

## **Arbitrage, Incomplete Models, and Other People's Brains**

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### **Arbitrage, Rationality, and Equilibrium**

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Rational choice theory is founded on methodological individualism and purposive action

-Methodological individualism-individuals dispositions, situations, etc...(preferences)

-Purposive action-clear and consistent objections, rational

Making a model of the whole world into a small and tangible model is ludicrous

Rational choice- that choices follow preferences

Preferences are there to establish an ordering of acts from least preferred to most preferred

Goes through many of the "cons" or difficulties of rational choice theory/neoclassical view of individuals and decisions

Arbitrage Choice Theory- "avoids trouble merely by making weaker assumptions and not trying to predict exactly what every agent will do in every situation." WAY MORE REASONABLE

Comparing the 2 different tables, Elements of ACT is much shorter

Only feasible alternatives in ACT

2 types of behavior in ACT: Physical and verbal( determine the gambling or trading of contracts that are written in advance.

Gambles or trades are equivalent to preferences

Observer only knows what is common knowledge and what is being traded

Arbitrage opportunity- "is a collection of acceptable contracts that wins money for the observer (and loses money for the agents in the aggregate) in at least one possible outcome of events, with no risk of loss for the observer in any outcome."

Ex post arbitrage-"if the outcome that occurs is one in which the observer could have won a positive amount of money without placing any money at risk"

Put your money where your mouth is. Verbal behavior=physical behavior

Every agent maximizes expected utility, competitive equilibrium, common prior, beliefs to be updated

?? How does Allais paradox not arise? Explain

ACT does not rest on assumptions about the rationality of individuals

Most models are incomplete, Everyone knows that! But why do researchers act as if their model contains everything?

A huge aspect of model incompleteness is the passage of time

In order to use ACT, events must be well defined and contingent trades must be at least possible.

Models yield accurate predictions only if their complexity is commensurate with that of the phenomena they are intended to represent

Decisions are inherently interactive!

Everything changes with side bets

Arbitrage defines rationality in markets

Beliefs and preferences are ordered

What is linear programming?

Money articulates individuals' beliefs and values, money is an indispensable yardstick

Hayek, use of money is not only a transfer of wealth but transfers of information

De Finetti proposed that prices should be interpreted as probabilities.

Avoidance of Dutch books requires appearance of risk neutrality wrt a distribution