



# The economic impact of pandemics

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The 2019-2020 coronavirus pandemic has raised urgent questions about the economic impact of pandemics and the associated countermeasures. There are two sets of questions to be discussed. **First**, what are the real economic effects of a pandemic? **Second**, are these effects temporary or persistent? In this article the economic effects of the 1347-1353 Black Death, the 1918-1920 Influenza Pandemic, and the 2019-2020 Coronavirus Pandemic will be discussed.

## 1. The economic consequences of the 1347-1353 Black Death<sup>1</sup>

The Black Death was the largest demographic disaster in European history. From its arrival in Italy in late 1347 through its clockwise movement across the continent to its petering out in the Russian hinterland in 1353, the plague killed between seventeen and twenty-eight million people. The Black Death's socioeconomic impact stemmed from sudden mortality on a staggering scale. Assessment of the plague's economic significance begins with determining the rate of mortality for 1347-1353 period, unraveling how the plague chose victims according to age, sex, affluence, and place.

The structure of mortality influences the time and rate of demographic recovery. The plague's preference for urbanite over peasant, man over woman, poor over affluent, and, perhaps most significantly, young over mature shaped its demographic toll. The Black Death pushed Europe into a long-term demographic trough. Population growth recommenced at different times in different places but rarely earlier than the second half of the fifteenth century and in many places not until 1550.

The strongest effect of the Black death was felt in the economy's agricultural sector, unsurprising in a society in which, except in the most urbanized regions, nine of ten people eked out a living from the soil. Lord and peasant were adjusting to the Black Death's principal economic consequence: a much

smaller agricultural labour pool. Before the plague, rising population had kept wages low and rents and prices high, an economic reality advantageous to the lord in dealing with the peasant and inclining many a peasant to cleave to demeaning yet secure dependent tenure.

As the Black Death swung the balance in the peasant's favor, the literate elite bemoaned a disintegrating social and economic order. The rural worker indeed demanded and received higher payments in cash (nominal wages) in the plague's aftermath. In some instances, the initial hikes in nominal or cash wages subsided in the years further out from the plague and any benefit they conferred on the wage labourer was for a time undercut by another economic change fostered by the plague. Grave mortality ensured that the European supply of currency in gold and silver increased on a per-capita basis, which in turned unleashed substantial inflation in prices that did not subside until the mid-1370s and even later in many places on the continent. The inflation reduced the purchasing power (real wage) of the wage labourer so significantly that, even with higher cash wages, his earnings either bought him no more or often substantially less than before the plague.

The lord was confronted not only by the roving wage labourer on whom he relied for occasional customary labour services, rent, and dues for holding land from the lord. A pool of labour services greatly reduced by the Black Death enabled the servile peasant to bargain for less onerous responsibilities and better conditions. Faced with the disorienting circumstances, the lord often ultimately had to decide how or even whether the pre-plague status quo could be reestablished on his estate. Not capitalistic in the sense of maximizing productivity for reinvestment of profits to enjoy yet more lucrative future returns, the medieval lord nonetheless values stable income sufficient for aristocratic ostentation and consumption. A recalcitrant peasantry, diminished dues and services, and climbing wages undermined the material foundation of the noble lifestyle, jostled the aristocratic sense of proper social hierarchy, and invited a response.

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<sup>1</sup> Routt, D. The Economic Impact of the Black Death. EH.Net Encyclopedia, edited by Robert Whaples. July 20, 2008. URL <http://eh.net/encyclopedia/the-economic-impact-of-the-black-death/>



In exceptional circumstances, a lord sometimes kept the peasant bound to the land. Europe's political elite also looked to legal coercion not only to contain rising wages to limit the peasant's mobility but also to allay a sense of disquietude and disorientation arising from the Black death's buffering of pre-plague social realities. Once conservatism and legislative palliatives to revivify pre-plague socioeconomic arrangements, the lord cast about for a *modus vivendi* in a new world of abundant land and scarce labour. A sober triangle of the available sources of labour, whether it was casual wage labour or a manor's permanent stipendiary staff or the dependent peasant, led to revision of managerial policy. For a time in fact circumstances helped the lord continue direct management of the demesne. The general inflation of the quarter-century following the plague as well as poor harvests in the 1350s and 1360s boosted grain prices and partially compensated for more expensive labour. This so-called "Indian summer" of demesne agriculture ended quickly in the mid-1370s when the post-plague inflation gave way to deflation and abundant harvests drove prices for commodities downward, where they remained, aside from brief intervals of inflation, for the rest of the Middle Ages.

Under unremitting pressure, the traditional cultivation of the demesne ceased to be viable for lord after lord: a centuries-old manorial system gradually unraveled and the nature of agriculture was transformed. The lord's earliest concession to this new reality was curtailment of cultivated acreage, a trend that accelerated with time. Beyond reducing the demesne to a size commensurate with available labour, the lord could explore types of husbandry less labour-intensive than traditional grain agriculture. Livestock husbandry became more significant – suitable climate, soil, and markets made grapes, olives, apples, pears, vegetables, hops, hemp, flax, and dye-stuffs attractive alternatives to grain. In hope of selling these cash crops, rural agriculture became more attuned to urban demand and urban businessmen and investors more intimately involved in what and how much of it was grown in the countryside.

