

COVID-19 and black swans: lessons from the past for a better future

There are events that have a very low probability of occurring but which, when they do occur, have a huge impact and are difficult to predict. They are black swans. Some examples of black swans include the First World War, the Wall Street Crash of 1929, which led to the Great Depression, and the 2008 financial crisis. Pandemics such as the Black Death in the 14th century, Spanish flu in 1918-1920 and COVID-19 today are also examples. In this article, we will embark on a journey of the history of some of these events in order to analyse what socio-economic changes they caused and whether mankind learned anything from them. The hope is to help us to better contextualise the black swan that we are currently enduring in these difficult times.

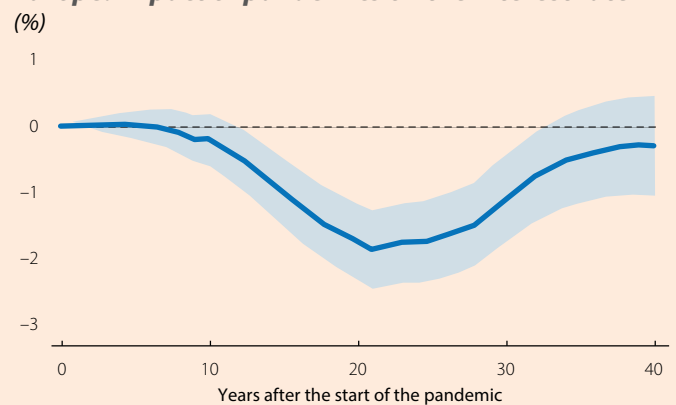
How frequently do these events occur? The Harvard economist Robert Barro estimates that, every half a century (i.e. with an annual probability of 2.0%), events occur which cause a sudden drop in a given major economy's GDP. As for their effects, black swans in general, and pandemics in particular, have a significant and lasting impact on the economy. Recent research estimates that pandemics cause prolonged economic damage that applies downward pressure on interest rates for 40 years,¹ since they are usually followed by households saving more due to the fear of a resurgence and greater risk aversion, fewer investment opportunities and a large dose of prudence. According to these results, the effects of the COVID-19 outbreak could persist for quite some time, although in the end this will largely depend on whether lasting changes occur in our consumption and investment preferences and habits, as well as on how long it takes to discover a vaccine.

The COVID-19 outbreak has characteristics that classify it as a black swan: it is a shock that has a low probability of materialising but a very high impact. It may also meet the third condition, namely the difficulty in predicting it, although on this note the debate is served: many virologists² have been warning of the possibility of the emergence of new pandemics for almost a decade and some governments, such as that of the US, had conducted exercises simulating pandemic scenarios following the Ebola outbreak. In any case, and beyond this debate, in a world as globalised and connected as ours, pandemics are likely to recur more frequently than we thought up until recently (remember that, recently, we have already experienced several major epidemics such as SARS, influenza A, MERS, Zika and Ebola). It is no coincidence that cities with greater trade activity in the Middle Ages and in the Modern Age – Amsterdam, Venice and London – were hit with more frequent and virulent outbreaks of the plague. Thus, it is imperative that we learn from the mistakes we have made with the COVID-19 outbreak in order to be better prepared from a health perspective and to minimise the impact of future pandemics.

One of the big questions that arises in society is whether, once this pandemic is over, we will return to normal or there will be major social changes. While it is difficult to give definitive answers, a historical look at previous pandemics indicates that they tend to leave a major mark on society. For instance, the first pandemics that ravaged the Roman Empire (the Antonine plague in the years 165-180 AD and the plague of Cyprian in 250-270 AD) led to a heightening of spirituality, which favoured the expansion of Christianity,³ while the plague of Justinian (541-543 AD) accelerated the decline of the Byzantine Empire.

However, if there is one pandemic that caused unexpected socio-economic changes, which paradoxically ended up being positive in the long run, it was the Black Death (1346-1351), which decimated up to 60% of the European population. After the Black Death, the shortage of labour led to a sustained increase in wages – something unlikely to occur with COVID-19 as it has a very low mortality rate among the labour force –, as well as in workers' bargaining power, which weakened the feudal system in Western Europe. In addition, in Europe there was an unusual increase in the level of consumption among the survivors, which marked an exception to the pattern of increased private savings usually observed after pandemics. This may have been linked not only to the increase in wages but also to the heightened awareness of the transient nature of life.⁴ Other major changes

Europe: impact of pandemics on the interest rate



Note: The chart shows the natural rate of interest (that which balances savings and investment). The study focuses on the 12 most severe pandemics that Europe has suffered since the Black Death. Confidence intervals of 95%.

Source: O. Jordà, S.R. Singh and A.M. Taylor (2020). «Longer-run economic consequences of pandemics». National Bureau of Economic Research, n° w26934.

