

May 3, 2020

Risk and Uncertainty: What We Have is Uncertainty

There is a lot of “unknown stuff” going on in the economy right now with the COVID-19 virus and its impacts. We do not know the probability of falling ill, much less dying if we fall ill. We do not know the probability of getting well, once we are ill. The analysis gets us into the discussion of risk and uncertainty. Economists (and most textbooks) often use them interchangeably. How do they differ, and why do we care?

About 25 years ago, your blogger performed some consulting work for a re-insurance company. What is re-insurance? Suppose Jack is in an auto accident and needs several surgeries to recover, followed by physical rehabilitation. The surgeries could easily cost over a million dollars. Jack’s health insurer may have factored this probability into his insurance rate. More likely, however, the insurer bought “re-insurance” against this catastrophic claim. Both Jack’s insurer and the insurer’s re-insurer looked at the probabilities of these adverse events occurring, and based premiums on these probabilities, and on the expected costs that would occur.

The client (a re-insurer) said something very important. “I’ll write insurance on anything as long as: (1) I know the odds; and (2) they don’t change the rules on what I have to pay.” The odds are the probabilities of events occurring. The “rules” relate to mandated coverages, limits on payments, and other aspects of the insurance contract. If, for example, the re-insurer had written a policy based on a maximum of \$2,500,000, and a state changed the mandates to unlimited coverage, then *the rules have changed*.

All of this is about risk. With risk, gamblers (and insurers are sophisticated gamblers) know the odds, and can calculate the probabilities. All casino games have risk, and rewards, and the participants know the risks and the rewards. The skilled players know them better and apply them better. This is risk. One can know the odds, and act upon them. One can insure oneself against them.

What, then, is uncertainty? The renowned economist Frank Knight, of The University of Chicago, wrote:

Risk [emphasis added] is the possibility of alternative outcomes whose probabilities are capable of measurement; *uncertainty* [emphasis added] is the possibility of alternative outcomes whose probabilities are not capable of measurement. When probabilities are known, adverse outcomes may be insured against. Uncertainty is handled by judgment, an unequally distributed ability. (Knight, 1921)

COVID-19 has presented uncertainty. There is no experience with the outcomes. There are no good estimates of the odds.

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Another way to look at this is the availability to plan, and to insure against unexpected outcomes. Many readers have planned complicated vacations to other locations in the United States or abroad. This often involve long and expensive trips, with multiple hotel stays, tour plans, and restaurant reservations (searching for that Michelin star). Because they are expensive, many travelers buy “trip insurance” against not being able to make the trip, or having to cut it short. The insurers know the risk, and charge accordingly. Some travelers buy the insurance, and others do not, choosing to “self-insure.” This is risk.

On Thursday, April 30, television host Lawrence O’Donnell observed (in paraphrase) that the COVID-19 virus *has taken away our ability to plan for the future*. Your blogger notes that students cannot plan for college, many workers cannot plan to work (or to pay rent, or buy food), those with family obligations or vacations cannot plan for them. Local courthouses have reported a spike in applications for marriage licenses, for marriages to be done quickly and at a very small scale. Who, now, can plan a large wedding? There is almost no experience rating, and no readily available insurance.

This is uncertainty.

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Reference

Knight, Frank H., Risk, *Uncertainty and Profit* (1921). University of Illinois at Urbana-Champaign's Academy for Entrepreneurial Leadership Historical Research Reference in Entrepreneurship. Available at SSRN: <https://ssrn.com/abstract=1496192>