2 RISKY VERSUS UNCERTAIN EVENTS

Normally, future major crises, such as those created by pandemics and by big natural catastrophes, are considered rare anomalies in more or less smoothly working economies. They are seen as random events that are not expected to occur. Because of that, economists have had difficulties dealing with them and incorporating them in their analyses (Moss 2002, pp. 40–41). Future events, which are difficult to predict with some degree of reliable, statistical probability, often do not change the modus operandi of governments, or of private enterprises or most individuals. They simply continue to assume that such events will not materialize.

This is especially so in countries with established democracies and with market economies. It may be less true in countries that do not have these characteristics, but have more centrally controlled economies and are thus less conditioned by short-run considerations or constraints. In the distant past, the governments that built the Great Wall of China or massive city walls around some European towns were clearly not responding to short-run considerations, but to long-run and uncertain threats. But they were not democracies.

Over the past several centuries, mathematicians and scientists, or often gamblers with mathematical skills, tried to determine mathematical expectations from some games or activities that were repeated many times, such as trips by ships to distant places. The Italian mathematician Girolamo Cardano, the Dutch physicist Christian Huygens, the French mathematician Blaise Pascal, and the Swiss mathematician Daniel Bernoulli applied their mathematical skills, often to card games, to determine expected values and fair playing prices. They progressively introduced notions such as “risk aversion,” which depended on the fact that the marginal utility of wealth is likely to fall the more wealth one has, so that a given gain might be valued, by most individuals, less than an equivalent loss;
the importance of diversification in spreading investments to reduce risk; and the concepts of adverse selection and moral hazards that may compromise an insurance market.

Many of these concepts proved important in the development of an insurance industry, an industry that determined the premiums that were charged on the bases of expected losses. They were also important in the development of stock exchanges. Both insurance companies and stock exchanges already existed in the eighteenth century. The above markets were based on the belief that expected and fair values of many activities could be determined from available information. They were based on the concept of risk, which is something that with enough observations can be statistically determined. Of course, the greater the number of observations and the larger the sample, the more reliable the estimated values will be.

The possibilities of uncertain, future events, including health crises and major catastrophes, generally do not enter into the routine policy decisions of democratic governments, or into the current planning and behavior of private enterprises, including insurance companies, in market economies. They are seen as rare or unique events, not repeated events the outcome of which can be predicted.

Keynes (1921b) was one of the first to analyze this difference and difficulty, in one of his books, *A Treatise on Probability*. He had worked on this book for several years before publishing it in 1921, a year that was particularly turbulent, when Russia was undergoing the Leninist revolution, Germany had been experiencing hyperinflation and was facing the problem of how to pay the huge war debt imposed by the winners of World War I, and Italy had started to flirt with fascism. Uncertainty about the future was a major political factor in many countries and in economic developments.

In that book, Keynes showed that statistical relationships, developed on the basis of observed, past events, often turn out not to be useful for making investments, or for some other decisions. He gave examples of forecasts which had been based on such available knowledge and which had been proven wrong. He was talking of uncertainty related to future forecasts of variables such as interest rates, output or prices, as made by different observers, and not about genuine uncertain events. If he had lived in our time, he could have mentioned the forecasts of the US 2016 presidential elections, based on surveys or polls that proved to be wrong, or the investments in the housing market, made before the
2007 subprime crisis, or forecasts by experts on Wall Street about full employment that have frequently been optimistic.

The investments made in the housing market until 2007 had been based largely on the observed behavior of housing prices over past years. The continuing rise of those prices had led many individuals to expect that the price of houses could only go up. Therefore, buying a house, with low equity and with relatively cheap credit, was a clear win-win investment. Some people who had no savings and no job jumped into the housing market. That market became progressively more irrational, attracting more investors. Those who provided mortgages, who should have known better, became careless, especially when they could package, securitize, and sell the packaged mortgages to distant and misinformed pension funds, which thought they were investing in a safe asset. In this way, the original lenders could pass on any existing risk to others. Complexity in contracts had combined with myopia to smooth the road to the crisis (Lewis 2010).

