

# Preventing a Covid-19 food crisis

CARMEN M. REINHART and ROB SUBBARAMAN

VEN before the pandemic, there were signs that global food prices could soon surge. Extreme weather events induced by climate change have become more common. African swine fever wiped out over one-quarter of the world's pig population last year, causing food prices in China to increase by 15-22 percent year on year so far in 2020. And more recently, the worst locust blight in 70 years has destroyed crops in East Africa. In Kenya, the price of maize, a staple food, has risen by over 60 percent since 2019.

Covid-19 is amplifying the risk of a worldwide food-price spike, which would trigger outright crises in many developing countries. In the poorest of these, food accounts for 40-60 percent of the consumption basket, about 5-6 times its share in advanced economies.

While lockdowns have led to a collapse in demand for durable goods and discretionary services, the opposite is true of food. In cities around the world, reports of panic buying and food hoarding have proliferated since the pandemic began.

On the supply side, global grain stockpiles are healthy but could quickly be depleted as the virus disrupts food production and distribution. And shortages of animal feed, fertilisers, and pesticides have increased both the costs of farming and the risk of bad harvests.

Moreover, from harvesting fruits and vegetables in India to operating meat plants in America, labour shortages are becoming increasingly apparent as cross-border travel restrictions in much of the world disrupt the normal seasonal cycle of migrant farm workers. And transportation shortages are making it more challenging to get produce to market—when there is one.

Farmers need to reconfigure their supply chains away from bulk



With the pandemic threatening to wreak even more economic havoc, governments must work together to address the risk of disruptions to food supply chains.

PHOTO: REUTERS

wholesale to (currently closed) restaurants, hotels, and schools, and toward grocery stores and home delivery. But that takes time, not least because commercial and consumer food products are prepared and packaged differently. In the meantime, fresh produce has had to be destroyed.

Furthermore, some major food-producing countries have already imposed export bans or quotas in response to the pandemic, as Russia and Kazakhstan have done for grain, and India and Vietnam have done for rice. Meanwhile, other countries are stockpiling food through accelerated imports, as is true of the Philippines (rice) and Egypt (wheat).

Such food protectionism may seem like a good way to provide relief to the most vulnerable segments of the population, but simultaneous interventions by many governments can result in a global food-price surge, as happened in 2010-11. The World Bank estimates that protectionism accounted for about 40 percent of the increase in the global price of wheat and 25 percent of the rise in maize prices at that time.

One can understand these countries' nervousness. While the Covid-19 pandemic has led to falling growth, rising unemployment, widening fiscal deficits, and soaring debt in advanced and emerging economies alike, the

appearance of new infection hotbeds in developing countries will mean an even starker trade-off between saving lives and protecting livelihoods. Moreover, developing countries are already facing a sudden stop in capital and remittance inflows and a collapse in tourism, while the terms of trade and currencies of the many oil and primary-commodity exporters among them are crashing. Even before Covid-19, many low-income countries were at serious risk of debt distress. And many of these economies are also highly vulnerable to a spike in food prices.

Nomura's Food Vulnerability Index ranks 110 countries based on their

exposure to large food-price swings, taking into account their nominal GDP *per capita*, the share of food in household consumption, and net food imports. The latest reading shows that of the 50 countries most vulnerable to a sustained rise in food prices, nearly all are developing economies that account for nearly three-fifths of the world's population.

In fact, surging food prices would be a global problem, because they are highly regressive everywhere. Even in developed economies, a jump in food prices would drive a bigger wedge between the rich and the poor, exacerbating already-severe wealth inequality. No one should ignore the age-old connection between food crises and social unrest.

Multilateral institutions have mobilised quickly during the crisis to provide emergency loans to a record number of developing countries, while G20 creditors have agreed to a temporary suspension of debt-service payments from poor countries that request forbearance. But because the risks posed by surging food prices do not apply only to the most vulnerable economies, temporary debt relief may need to be extended to other countries as well.

With the pandemic threatening to wreak even more economic havoc, governments must work together to address the risk of disruptions to food supply chains. More broadly, some modicum of global policy coordination is essential to prevent food protectionism from becoming the post-pandemic new normal.

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# Can AI prevent the next pandemic?

MUHAMMAD IBRAHIM

THE technology I have in mind as our saviour in the next pandemic is Artificial Intelligence (AI). In proposing this I am inspired by two things. Firstly, the conclusion of some recent reviews that AI development has been progressing at a much faster rate than previously anticipated. Even such challenging goals as conducting an intricate surgical procedure and doing independent scientific research seem to be quite achievable within a few years. The progress can, and should, be expedited keeping the present crisis in mind.

My second inspiration comes from the realisation that most of us, including most of the global leaders, have learned our lessons from Covid-19. It creates the hope that when this crisis is over, the international community will move towards a concerted action including the installation of the services of AI to avoid a repetition. The global investment and efforts required for AI to manage or stave off another pandemic will pale in comparison to the cost that all countries will have to pay without it. I believe that we can take AI to an extraordinary height soon if we want to. And at the same time we can avoid—by keeping it under global control—the apprehensions of the naysayers that AI will take away our jobs in every sector, that the surveillance power it creates will jeopardise our privacy, and that it may even overpower and annihilate us.

