

The Rationality Assumption from Birth to Reincarnation

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ABSTRACT

Being a very age old yet a dynamically modern social science, economics has journeyed a lot all throughout centuries. The birth dates back to Greeks before Socrates. All this while up until now many notions have seen a peak and a doom and an end that no one even remembers that certain notions ever existed. Yet there are concepts that continue to sustain a fundamental position in the subject.

The assumption of rationality is one such long sustaining notion of economics in particular. It developed as a very important and fundamental assumption of economics, saw a period of dissatisfaction and after being re-worked on and re-defined comes again to the fore-front of the subject.

This paper is an exposition of the birth and journey of the same. And at the same time a tribute to its un-hampered help and contribution to the whole of fundamental economic theory.

The paper traces the status quo of the rationality assumption in economics and comes up with a middle path between the extremes of complete rejection and complete acceptance.

Methodology: The paper being a trace-path of a fundamental economic assumption is based mainly on a vast literature review, with thoughts and thinking invested in it and deep meanings aimed to be surfaced.

The paper eventually is based as a methodological tool on the Content Analysis. Tracing the evolutionary path, the question under vigilance is sought and the construction and eventual solution is sought.

Key Words: Rationality, Econ, Bounded Rationality, Limited Rationality

INTRODUCTION

Is it possible to Endeavour into the discipline of economics by discarding all assumptions, giving up on the classical theories and history of the subject? Can we successfully launch the new branches of economics without fulfilling the required needs of the roots? Is new economics devoid of classical economics? ^[1]

Seemingly simple and rather ignorable questions, these questions need satisfying answers if economics seeks to survive in the complex competing world.

Rationality as a Phenomenon in Itself

The quality of being based on or in accordance with reason or logic is called rationality in a generalized parlance. ^[2] Since the inception and beginning of knowledge, the aim was set to reach the final destination of rationality; know it, understand it and eventually attain it. The definition of rationality itself underwent many interpretations and changes but always stood at the fundamental corner of

the whole edifice of knowledge; sustaining it through centuries.

Rationality may appear to be a qualitative variable but in order to use it better and manipulate it to further amenable uses it needs to be quantified. [3] Quantified in a manner that it becomes a fundamental and useful tool of the assumption castle it sustains as a base. Quite a fact through evolution to know that the factor of rationality itself is based on certain assumptions;

- I. Existence of logic [4]
- II. Existence of self-interest
- III. Existence of a mental state that is coherent and consistent; on belief, choice & attitude grounds
- IV. Conformity of one's belief's with one's reason to believe
- V. Conformity of one's actions with one's reason for action. [5]

Fundamental is the fact here that knowledge itself developed from a scratch. In this wake, it took its own leisurely time of centuries for the concept of rationality to develop in itself and later on spreading its helping hand and wings to other fields of study especially political science and sociology.

Rationality in Economics

The concept of rationality has a special reason to enter the economic equations, principles and doctrine at the very earliest. With its inception as a subject during the earliest time, economics in order to be able to sustain and stand on its own needed some basic gospels. The birth of Economics as a subject took place during the high hand of philosophical era. [6] Economics needed a sound philosophical base to begin a long journey, which it eventually succeeded to attain.

The need of a consistent, active and decisive man is a pre-requisite to this subject and thus the huge need for such a man.

Amongst many interpretations, existences and variants of rationality the one suiting economics the most is instrumental rationality. [7]

Instrumental Rationality

A concept initiated and developed by Max Weber, instrumental rationality signifies the pursuit of any means necessary to achieve a specific end. Instrumental Rationality induces a person to do whatever is necessary to meet his said ends. Going by the concept of Instrumental Rationality a person is supposed to tread his way in the most efficient manner.

As a fundamental truth, sustaining all our economic beliefs we know that the means are scarce and wants unlimited. Is that not why, the question of economic allocation in the first place comes into thought! And thus was laid the founding stone of economics as a core subject of study.