The lord also looked to reduce losses from demesne acreage under the plow and from the vacant holdings of onetime tenants. Measures adopted to achieve this end initiated a process that gained momentum with each passing year until the

face of the countryside was transformed and manorialism was dead. Disillusioned by growing obstacles to profitable cultivation of the demesne, the lord, especially in the late fourteenth century and the early fifteenth, adopted a more sweeping type of leasing, the placing of the demesne or even the entire manor "at farm". A "farmer" paid the lord a fixed annual "farm" for the right to exploit the lord's property and take whatever profit he could. The lord often became a rentier bound to a fixed income. The tenurial transformation was completed when the lord sold to the peasant his right of lordship, a surrender to the peasant of outright possession of his holding for a fixed cash rent and freedom from dues and services. Manorialism, in effect, collapsed and was gone from western and central Europe by 1500.

The landlord's discomfort ultimately benefited the peasantry. Lower prices for the foodstuffs and greater purchasing power from the last quarter of the fourteenth century onward, progressive disintegration of demesnes, and waning customary land tenure enabled the enterprising, ambitious peasant to lease or purchase property and become a substantial landed proprietor. The average size of the peasant holding grew in the late Middle Ages. Due to the peasant's generally improved standard of living, the century and a half following the plague has been labeled a "golden age" in which the most successful peasant became a "yeoman" or "kulak" within the village community. Freed from labour service, holding a fixed copyhold lease, and enjoying greater disposable income, the peasant exploited his land exclusively for his personal benefit and often pursued leisure and some of the finer things in life.

Once the plague had passed, the city had to cope with a labour supply even more greatly decimated than in the countryside due to a generally higher urban death rate. The city could reverse some of this damage by attracting new workers from the countryside. Finding more labour was not a panacea. A peasant performed an unskilled task adequately but could not necessarily replace a skilled labourer. The gross loss of talent due to the plague caused a decline in per capita productivity by skilled labour remediable only by time and training.

Another immediate consequence of the Black Death was dislocation of the demand for goods. A suddenly and sharply smaller population ensured a glut of manufactured and trade goods, whose prices plummeted for a time. The businessman who



successfully weathered this short-term imbalance in supply and demand then had to reshape his business' output to fit a declining or at the best stagnant pool of potential customers.

The Black Death transformed the structure of demand as well. While the standard of living of the peasant improved, chronically low prices for grain and other agricultural products from the late fourteenth century may have deprived the peasant of the additional income to purchase enough manufactured or trade items to fill the hole in commercial demand. In the city the plague concentrated wealth, often substantial family fortunes, in fewer and often younger hands, a circumstance that, when coupled with lower prices for grain, left greater per capita disposable income. The plague's psychological impact influenced how this windfall was used. Pessimism and the specter of death spurred an individualistic pursuit of pleasure, a hedonism that manifested itself in the purchase of luxuries. Even with a reduced population, the gross volume of luxury goods manufactured and sold rose, a pattern of consumption that endured even after the extra income had been spent within a generation or so after the plague.

Like the manorial lord, the affluent urban bourgeois sometimes employed structural impediments to block the ambitious parvenu from joining his ranks and becoming a competitor. A tendency toward limiting the status of gild master to the son or son-in-law of a sitting master, evident in the first half of the fourteenth century, gained further impetus after the Black Death. The need for more journeymen after the plague was conceded in the shortening of terms of apprenticeship, but the newly minted journeyman often discovered that his chance of breaking through the glass ceiling and becoming a master was virtually nil without an entrée through kinship. Women also were banished from gilds as unwanted competition. The urban wage labourer, by and large controlled by the gilds, was denied membership and had no access to urban structures of power. While these measures may have permitted the bourgeois to hold his ground for a time, the winds of change were blowing in the city as well as the countryside and gild monopolies and gild restrictions were fraying by the close of the Middle Ages.

In the new climate created by the Black Death, the individual businessman did retain an advantage: the business judgment and techniques honed during

the high Middle Ages. This was crucial in a contracting economy in which gross productivity never attained its high medieval peak and in which the prevailing pattern was boom and bust on a roughly generational basis. A fluctuating economy demanded adaptability and the most successful post-plague businessman not merely weathered bad times but located opportunities within adversity and exploited them. The post-plague entrepreneur's preference for short-rather than long-term ventures, once believed a product of a gloomy despondency caused by the plague and exacerbated by endemic violence, decay of traditional institutions, and nearly continuous warfare, is now viewed as a judicious desire to leave open entrepreneurial options, to manage risk effectively, and to take advantage of whatever better opportunity arose. The successful post-plague businessman observed markets closely and responded to them while exercising strict control over his concern, looking for greater efficiency, and trimming costs.

The European economy at the close of the Middle Ages (1500) differed fundamentally from the pre-plague economy. In the countryside, a freer peasant derived greater material benefit from his toil. Fixed rents if not outright ownership of land had largely displaced customary dues and services and, despite low grain prices, the peasant more readily fed himself and his family from his own land and produced a surplus for the market. Yields improved as reduced population permitted a greater focus on fertile lands and more frequent fallowing, a beneficial phenomenon for the peasant. More pronounced socioeconomic gradations developed among peasants as some, especially more prosperous ones, exploited the changed circumstances, especially the availability of land. The peasant's gain was the lord's loss. As the Middle Ages waned, the lord was commonly a pure rentier whose income was subject to the depredations of inflation.

