



Chronicle of a Pandemic Foretold

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Abstract

In just a few weeks, COVID-19 appeared in China and quickly spread to the rest of the world, including Europe and the United States. Many have rushed to describe the outbreak as a ‘black swan’ – an unpredictable event with extremely severe consequences. However, COVID-19 was not only predictable *ex post*: it was amply predicted *ex ante*. This allows us to draw some preliminary lessons:

- First, economic policy will need to shift from its current focus on efficiency, towards a greater emphasis on resilience and sustainability.
- Second, a more centralised governance to address health emergencies is needed.
- Third, Europe should create a centre for the prevention of large-scale risks.
- Fourth, digital technologies, if handled with care, can be an important part of both a mitigation and a response strategy.
- Fifth, Europe should improve its science advice and communication functions.

Finally, there are many ways to pursue enhanced resilience and responsiveness, but not all of them are compatible with sustainability and democratic values. The challenge is to find an adequate policy mix, which safeguards individual rights and liberties, protects the economy, and at the same time strengthens government preparedness for cases of epidemics and pandemics.

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COVID-19 was not predictable. It was predicted

In just a few weeks, COVID-19 appeared in China and quickly spread to the rest of the world, including Europe and the United States. Many governments are facing tragic choices, such as imposing harsh containment and quarantine rules; [choosing](#) which patients to save and which ones to let die; or blindly betting on ‘herd immunity’ by letting the virus spread widely, no matter the death toll (as initially [announced](#) in the UK, although the government eventually [made a U-turn](#)). In a triumph of path-dependency, most EU member states have taken gradual, sparse and inconsistent steps, such as closing intra-EU borders and limiting the free circulation of medical devices and protective equipment. All of a sudden, the European Union, a project that took decades to build, is on the verge of collapse; trust between countries is declining, while trust between citizens is surprisingly on the rise. Fear of the unknown is leading citizens around the world to look for the solidarity of their neighbours, and gradually lose interest in what happens across the border. Investors are witnessing the most dramatic nosedive in the recent history of stock exchange indexes, while market operators start preparing for the worst economic crisis since World War II.

Many have rushed to [describe](#) the outbreak as a ‘black swan’ – an unpredictable event with extremely severe consequences. This would make COVID-19 tantamount to the 2008 financial crisis, the dot.com bubble, or 9/11. However, there are at least two major differences between the current pandemic and these black swans. First, there is [no evidence that the virus was man-made](#): the debate thus focuses on the timeliness and effectiveness of the response, once the virus appeared. Second, black swans are defined as events that cannot be predicted beforehand, yet are considered predictable after the fact occurs. However, COVID-19 was not only predictable *ex post*: it was amply predicted *ex ante*. In other words, COVID-19 is no black swan; rather, it is a “grey rhino”, a massive threat that was to be expected, yet ignored despite repeated warnings. We should have seen it coming, and we should have been prepared. Clearly, we were not.

Already in 2005, while testifying before the US Congress, scientific reporter Laurie Garrett [warned](#) that a “highly virulent, highly transmissible pandemic influenza that circulates the world repeatedly for more than a year” would end up killing more people than all the known weapons of mass destruction “save, perhaps, a thermonuclear exchange”; she observed that “scientists have long forecast the appearance of an influenza virus capable of infecting 40% of the world’s human population and killing unimaginable numbers”. A novel flu virus known as H1N1 ended up killing at least 18,500 people with some studies suggesting that the actual death toll could have been [15 times higher](#). Ten years later, Microsoft founder Bill Gates [warned](#) that the greatest risk of a global catastrophe would most likely be a highly infectious virus, rather than a war (“not missiles but microbes”); and that according to epidemiologists, “a fast-moving airborne pathogen could kill more than 30 million people in less than a year”. In 2016, the Report of the High-level Panel on the Global Response to Health Crises” [warned](#) of a “fast-spreading respiratory disease agent that could have a geographic scope, severity, or societal impact and could overwhelm national or international capacity to manage it”. One year later, widely read magazines such as [Time](#) and the [Harvard Business Review](#) warned of a staggering

lack of preparedness for the inevitable upcoming pandemic, and established a simple equation of fear: if there were an outbreak of a virus as deadly as Ebola and as contagious as flu, the world would fall to its knees.

Only a few months ago, in September 2019, the Global Preparedness Monitoring Board (an independent monitoring and accountability body to ensure preparedness for global health crises, hosted by the WHO) was even more explicit, [stating](#) that “the world is not prepared for a fast-moving, virulent respiratory pathogen pandemic ... The 1918 global influenza pandemic sickened one third of the world population and killed as many as 50 million people ... If a similar contagion occurred today with a population four times larger and travel times anywhere in the world less than 36 hours, 50-80 million people could perish”. A simulation exercise in the US last October 2019 [confirmed](#) that “there are major unmet global vulnerabilities and international system challenges posed by pandemics that will require new robust forms of public-private cooperation to address”. Around the same time, the [Global Health Security Index](#) report reiterated the warning.