The forecasts proved to be very wrong, even though they had been based on much statistical information and on much greater computer capability that had become available in previous years for many investors. Especially in the years that followed the expansion of the global financial market that had made it a world market, “rocket scientists” and other “quants” (people with strong quantitative skills) had been brought into the financial market to make it more rational and more information-based, and to staff hedge funds and other financial institutions.

In his 1921 book, Keynes had shown an awareness of the distinction that existed between statistically determined estimates of risk and statistically unmeasurable uncertainty, although his analyses and the examples he had used had only hinted at his full awareness of that distinction. He would be more explicit in The General Theory fifteen years later, when he wrote: “It would be foolish, in forming our expectations to attach great weight to matters which are very uncertain.” In a footnote he clarified that “by ‘very uncertain’ I do not mean the same thing as ‘very improbable’.” He added that “our usual practice being to take the existing situation and to project it into the future, modified only to the extent that we have more or less definite reasons for expecting a change.” While “practical men” “always pay the closest attention to the state of confidence,” “economists have not analyzed it carefully” (Keynes 1936, p. 148).
Keynes was not aware of, and did not cite, the other important book on that topic which was also published in 1921, by Frank Knight. In 1970 there would be another important contribution to the role that uncertainty might play in markets. It was made in an article by George Akerlof, who identified informational uncertainty in some market exchanges, such as the market for used cars. In his view, the uncertainty that existed in that market damaged it and similar markets. His contribution was related to inefficient or biased information in market exchanges, and not on the role that “unexpected events” can play that is the main theme of this book. Interestingly, in 1977, some years after Akerlof’s article was published, a book that had “uncertainty” in the title, a book that was considered important enough to inspire a television series, and that had been written by a strong follower of Keynes, J. K. Galbraith, had stressed “vested interests,” but not “uncertainty,” as guiding individual decisions. Galbraith’s book also failed to cite Frank Knight’s 1921 book.

The subprime financial crisis of 2007–08 and the “Great Recession” that followed it, as well as the Covid-19 pandemic of 2020–21, which seemed to come out of nowhere, affecting economic activities and employment in a major way, have recently stimulated some relevant writings, such as papers by Pindyck and Wang (2009), and Martin and Pindyck (2019), and the recent book by Kay and King (2020). These recent works discuss some economic aspects of “unanticipated events.” However, until the present time, uncertainty had remained a somewhat vague, intuitive concept that had played a relatively minor role in determining, or influencing, economic decisions, by both individuals and governments. Perhaps a significant exception had been a 2007 book by Frydman and Goldberg that had dealt with the role of imperfect knowledge in estimating future exchange rates and other variables.

Some earlier writings had focused on related aspects, such as the irrational exuberance of investors and the misbehavior of markets, that might not operate in the smooth, regular way assumed by traditional economists, and to a greater extent by economists of the Chicago School (Shiller 2000; Mandelbrot and Hudson 2004; also Greenspan 2007). Mandelbrot had been sharply critical of the “efficient market hypothesis” and of the common assumption that many variables, such as the prices of commodities, and interest rates, are characterized by normal probability distributions that give little weight and pay little attention to tail events (see, especially, Chapter 1 above).
In a book published in 2009, Richard A. Posner had referred to “the difficulty of determining the riskiness of the new financial instruments” that had contributed to the financial crisis of 2008. On p. 60, he had referred to Knight’s distinction between risk and uncertainty. Posner implied that this distinction had been hidden in claims made by “financial professionals,” and at times by “rocket scientists,” about new and complex financial instruments that they were generating and promoting. These new financial instruments were pushed to unsophisticated buyers in the financial market by clever professionals, who claimed that the complexity of the instrument (which at times made them difficult to understand even for financial experts) had made them less risky. Greenspan would say that the risk had been spread more widely, thus making it more bearable and, in a sense, “less risky.” The financial crisis showed that this was clearly not the case.