In trade and manufacturing, the relative ease of success during the Middle Ages gave way to greater competition, which rewarded better business practices and leaner, meaner, and more efficient concerns. Greater sensitivity to the market and the cutting of costs ultimately rewarded the European consumer with a wider range of goods at better prices. In the long term, the demographic restructuring caused by the Black Death perhaps fostered the possibility of new economic growth.



The Black Death was a cataclysmic event and retrenchment was inevitable, but ultimately diminished economic impediments and opened new opportunities.

## 2. The economic effects of the 1918-1920 Influenza Pandemic<sup>2</sup>

The 1918 influenza pandemic was far more severe than any other for which we have reliable data. About 20-25 per cent of North Americans fell ill between September 1918 and January 1919. U.S. case mortality ranged between 1 ¾ and 2 ¼ per cent, with half the deaths occurring in the month of October. A mild “heralding wave” that attracted little attention at the time was first noted in the U.S. mid-west in March 1918. By May, it had spread to Western Europe, China and Japan, and by the summer to New Zealand, Australia and India. While the spring wave was first noted in the United States, the true geographic origin has not been well established. Before and after 1918, most influenza pandemics originated in Asia.

The much more lethal fall wave was highly contagious and spread very quickly, appearing first in Portugal and France in August, Western Europe and the East coast North American ports in early September and the West coast North American, South American, African, Indian and Asian ports in late September. By October, only New Zealand, Australia and the deep interior of South America, Africa and Asia were unaffected. By November, most of these had been struck. Australia was affected in January 1919 when a maritime quarantine failed. A third wave affected some locations in December 1918 and January 1919. Population mortality was considerably lower than in the main fall wave. Socially dense U.S. army and navy training bases appeared to have been unaffected by the third wave.

The prominent feature of the multiple waves in 1918-19 is that almost all the morbidity and mortality was associated with a single wave that spread globally with extraordinary rapidity. This wave was severe but of short duration, with about 80 per cent of cases occurring in a single month in a

given location. Mortality in 1918 was unusually great in the 20-to-40 age group with males disproportionately affected. The impact on the labour force would thus have been greater than in standard influenza epidemics that disproportionately affect the very young and the very old. The mortality spike at age 35 did not reflect a higher attack rate, but rather a spike in pneumonia as a secondary complication.

While official GDP estimates do not exist prior to 1929, the NBER Macro History Database provides a rich source of high frequency data to analyze the economic impact of the 1918 pandemic. Monthly data for the production of a wide variety of commodities is available, as well as goods trade data, data on the consumption of travel services, retail sales, equity prices and currency demand. Analysis of the effects of the pandemic requires the use of monthly data, as the pandemic was highly concentrated in the single month of October. If the pandemic had notable effects on the economy, then these effects should be apparent in that month, with rebounds occurring in subsequent months.

Monthly data on industrial production is a key source of information on the aggregate impact of the pandemic. Results indicate that a 1 per cent change in this index was associated with a 0.26 per cent change in GNP. The pandemic main wave was limited to the September-November period with half the morbidity occurring in October. During the fall wave, industrial production averaged 7 per cent below the August level. This translates into a -1.7 per cent annual impact and a -0.45 per cent GNP impact using the estimated GNP-industrial production elasticity. This may be an overestimate as the First World War ended in November and part of the November weakness likely reflects the cancellation of defence orders. The decline during the fall wave is considerably smaller than declines during normal business cycle contractions of the period. While real imports declined modestly during the peak pandemic months, the decline is very small relative to the typical volatility of the series. Real exports were effectively stable.

The IMF Working Group suggest that a pandemic could negatively affect equity markets and induce people to hoard cash. Again, no such effects were apparent in 1918. The Dow-Jones Industrial average was flat during the pandemic while railroad stocks actually increased in value. Some have argued that a pandemic would lead

\* James, S. and Sargent, T. The Economic Impact of an Influenza Pandemic. Working Paper 2007-04. Department of Finance Canada. December 12, 2006. <https://www.publicsafety.gc.ca/lbrr/archives/cn000034577651-eng.pdf>



people to hoard cash, however, real currency holdings by the public actually fell modestly during the 1918 fall wave. In 1918, Americans would have had much greater reason to be nervous about the solvency of their local bank in the event of a negative shock than would be the case today, as bank failures were frequent in the United States prior to the introduction of Federal Deposit Insurance in 1934 and tended to surge during economic downturns. There is no evidence of any absenteeism-related disruption in the financial sector, as daily bank clearings actually rose. Bankruptcy data show no evidence of any pandemic impact on the financial health of the manufacturing sector.

Overall, the data suggest that the 1918 pandemic had modest direct effects stemming from illness absenteeism, but that indirect effects were very small. This is consistent with the generalized finding that human activity is very resilient to many natural shocks. People adapt and work around the shock; those unaffected work harder and longer to pick up the slack. The short duration of the shocks also limits their impact.

Spanish Influenza moved too fast to produce more than brief paralysis. It was a hit-and-run kind of disease, not the kind that places society under a long siege, like tuberculosis or malaria. Influenza does not create the kind of situation which is bound to get worse and worse unless proper actions are taken.