Preparedness: international cooperation, domestic denial

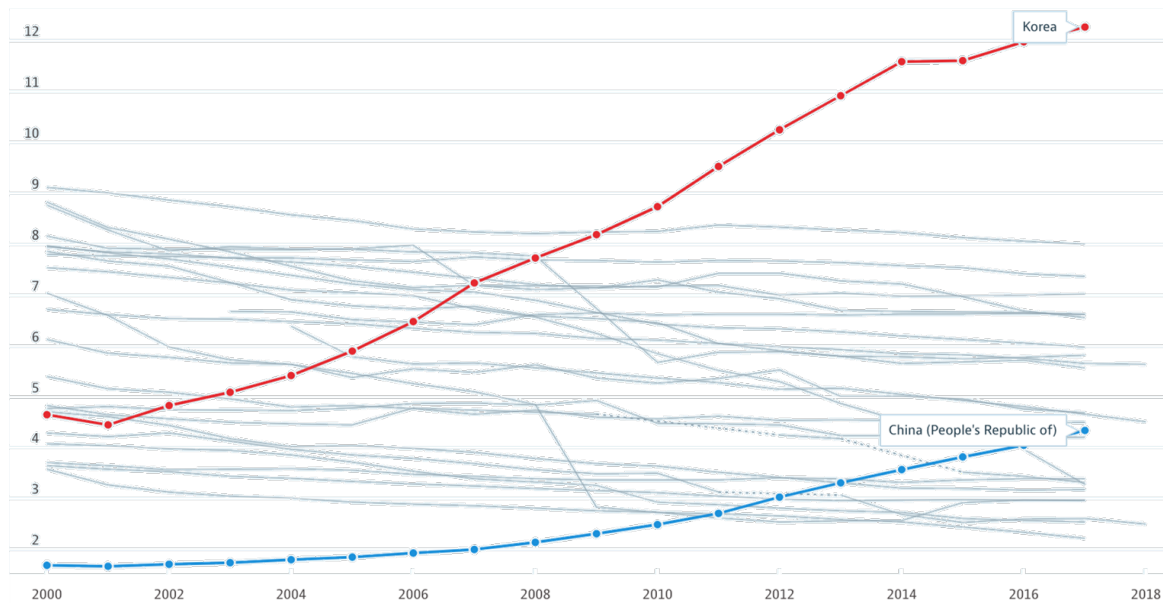
Preparedness has indeed been on the global agenda in recent years. The World Health Organisation (WHO) has [worked](#) intensively and extensively on pandemic preparedness, adapting its strategy based on the lessons learned from past outbreaks such as HIV, Ebola, H1N1, SARS; under its umbrella, a group of scientists developed a [blueprint](#) for R&D preparedness and response to public health emergencies due to highly infectious pathogens. Nonetheless, the current outbreak has shown that efforts to put in place an international response mechanism to cross-border health threats, which date back to the first International Sanitary Conference in 1851 and culminated in the WHO International Health Regulations in 2005, are still far from succeeding.

Against this backdrop, national governments have been very reluctant to invest in measures to tackle low-risk, high-consequence occurrences. In a world dominated by the quest for economic efficiency, with financial markets ready to award a premium to governments that reduce public spending and thereby taxes, there is little place for resilience-oriented policy. The resulting paradox is that those events that scare citizens the most are tackled by many politicians with a macabre taste for risk.

Not surprisingly, as the scientific world was crying for more attention to the need to get prepared for a pandemic, the Trump administration was [disbanding](#) the global health security team, and virtually emptying out the Office of Science and Technology Policy. As the COVID-19 outbreak was spreading to the United States, in proposing the new budget for 2021, the President continued his uninterrupted streak of proposed cuts to the National Institute for Health (\$5 billion, a staggering 13% cut); the Office of Public Health Preparedness and Response (\$25 million), and the Hospital Preparedness Program (\$18 million). In Europe, the financial crisis led many member states to impose [drastic spending cuts](#) on healthcare in almost every country; recently, [Rechel \(2019\)](#) confirmed evidence of cutbacks in many countries and “an

overall declining share of health expenditure going to public health” in the post-financial crisis period. As reported by the OECD, in Italy between 2000 and 2017, the number of hospital beds per capita decreased by about 30%, a [trend](#) that is present across all EU countries, contrary to what occurred in Korea and China (see Figure 1). Given the rigidity of most of public spending on healthcare, cuts inevitably end up affecting research, as well as overall preparedness strategies: as a result, ordinary administration is somehow (barely) guaranteed, but public authorities are playing a dangerous Russian roulette with events like COVID-19. Lombardy (a crown jewel of Italy when it comes to healthcare) is on the verge of collapse for lack of intensive care beds.