Origin of Rationality in Economics

The assumption of rationality in economics refers to sensible choice making, providing the person an optimum amount of benefit. According to basic economics, people always try to maximize their welfare and benefits, in the wake of the realization that resources are limited and human wants unlimited. [8] The first and foremost notion in this regard would obviously be the thought of a maximizing notion. Given such constraints yet infinite desires a keen observer would imagine and assume that a person in order to maximize would act in a manner that is rational in the best self-interest of this person. One wishes to get his life on the track that he desires and thus he tends to think and act rationally, where rationality becomes a means by dint of which he aims to pursue the goal of getting things right and in accordance with his wishes and desires.

The axiom of rationality has formed its base in economic theory on the trilogy of;

- I. Rational Agents
- II. Rational Choices [9]

III. Rational Expectations ^[10]

Unless and until the economic agents do not behave, think and act in pretty much a consistent and coherent manner their behavior can-not be considered rational. Once such thinking exists and formulates itself, knowledge and information needs to come in, again in a coherent and consistent manner, based on the maximizing principle and strengthen the notion of rationality even further. Rationality as an assumption aims to stabilize the overall function of an economic agent. Intuitively or explicitly thus is strengthened the rationality assumption and a firm base for other economic theories made.

Journeying through Rationality

The assumption of rationality in economics dates back to William S Jevons (1835-82), who is considered to be one among the oldest, organized (political) economist. It then marches ahead to Adam Smith, Mill, Malthus, Ricardo to Neo-Classicals and even further. As time proceeded, as a subject Economics began to gain more and more grounds. More and more work was done and eventually the subject was developing in contributions, content originality and understanding. All this while rationality stood at No.1 in the assumptions about any and every model. ^[11] Models advanced, one followed another. Some models got replaced by others and so on but there stood like an old wise tree the grand-father of economic assumptions. The Economic man of these theories was called, "Econ". Econ was supposed to be infinitely rational and immensely intelligent; an emotionless being who can do all sorts of cost-benefit analysis, is always loaded with full and accurate information and is never ever wrong.

The gospel of economic theory, the Law of Demand itself, stands on the basic assumption of rationality. If momentarily, we allow ourselves to sink and be carried over with the flow, we will find as we always have, the Law of Demand to be the

but obvious gospel of truth. To us, yes, apparently as price increases demand does decrease and vice versa!

The cardinal theory of utility itself is based on certain assumptions, the first one being again, rationality of the economic agent. Our Econ aims infallibly at maximizing his utility. He has got all the relevant information, has infinite time at his disposal to collect this relevant information, then has the unfettered will and energy to analyze it, draw relevant conclusions with almost zero margin of error and eventually utilizes it judiciously and effectively.

Un-Compromizing Rationality (Why)

Initially the founding fathers of the subject wanted modeling to be in its purest form and exist for economics in its truest paradigm. They aimed at presenting simplified depictions of the reality and a consistently behaving agent was a mandatory pre-requisite. So grew the theory and the basic body of the subject on such lines.

With development marching even further and the inter-disciplinary revolution taking charge, scope was found for the mathematical modeling in economics. ^[12] It was forth-seen that huge pedagogic theories could be compressed into minute equations. The neo-classicals began seeing this upcoming trend as a scientific revolution in the social sciences. They next aimed to interpret each model scientifically. Going this way, the rationality assumption came to hold even stronger a grip on economic theories. Modeling mathematically is strongly deterministic and leaves no scope for any second thought or second economic agent other than Econ.

The Era of New Thinking

Renaissance and other free-end developments ended up putting the human's on the forefront of focus. The notion that children were the products of a sinful act and the sun revolving round the earth and everything is between these two ends was

rejected. ^[13] Seemingly short but it actually took an intellectual movement of more than a century to spiral the chords of this thinking among one and all.

The status quo notion tagged rationality as the thinking that one ought to think, a strictly maximizing behavior. Self interest persuasion without any full stop. Ignorance to the fact that beyond a certain point self-interest become selfishness and the boundary between right and wrong fades and eventually erases away.

