

# The global economic cost of COVID-19 vaccine nationalism

Millions of people worldwide have been infected with COVID-19 and so far, more than a million have lost their lives because of the pandemic. A huge global research effort is taking place to bring a fast-tracked vaccine to the market. Currently there are more than 165 vaccines being developed, with some already in human trials.

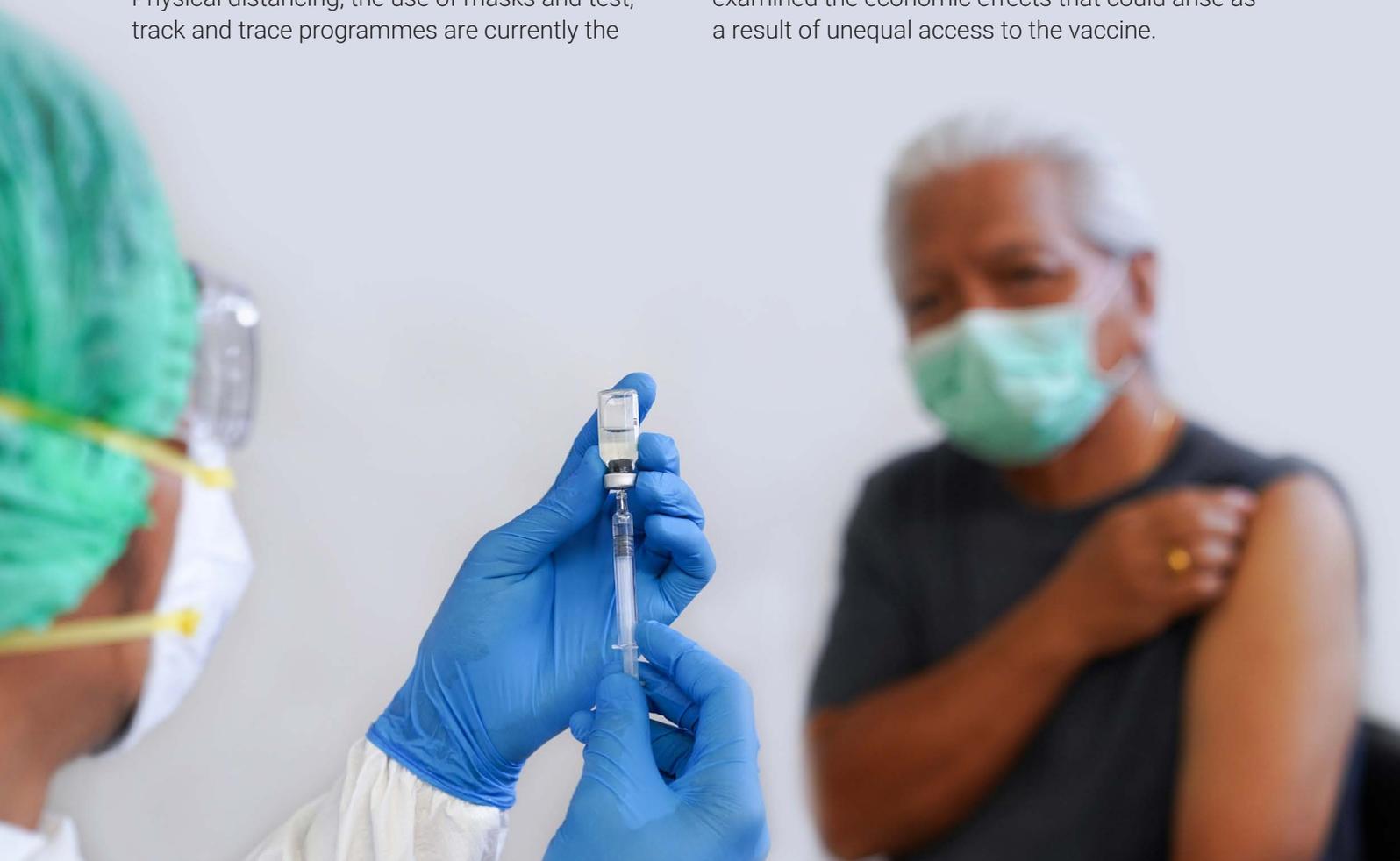
While the COVID-19 outbreak is foremost a public health crisis, it has also caused substantial damage to the global economy. National governments are spending trillions of dollars to fight the negative economic impact, but until there is a vaccine or other treatment widely available, the financial cost will continue to be felt around the world.

