

Study Guide to *Human Action* by Robert P. Murphy

Chapter VI. Uncertainty

Chapter Summary

1. Uncertainty and Acting

Action implies uncertainty of the future. If the future were known, there would be no impetus to action. The praxeologist can recognize this truth without taking a stand on the philosophical question of whether men are really "free." Even if all events really are determined by natural laws, nonetheless we are nowhere near the ability to accurately predict all future events, and hence there is still scope for human action.

2. The Meaning of Probability

The problem of probable inference—that is, of reaching a decision in the face of incomplete knowledge—is a broad one that cuts across many disciplines. However, the formal treatment of probability by the mathematicians has seduced many people into believing they know more than they really do.

There are two totally distinct fields of probability, namely class and case probability. The former is applicable to the natural sciences and is governed by causality (i.e., mechanical laws of cause and effect), while the latter is applicable to the social sciences and is governed by teleology (i.e., subjective means/ends frameworks).

3. Class Probability

In class probability we know everything about the entire class of events or phenomena, but we know nothing particular about the individuals making up the class. For example, if we roll a fair die we know the entire class of possible outcomes, but we don't know anything about the particular outcome of the next roll—save that it will be an element of the entire class. The formal symbols and operations of the calculus of probability allow the manipulation of this knowledge, but they do not enhance it.

The difference between a gambler and an insurer is not that one uses mathematical techniques. Rather, an insurer must pool the risks by incorporating the entire class (or a reasonable approximation to it). If a life insurance company only sells policies to a handful of people, it is gambling, no matter how sophisticated its actuarial methods.

4. Case Probability

Case probability is applicable when we know some of the factors that will affect a particular event, but we are ignorant of other factors that will also influence the outcome.

In case probability, the event in question is not an element of a larger class, of which we have very concrete knowledge. For example, when it comes to the outcome of a particular sporting event or political campaign, past outcomes are informative but do not as such make the situation one of class probability—these types of events form their own "classes."

Other people's actions are examples of case probability. Therefore, even if natural events could be predicted with certainty, it would still be necessary for every actor to be a speculator.

5. Numerical Evaluation of Case Probability

It is purely metaphorical when people use the language of the calculus of probability in reference to events that fall under case probability. For example, someone can say "I believe there is a 70 percent probability that Hillary Clinton will be the next president."

Yet upon reflection, this statement is simply meaningless. The election in question is a unique event, not a member of a larger class where such frequencies could be established.

6. Betting, Gambling, and Playing Games

When a man risks money on an outcome where he knows some of the factors involved, he is betting. When he risks money on an outcome where he knows only the frequencies of the various elements of the class, he is gambling. (The two activities roughly match up with the case/class probability distinction.) To play a game is a special type of action, though the reverse is not true; not all actions can be usefully described as part of a game.

In particular, the attempt to model the market economy with "game theory" is very misleading, because in (most) games the participants try to beat their opponents, while in a market all participants benefit.

7. Praxeological Prediction

Praxeology can make certain predictions about the future, but they are necessarily qualitative. For example, it can tell us that (other things equal) a fall in the demand for apples will lead to a lower price of apples. But praxeology alone can never tell us that (say) a particular change will yield a 9 percent drop in apple prices. Such quantitative forecasts are possible with the aid of understanding, but then of course they are no longer certain.

Why It Matters

In this short chapter Mises accomplishes several things. First, he establishes the necessary connection between action and uncertainty. Inasmuch as neoclassical economics ignored uncertainty for many decades, this alone is important. But beyond that, Mises shows the limitations of formal mathematical approaches to probability. This has continuing relevance because the mainstream economists answered the criticisms of "perfect information" by simply pushing the problem back one step; instead of assuming that the agents in their models knew the future perfectly, they assumed that their agents knew the exact probability distributions of random variables in the models, which in turn would determine future outcomes. (Israel Kirzner has written extensively on this nonsolution to the problem.) For a third contribution, Mises

nonchalantly offers a brilliant approach to defining class probability itself, and as an aside points out the circularity in conventional mathematical treatments!

Technical Notes

- (1) Here (pp. 106–107) and elsewhere in the book, Mises refers to the "theorems" of the natural sciences. This usage differs from how most scientists would talk in modern times. In current usage, a theorem is a deductively proven result. In context it is clear that Mises is discussing what the physicists and chemists themselves would classify as theories.
- (2) In discussing class probability, Mises refers to the "crude circularity implied in all definitions referring to the equiprobability of possible events" (p. 109). What he seems to have in mind is the typical approach to probability in some mathematical texts, where (say) the definition of a $1/2$ probability is "the likelihood of an outcome when it and one other outcome are equally likely." This approach is circular, because it defines the concept of probability with reference to the concept of probability.
- (3) Modern economists might scoff at Mises's curt dismissal of game theory (pp. 116–117). In particular, they might argue that game theory can model situations in which all players benefit from cooperation. At the time of Mises's writing, however, von Neumann and Morgenstern's pioneering treatise (see footnote 3, p. 117) was only a few years old, and in this work game theory was still focused on "zero-sum" games, i.e., games where one player's gain was another's loss. Moreover, this is what most people mean by the term "game." Modern game theory has indeed moved beyond this restriction, but only by broadening the term to include any strategic interaction where one player's payoff is a function not only of his own actions but of all other players' actions as well.

Study Questions

1. Uncertainty and Acting

- What is the role of uncertainty in the field of action?
- Are actions always risky? Why?

2. The Meaning of Probability

Comment: "The treatment of probability has been confused by the mathematicians."

- Why did John Stuart Mill use the term "the real opprobrium of mathematics" in reference to the calculus of probability?

3. Class Probability

- What is the definition of class probability?

- What supplementary information can we get from the calculus of probability?
- How does the insurance business differ from gambling?
- Does insurance belong to the field of class probability? Why?

4. Case Probability

- What is the definition of case probability?
- What are the main differences between case probability and class probability?
- What are the differences between luck, gambling, speculation, and risk?

5. Numerical Evaluation of Case Probability

- Why isn't case probability open to numerical evaluation?
- Why is understanding important for problems of case probability?

6. Betting, Gambling, and Playing Games

- What are the differences between betting and gambling? How does gambling become betting?
- Is betting an action? Is gambling an action?
- Why do psychologists have a tendency to confuse combat and competition?
- Why is it inappropriate to use military terms for the description of business operations?

7. Praxeological Prediction

- What can be predicted with the aid of praxeological knowledge?
- What distinguishes quantitative approaches from qualitative ones?