Figure 1. Per capita hospital beds, EU28 (grey lines) v. China and South Korea (highlighted)



Source: OECD.

In Europe, the shortage of national investment was partly addressed through enhanced coordination at the EU level, through the creation of a dedicated agency, the European Centre for Disease Control (ECDC), in charge of strengthening Europe’s response and providing technical support for Europe and for EU member states. Consensus on the need for an ECDC emerged after the SARS outbreak in 2003, and the Centre already became operational in 2005. Its work was found to be relevant and meaningful in a recent external evaluation, which particularly praised the relevance of the Centre’s activities during the Zika and Ebola outbreaks. However, the same document also [reported](#) weaknesses “in the Centre’s capacity to adapt to changes in the member states, particularly reduced national public health spending”; and that the Centre has not been able to adequately cover its staff costs and hire additional staff. Most worrying is the reported lack of adequate cooperation by member states, in particular in the Epidemic Intelligence Information System (EPIS), and also in the European Surveillance System (TESSy).

In summary, the global governance of threats from pandemics appears too fragmented and [insufficiently coordinated](#). Most countries are wildly unprepared, and the global or regional coordination mechanisms appear too weak to effectively prevent collective action problems,

as well as fragmented and sparse reactions, to proliferate. In Europe, the ECDC is likewise insufficiently endowed to effectively coordinate member states in providing a meaningful response. As in many global governance settings, the current situation can easily lead to collective action problems, as well as strategic behaviour.

Early insights from the outbreak

The fact that the pandemic was amply foretold, and yet was not adequately tackled, allows us to draw some preliminary lessons.

First, economic policy will need to shift from its current focus on efficiency, towards a greater emphasis on resilience and sustainability. Reducing vulnerability and increasing resilience are also essential in response to other threats, such as climate change. In many sectors of the economy, including network industries and public services like healthcare, the quest for cost cutting and short-term economic efficiency has led to a dramatic lack of redundancy in most critical infrastructures, including healthcare. Increasing resilience won't be possible if worldwide, international institutions continue to pursue a campaign for unconditional fiscal discipline, and financial markets continue to be tied to quarterly reports on public spending. The same applies to the European Semester: reorienting it towards sustainable development, as the von der Leyen Commission seems willing to do, would require providing more visibility to existing health, social inclusion and sustainability indicators as well as adding new indicators and monitoring tools, including a careful planning of preparedness for health and other risks (see below). So far, despite the emphasis on a "Triple A" for social policy in the Juncker Commission, the Stability and Growth Pact has largely prioritised fiscal discipline over resilience-oriented investment.

Second, a more centralised governance to address health emergencies is needed. The COVID-19 outbreak has shown the need for more coordination in the way EU responds to global health threats. The quality and coordination of information flows during an emergency like the one currently experienced in Europe and the world is of the essence. The recent evaluation of [EPIS](#) has shown important flaws, mostly on the side of member states. The voluntary nature of this multi-level cooperation resembles closely the lack of full coordination experienced in a neighbouring field, cyber security ([Griffith et al., 2019](#)). Moreover, the [shortage of medical devices and medicines](#), an already existing problem in the EU, became more apparent and critical in the current emergency: problems in the supply of ventilators, protective masks and medicines have exposed existing gaps and revealed opportunities for Europe to act more effectively. A strategic stockpile of medical devices ([rescEU](#)) has now been set up to address the emergency: this, however, occurred only after member states attempted to implement export bans for critical medical equipment, ignoring any form of solidarity. A stronger role of the EU would have been advisable also with respect to the plethora of policy measures adopted at all levels of government to contain and delay the spread of the virus. Social distancing, travel bans and other similar measures are thought to be ineffective or even dangerous unless enacted in a concerted and coordinated way. The EU has now issued *ad hoc* recommendations

on [testing strategies](#) and [community measures](#), but this took far too long, putting individuals and healthcare systems unnecessarily at risk.