Physical distancing, the use of masks and test, track and trace programmes are currently the

only effective measures against the spread of the disease, and economic sectors that rely on close physical proximity between people, such as recreation and retail, will continue to be the most affected.

Even when a safe and effective COVID-19 vaccine or treatment is eventually developed, further challenges will emerge with regard to the manufacturing and distribution process. There is a threat that 'vaccine nationalism' could have negative consequences on how well the global pandemic is managed and contained.

In light of this, RAND Europe sought to understand how vaccine nationalism would affect the global crisis once a COVID-19 vaccine is developed and examined the economic effects that could arise as a result of unequal access to the vaccine.





## Key findings

-  Vaccine nationalism could cost the global economy up to \$1.2 trillion a year in GDP.
-  As long as there is no vaccine against the disease, the global cost associated with COVID-19 and its economic impact could be \$3.4 trillion a year.
-  If the poorest countries cannot access vaccines, the world could still lose between \$60 billion and \$340 billion a year in GDP.
-  For every \$1 spent on supplying poorer countries with vaccines, high-income countries would get back about \$4.80.

## Study approach

RAND Europe researchers conducted a literature review to gain a better understanding of the issues associated with vaccine nationalism and used a macroeconomic computer model to determine what would happen to global economic output.

The model ran different 'what-if' scenarios examining how the impact on economies would change if no vaccine were to be developed or if only a few countries or regions manage to immunise

their own populations. It analysed how reduced activity would affect GDP as a result of physical distancing and changes in consumer behaviour in the following high-contact intensive service sectors: hospitality; recreation; retail and wholesale; transportation; and health and social care.

As a benchmark for comparison, researchers used a hypothetical baseline scenario in which every country in the world had access to a vaccine.



## Understanding vaccine nationalism

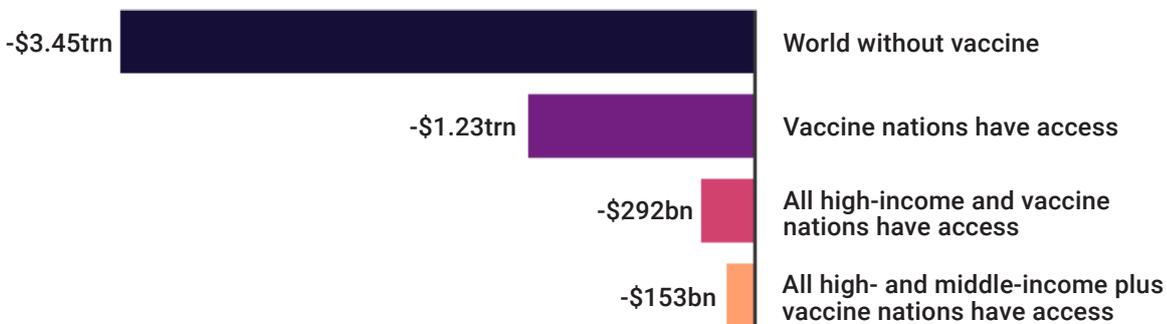
Experience shows that national governments, in response to previous pandemics, tend to follow their own interests instead of pursuing a more globally coordinated approach. If countries push to get first access to a supply of vaccines or hoard key components of vaccine production, 'vaccine nationalism' occurs. In recognition of this issue, there are ongoing international efforts such as COVAX, a cooperation between the WHO and other international institutions, to provide equal access to vaccines globally by pooling resources. However, so far there have only been weak commitments from wealthier countries.

