

## »» A successful pandemic response requires more than basic preparedness

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The novel coronavirus spread across the world within a very short time in early 2020. Initially, countries responded with quite similar measures to contain the pandemic but with different timing, scope and intensity. Subsequently, containment strategies and their implementation became more differentiated. The negative economic impacts, which at the end of 2020 were reflected in the gap of economic output relative to pre-crisis levels, vary greatly from one country to the next and depend on successful containment of the virus. The more severe the pandemic, the wider the remaining gap in gross domestic product tends to be.

Although the International Health Regulations of the World Health Organisation came into effect in 2007 and define the response to cross-border public health risks, it has become clear that basic pandemic preparedness is not enough for a successful pandemic response. After all, the available instruments also need to be deployed and economic and social costs of containment measures must be accepted and approved by the population. In the upcoming phase of the pandemic response, the healthcare system must have the capacity to quickly carry out a large number of vaccinations – provided there is vaccine availability and vaccination willingness. Apart from the performance in the current pandemic, infectious diseases can be expected to increase as a consequence of climate change. A sustainable economic model therefore also requires being prepared for a pandemic.

According to the current OECD Economic Outlook, ramping up vaccination campaigns is currently the best economic policy.<sup>1</sup> The Managing Director of the International Monetary Fund, Kristalina Georgieva, has also emphasised that vaccination policy is economic policy.<sup>2</sup> That raises the question of which countries are the first to roll out their vaccination campaigns. Apart from sufficient vaccine availability and logistical challenges posed by refrigeration requirements, it is to be expected that better basic pandemic preparedness should help achieve a substantial daily number of vaccinations. After all, the lead time for the vaccination campaign was short, given that the coronavirus vaccines were developed and approved very quickly.

### Severity of coronavirus pandemic defined economic position towards the end of 2020

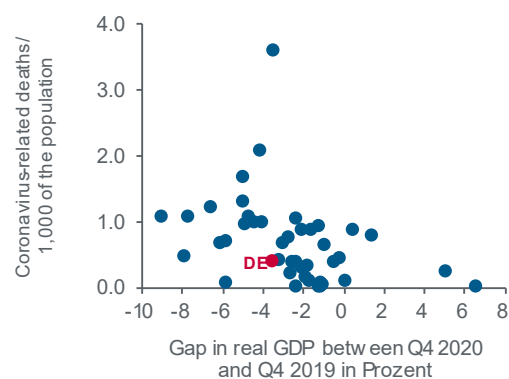
At the end of the year 2020, the economies of the OECD and major emerging economies were in very different economic positions compared with pre-crisis levels. In all these countries the coronavirus crisis had led to a sharp economic

decline in the second quarter or, in the case of China, in the first quarter of 2020. But while China's economic output at the end of the year was already 6% above the pre-crisis level of the final quarter of 2019, Spain still recorded a gap of 9%. With a gap of 3.6% to the pre-crisis level, Germany was among the one third of countries that were still experiencing the most severe economic impact.

Countries in which the pandemic has had a severe impact and claimed more lives still tended to suffer the strongest economic effects at the end of 2020 (see Figure 1). In these countries, the imposition of mandatory restrictions will interact with consumers' and businesses' adoption of precautionary behavioural changes to contain the spread.<sup>3</sup> The more severe the pandemic – in some cases due to delays in the introduction of necessary response measures –, the more rigorous and longer the restrictions ultimately have to be to bring it under control. At the same time, consumers are probably being more careful even without explicit directives, particularly when using services with person-to-person contact. Businesses will hold off investment owing to increased uncertainty – including with regard to any measures that might follow.

**Figure 1: Pandemic severity and economic impact**

OECD countries and BRIICS, as at 31 December 2020.



Sources: Johns Hopkins University, OECD, KfW Research.

Other factors, such as the relative size of the services sector or the magnitude of economic policy support measures, are also relevant for the severity of the impact at the end of 2020. Thus, the International Monetary Fund estimates – amid all uncertainty – that the global economic slump would have been three times worse without government support measures.<sup>4</sup>

**Box: The six dimensions of the Global Health Security Index<sup>5</sup>**

1. Preventing the emergence or release of pathogens. These include pathogens that pose a serious risk to public health, in which a public health emergency of international concern is defined in accordance with the International Health Regulations. This dimension assesses antimicrobial resistance, zoonotic diseases, biosecurity, biosafety, dual use research and culture of responsible science, as well as immunisation.