In the fall of 1918, the most severe influenza pandemic ever recorded quickly spread across the entire globe. Severe though the effects on human health were, it appears to have had only minor impacts on the world's most advanced economy – that of the United States. Indirect effects are hard to discern, in the United States or elsewhere.

Both economies and societies have evidently changed considerably since 1918. In most advanced economies, agriculture is much less important, and services more important than in 1918. Many countries were at war in 1918. Social safety nets were much less extensive and the role of government in the economy smaller. Many fewer married women were in the labour force, although the war boosted female participation.

While much has changed since 1918, many changes are of degree rather than kind. Advanced economies of today have more in common with the United States of 1918 than the latter had with the

pre-industrial agrarian America of 1818. The United States in 1918 had an advanced capitalist economy with well-developed financial markets that was highly integrated with the rest of the world economy through both trade and financial channels. Global business cycles were closely aligned, the Great Depression of the 1930s being the most prominent example. The Internet may not have existed, but news and financial market information were quickly transmitted globally via transoceanic telegraph and telephone cable. Television did not exist, but the advanced nations of 1918 had already entered the era of mass communications. Most major cities had several daily newspapers, and these had high circulations.

A new literature has begun to explore the coping strategies that people adopt in situations of stress and risk, and their implications for economic behaviour. It seems unlikely that these strategies have changed since 1918. The question remains whether the economic and social changes that have occurred are of a type that could transform the very small observed economic impact of the 1918 pandemic into the much larger (and even catastrophic) impacts predicted by some analysts.

The U.S. labour share of income has changed little since 1929, suggesting little change in the aggregate elasticity of output with respect to hours worked. Direct effects should therefore be similar to those of 1918 for a pandemic of comparable severity. Most of those who predict that a future pandemic would have a large negative impact do so on the basis of large indirect effects. The factors that might potentially lead a new pandemic of comparable severity to have a different indirect effects than that of 1918 are as follows: changes in the mix of occupations and of output; changes in the production process; changes in the availability of leave.

#### ***Changes in the mix of occupations and of output***

In 1910, agricultural occupations accounted for 32 per cent of all occupations in the United States, compared with 0.3 per cent in 2004. Industrial production occupations decreased in importance from 22.5 per cent in 1910 to 8 per cent in 2004. The share of occupations in construction and extraction has also declined. The occupation share of business and financial operations is very similar today to that of 1910. Notable increases in occupation share have occurred in education,



health, sales and office and administrative support. The occupation share of transportation has increased only modestly.

Some argue that a pandemic today would cause widespread workplace-avoidance absenteeism in socially dense occupations. Determining which occupations are socially dense involves considerable judgement. Low social density occupations are those where much of the working day would likely involve limited direct physical interaction with others, or where the primary place of work is out of doors. Occupations that involve dealing with the public may or may not be more socially dense than those that do not. A real estate agent, for example, may be exposed to many fewer people each day than someone working in a closed factory setting.

While the average social density of occupations has clearly increased since 1918, this cannot in itself explain the small economic impacts of the 1918 pandemic, as there is no evidence that higher density industries suffered disruption in 1918. Pandemic impacts were small or indiscernible in retail services, rail and transit passenger transportation and banking. This suggests that workplace avoidance absenteeism was small even in socially dense occupations in 1918. Had workplace avoidance absenteeism occurred in socially-dense occupations in 1918, it would have affected the total economy less than today, however, there is no evidence that it did affect these occupations.

#### ***Changes in the availability of leave***

The IMF Working Group argues that “the lack of a formal safety net may have threatened workers with high financial costs in case of absenteeism from the workplace,” and thus helped to limit the economic impact of the 1918 pandemic. For this reason, as well war related fear of social opprobrium, they argue that “it appears unlikely that a similar outbreak today would have comparably limited effects.”

For someone to engage in a workplace avoidance absence the perceived marginal benefit of reduced risk must exceed the marginal cost of the absence. The marginal cost of an absence depends upon the type of leave taken and its duration. Changes in leave provisions could in principle affect the incidence and duration of workplace avoidance absences.

In 1918, few non-management workers had paid leave of any kind. Estimates show that 33 per

cent of U.S. salaried workers received paid vacations during the First World War and by the end of the war most white collar workers had one or two weeks of paid vacation, but that “vacations, paid sick days, and disability insurance did not become general policy among manufacturing firms until after the Depression”.

It does not seem likely that the lack of sick leave in 1918 meant that many people worked who were ill with influenza. In many cities, public orders were enforced prohibiting people with symptoms from leaving their homes, and they certainly would not have been welcome at the workplace. The absence of sick leave undoubtedly meant that ordinary illness absenteeism was less in 1918 than today, however it was quickly recognized in 1918 that the Spanish Influenza was not an ordinary illness. Many more jobs were physically strenuous in 1918, and it would have been difficult for people to perform these while ill with influenza.

If workers in 1918 who had not yet fallen ill chose to remain at work because they considered the marginal risk reduction of workplace avoidance to be small, then the availability of leave provisions would have had little effect on this choice. On the other hand, if they had considered the risk reduction to be large, then we should have seen evidence of significant workplace avoidance absenteeism even without widespread leave availability. For the lack of leave to have mattered, the perceived risk reduction would have had to have been just balanced off by the cost of the absence. The lack of sick leave in 1918 meant that those who fell ill would have suffered direct income losses with negative implications for consumer demand. This channel would be less pronounced today.

