



PHILOSOPHY OF ECONOMICS & POLITICS

LECTURE 7: THE NATURE OF ECONOMIC SCIENCE

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Today's agenda

- * Taking our starting point in some remarks in Schumpeter's *Capitalism, Socialism, and Democracy*, we'll ask: 'What kind of science is economic science?'
- * Two issues stand out:
 - * Is it a deductive or inductive science?
 - * Is it a descriptive or prescriptive science?
- * After discussing the main positions on these topics, we'll (briefly) return to Schumpeter and see what he had to say about them

How do we know in economics?

- * How do we come to know a statement such as '**Increases in minimum wages cause unemployment**'?
- * Two kinds of answer:
 - * **Deductively**
 - * **Inductively**
- * Both methods have adherents and entire schools of thoughts associated with them
- * In fact, there have been numerous '**battles of method**' (*Methodenstreits*) throughout the history of economics; what were they about?

Induction vs deduction 101

- * Both induction and deduction are **inferences**, that is, steps from premisses to conclusions
- * Induction (lat. *inducere* = ‘lead into’) is the generalisation from particular observations
 - * E.g., ‘All swans are white’ from ‘Swans A, B, C... are white’
- * Induction starts from **weak premisses** and leads to **strong conclusions**; it is therefore always **uncertain**
- * Deduction (lat. *deducere* = ‘lead down’) is the logical derivation of statements about particulars from general statements
 - * E.g., ‘I am mortal’ from ‘All men are mortal’
- * Deduction starts from **strong premisses** and leads to **conclusions that are no stronger**; it is therefore always **certain**

Mill on methodology

- * A long tradition in economics maintains: economics uses an 'abstract method a priori' (John Stuart Mill)
- * Among his many contributions in the field is his 'canon of inductive methods' (a development of Francis Bacon's work)
- * Among these: method of difference
- * Problem for economics: we're never in the position of finding two cases, which are exactly alike except that in one the phenomenon of interest is present, and in the other, it is absent (e.g., free trade)
- * Moreover, there's no need for inductive generalisation as we know the fundamental principles already: humans desire wealth, avoid labour, law of diminishing returns...

Mill on methodology

- * The only thing we need to do is to **work out the consequences of the general principles** for a particular case (recall minimum wages)
- * Important: this way we can only establish '**tendency laws**' because economics investigates only an aspect of the social world
- * Hence the method is called 'abstract and *a priori*':
 - * **abstract**, because it tells us what would happen if there was nothing but the economic aspect
 - * **a priori**, because the fundamental principles are regarded as already known and immutable
- * These ideas have been part and parcel of the economic methodological folklore ever since

The resistance

- * But is the the folklore correct?
- * There have been controversies and counter-movements that go back close to the origins of the discipline and have lasted until this day
- * Some examples:
 - * Richard Jones vs The Classics in 1830's
 - * The *Methodenstreit* in the early 1900's
 - * The 'Measurement without theory' debate in mid-1900's
 - * The 'Causal Wars' today

Historical schools

- * Historical economists such as Richard Jones (1790–1855) and Gustav von Schmoller (1838–1917) criticised the theories of the classical economists — on inductive grounds
- * Instead of deducing general economic laws from highly abstract principles (and, at best, testing them against some narrow contemporary data), **they insisted that conclusions should be founded on a wide observation of contemporary facts and aided by the study of history**
- * Specifically, they found that **‘laws’ could be context dependent**: dependent on the different forms that the ownership and cultivation of land, and the conditions of production and distribution, assume at different times and places

The causal wars

- * The debate between inductivists and deductivists is far from over
- * Today's inductivists ('**design-based econometrics**'): economics (and political science etc.) is an experimental science after all!
 - * Shift in interest to microeconomic questions
 - * Development of 'quasi-experimental' econometric methods
- * Today's deductivists ('**structural econometrics**'):
 - * Though experiments can (sometimes) be performed, the interpretation of experimental results is very difficult ('the problem of external validity')
 - * 'Quasi-experimental' econometric methods don't work unless applied to a model that has been deduced from theory

Another divide

- * Induction vs deduction wasn't the only contentious issue in the methodological battles
- * (The original classical economists were an outlier in this respect but we can ignore this here.)
- * Adherents to the historical-inductive tradition tend to maintain that **economics is always value laden**, and **the ultimate purpose is policy advice**
- * Adherents to the theoretical-deductive tradition tend to believe in a **strict separability between fact and value**: the economist qua scientist only describes economic phenomena and their relationships; he does not give policy advice

Inductive risk

- * This too is an ongoing issue; to this day, philosophers of science ask: '**Can science can be value-free?**'
- * Let me discuss just one argument to the effect that it can't be: **the argument from inductive risk**
- * As we have seen, **inductive inferences are always risky** in that it is possible that all premisses are true, no mistake in the inference has been made and yet the conclusion can be false
- * Statisticians distinguish '**type-1**' and '**type-2**' errors and point out that there is a **trade-off**
- * The problem: depending on how we resolve the trade-off, we encounter **different sets of consequences**

Inductive risk

- * According to this argument, the economist (or any scientist) **cannot avoid making value judgements** because s/he must make a judgement about which consequences are more palatable
- * Scientists may counter that they don't have to make individual value judgements as they only follow disciplinary norms (such as set $\alpha = 5\%$) but this only sweeps the problem under the rug
- * Complexity matters here too: because tests are very uncertain, **the possibility of making an error is always real**

Back to Schumpeter...

- * Much of his life, Schumpeter sought to **integrate** the historical and theoretical approaches in his own work
- * He certainly was no methodological absolutist, and instead thought that **both history and theory are needed** for adequate economic analysis
- * Recall Kant: 'Concepts [ideas] without percepts [observations] are empty; percepts without concepts are blind'
- * Schumpeter might have said: 'Theory without history is empty; history without theory is blind'

Back to Schumpeter...

- * In today's terms, Schumpeter certainly would have **rejected the design-based econometricians' purely inductive approach**
- * But this brings us back to square one: the initial motivation for design-based econometrics was that **the economic theory of the structural approach was not credible**
- * What to do? No ideal solution. Just:
 - * Any method has limits of applicability and weaknesses
 - * Thus, take all the evidence you can get and try to integrate it into a narrative that is convincing as a whole

Schumpeter on values

- * On the values issue, Schumpeter also tried to take a conciliatory stance
- * On the one hand, he recognised that **science could never be completely free of ideological bias**
- * This is because the initial decision about which facts to assemble for investigation cannot itself be scientific; the facts have to be **meaningful** to us, which is dependent on values ('vision')
- * (Note: 'interpretive science' = science that centres on the importance of meaning and action when studying social trends and problems)
- * On the other hand, Schumpeter maintained that the testing of theories about the facts of interests proceeds independently of value judgements

Schumpeter on values

- * Interestingly, Schumpeter even knew about the argument from inductive risk but thought that as long as acceptance levels aren't adjusted for political reasons, **science could proceed in a value-free manner**
- * This, as we have seen, is difficult to maintain, however: because accepting or rejecting a hypothesis has consequences, **a scientist should make a deliberate decision about which consequences are preferable**
- * The real question should not be how to get rid, but **how to manage ideological bias in science!**