The Err Factor

Like perfection is a horizon towards which we march, reaching closer and closer but never actually attaining it, rationality can be considered a proxy of the same.

Verily as they say, to err is but human; thinking irrationally is not something any person can help. There is a big room open and great scope existent for all sorts of flaws to exist, prevail, show and affect. ^[14]

Rationality requires Econ behavior to be consistent with some preference ordering that too strictly. Expecting a person to be infinitely rational with a ready in mind calculated optimal solution for every decision coming his way.

Growing Dis-Satisfaction with the Subject

The advancements in other social sciences, medical science and elsewhere began to present new scientifically validated interpretations of human behavior. Not only that, the understandings and interventions began proceeding in humanely sympathizing manner and man was made more and more the center of focus. Aim was shifted from explaining the phenomenon's to required interventions to understand human life and associated things better and more holistic. ^[15]

Our area of discipline however remained stuck on the mathematical modeling and strict Econ behavior as a fundamental assumption. Inter-disciplinary studies began to aid the further

developments of the subjects and each subject's graph rose dramatically in progress and advancement.

A stage where it seemed that we as a discipline need to pack our bags and slid into coffins and die a death of gloom and failure seemed concurrent right in front of us.

Occum's Razor

A law given by Occum, we often refers to as the, "Occum's Razor/law" states; as the number of assumptions increases in a given model/theory, so decreases the realistic nature of the theory.

Occum's Razor thus advocates lesser and lesser number of assumptions to sustain any and every theory.

Changing Paradigm

Knell did ring into the ears of the stakeholders. Realization emerged of the necessary flexibilities, shortcomings of Econ and the essence of psychology in economic analyse. Steadily it was felt that economics as a subject to live on and prevent a death must let loose the assumption of strict rationality. Slowly it could be seen that the effects of rationality were weakening. From a necessary condition it was getting reduced to consistency condition.

Questions to Rational Behavior

Once we start to peep at a world devoid of our basic economic assumptions, especially the rationality one, certain questions knock in a very disturbed fashion at the temples of our head.

Eventually what is man but a load full of emotions and feelings. Animal instinct can never be moved neither persuaded nor motivated. The feature that divorces homo- sapiens from the rest of the animal kingdom is that their mind can be tamed to the stage of indoctrination. Man as a dependent variable has a very high influence of sociology and psychology on his every aspect.

Thinking on a broader and more generalized podium, being aware of other social sciences, it is but obvious to notice some very basic inalienable characteristics of any economic agent; [16]

- ⇒ An economic agent being more a human being than being an Econ ends up being a social being, psychological being, biological being and so on. The social person has many other concerns other than mere economical. His mind is pre-occupied with other "n" number of issues that he needs to look at and address at the same time. In this whole scenario an economic agent can-not aim to maximize and ends up finding his happiness in satisficing.
- ⇒ Attainment of satisfaction thus suffices the purpose of a person who has multiple dimensions to balance simultaneously.
- ⇒ Being social beings, economic agents can-not remain isolated from their surroundings. The system, to which they belong, necessarily has a say on their behaviors and choice mechanisms. Econ on the other hand is an emotionless, un-moved being. There is almost a zero probability that he is going to exist or survive in an entity called society.
- ⇒ Rationality assumption itself assumes complete information. As a matter of fact and experience we know that there does not exist accurate and complete information. Nor is information free (of time or cost). Thus a common economic agent has to make his choices and decisions in this state of incomplete and less than accurate knowledge.
- ⇒ But obvious is to point that the economic agents have a limited capacity to calculate all costs and benefits pertaining to each single decision. It requires specialization, time and resources, all of which are very much limited.
- ⇒ Economic agents have a tendency of acting reciprocally rather than in their own pure self interest. Moreover they

lack self control and seek immediate satisfaction. People tend to show a very high time discount rate and an eventual lack of prudence. Nothing can be done of this basic characteristic of his making.