1. See Ò. Jordà *et al.* (2020). «Longer-run economic consequences of pandemics». National Bureau of Economic Research, n° w26934.

2. See N. Wolfe (2011). «The viral storm: the dawn of a new pandemic age». Macmillan.

3. See R. Stark (2009). «The Rise of Christianity». Editorial Trotta.

4. See P. Schmelzing (2020). «Eight centuries of global real interest rates, RG, and the suprasedecular decline». Bank of England Staff Working Paper, n° 845, 1311–2018.

included the introduction of technological improvements to make up for the lack of labour, which led to inventions such as Gutenberg's printing press⁵ and to women beginning to join the labour market in the societies of north-western Europe. This wealthier society also became more sophisticated, such that there began to be a demand for manufactured goods, cities attracted workers from rural areas and a new middle class was formed. In fact, prominent historians and economists, such as Daron Acemoglu from MIT, consider that the social and economic changes that took place as a result of the plague marked the turning point for the development of inclusive institutions in 17th-century England, which laid the foundations for the Industrial Revolution.

Finally, the Spanish flu of 1918 also had major effects, albeit negative ones: according to a recent study,⁶ the panic among the population led to a prolonged increase in the distrust in human relations in the countries hardest hit by the pandemic. In the current situation, if a similar increase in distrust were to occur, e-commerce and the digital economy could be given an even stronger boost, to the detriment of face-to-face interactions.

The good news is that, throughout history, society has managed to learn from the great crises it has been hit with, both in terms of health and economics. For instance, in terms of health, after a brief initial period characterised by superstition and distrust of doctors, the Black Death led to a much greater interest in the medical sciences (with a proliferation in the 15th century of medical treatments to combat it, which became very popular), as well as to the establishment of permanent health committees in European cities to deal with future pandemics. Thanks to the development of health institutions, by the 16th century health controls at borders had already become widespread, as had confining the sick to specially designated areas, which allowed the impact of new waves of plague that followed to be better contained. Another example comes from the cholera epidemic that decimated London in the 19th century and which led to an improvement in the sewerage systems to avoid contagion by drinking contaminated water.

The lessons from the Spanish flu also did not fall on deaf ears: its terrible effects (up to 50 million victims) raised governments' awareness of the great impact of pandemics, which led to the establishment of public health systems in most European economies and, in 1919, to the creation in Vienna of an organisation to combat epidemics at the international level that can be considered the precursor of the WHO. Another particularly valuable lesson for the current situation is that the North American cities that were initially stricter in their social distancing policies ended up enjoying better economic performance in the years that followed than those which were not.⁷

Society has also managed throughout history to learn from traumatic episodes from an economic point of view. When the Great Crash of 1929 occurred, the passive attitude of the governments of the time exacerbated the crisis and the subsequent cascade of bank failures, business closures and escalating unemployment. However, this fateful historical experience helped to steer the response to the Great Recession of 2008, which was very different and included a greater involvement on the part of the governments of the worst affected economies in order to avoid a major economic depression. After the Second World War, economies also took note of the adverse effects of the protectionist and isolationist policies that they had implemented since 1914, and they created a successful framework for the integration of trade which cemented the foundations of globalisation. The last economic black swan, the 2008 financial crisis, also prompted significant changes. Much has been done to correct the deficiencies identified in the financial sector. In particular, banks must meet higher capital, liquidity and transparency requirements, and the role of management and supervisory bodies has been strengthened.

However, the current crisis highlights that it was a mistake not to finish shoring up the Economic and Monetary Union. Among other things, the banking union is yet to be completed and a fiscal capacity has not yet been created at the European level. In the short term, such a capacity is essential for covering the high current funding needs of European states in order to rebuild their economies, but ultimately it is essential for the proper functioning of the monetary union.⁸

In short, our historical tour suggests that the COVID-19 crisis marks a critical juncture that could lead to decisive changes in the world's trajectory. In particular, it can open the door to new, more sustainable ways of producing and working⁹ as well as to a rethinking of how and where we want to live. In addition, it serves as an opportunity to dedicate more resources to our healthcare systems, accelerate technological change, create a new social contract between generations and strengthen our mechanisms for global cooperation. Mankind has shown in the past that it is capable of learning from black swans and ushering in a better world. Let us hope that this occasion is no different.

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5. See D. Herlihy (1997). «The Black Death and the transformation of the West». Harvard University Press.

6. See M. Le Moglie *et al.* (2020). «Epidemics and Trust: The Case of the Spanish Flu». IGIER Working Paper, n° 661.

7. See S. Correia *et al.* (2020). «Pandemics Depress the Economy, Public Health Interventions Do Not: Evidence from the 1918 Flu». Working Paper.

8. See the article «[Economic policies in the face of COVID-19: will the boundaries of the impossible be broken?](#)» in this same Dossier for an in-depth analysis.

9. For details, see the article «[How COVID-19 will change the way we produce](#)» in this same Dossier.