

## 1 Introduction

One of the first questions that should arise for any economic theorist is a fundamental one: how should we even start? That is, how should we “do” economics? Right now, there are three major approaches that are used. One is “causal realism”, used primarily by so-called “Austrian” economists. Another is “behavioral economics”, which is used (appropriately enough) by behavioral economists. Finally is the mainstream approach of “logical positivism” - this is the most widely accepted view by those that do economics. (Of course, that does not make it correct!)

## 2 Commonalities

The basic procedure of all economic theorizing can be thought of rather simply: make assumptions, apply logic, come to conclusions. Each of the three approaches follows this same procedure.

A second point of commonality is that there is great overlap in the questions that are addressed. All three approaches are interested in how prices are formed, in how consumers make decisions, in how firms make production decisions, and so on. Also, all three tend to accept (on some level) “supply and demand” as a not-unreasonable explanation of price formation. However, when it comes to the details, each approach has certain distinctives.

## 3 The Austrian Method’s Distinctives

If one begins from true premises and proceeds by applying deductive logic, then the conclusions are guaranteed to be true. The traditional example of this type of reasoning is “All men are mortal. Socrates is a man. Therefore, Socrates is mortal.” As long as the premises are true (and they most certainly are), the conclusion follows as a necessary result. In fact, it would be a logical contradiction for someone to affirm the premises and deny the result, as long as the reasoning process was not horrendously flawed.

The idea behind “causal realism” is to think about economic phenomena in terms of cause and effect, and to be sure that premises are realistic - or perhaps even self-evident. Causal realists, then, refuse to make assumptions simply to make a problem easier to solve. Rather, they believe that any assumptions made for reasons other than reality are likely to lead the reasoning astray - even if they do help us make stronger

conclusions. Put somewhat differently: a causal realist prefers agnosticism to unjustified confidence. Now, this does not prevent a causal realist from making assumptions that they think are likely to be true. For example, causal realists are happy to suggest that longer production processes are more physically productive than shorter ones. This seems reasonable, but it is not something that is definitely true. However, by paying attention to the truth of the assumptions, a causal realist can come to confident conclusions that do not require empirical testing - and are not subject to critique from empirical tests.

This last point is an important one. Suppose that you take a causal realist approach. You make assumptions that you know are true. You apply reasoning properly. You come to a conclusion. Then, you perform some empirical test, and the test shows that your conclusion is, in fact, false. How is this result to be interpreted? There are three significant possibilities: (1) At least one of the assumptions is false. (2) The reasoning is in error. (3) The empirical test is flawed. At least one of these must be true. If one is a careful theorist, then (2) should not be the case. At the very least, an error in reasoning should be relatively easy to find. This leaves to possibilities: either at least one of the assumptions is false, or the empirical test is flawed. If our assumptions are designed so that they must be true, then we have narrowed the possibilities down to one: the empirical test is flawed. So, when an empirical study seems to contradict the conclusions of the theory, the course of action for a scientist is clear - look for what's wrong in the empirical test!

## 4 Behavioral Economics

Like causal realists, behavioral economists are primarily concerned with the truth of the assumptions that an economist carries into the theory. Typically, behaviorists approach the problem in a way different than causal realists, though. Causal realists focus on making assumptions that are either undeniably true, or that are quite likely to be true. Behaviorists spend most of their time testing typical assumptions, and looking for alternatives. The way this is typically done is through laboratory tests. For example, a standard mainstream assumption is that preferences are “transitive” - that is, that if “a” is preferred to “b” and “b” is preferred to “c”, then “a” is also preferred to “c”. A behavioral economist will bring people into a laboratory and give them various sets of choices. They may, in the end, find a case where a is preferred to b, b is preferred to c, and c is preferred to a!

However, behaviorists do not restrict themselves to overturning the standard assumptions of mainstream economics. They try to replace them with other principles or “heuristics”. For example, behaviorists suggest that there is a phenomenon called “anchoring” - where preferences are strongly influenced by recently received, but utterly unrelated, information. For example, if someone is told to think of their age and then asked how much they are willing to spend on an item, older people will systematically report higher prices - even if there

is no reason that older people would like the item more than younger people. So, where causal realists may replace false mainstream assumptions with agnosticism or with assumptions that are so general that they are undeniably true, behaviorists replace these assumptions with specific assumptions based on laboratory observations.

However, it is not immediately clear that this procedure is definitely “better” than that of causal realists. After all, laboratory experiments are, in themselves, empirical studies. As such, they are subject to the possibility of being flawed. So the “heuristics” that behaviorists discover have some chance of not being universal principles.<sup>/footnote</sup>In fact, some research suggests that people who are aware of behavioral heuristics are actually less likely to act according to them! Therefore, the conclusions that are drawn from behavioral economics do not have the same level of certainty that conclusions from causal realism do. On the other hand, by being willing to make assumptions that may not be completely true, behavioral economics may possibly have clearer predictions - even if they are less certain.