- ⇒ Experiences, knowledge and researches show that people in general, often fall back on the simple rules of thumb while making choices. They do not have the time and specialization of calculating optimal solutions to every problem.
- ⇒ Quite contrary to our traditional beliefs, the truth in existence and practice is that people make very many different and unexpected choices in cold and emotional states.
- ⇒ Economic agents in general are loss averse and have a default to maintain the status quo.

The Break-Even

Given such an extended empirical and scientific explanation about the short comings of our very fundamental assumption, the decision was due at the hands of the stake- holders. Either to let the once glorious king of social sciences to die a shameful death at the hands of failure of this assumption or to open doors to new versions of the subject and expand towards the new horizons of inter-disciplinary latest developments.

Psycho-analysis and Psychiatry made it very clear scientifically that though humans like to think that they are rational but they actually are slaves to their feelings and emotions. They can-not escape the influences of their surroundings and systems. They found that it was essential to realize and recognize this truth and progress in a manner that damage is minimized.

If people were rational then why is there the need to impose fines on the riders who do not put on a helmet or to the drivers who do not fasten their seat-belts!

If people were rational enough, global warming long back should have stopped.

People should have been monitoring their current consumption and expenditures, saving enough for their old age and retirement.

The contrary results however are pretty much evident to us all.

The fact of the matter however is that, "authentic emotions" are valued more over dry authentic evidences at every turn and this is what is going to be the base of modern inter-disciplinary economic theory.

Revised Rational Behavior

Nothing new, strange and bizarre to revise any definition. ^[17] The basic aim of research is learning, un-learning and re-learning. The dawn of strengthening and deepening of economic phenomenon's establishes more realistic grounds for economic rationality. Fundamental to know is that the economic decisions are always made subject to certain constraints, including limits on income and resources, limits on physical and intellectual capacities, universal time constraint and information constraint.

The rational behavior thus goes on to include the selection of the goals that are consistent with present and future well-being of the decision maker. Further the pursuance of the goals should be in a manner that can reasonably be assumed to lead to their achievements.

Outside factors have a huge influence on our decision making. Being such an important factor it needs a rather central place in economic modeling hence-forth. Available information is a critical feature and actor other than the decision makers may have a strong influence on, which information is to be available and which missing. This is the axiom on which the current markets and economies intuitively exist. Modeling has to be a simplified manifestation of the reality and thus all these factors need a place in; so that the subject is made more realistic and up-to-date. ^[18]

Grounding of Modern Economics

The main concern of the modern economic analysis has been the use of psychology, followed by sociology and polity into the economic decision making processes and laying strong grounds for the existence of "Bounded Rationality".

Economic psychology as an area of interest and discipline began to rise in the 20th century. In 1960s cognitive psychology began gaining grounds and steadily the birth of behavioral economics, which happens to be the face of modern economic theoretical developments, was showing signs. An integrated insight from psychology, neuro-sciences and micro-economics theory, covering thus a wide range of concepts, methods and fields has ever since been developing into a body of knowledge named as the behavioral economics. ^[19]

The facet of inter-disciplinary economic studies that came to save this sinking boat of accumulated knowledge and a study mode that replaced traditional rationality is the behavioral economics.

New Dawn

Herbert Simon

The first reasonably well grounded alternative explanation to the rationality assumption came with the work(s) of Herbert Simon, who ended up winning the Noble Memorial Prize in Economics for his new insights in 1978.

Given the whole paradigm of psychology, market conditions and facts that this paper has been discussing so far, Simon concludes that people tend to satisfy than rationalize. There exists an optimal point for the economic agent beyond which getting information becomes costly. The costs exceed the benefit. The information collected and presented up until this point is what forms the base and grounds for this person's decision making. Given all these issues and constraints, satisfying appears to be a reasonable and rational behavior.

Bounded Rationality

The first well organized alternative to traditional rationality was given by Simon

in the form of Bounded Rationality. Bounded Rationality is the summation of satisficing and meliorating.