Greater modern confidence in the ability of these smart and highly paid “professionals” who claimed to know better had increased the incentives for less sophisticated investors to invest in what were still, essentially, uncertain and at times highly questionable investments. Complexity had often become an attractive package, one frequently used to hide the distinction that had continued to exist between measurable risky investments and uncertain investments (Posner 2009, pp. 109–110). This had led some trusting investors, who should have known better, to ignore that important distinction, as several pension fund managers and others had done in the years before the financial crisis (Lewis 2010). The crisis would lead to the bankruptcy of some large banks, and to the need for large government support for others in order to prevent the collapse of the whole financial system. Some questionable practices would also become common, including the manipulation of LIBOR by insiders.

Perhaps the same reaction to uncertainty influences decisions in the field of technology and in other areas. Boeing, which had been a most trusted plane manufacturer, was fined more than two billion dollars for having “lied” about some safety features of one of its technologically most advanced new planes, which had crashed twice in the space of a few months. Apparently, some of Boeing’s engineers had been aware of the possibility that some features of the plane might not function properly and could lead to accidents. It is perhaps difficult to believe that highly trained, well-paid, and presumably responsible individuals would lie about such a serious possibility. It may seem more reasonable to believe that the (distant?) possibility of a mechanical failure that could lead to
major disasters must have appeared to them not as a risk, but as a very
distant possibility, one so uncertain and not quantifiable that it could be
ignored, especially recognizing the financial implications for Boeing of
revealing such concerns.

People in charge of inspecting costly infrastructures, such as atomic
plants, electric grids, dams, funiculars, and bridges, are often faced with
a difficult decision when they find some irregularities. The decision is
whether to shut down the activity and face, or generate, high immediate
costs, or to minimize the danger in their own mind and just assume and
hope that nothing bad will happen, at least until the next inspection.
More often they have chosen the second option, which has no costs until
something bad happens.

This common kind of irrationality, at times, does lead to disasters, as
happened with the collapse of the Morandi Bridge in Genoa (Italy) in
August 2018, and the fall of the funicular in Stresa (also Italy) in May
2021. In both cases, inspections had indicated the existence of some
irregularities, but the irregularities had been minimized and ignored.
This kind of systemic irrationality may be more common than we realize,
and it should receive more attention because of its costly consequences.

Interestingly, in the Senate Hearings of February 23, 2021 on the
events that took place at the US Capitol on January 6, 2021, the ex-
Sergeant at Arms of the US Senate would state that the reason for the
lack of preparation by the Capitol Police for the attack on Congress was
that police prepare for “probable” and not for “remote to improbable”
events. The problem is that the difference between “probable” and
“improbable” events can become very small, and the perception of that
difference is often influenced by “irrationality.”

It may be theorized that there might be a tendency (perhaps an
irrational one) in human beings to ignore unpleasant or costly possibil-
ities that are in the future and are so uncertain that they cannot be
quantified. Such irrationality may explain the behavior that would seem
incomprehensible on the part of the Boeing engineers or the inspectors
of infrastructures. The possibility that irrational behavior contributes to
attitudes that make us ignore uncertain and unpleasant future events
merits attention by behavioral economists and by psychologists who deal
with human behavior.

Kahneman’s 2011 book makes no reference to the work of Keynes or
Knight, or to the distinction between risk and uncertainty. However, he
does recognize that “very rare events . . . are sometimes ignored
all-together” (p. 315), except when “an unlikely event becomes the focus of attention” (p. 316). This might imply that a government that wanted to introduce, say, more stringent regulations, to better protect individuals from earthquakes, or spend money to better protect cities from level 5 hurricanes, should introduce them shortly after such major events happen, when they are still vivid in the public’s memory.