2. Early detection and reporting epidemics of potential international concern that can spread beyond national or regional boundaries. This dimension assesses laboratory systems, real-time surveillance and reporting, epidemiology workforce and data integration between human/animal/environmental health sectors.

3. Rapidly responding to and mitigating the spread of an epidemic. This dimension assesses emergency preparedness and response planning, the exercise of response plans, emergency response operation, the link between public health and security authorities, risk communication, access to communications infrastructure and trade and travel restrictions.

4. Sufficient and robust health system to treat the sick and protect health workers. This dimension assesses health capacity in clinics, hospitals and community care centres, medical countermeasures and personnel deployment, health care access, communications with healthcare workers during a public health emergency, infection control practices and availability of equipment, as well as the capacity to test and approve new medical countermeasures.

5. Commitments to improving national capacity, financing plans for closing gaps and adherence to norms. This dimension assesses IHR reporting compliance and disaster risk reduction, cross-border agreements on public health response, international commitments and reports, financing, as well as the commitment to sharing of genetic and biological data and specimens.

6. Overall risk environment and vulnerability to biological threats. This dimension assesses political and security risk, socio-economic resilience, infrastructure adequacy, environmental risks and public-health vulnerabilities that may impair a country's ability to prevent, identify or respond to an epidemic or pandemic and that increase the likelihood of diseases spreading beyond national borders.

**Even the few countries with high health regulations have been quite unsuccessful in containing the virus**

The International Health Regulations of the World Health Organisation came into effect on 15 June 2007. They are a legally binding instrument of international law that defines how to manage cross-border public health risks. The Global Health Security Index follows the guidelines agreed in that

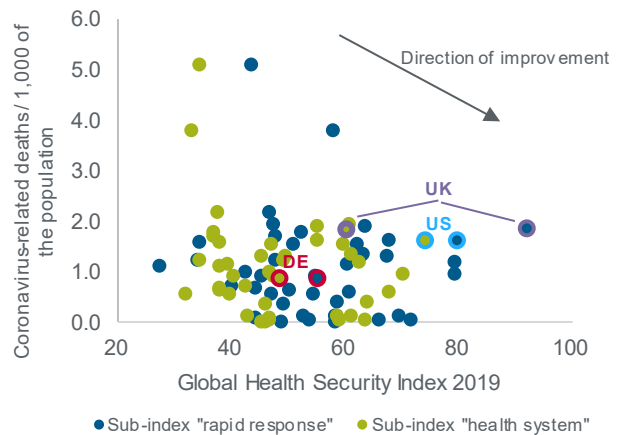
document for measuring health security in 195 countries (see box).<sup>6</sup>

With an average 60 out of a maximum 100 points achievable, the overall index illustrates how poorly the OECD and major emerging economies are generally prepared for a pandemic. Now that the coronavirus pandemic has spread to almost all the world's countries, two health security dimensions can be expected to play a particularly important role in containment: rapid response capability and containment, as well as an adequately equipped healthcare system.

For the sub-indicator response capability – the ability to quickly respond to and contain a pandemic – the OECD countries and major emerging economies average 55 points, which is below the overall indicator average. The sub-indicator healthcare system scored lowest among all dimensions, averaging 49 points. This shows that the basic preconditions for containing the coronavirus pandemic after it had propagated around the world were not the best. Germany is no exception, with 55 points for response capacity and 48 points for its healthcare system, even though the overall indicator is an above-average 66 points. Germany's strengths mainly lie in detecting and reporting epidemics of potential international concern, as well as in a relatively favourable overall risk environment and relatively low vulnerability to biological threats.

**Figure 2: Rapid pandemic response capacity / quality of healthcare system and coronavirus pandemic severity**

OECD countries and BRIICS, as at 15 March 2021.



Sources: GHS Index, Johns Hopkins University, World Bank, KfW Research.