#### ***Changes in the production process***

A pandemic would create a disarticulation in the production process if it caused inventories of inputs to be exhausted via reduced production of inputs or reduced transportation of inputs to users. The economic data from 1918 suggest that no such disarticulations occurred. This is not surprising, as the pandemic impact on single-city illness absenteeism in 1918 likely peaked at around 5 ½ per cent, which would not have been sufficient to cause production disarticulations. For disarticulations to occur in a prospective pandemic, either significant workplace-avoidance absenteeism would need to occur in industries that produce or transport inputs, or the production process itself would need to be



significantly more vulnerable to any supply chain disruptions that did occur.

Social and labour market changes since 1918 do not provide strong support for the notion that workplace-avoidance absenteeism would be much greater than in 1918. Such absenteeism would be particularly unlikely in emerging economies where personal leave would be less available and personal absences thus more costly than in advanced economies. High workplace absenteeism is also unlikely in goods transportation, as it is among the least socially dense sectors.

#### ***Aggregate Total GDP Impacts of a future pandemic***

If absenteeism has a “high” impact on output and if there are no intertemporal or intersectoral demand reallocations, then a 1918-type pandemic would reduce GDP growth by 0.92 per cent in the pandemic year. Growth would be 0.64 percentage points higher than otherwise in the subsequent year, reflecting the recovery of output from absenteeism and indirect demand effects. If workplace avoidance were to occur as estimated, then the total GDP impact would rise to 1.08 per cent. If all indirect effects are reallocated, the GDP impact would be –0.55 per cent without workplace avoidance absenteeism and –0.7 per cent with such absenteeism.

If absenteeism has a “low” impact on output and if there are no intertemporal or intersectoral reallocations, then a 1918-type pandemic would reduce GDP growth by 0.72 per cent in the pandemic year. Full reallocation reduces the impact to –0.35 per cent.

All of these scenarios could plausibly imply negative growth in the quarter in which the pandemic main wave is concentrated. Strong quarterly growth bounce backs could be expected once the main wave is over, reflecting both a recovery of output to normal levels as well as overshooting stemming from intertemporal demand reallocations.

The 1918 influenza pandemic was more severe than any for which we have reliable data. Declines in U.S. industrial production in the fall of 1918 suggest that the pandemic reduced annual 1918 U.S. GDP by up to 0.5 per cent. Small impacts are apparent in passenger rail and transit use. Retail sales, external trade, financial markets and bankruptcies appear to have been unaffected. While economies have changed significantly since 1918,

these changes are not a convincing basis for concluding that impacts today would be significantly greater than in 1918.

Analysis suggests that a severe pandemic like that of 1918 would reduce annual GDP by about 1 per cent a result of higher worker absenteeism and reduced spending in some sectors. Expenditure reallocations across sectors and across time would mitigate the impact of the latter on total annual GDP growth. Growth could be expected to rebound sharply immediately following the pandemic as absenteeism returned to normal levels and spending occurred that had been delayed.

Studies predict that a pandemic would have large negative impacts because they assume that large indirect effects would result from fear of the disease and consequent efforts by individuals to avoid infection. Fear is hard to measure, but we can measure how people respond to stressful situations. It is likely that people would be fearful during a 1918-type pandemic, just as they likely were in 1918. Some studies seem to assume that fear by definition implies widespread behavioural changes, with economies breaking down as people become dysfunctional from fear of infection.

There is ample evidence that people do not respond to fear in this way. An emerging literature that merges insights from psychology and economics suggests that people engage in strategies to effectively manage fear and avoid becoming paralysed by it. Furthermore, it is not absolute risk that determines behaviour, but rather the perceived relative risk and cost of a particular behaviour relative to an alternative. Perceived relative risks may be much smaller than absolute risks, particularly if a risk is pervasive.

If a pandemic were to occur, human suffering and loss of life would outweigh economic concerns. GDP impacts are not necessarily the best measure of the effects on people of a virus or other natural disaster.

### **3. The economic impact of the 2019-2020 Coronavirus Pandemic**

The coronavirus outbreak, which was first detected in China in 2019, has infected people in 185 countries. Its spread has left businesses around the world still counting the costs.