Third, Europe should create a centre for the prevention of large-scale risks. It is important to avoid the repetition of a ‘panic-neglect-panic’ cycle in the face of crisis. On the one hand, Europe must avoid adopting a ‘disease by disease’ strategy: as suggested in 2016 by a [UN High-level Panel](#) that reviewed the experience with the Ebola outbreak, governments should avoid the temptation to emphasise ‘vertical’ programmes focusing on specific diseases or too narrow policy considerations (e.g., pandemic preparedness); and prioritise comprehensive, whole of government programmes aimed at strengthening all aspects of their national health system. On the other hand, Europe must also avoid a ‘threat by threat’ siloed strategy: even if [COVID-19 was not man-made](#), the extent of the disruption it is creating will certainly entice bioterrorists; and it is clear that the rising role of digital technology in supplementing economic activities could make a combined attack (biological and digital) lethal for the world economy. The mounting awareness that most cyberattacks are hybrid (military and civilian) should spread towards analysing the likelihood of multi-vector attacks. Against this background, even if it has already engaged in [extensive risk mapping](#), Europe does not have a dynamic, agile centre for the prevention of catastrophic risks. The use of high-performance computers, large datasets and advanced risk-analysis techniques can support resilience in Europe without requiring massive investment in new facilities and infrastructure for each sector. The Centre could coordinate with existing non-executive agencies in specific sectors (e.g. ENISA, ECDC, ESMA, EBA) to alert policymakers on outstanding threats and evolving risks, including multi-vector ones. With such a support network, the European Commission could create an executive structure that would coordinate emergency response by identifying the most effective sequence of measures, and possible redistribution of materials and resources across member states to ensure the resilience of the whole Union.

Fourth, digital technologies, if handled with care, can be an important part of both a mitigation and a response strategy. Technology is enabling the continuation of economic activity (via telework) and social relationships (via videoconferencing and social networking). And had COVID-19 occurred in a few years from now, many economic activities would have been replaced through the use of the Internet of Things ([Laurer and Renda 2020](#)), thanks to drone delivery, remotely managed smart factories and farms, autonomous vehicles and virtual and extended reality. Digital technology will also be [essential](#) in diagnosing COVID-19 (for example, in China by training a petascale supercomputer to identify the CT-scans of pneumonic patients with COVID-19); finding a cure (IBM’s Summit has identified 77 promising compounds to be tested by medical researchers out of a total of 8,000, in just a couple of days as opposed to months); and [monitor the effectiveness](#) of lockdown and isolation measures.

Fifth, Europe should improve its science advice and communication functions. Scientific advice is key for guiding action, but it is also a [very complex task](#). The COVID-19 outbreak is a paradigmatic example of how science advice is needed in the face of uncertainty and potentially catastrophic risk. While governments need to act in a timely manner in these circumstances, the truth is that many questions about the current outbreak remain unanswered (among others, the animal origin and reservoir of the virus, the dynamics of

transmission and especially the role of asymptomatic transmission, and the influence of different risk factors). The ECDC, the Scientific Advice Mechanism and the Joint Research Centre of the European Commission should become more effective in combining sound knowledge and research with science communication abilities, enabling the Commission to effectively avoid the proliferation of disinformation and sparse, mystified narratives throughout the Union. This would also help the EU avoid politicians at the national level being too easily tempted to shift the responsibility of organisational and logistic problems onto the European level, when this is not backed by any evidence.

Finally, there are many ways to pursue enhanced resilience and responsiveness, but not all of them are compatible with sustainability and democratic values. The challenge is to find an adequate policy mix, which safeguards individual rights and liberties, protects the economy, and at the same time strengthens government preparedness for cases of epidemics and pandemics. Building healthcare facilities at the national level based on the (current) needs during a pandemic outbreak, makes little sense from a policy perspective; increasing capacity should rather be part of a more comprehensive preparedness strategy that includes the ability to quickly react and increase the number of beds, ventilators or other healthcare facilities in times of emergency. Overstocking medicines at national level is less efficient than doing it at the pan-European level. Using technology to track the movement of citizens, as done in China, is incompatible with individual liberties and fundamental rights, and can give rise to widespread social discrimination over time. In the current emergency, the EU has a chance to show that risk management and governance is possible without sacrificing individual fundamental rights and jeopardising solidarity and the bloc's commitment to sustainable development. The President of the European Commission, Ursula von der Leyen, faces an uphill battle as member states repeatedly fail to resist the temptation of closing the borders and refuse to cooperate with neighbours. The COVID-19 emergency is thus becoming an existential challenge for the "geopolitical Commission". A cutting-edge approach to risk detection, analysis and management coupled with far-reaching economic stimuli, the responsible use of technology and the commitment to openly sharing research solutions can preserve the role of the EU as a guiding light in these troubled times.

This is, of course, a non-exhaustive list of possible measures that would contribute to better governance and preparedness in the years to come. And they are measures to be adopted in quieter times: as John F. Kennedy once famously said, the time to fix the roof is when the sun is shining. It is essential that, once COVID-19 gradually disappears, the lessons learned from these months of lockdown become the foundations of a new approach to risk governance at the EU and global level. The Global Preparedness Monitoring Board [raised](#) this same issue very clearly in its latest annual report: "for too long, we have allowed a cycle of panic and neglect when it comes to pandemics: we ramp up efforts when there is a serious threat, then quickly forget about them when the threat subsides".

So, let us not forget these days of lockdown, may they not be in vain. And let us use our best abilities to develop more effective ways to ensure our society remains resilient in the face of future risks.