## 5 Mainstream Positivism

The standard approach follows the dictum of Milton Friedman: the test of a model is its ability to predict. So, if a model is simple and performs well, then it should be accepted as useful even if the assumptions are known to be false. This leaves open a natural question: if our assumptions should not come from realism (as for causal realists) or directly from experimental data (as for behaviorists), then where do they come from?

Logical positivists believe in applying something like “Occam’s Razor”. That is, we should make our model as simple as possible, while keeping it consistent with the evidence. Also, to maximize predictive power, we should try to make the model as generally applicable as possible. Following these principles, economics tends to proceed along these lines: Come up with a very simple explanation for a phenomenon. Examine the premises. Broaden a premise or two. See if the phenomenon is still predicted.

One can actually understand the way that the theory of the firm is generally taught by thinking through this method. First, students are taught the “perfectly competitive” model. This model keeps things as simple as possible. Firms really only choose the quantity that they produce, as none have a sufficient market share to have an independent impact on price. So, the firm only faces a single decision: how much do they produce? This model seems to work for much price formation. But, there are points where it fails significantly. For example, the model predicts uniform pricing in an industry - but it’s immediately obvious that we don’t see that in many industries. So, there is a need for another model. To repair this, we assume that different firms have different products (“product differentiation”), and that these models are different enough that each firm has some pricing power. So, firms must decide how much to produce and how much

to charge for the product that they produce. Now, we have a model that allows for nonuniform pricing, but that still predicts - for example - zero long-run profits, if there is free entry and exit. (This is so-called “monopolistic competition”.) The model still predicts that prices and quantity sold will increase if demand rises, and the model still predicts that a fall in marginal cost of production will lead to lower prices and more sold.

The main advantage of the mainstream logical positivist approach is pretty clear: we don’t have to rely on knowledge about the truth of the assumptions before we proceed with them. This allows the economist a much freer hand to approach a variety of subjects and to get to conclusions very quickly by making some simple assumptions that may or may not be true. Of course, this advantage is also the source of a significant disadvantage. When a theory based in logical positivism is found to be false empirically, one is left uncertain whether the flaw is in the empirical study or in the assumptions that were made. Since there is no pretense that the assumptions were necessarily true, it very well may be that the empirical study was correct, and therefore the theory should be rejected. However, one can never rule out the possibility of flaws in empirical studies. If the data is bad or unavailable, or if the method is not sufficiently careful, then there is a danger of rejecting a theory that should not be rejected - just on the basis of a flawed empirical study.

## 6 Conclusions

The three approaches can easily be compared along several lines:

(1) Source of assumptions - for causal realists, assumptions are either undeniably true or are from casual observation. For behaviorists, assumptions come from laboratory studies. For positivists, assumptions are as simple as possible, while maintaining consistency with the data that is thought relevant.

(2) View of empirical studies - for causal realists, empirical studies are neither necessary nor particularly informative. For behaviorists, empirical studies demonstrate that mainstream positivist assumptions are flawed, and also provide a starting point for new assumptions. For positivists, empirical studies are helpful, as they provide information about which assumptions are important under which conditions. However, there is no need to have a single set of assumptions that works for every problem. Each problem may have a different set of assumptions, based on what works in that environment.

(3) A “Theory of Everything”? - one of the (elusive) goals of physics is to discover a “theory of everything” - that is, a single, unified theory that is consistent with all observed phenomena. If a theory of everything were discovered, then all that would be left for a scientist to do is plug in the relevant data to the single theory. The three schools differ in their views on whether a “theory of everything” is possible, and whether it is even desirable. Typically, causal realists would argue that if preferences and production possibilities were

known, then the laws discovered through causal realist methods would constitute a “theory of everything”. However, this does little to help with prediction, as preferences are not generally known to economists, and production possibilities are not necessarily known at all. Also, both of these elements are changing over time, so that any economic theory of everything will have limited predictive value. The behaviorists’ technique can be thought of as trying to identify what preferences actually are. Once their work is complete, behaviorists would claim to have an economic “theory of everything”. However, they tend to run into the problem that, once people are made aware of behaviorists’ rules, they tend to violate them. This reality does not eliminate the theoretical possibility of a theory of everything, though it suggests that such a theory is likely to be complicated (after all, a theory of everything would need to explain why people follow behavioral rules when they don’t know about them, but start violating them after they learn about them). Finally, positivists generally are not concerned with developing a theory of everything. As long as the given model works reasonably well for the problem to be solved, and is the simplest model for solving that problem, there is little need to develop a “truer” model.