Future crises and many other future events are often impossible to predict with any degree of useful precision, as to their timing, their severity, and, for some events, their duration. If these predictions could be made, they would allow governments and private enterprises to consider taking specific actions to better deal with them before they happen and when they became a reality. Whether they would in fact take these actions or not is another question. They could do so by putting aside some current resources to be better prepared for those crises, if and when they came. For example, while it may be rational to expect that, at some point in the future, major disasters (earthquakes, hurricanes, volcanic eruptions, etc.) are likely to happen, especially in some given regions (California, Florida, Louisiana), the future is a long time, the life expectancy of individuals is limited, and governments and enterprises have limited resources that can be used to achieve short-run and well-identified objectives. There are always some urgent needs claiming the use of scarce, available resources. As a consequence, short-run needs often take precedence over uncertain and future ones.

Generally, the closer in time and the more predictable an event is, the more reaction and preparation can be expected for it. Time is always an important factor in economics, but it often plays more of a role than it should. (See Rohatinski 2017 for some theoretical analysis of the role of time in economics.) The timing and the severity of epidemics, and of major hurricanes, earthquakes, fires, tsunamis, tornadoes, and other possible natural disasters, including nuclear disasters, cannot be predicted. Without such predictions, efficient preparation for them, or the creation of insurance markets to deal with their unknown costs, do not seem possible and no attempts are made.

Still, uncertainty is also a question of degree. Some events, such as earthquakes in California, or major hurricanes in Louisiana or Florida, though still uncertain as to their timing and scope, are more likely than other events, such as a meteor hitting San Francisco. Therefore some uncertain events should play some role in policy decisions and in preparation. The objective should be to build resilience and a better ability to
respond to the disasters, for example, by building stronger structures or, in the case of pandemics, stronger health systems. Perhaps there should be a category between clearly risky events and truly uncertain events.

In an important book, first published a century ago, in 1921, the same year as Keynes’ book on probability (and based on the author’s doctoral dissertation), the economist Frank Knight, who in 1928 would join the University of Chicago and became an influential member of the “Chicago School of Economics,” addressed the theoretical question of how a perfect, competitive market, the kind of market that many economists at that time assumed existed, could generate profits for the enterprises that operated in it, when the theory predicted that perfect competition would drive the profits to zero. In his analyses, Knight introduced more explicitly than had been done by Keynes, the fundamental distinction between what he called risk and what he called uncertainty. This insight would become important in some future analyses, but it would not have much impact on policies or actions.

Knight defined risky events as those for which the probability of occurrence can be determined statistically, using available, real-life, observations. The more information we have, and the more reliable that information is, the better can be the statistical estimation of the occurrence of these future events. On the basis of the available observations, and of the predictions that can be derived from them, insurance companies can and do develop markets that allow individuals and enterprises to protect themselves from future, risky events, by paying an insurance premium to the insurance companies for this protection. The premium becomes part of the normal costs of operation of the economic agents. It can, thus, be passed on in the prices of what they sell without disturbing the market. The risk is shifted to the insurance companies that can spread their investments among many risky activities, to keep their costs predictable. The market equilibrium is not affected.

In his 1921 book, John Maynard Keynes had expressed skepticism that it was often possible to deal efficiently with future events, as was done by insurance companies, without adding some extra premium to the statistically determined risk to take into account the unexpected. That extra premium would be difficult to determine, therefore affecting the theoretical market equilibrium. Knight’s more precise distinction between risk and uncertainty became more influential than Keynes’ in economic thinking because it introduced more explicitly than Keynes had done the distinction between (presumably insurable) risk and ( uninsurable)
uncertainty. If some events are not predictable, they may raise the question of whether the government should have a role in protection against their possible occurrence.

With the passing of time, the distinction between risk and uncertainty became somewhat less sharp than Knight had made it out to be, reflecting in some way Keynes’ skepticism about the accuracy of measuring risk, and because of the various ways in which uncertainty might enter into events and influence intuition and decisions. This development had some consequences for the role that policy could play. For example, in a book which became a bestseller, a professional financial operator with a mathematical background, Nassim S. Taleb (2004), explored in some depth the roles that could be played by risk, luck, uncertainty, and also irrationality – roles that had been treated less deeply in Knight’s and Keynes’ analyses.