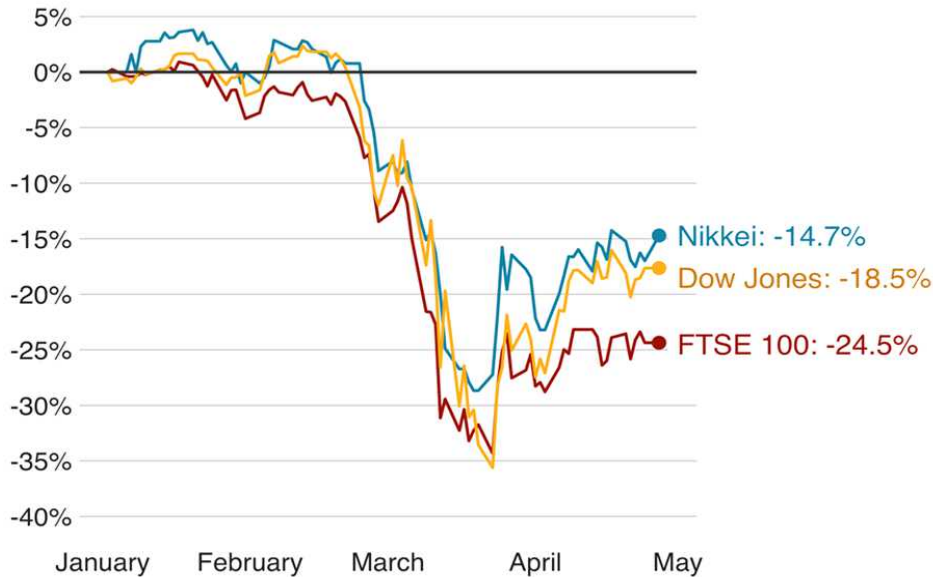
#### ***Global shares take a hit***

Big shifts in stock markets, where shares in



companies are bought and sold, can affect the value of pensions or individual savings accounts (ISAs). The FTSE, Dow Jones Industrial Average and the Nikkei have all seen huge falls since the outbreak began on 31 December. The Dow and the FTSE saw their biggest quarterly drops in the first three months of the year since 1987.

### The impact of coronavirus on stock markets since the start of the outbreak



Source: Bloomberg, 27 April 2020, 07:00 GMT

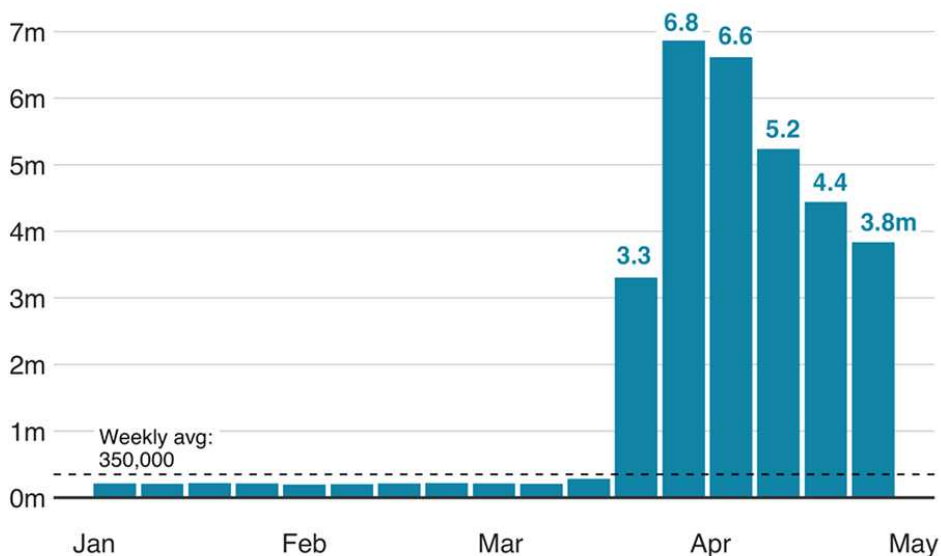


### More people seeking work

In the United States, the number of people filing for unemployment hit a record high, signaling an end to a decade of expansion for one of the world's largest economies.

### More than 30m people in the US have filed for unemployment benefits in last six weeks

Weekly total of new unemployment claims in 2020



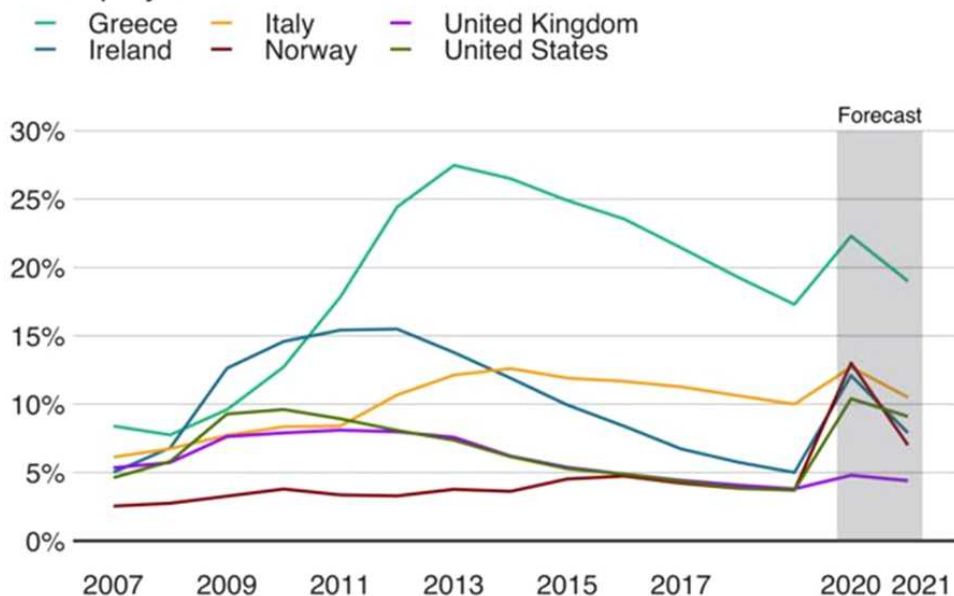
Source: US Bureau of Labor Statistics, 30 April 2020, 14:00 GMT





## Joblessness to surpass financial crisis rates in some countries

### Unemployment rates



Source: International Monetary Fund, Eurostat

BBC

### Oil prices crash

Demand for oil has all but dried up as lockdowns across the world have kept people inside. The crude oil price had already been affected by a row between OPEC, the group of oil producers, and Russia. Coronavirus has driven the price down further.

