SECOND ORDER ECONOMICS: AN EXAMPLE OF SECOND ORDER CYBERNETICS

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Second order cybernetics

• The observer should be included in what is observed
• Early view: observations are independent of the characteristics of the observer
• Later view: Anything said is said by an observer
• Excluding the observer is a kind of denial
Three conceptions of cybernetics

• Cybernetics refers to feedback systems
• Cybernetics is associated with a subjectivist epistemology
• Cybernetics is a general theory of information and regulation, similar to physics which is a general theory of matter and energy
Second order economics

• An example of second order cybernetics
• George Soros’s reflexivity theory is quite compatible with second order cybernetics
• Economic systems are composed of people who both observe and participate
• People have biases; they change their minds
• Theories not only describe the behavior of social systems. When acted upon, they also change their operation
• Equilibrium theory is based on an analogy to thermodynamics
• Instead of pressure, volume and temperature, the variables are savings, GDP, imports, exports, etc.
• But in order for this model work, many assumptions had to be made
• People were assumed to be like particles in a gas
Assumptions underlying equilibrium theory

- People seek to maximize their personal profit (H. Simon)
- People are rational (D. Kahneman)
- Market participants have the same information (Stiglitz, Akerlof, Spence)
- They have complete information
- The ergodic assumption – a change in one actor in a market does not affect other actors
Nobel Prizes for challenging these assumptions

• Several Nobel prizes have been awarded to economists who have persuasively argued that one of these assumptions is incorrect

• But the commitment to the basic model has not changed

• Economists strive to create mathematical models, regardless of the unrealistic assumptions that the models require
Behavioral economics

• Behavioral economics is the name for the effort to challenge the unrealistic assumptions in economics
• Behavioral economists study how market participants actually behave
• But there are other, more fundamental assumptions underlying economics
Other assumptions underlying economics

- Classical science is based on the assumption that observations are independent of the characteristics of the observer.
- Another assumption is that theories do not change the phenomenon described.
- These assumptions work reasonably well in the physical sciences but not in the social sciences.
A gap between practice and theory

- Social scientists are aware that theories affect the behavior of social systems
- Scientists create theories in the hope that the theories will be accepted and acted upon and the social system will perhaps operate better
- But when doing research, scientists assume theories do not affect the system studied
The history of economic theories

• In the physical sciences theories get better over time
• However, in economics there are fluctuations between the belief that markets will solve all problems and the belief that government intervention is necessary
• Perhaps this is why the history of economic thought is no longer taught in many universities in the U.S.
Why not teach the history of ideas?

• In most academic fields the history of ideas is the way the field is taught

• But economists say that there is not enough time to teach the old ideas. There is so much new material to cover

• Also, older theories are described as vague or speculative in comparison with modern quantitative approaches
How economics could become reflexive

• If the history of economic thought is added to the curriculum, and the consequences of theories are considered, then economics will have entered the realm of reflexivity

• Taking account of the interaction between economic theories and society is what is meant by second order economics
A consequence of the financial crisis

- The 2008 financial crisis led to a decline in belief in market fundamentalism and to acceptance that government action is sometimes necessary
- Hence, there was a return to an earlier economic theory
- Economic theories do not always progress from good to better
- There are swings in what ideas are popular
Kaletsky in *Capitalism 4.0*

1. A laissez faire approach to macroeconomics followed the stock market crash of 1929
2. An interventionist period, based on the theories of Keynes began during the 1930s
3. A move toward fewer state-owned enterprises and less government regulation was influenced by Hayek and Friedman
4. A return to the belief that some regulation is necessary
How to model second order economics

• Several cycles are discussed in the economic literature
• Business cycles refer to fluctuations in demand
• Credit cycles affect the supply of capital
• Leverage cycles are affected by trust
• Regulation cycles are political and result from the currently prevailing theory
Comparative economics

• Comparing the economies of the U.S., Germany and China is one way of doing second order economics

• Government selection of an economic theory is a type of policy, similar to fiscal policy or monetary policy

• The theory in use is part of the control system of an economy
Conclusion

• Reflexivity or second order economics goes beyond behavioral economics

• There is a large difference between the idea that people are not always rational and the idea that a theory affects the phenomenon it describes

• If economists disregard reflexivity, other disciplines such as political science, sociology or history will deal with it instead
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