In his book, and in two later books that he published, in 2007 and 2012, Taleb revisited Keynes’ (1921b) analysis and argued that, statistically determined risk, based on probability distributions, estimated on the basis of past events and past knowledge, could give a false sense of security, because it tended to ignore the occurrence of tail events in statistical distributions. More importantly, it ignored unusual information that was not known to have happened in the past. In Taleb’s colorful description, probabilities, based on past knowledge, which had assumed that swans are always white, can become wrong when black swans are discovered somewhere, say, in Australia. Or the assumption that the production of atomic energy is safe can change after a major atomic accident has occurred, as in Chernobyl, Ukraine (Plokhy 2018) or Fukushima, Japan. As we shall argue later, climate change might create black swans in some areas.

The discovery of the existence of “black swans,” events outside the normally acquired, past knowledge, which have not been expected to occur, can create new and unexpected situations. They can change past perceptions of risk. In some sense, Taleb argued that the distinction between risk and uncertainty may be somewhat arbitrary, because the statistical estimation of risk is always based only on knowledge that is available at a given time. It ignores the possibility that there may be knowledge that is important but is still unknown. Insurance companies occasionally get into serious financial difficulties when “black swans” appear, or when tail possibilities that had been largely ignored materialize in insured events, as they did in 2008 for AIG, when the firm faced
bankruptcy when unexpected events materialized, leading to huge losses. Although Taleb hardly acknowledged the work of Knight, the relationship of his work to Knight’s 1921 work was obvious.

Uncertainty was significantly different from risk in Knight’s analysis, and it was not and could not be based on knowledge available at a given time. It referred to events for which no reliable statistical probability could be determined and quantified, because the needed information simply does not exist. As a consequence, no efficient insurance markets could be created to allow private agents to protect themselves against such occurrences by paying an insurance premium. This created a classic case of missing markets.

Major catastrophes might be tail events in known probability distributions; or they might be events characterized by true uncertainty. In the General Theory, published in 1936, Keynes had written that “[i]t would be foolish, in forming our expectations, to attach great weight to matters that are very uncertain” (p. 148). In a footnote on the same page, Keynes had specified that by “very uncertain” he did not mean “very improbable.” Therefore, he was not talking of tail events in identifiable probability distributions, but of uncertain events in Knight’s definition. In any case, in Keynes’ 1921 book the distinction between risk and uncertainty was less sharp than it was for Knight.

Uncertain events are simply beyond statistical prediction, except for the useless prediction that they may happen at some uncertain, future time. Therefore, it is not possible to create insurance markets that can charge a fair premium to clients, to deal efficiently with them, in a market economy. Truly uncertain events cannot be part of a perfect market and a perfect market cannot exist when uncertain events are no longer very rare. The abstract existence of such events often creates a classic case of “missing markets” – that is, markets that are needed but cannot be created, because the needed information is simply not available. This “market failure” was given importance by Kenneth Arrow in some of his work in the 1950s, at a time when market failures were attracting a lot of attention on the part of some major economists, including Samuelson, Arrow, Chamberlin, Joan Robinson, Bator and others.

It may be interesting to mention at this point that, recently, an insurance company, Swiss Re, believing that, globally, too many people are not insured (or are underinsured) as they should be in a well-functioning market economy, has attempted to create markets for some of these uninsured “risks” or events. One such a market is
based on “the first global risk model to support clients in assessing volcanic risks [that may have economic consequences] and develop suitable insurance products.”

Swiss Re reported that one billion people live within 150 kilometers of an active volcano, including cities such as Tokyo, Naples, Catania, Manila, Managua, Quito, and Jakarta. Losses from volcanic eruptions remain largely uninsured, but can be particularly severe for some industries, including tourism. Swiss Re reported that “they [had] helped one of [their] clients in Japan to place an insurance-like product to cover losses from volcanic activity for the hospitality business, [including the risk] of having fewer tourists” (Swiss Re, news release, Zurich, March 23, 2017). Although the probability of losses was based on a lot of past and present information on volcanic activities, the premium was not based on what could be defined as statistical risk, but largely on information-supported intuition, on information about the future occurrence of a highly uncertain event, such as volcanic eruption. Therefore, the premium did not reflect and could not reflect an optimal price in a well-working market. It could not make the market more perfect.

