by a significant increase in goods consumption and global trade (Box I.2).

**Figure I.14**

Stringency index and GDP  
(level; annual change, percent)



(\*) Quarterly average.

Sources: Bloomberg and University of Oxford.

The central scenario of this Report assumes that, in the short term, the economic recovery in Europe and the U.S. will be slowed down by new outbreaks, but to a much lesser extent than at the beginning of the year. The adaptation of companies and households suggests that the impact of the new restrictions will be smaller. Moreover, as they are more focused, they will affect directly only some sectors of the economy. In Europe it is expected to impact businesses such as hotels, transportation, recreational services and tourism (which account for nearly 20% of the Eurozone's GDP), in contrast with previous restrictions, which also affected construction and some manufacturing activities, among others. This is consistent with confidence indicators that, despite having deteriorated again, have done so in by a smaller magnitude and more concentrated in services.

In any case, further falls in activity in the short term, even if more moderate than those of March and April, could leave more permanent marks in the economic sectors most affected by the pandemic, making it impossible for some companies to survive and slowing down the subsequent recovery. In addition, if a second wave hits emerging economies, the fiscal policy response could be more limited because fiscal room has narrowed since the onset of the pandemic.

## Conclusion

The pandemic's progression will continue to shape the evolution of activity worldwide. The central scenario of this Report assumes that mass vaccination will begin in late 2020 in some developed countries and will expand to more countries over next year. The impact on global activity will be felt during the second half of 2021 and 2022, as countries achieve herd immunity, restrictions are lifted, and people adjust their behavior. Meanwhile, outbreaks such as those recently observed in Europe and the U.S. will hold back the global recovery, although with significantly less impact than at the beginning of the year.