To begin with, the AI under global control will continuously analyse Big Data that encompasses worldwide medical records for any sign of a mutated new virus infecting a human being anywhere in the world, and alert the relevant authorities immediately. At a simpler level, this may seem somewhat similar to the case when

an all-AI news agency became the first in the world to find out and publicise the news of the assassination of the elder brother of the current North Korean dictator in a foreign airport. AI will, along with human scientists, immediately study the virus, its mutations, possible lethality, and its transmission. It will help in the isolation of the human carrier and trace his/her contacts so that they too can be immediately isolated. Hopefully, that will be the end of the threat. Such

and parallel progress of it can be much greater. But even then, a usable vaccine may need some time to develop, so AI will gear up its next lines of defence. For example, it will bolster the usually maintained reserves of food, medicine, hospital equipment, PPEs, and other essentials for emergency by its robotic manufacturing facilities, all distributed around the world.

Now imagine: when a lockdown becomes unavoidable because of the start of the community transmission

correctly updated about the virus, and will make the best projections for the coming days. With these timely actions, the crisis will soon be over, and with all humans in the world properly vaccinated, the time will come to go for business as usual.

However, in the worst case scenario, Phase II in AI-assisted defence may have to be invoked. Phase II kicks in when the reserve is exhausted but it is too early to lift the lockdown yet. Now it will be AI's turn to keep the economy afloat. This is a situation the thought of which is normally dreaded by many—AI taking over the economy and doling out the subsistence to the people who have no work. But this is not normal times, and it would be for a very short period of crisis economy after all. AI continues to produce under the guidance of human policymakers and to provide goods and services to all. These would come from highly flexible, highly robotised, multitasking, digitally controlled special fabricators, always ready for special occasions, each type programmed to produce multiple things round the clock. Many prototypes are already working. 3D printers may be a simpler case in point. Essential services will be kept on, dominantly by using AI-run emergency automations such as self-driven vehicles and robots. The human actors in economy can take over again as soon as possible.

The UN, or better still, a UN-like global body with more authority and effectiveness, should be able to guide, regulate, and make happen the appropriate AI. It should ensure global vigilance, make the AI systems available to countries in need, and formulate global policies in using them. The rest can be left to the national authorities, with details best suited to the circumstances of a country. Such global control and even global R&D are

not unthinkable. Yes, the world is not coming any nearer to a unified entity, as the war of words and demonstrations of naked self-interest have shown in recent times (and even during this current crisis). But perhaps because of the sheer instinct of self-preservation and because no alternative is in sight, a change of heart will come.

Let us take the pilot-autopilot collaboration in a flight as a metaphor for our AI-rich life. One may ask, if the autopilot can do so much in a crisis, why then do we need the pilot at all? Why don't we let the autopilot fly the plane all the time? Our answer: the pilot should be there because that is the way we human beings like it. We want human beings to be in ultimate control at every stage. During a normal flight, the autopilot relieves the pilot of all monotonous chores in the flight, removes all the sharp edges from it, tries to give the pilot and the passengers a refreshing flying experience. Our advanced AI will do exactly the same by giving us a better quality of life during normal times, without taking anything away.

Are the epidemics and pandemics only crises where the above scheme with AI will apply? Not at all. The scheme can be adapted to any major emergencies and disasters, local or global. Also, there can be global disasters with greater threats to humanity, not yet anticipated by us. But some of these technologies, properly developed and prepared, and prudently used by us, may prove to be the difference between life and death for millions, even billions, of people. Who says a meteorite of the size that killed all dinosaurs might not strike us one of these days?

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AI progress should be expedited keeping the present crisis in mind.

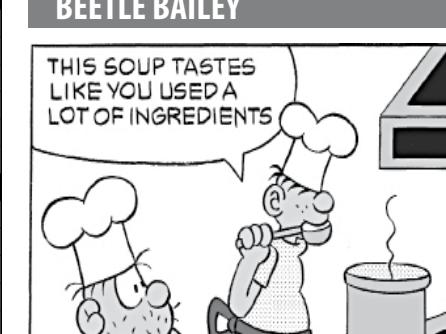
PHOTO: REUTERS

detective works in all kinds of places in the world have been found to be extremely difficult and dangerous for human experts, to say the least.

If, unfortunately, a particularly unpredictable virus escapes the net and threatens to start a crisis, the moment it happens, the precisely programmed AI protocol will start the research for a vaccine and a drug for this very mutation. With advanced AI, the speed

of a virus, Phase I of defence kicks in—the reserve supplies are regularly distributed to the designated quarantine centres, hospitals, and homes of the people by the robotic couriers, keeping human contact to the minimum. The same minimum contact is maintained in medical treatment, thanks to the AI doctors and nurses helping the human ones. Of course, AI will do much more. It will keep the whole world

## BEETLE BAILEY



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## ON THIS DAY IN HISTORY



### FIRST NONSTOP SOLO TRANSATLANTIC FLIGHT

May 21, 1927

American aviator Charles Lindbergh completed the first nonstop solo flight across the Atlantic Ocean on this day in 1927, traveling from New York to Paris in the monoplane *Spirit of Saint Louis* in about 33.5 hours.

## CROSSWORD BY THOMAS JOSEPH

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### YESTERDAY'S ANSWERS



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