## The scenarios

Researchers examined several different ‘what-if’ scenarios to determine what the economic cost would be to countries and the world if:

- 1 No COVID-19 vaccine is developed
- 2 Only vaccine-producing nations have the vaccine
- 3 All high-income and vaccine-producing nations have the vaccine
- 4 All high- and middle-income plus vaccine-producing nations have the vaccine

**Figure 1. Global GDP Change**



## Findings in full

**Until there is a widely available vaccine for COVID-19, physical distancing measures will continue to affect key sectors of the global economy negatively, especially those that rely on close physical proximity between people.**

The global cost associated with COVID-19 and its economic impact could be \$3.4 trillion a year. For the EU it will be about 5.6 per cent of annual GDP, about \$983 billion. The UK would incur a loss of about 4.3 per cent – an annual cost of \$145 billion. The US loses about 2.2 per cent of annual GDP, about \$480 billion.

**Vaccine nationalism could lead to the unequal allocation of COVID-19 vaccines and cost the global economy up to \$1.2 trillion a year in GDP terms.** Even if some countries manage to immunise their populations against the virus, as long as the virus is not under control in all regions of the world, there will continue to be a global economic cost associated with COVID-19.

**Even if nationalistic behaviour is inevitable, there are economic incentives to providing access to vaccines across the globe.** Based on estimates by Oxfam International in 2020, it would cost \$25 billion to supply lower-income countries with vaccines. The US, the UK, the EU and other high-income countries combined could lose about \$119 billion a year if the poorest countries are denied a supply. If these high-income countries paid for the supply of vaccines, there could be a benefit-to-cost ratio of 4.8 to 1. For every \$1 spent, high-income countries would get back about \$4.80.

**If the poorest countries cannot access vaccines, the world could still lose about £153 billion a year in GDP.** All high-income countries, as well as countries such as India, China and Russia, would still incur together an estimated GDP loss of about \$119 billion a year, or approximately \$10 billion a month. The EU would lose about \$40 billion a year, the US \$16 billion and the UK between \$2 billion and \$10 billion.

**Table 1. Change in real annual GDP in \$bn relative to baseline**

Scenario	World	USA	EU-27	UK	China	India	Russia	High	Middle	Low
Scenario 1 - World without vaccine	-3,449	-480	-983	-145	-356	-88	-52	-997	-147	-200
Scenario 2 - Vaccine nations have access	-1,232	-127	-311	-41	-110	-26	-18	-453	-65	-82
Scenario 3 - All high-income and vaccine nations have access	-292	-30	-76	-10	-27	-7	-5	-73	-30	-35
Scenario 4 - All high- and middle-income plus vaccine nations have access	-153	-16	-40	-5	-14	-3	-2	-39	-6	-28

Note: entries report changes in real annual GDP (US \$bn, 2019 values) relative to the baseline scenario where all countries have full access to a COVID-19 vaccine and can sufficiently inoculate their population.

## Conclusion

Global competition or vaccine nationalism may prevent a COVID-19 vaccine reaching those most in need. The unequal allocation of any vaccine could mean that vulnerable people in certain countries receive the vaccine after lower-risk individuals in other countries, leading to preventable deaths.

Investing in vaccine development and equitable access would be economically beneficial in the long run. Current spending by leading economies on vaccine development and allocation is relatively small compared to the economic loss associated with COVID-19 and it makes business sense for them to invest substantially more in vaccine development and distribution. This approach could form the basis for boosting the global cooperative effort.

To encourage international sharing of vaccines, enforceable frameworks are needed for vaccine development and distribution, managed by established international forums. Countries need to be bound by an agreement and not feel that they can limit supplies again when it suits them.

The international effort to support vaccination distribution needs to be sustained over time and will probably extend beyond most political cycles. As such, global cooperation could also help to take the short-term thinking out of decision-making and focus on the long-term aspirations for the health of the global population and economic development.

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This summary describes work done by RAND Europe documented in *COVID-19 and the cost of vaccine nationalism* by Marco Hafner, Erez Yerushalmi, Clement Fays, Eliane Dufresne, Christian van Stolk, RR-A769-1, 2020 (available at [www.rand.org/t/RR-A769-1](http://www.rand.org/t/RR-A769-1)). To view this summary online, visit [www.rand.org/t/RBA769-1](http://www.rand.org/t/RBA769-1). RAND Europe is a not-for-profit research organisation that helps to improve policy and decision making through research and analysis. RAND Europe's publications do not necessarily reflect the opinions of its research clients and sponsors. RAND® is a registered trademark.

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