Swiss Re was attempting to price uncertainty and not statistical risk, and was recognizing that some uncertain events are more likely to occur than others within a given future time span, and particular areas. This raises the question of whether governments should not do the same and develop programs directed at reducing the consequences of some (more likely but still) uncertain future events. This would replace a desirable market role with a government role (Bevere and Gloor 2020; Bevere and Sharan 2018).

Market failures make markets imperfect, raising questions about the existence, or even the theoretical possibility, of perfect competition, the existence of which had been assumed by laissez-faire economists, and has continued to be defended by economists identified with the Chicago School and the Austrian School of Economics (van Overveldt 2007). After World War II, market failures had provided justification for larger government spending, higher tax levels, and, following Pigou’s work, a larger regulatory role played by governments (Tanzi 2020a). Market failures could and did call for more interventions by governments in the economy, which led to the expansion in public sector activities that took place, especially in the decades that followed World War II, and these would be criticized by several influential, conservative economists, including Friedman, Hayek, Mises, and Buchanan.
Lack of necessary knowledge and other issues raised questions about what role governments could play in relation to major uncertain events, and, especially, whether governments would be able to play that role in an efficient and equitable way (Tanzi 2020c). This book discusses the question a bit more closely, recognizing that this is a difficult task and that it is easier to raise questions than to suggest answers to the questions raised.

Because of changes in what the author, elsewhere, has called the “ecology of taxation” (Tanzi 2018b), which occurred after the Industrial Revolution, modern governments now have easier access to more public revenue than did governments in the distant past. They can also hire better-educated and trained individuals. Therefore, in principle, they could develop, and some have developed, several public programs in anticipation of particular risks that are faced by most citizens. These risks include old age, invalidity, illnesses, and unemployment. These risks can be better estimated statistically, within some limited margins of error. However, there is still no preparation for future and uncertain catastrophic events, even when the probability of those events occurring in the not too distant future has increased, as is the case today with epidemics, pandemics, or climate change.

Governments must be better prepared to react to catastrophic events in the best way they can, often without clear guidelines. Some of the guidelines that exist, such as fiscal rules, if rigidly enforced, can become obstacles to needed government interventions during major crises. Just think of the role of balanced budget constraints on the fiscal deficits of subnational government in the USA, or the Stability and Growth Pact rule in the countries that are members of the European Monetary Union. Apart from the uncertainty of events, there is the additional problem that the characteristics of these events, when they occur, may be significantly different than anticipated, requiring different government interventions. This is the main issue that will be analyzed to some extent in later chapters.

Frank Knight concluded that in a perfectly competitive market profits could not exist in the presence of what he defined as insurable risk, while uncertainty and its companion, luck, could create conditions that are more favorable to some enterprises than to others, thus allowing them to make profits. The profits would disappear only in truly stationary, perfect markets, in markets characterized by unchanging perfect conditions – that is, in situations without short-run uncertainty and with truly perfectly measured and insurable risks.
For various reasons, these situations are not likely to exist in the real world. If they existed, they would create a stationary world, one with perfect competition, but probably also one without, or with little, growth. The existence of disorder, luck, monopolistic competition, and other such random factors brings imperfections to the market and creates opportunities for some enterprises that are not available for others. These differences can explain the presence of profits in some enterprises, and losses in others, even in markets that are reasonably well working and competitive. As a Nobel Prize winner in medicine argued some years back, it is imperfections that create opportunities and conditions for progress in many areas, not perfection (Levi Montalcini 1987). Perfection can exist only in static situations.