For the OECD countries and major emerging economies there is no obvious correlation between the sub-indicators response capacity or healthcare system and pandemic severity (see Figure 2).<sup>7</sup> The latter is mapped by the ratio of COVID-19-related deaths to total population recorded up to mid-March. The US and the UK, which achieve the highest scores for response capacity and above-average scores for their healthcare systems, were particularly ineffective in keeping COVID-19 death rates low. Infection is mostly prevented by wearing masks, testing and contact tracing, as well as restrictions such as lockdowns and school closures. These measures cause substantial economic and societal

costs and therefore hinge on the political will to enforce and implement them and on popular consent.<sup>8</sup>

The fact that the OECD countries with the lowest coronavirus death rates include four island states – New Zealand, Australia, Japan and Iceland – as well as the quasi-island of South Korea, points to the significance of geographical factors for effective control of incoming travellers.<sup>9</sup>

### Healthcare system must quickly enable high vaccination rate

Pandemic preparedness is obviously not sufficient for successful containment. The implementation and enforcement of measures play an important role. However, in the upcoming phase of pandemic control it is to be expected that structural factors will gain in importance, especially the configuration and capacities of the healthcare system.

The aim of the vaccination campaigns is to immunise a sufficiently large proportion of the population against the coronavirus as quickly as possible. How high this proportion must be to achieve herd immunity depends on many factors. In light of the virus mutations, the initially assumed vaccination rate of 60 to 70% is now believed to be too low and it may be as high as 90%.<sup>10</sup> In order to quickly achieve the necessary rate, it will be important to quickly administer a substantial daily number of shots. Therefore, the number of daily vaccinations administered 31 and 60 days after the vaccination commencement date is used as a basis for the analysis.

A glance at the number of daily vaccinations being achieved one month after the start of the respective vaccination campaign shows that the most populous countries – China, India and the US – are achieving particularly high numbers (see Figure 3). On the one hand, this is to be expected because a larger population means a generally higher number of potential vaccination candidates. Besides, more populous countries also need to administer more vaccinations in order to achieve a sufficient degree of immunisation at the same time as smaller countries. However, they also need to have the capacity to do this. It is therefore encouraging that a larger population usually also leads to a higher number of daily vaccinations. Another month later – 60 days after the start of the vaccination campaign – India, China and the US increased the number of daily shots again substantially. An accelerated vaccination rollout can also be identified in several other countries. Most countries, however, have made little notable progress.

A correlation between the short-term vaccination rate and the question of how well the countries' healthcare systems are prepared for a pandemic is not immediately obvious. A large number of countries are administering only a relatively low number of coronavirus vaccines despite having a relatively well-equipped healthcare system. One factor that may play a role is that the degree of pandemic preparedness of the healthcare systems is too low overall for the vaccination campaigns to be ramped up at different speeds. Even the US, which leads the ranking in the sub-index healthcare system,

achieves only ¼ of the maximum achievable score.

Figure 3: Healthcare system and vaccination campaign



Note: OECD countries and BRIICS.

Sources: GHS Index, Macrobond (Our World in Data), KfW Research.

On the one hand, the healthcare system makes the vaccination campaign possible with its fundamental structures. At the same time, the population must also be willing to accept the vaccines being offered. A survey conducted by IPSOS on behalf of the World Economic Forum in January 2021 has revealed significant differences here between countries. In Russia, only 17% of persons not yet immunised expressly stated that they would agree to be vaccinated against COVID-19 if a vaccine were available to them. In Brazil, that share was 72% and in Germany 43%.<sup>11</sup>

A major prerequisite for a high vaccination rate is vaccine availability. This should not generally be a major problem for the countries under consideration here. For the industrialised countries of the G20, vaccine procurement has been confirmed for 124% of the population up to the end of June. The emerging economies of the G20 – which also include the BRIICS group under consideration here – will achieve a rate of only 24% by the end of June, the remaining emerging

economies 10% and the low-income countries only 5%. In other words, countries that are home to 16% of the world's population have secured 50% of the vaccines for themselves.<sup>12</sup> But even in industrialised countries such as the EU member states, which have generally secured sufficient vaccines, the beginning of the vaccination campaign was hampered by vaccine shortages.<sup>13</sup>

### Conclusion

In addition to the health aspect, the COVID-19 vaccination campaigns are an essential factor for the continuing economic recovery from the coronavirus crisis. The overall picture remains mixed. While contact-intensive economic sectors and thus also trade in services, are still suffering more severely from the negative consequences of the restrictions and behavioural changes of businesses and consumers, the recovery of industrial production and trade in goods is relatively far advanced. Only when the coronavirus pandemic has been successfully contained can service sectors ramp up their recovery as well. The COVID-19 vaccination campaigns are making a crucial contribution to the containment strategy.