## Oil price at 21-year low

### Brent crude, US dollars per barrel



Source: Bloomberg, 27 April 2020, 07:00 GMT

BBC



Brent crude is the benchmark used by Europe and the rest of the world. Its price dipped below \$20, to the lowest level seen in 18 years. In the United States, the price of a barrel of West Texas Intermediate (WTI) turned negative for the first time in history.

## US oil prices turned negative for the first time

Price per barrel of WTI



Source: Bloomberg, 27 April 2020, 07:00 GMT

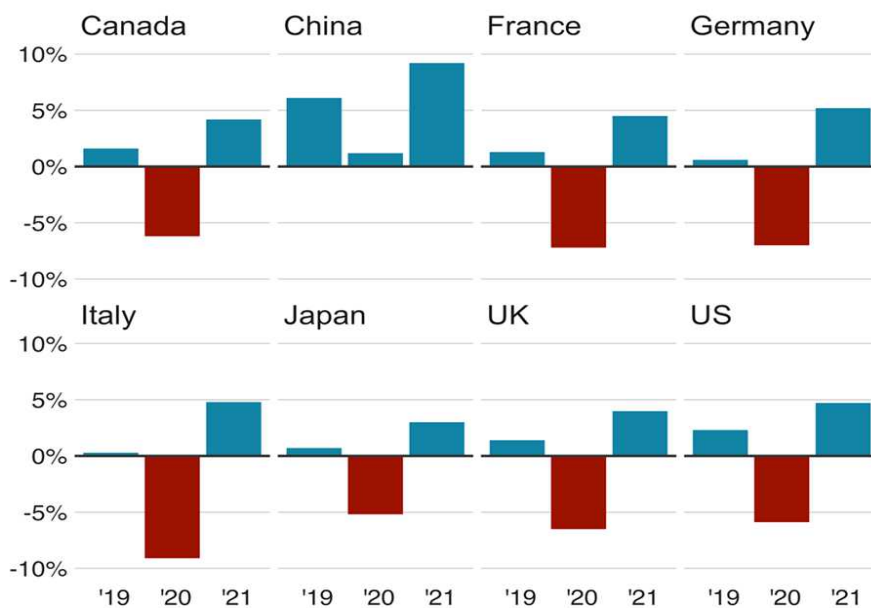


### *Risk of recession*

If the economy is growing, that generally means more wealth and more new jobs. It's measured by looking at the percentage change in gross domestic product, or the value of goods and services produced, typically over three months or a year. But the International Monetary Fund (IMF) says that the global economy will shrink by 3% in 2020. The IMF described the decline as the worst since the Great Depression of the 1930s.

## Many advanced economies are expected to enter recession this year

National annual GDP



Source: International Monetary Fund

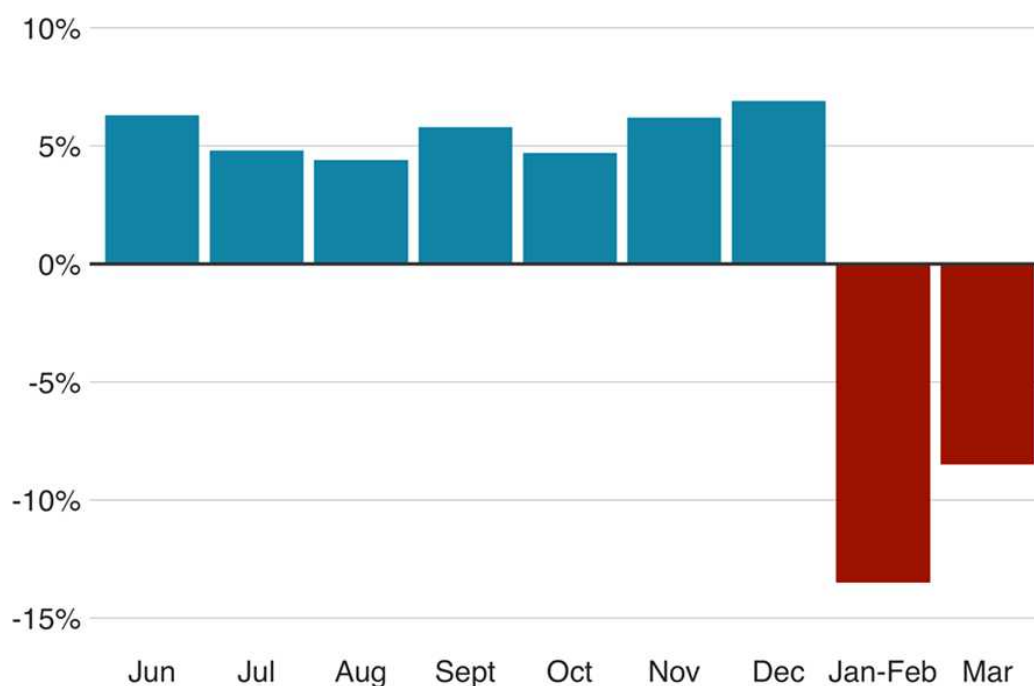




### ***Factories in China slowed down***

In China, where the coronavirus first appeared, industrial production, sales and investment all fell in the first three months of 2020, compared with the same period in 2019. China makes up a third of manufacturing globally, and is the world's largest exporter of goods.