In an article published in 1923, Knight, who had been brought up within a strongly religious family, expressed criticism of some ethical aspects of the capitalist system, because in his view it tended to reduce most values to monetary measures, a point strongly made more recently by some philosophers and by Pope Francis (Sandel 2012; Pope Francis 2015). However, Knight continued to believe strongly that because it gave much weight to personal liberty, in spite of its ethical shortcomings, the capitalist system was superior to other possible alternatives, especially socialism, that was receiving a lot of attention by economists and by the general public in the early 1920s, after the Russian Revolution.

Socialism was being given a real-life test in Russia, by Lenin, and had been attracting a significant popular following in several European countries, which then had large socialist parties, and even in the USA. An increasing number of intellectuals, including some in American and British universities, had come to see some versions of socialism as both possible and a potentially desirable alternative to the “inequitable” or “unethical” capitalist system that existed in the 1920s and that would lead to the Great Depression in the 1930s.

It may be of historical interest to point out that Knight’s critical observations of the ethics of capitalism and his views of socialism were echoed to some extent, and at about the same time, by John Maynard Keynes, who came from a different social background. Keynes also criticized “the metaphysical or general principles upon which . . . laissez faire [had] been founded,” and expressed some strong criticism of the largely unregulated capitalism that prevailed in the “roaring 1920s” (Keynes 1926). However, he had not been much impressed by what he had seen in Russia during a honeymoon visit
there, accompanied by his Russian-born, ballerina wife (Keynes 1930). He had called attention to the “religious” aspect of Russian socialism and to the fanaticism of some of its followers – fanaticism that he considered “contrary to human nature.” He predicted that socialism “will surely end in defeat.”

In spite of this similarity of views, on both the ethics of capitalism and the nature of socialism, and in spite of their related views on risk and uncertainty, Knight strongly opposed the decision by the University of Chicago to give an honorary degree to Keynes in 1940. He argued that Keynes did not merit it (Bernstein 1996, p. 222). One reason for Knight’s opposition may have been his annoyance with the fact that Keynes had given Knight’s work only a very marginal, and somewhat critical, mention, in a footnote, in the General Theory (Keynes 1936).

Returning to the theoretical ground related to the work of the market, it can be added that as long as different enterprises face different kinds of uncertainties, including those created by unknown, future events, and including those associated with luck, such as stumbling on new important innovations or organizational techniques, different monopolistic power, irrational behavior by some, and other factors, a market economy can and will create differential possibilities of profit for different actors. Douglass North (1990, p. 77) called attention to the importance that Knight had given to the role of organization, and to the successful attempts by some entrepreneurs to reduce some uncertainties. He mentioned that this aspect of Knight’s work was related to the later work by Ronald Coase (1960) on why firms exist.

This chapter has discussed some issues that make it difficult for governments and for private enterprises in democratic countries with market economies to make preparation for future uncertain developments or events that cannot be forecasted, as to timing and intensity. Of course, even the possibility of such events, though difficult to measure statistically, should be an additional reason for governments to have efficient administrations, and to reserve some “fiscal space,” just in case they need to intervene.

Governments should also always make efforts to see whether actions that they are taking, or arrangements that they have allowed, may not in time lead to future difficulties; or at least they should not contribute to them, as seems to have happened in particular cases. Some public spending, as for example that on research related to future pandemics, can be justified on grounds of being better prepared to face future pandemics.
Some of the work of the US National Institute of Health can easily be justified along these lines.

The difficulties that democratic governments and private enterprises in market economies face in dealing with uncertain events might be considered both a market failure and a political failure for these kinds of societies. These difficulties are likely to lead to over-spending on what are considered risky future events, and less spending and less preparation than there should be for “uncertain” events. In principle, authoritarian governments with state enterprises may be less affected by these failures because they may be less constrained in their actions by competition or by polls.

In connection with Covid-19, the OECD has assigned a failing grade to countries for their inability to anticipate and prepare for the coming of that pandemic – given past experiences, its coming should not have been such as a total surprise as it appears to have been.