On the one hand, COVID-19 vaccination campaigns are important in the short term and they need to work with the existing capacities and structures of the healthcare system. On the other hand, it can be assumed that in the longer term climate change will also favour the propagation of infectious diseases and, hence, the emergence of pandemics.<sup>14</sup> A sustainable economic model therefore also includes pandemic preparedness. This applies to health regulations and the healthcare system. It also involves international cooperation

and partnerships, as the coronavirus crisis has illustrated. The current vaccination campaigns would be impossible without global trade in the necessary substances and medical goods and without research cooperation.

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<sup>1</sup> OECD (2021), Strengthening the recovery: The need for speed, OECD Economic Outlook, Interim Report March 2021.

<sup>2</sup> IMF on Twitter: 'Vaccine policy is economic policy. Here is why. [#GlobalEcon](https://t.co/oBj0SdyciR) #IMFMeetings <https://t.co/ufCNBbCr10>' / Twitter

<sup>3</sup> U. a. Dorn, F. et al. (2021), The Common Interests of Health Protection and the Economy: Evidence from Scenario Calculations of COVID-19 Containment Policies, medRxiv 2020.08.14.20175224; doi: <https://doi.org/10.1101/2020.08.14.20175224>; König, M. and Winkler, A. (2021); COVID-19: Lockdowns, Fatality Rates and GDP Growth, *Intereconomics* 56 (1), 32–39; Fernández-Villaverde, J. and Jones, C. I. (2020), Macroeconomic Outcomes and Covid-19: A Progress Report, NBER Working Paper 28004.

<sup>4</sup> IWF (2021), Global economy on firmer ground, but with divergent recoveries amid high uncertainty, *World Economic Outlook*, April 2021, p. 4.

<sup>5</sup> Global Health Security Index (2019), Building Collective Action and Accountability, p. 36.

<sup>6</sup> Global Health Security Index (2019), Building Collective Action and Accountability.

<sup>7</sup> Hendrix, C.S. (2021), Why some experts got pandemic readiness wrong, *PIIE Realtime Economic Issues Watch*.

<sup>8</sup> Hendrix, C.S. (2021), Why some experts got pandemic readiness wrong, *PIIE Realtime Economic Issues Watch*.

<sup>9</sup> Hendrix, C.S. (2021), Why some experts got pandemic readiness wrong, *PIIE Realtime Economic Issues Watch*.

<sup>10</sup> Wie hoch muss die Herdenimmunität sein? (*How high must herd immunity be?* – in German), *PZ-Pharmazeutische Zeitung*, 13 January 2021.

<sup>11</sup> Ipsos survey for The World Economic Forum (2021), Global attitudes on a COVID-19 Vaccine, [www.ipsos.com/en/global-attitudes-covid-19-vaccine-january-2021](http://www.ipsos.com/en/global-attitudes-covid-19-vaccine-january-2021).

<sup>12</sup> IWF (2021), Global economy on firmer ground, but with divergent recoveries amid high uncertainty, *World Economic Outlook*, April 2021.

<sup>13</sup> EU countries delaying, halting vaccinations over delivery shortages | News | DW | 28 Jan. 2021

<sup>14</sup> Stark, K., Niedrig, M. Biederbick, W. Merkert, H. and Hacker, J. (2009), Die Auswirkungen des Klimawandels Welche neuen Infektionskrankheiten und gesundheitlichen Probleme sind zu erwarten? (*The impacts of climate change. What new infectious diseases and health problems are to be expected?* – our title translation, in German only), *Bundesgesundheitsblatt - Gesundheitsforschung - Gesundheitsschutz*, DOI 10.1007/s00103-009-0874-9; Rocklöv, J. and R. (2020), Climate change: an enduring challenge for vector-borne disease prevention and control, *Nature Immunology* 21, 479–483, <https://doi.org/10.1038/s41590-020-0648-y>.