## **Chinese industrial production fell further in March**



Source: China National Bureau of Statistics, 27 April 2020, 07:00 GMT

**BBC**

The Chinese economy is expected to expand by just 1.2% in 2020, which would be the slowest growth since 1976. The IMF warned that there were "severe risks of a worse outcome". It said that if the pandemic took longer to control and there was a second wave in 2021, this would knock an additional 8 percentage points off global GDP. The Fund said this scenario could trigger a downward spiral in heavily-indebted economies. It said investors might be unwilling to lend to some of these nations, which would push up borrowing costs. The IMF added: "This increase in sovereign borrowing costs or simply fear of it materialising, could prevent many countries from providing the income support assumed here."

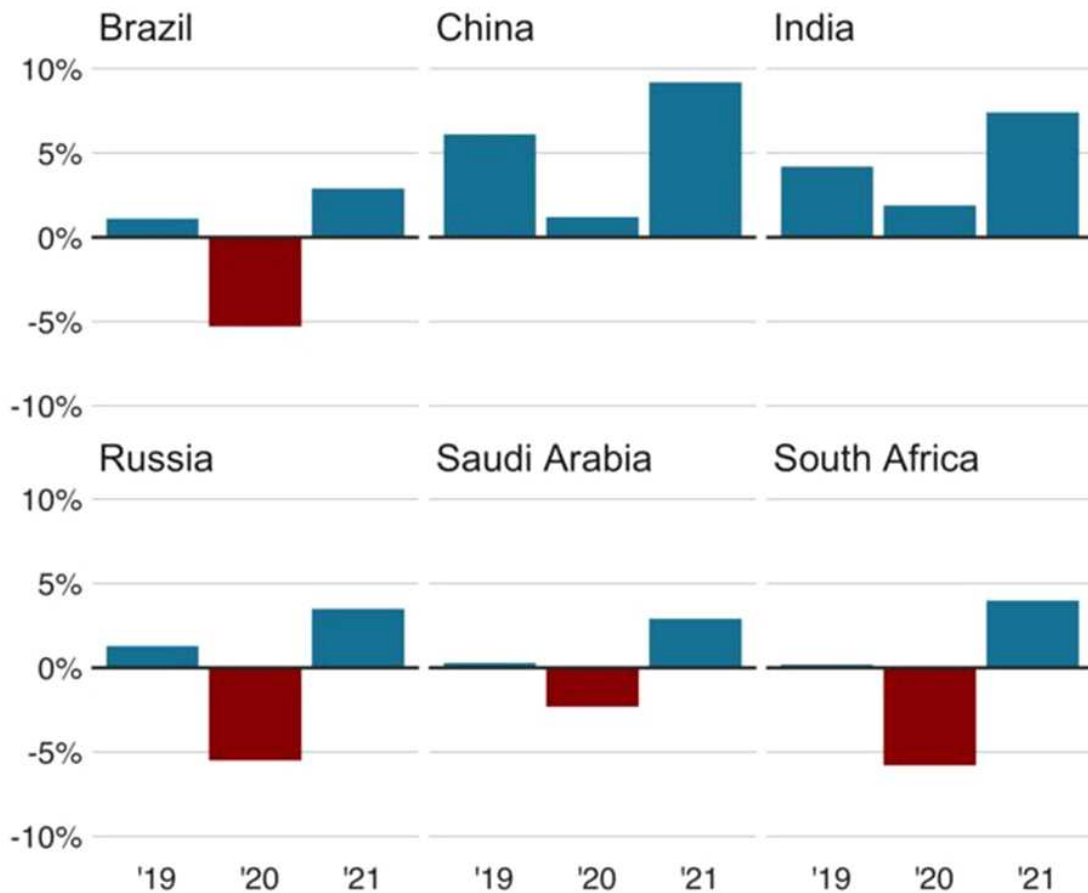
### ***Global pain***

For the first time since the Great Depression, both advanced and developing economies were expected to fall into recession. The IMF warned that growth in advanced economies would not get back to its pre-virus peak until at least 2022. The US economy is expected to contract by 5.9% in 2020, representing the biggest annual decline since 1946. A partial recovery is expected in 2021, with expected US growth of 4.7%.



## IMF predicts weakest China growth since 1976

National annual GDP



Source: International Monetary Fund

BBC

### *Economic medicine*

While longer lockdowns will constrain economic activity, the IMF said quarantines and social distancing measures were vital. It said: "Upfront containment measures are essential to slow the spread of the virus and allow health care systems to cope and to help pave the way for an earlier and more robust resumption of economic activity. Uncertainty and reduced demand for services could be even worse in a scenario of greater spread without social distancing". The IMF set out four priorities for dealing with the pandemic. It called for more money for health care systems, financial support for workers and businesses, continued central bank support and a clear exit plan for the recovery. It urged the world to work together to find and distribute treatments and a vaccine. The Fund added that many developing nations would need debt relief in the coming months and years.



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