



## Three Keys to Ending the Great Lockdown

**Mass testing combined with AI is our best hope of managing the coronavirus and containing the economic fallout.**

Each day that the **“Great Lockdown”**, triggered by the novel coronavirus, continues, the economic and human cost compounds. The United States, the world’s largest economy and the hardest hit by the virus, offers a sobering illustration: a record 26 million unemployment claims in a mere month, shattering all historical records. The US\$349 billion Paycheck Protection Program for small businesses, part of the unprecedented US\$2 trillion rescue package, has already run out of money.

The fallout is global and gruesome. According to the IMF, the great shutdown will push the world economy into the **deepest recession since the Great Depression**. Yet the darkest and most bitter prediction is the one made by the United Nations that hundreds of thousands of children will die from **economic hardship resulting from the pandemic**, even though children are largely unaffected by the virus itself.

For these reasons, governments the world over are debating ways of lifting the restrictions as the outbreak shows signs of plateauing in some countries. But it is a difficult balance. China, which has officially emerged from more than two months of self-isolation, struggles with re-starting its economy. Countries may temporarily win the fight against the virus, but no one wins in a fast-shrinking world economy. Any sudden lifting of restrictions is feared

to lead to a second wave of infections, in turn triggering additional shutdowns. With these fears, few countries have put a definite end date to the economy-wide shutdowns.

### How to save lives and the economy

But are open-ended lockdowns the best we can do? One would hope not. We are now equipped with advanced technology capable of things unimaginable even a generation ago. Therefore, the best strategy for managing the virus should rest on everything that makes today’s world smart: data, information, and technology. Deploying these in three key areas will save both lives and the economy.

#### *Rapid diagnostic tests*

The private sector has made huge strides in making diagnostics increasingly fast and effective. The pace of these technological advances is unprecedented and offers us hope. Within weeks, test results time dropped from days, to a few hours, to minutes with the introduction of successive innovations. Testing capacity has also been dramatically ramped up, even though it needs to increase even more.

#### *Antibody tests*

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Blood tests for the presence of antibodies – immune molecules made by the body to fight viral infections – are crucial for fighting both COVID-19 and the economic fallout. Dozens of antibody tests tailored to the novel coronavirus have already been developed. While the tests are **not without problems such as false positives** (signalling antibodies when there are none) and their reliability is still unclear, they have the potential to serve three important functions.

First, they offer the only way to find out the true extent of the pandemic. In contrast to diagnostic tests, which detect an ongoing infection, antibody tests identify people who were infected and have recovered and those who were asymptomatic. Only with such information can we know the actual infection rate and the mortality rate, crucial for understanding and fighting the disease.

Antibody tests also identify people who can donate blood to help others fight COVID-19. The **US Food and Drug Administration** is encouraging recovered patients to donate antibody-rich plasma as a potential treatment. Finally, antibody tests could help identify people who can safely go back to work.

#### *Artificial intelligence and other advanced data analytics tools*

These technologies could, among other things, predict who are vulnerable and where the virus would spike next, **shed light on which drugs would work on COVID-19, and monitor the disease's impact on mental health**. These technologies would require reliable and large amounts of data from diagnostic and antibody tests as well as treatment experiences.

A combination of the above technologies would help us selectively isolate and protect those at high risk and rapidly detect and contain new infections. We would then be able to restart the economy while protecting lives from the virus.

These solutions are far from perfect, and may indeed raise questions, on privacy for example. But the alternative – prolonged, blanket shutdowns – will be far worse. History has taught us that in the darkest hour, the best solution springs from human ingenuity and spirit. We should follow that path. In addition, if we take this opportunity to make strategic long-term investments in infrastructure – both physical and intellectual – we will have turned a crisis into an opportunity for long-term growth.

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