Starting from the present level of well-being and then taking any opportunity to do better is meliorating. Considering this and the satisficing nature of an economic agent, bounded rationality states that instead of considering all possible options, people limit their attention to some more-or-less arbitrarily defined subset of the universe of possibilities. In this realistic manner, people may not choose the *best choice* available to them but they at least make decisions that move them towards our goals.

D Kahneman

The second big push to the advancements in re-defining the rationality criteria came from the break-through works of psychologist D Kahneman, who carried the 2002 Noble Prize home for his said contributions and advancements in integrated psycho-economic analysis. ^[20]

Heuristics, Framing and Anchoring

Experiences, experiments and empirics show that 95% decisions by humans are made using the mental shortcuts and rules of thumb rather than a holistic logical cost-benefit study; this is the notion of heuristics.

Another important factor is framing. It is the way decisions are presented to people. People try to subscribe to those decisions that seem simpler and rather easily understood.

As psychology has it, people often rely on a piece of information that is not necessarily relevant as a reference point in making a decision yet ends up forming a part of the decision, this phenomenon is known as anchoring and is opposed to the maximizing behavior.

Richard H Thaler

2017 Noble Laureate aiming to make economics more human, Thaler brought about the most updated developments in advancing economic theory

and the rationality assumption itself. Thaler verily claims to incorporate psychologically more realistic assumptions into economic decision making.

Limited Rationality Et Al

Thaler's work is an amalgamation of limited rationality, endowment effects and nudging. Limited Rationality in a very much realistic manner studies how people tend to focus on the narrow impacts rather than the overall effect of each decision they make. Combined with endowment effect i.e. people tend to loathe of losses, explains the common decision making process.

The New Notion of Rationality

Thus stands rectified and modified the very notion and assumption of rationality. The neo-classical version of this assumption though standing the tests of relevance for a long time finally had to scum at the new dawn of modern economic theory which stands clearly and boldly on the axiom of logic, experiences, psychology and the need of the society.

Very clearly can some distinct improvements be noticed in the changed Diaspora?

The Choice of Goals

As we see the economic agent marching from a maximizing to a satisficing being, the choice of goals sees a shift as well. When the actor achieves the goal he is glad and happy to have done so. However the pursuance of the goal itself contributes to the well-being of the economic agent and takes him closer and closer to his end, in the manner he expects.

End Purpose

Too much self-interest leads to selfishness. The opposite end is altruism. The goals need not be and can-not be completely selfish or altruistic but a balanced mixture of the two.

Actors

Adult actors of-course are rational beings but complex rational beings, capable

of being influenced by "n" number of factors, destined to err and be moved by emotions at times.

Information etc

Lack of information, influence of conflicting emotions, influence from others and surroundings can actually lead the actors more away from well being.

Critical Appraisal

Loosening the domains can-not come free of costs. The neo-classical models with strict rationality assumptions have been easily capable of mathematical and econometric modelling. The influence of random and error terms thus has been minimum in such cases.

With our new notions of rationality from bounded rationality to limited rationality and everything in between, we are leaving scope and room for infinite random psychological processes, market inefficiencies, information asymmetry etc. Newer models, developed on the latter rationality lines may not be capable of easy mathematical manipulations yet has a higher hand of explanation factor. ^[21]

The trade-off seems justifiable. Also for specialists in this discipline, new economic knowledge and research ventures stand open. And thus as we proceed ahead, so shall proceed the definition of rationality.

FOOTNOTES

1. New economics includes branches like behavioral economics, neuro-economics, experimental economics etc.
2. Other particular parlances belong to artificial intelligence, international relations, sociological interpretations etc.
3. Rationality & Virtue; Philippa Foot, Rationality as Process & Product of Thought; Herbert Simon (1978), The debates about the nature of rationality, whether it is qualitative or quantitative
4. Kant and idealism on Logic, B Russels take on logic.
5. Each assumption has a philosophical and valid base of its own with reasonable explanations.

6. Greeks were highly indulged in thinking and pondering. Picking up issues from day-to-day life the thought about the scarce resources and unhappy, unsatisfied humans. They began to discuss it, think about it and philosophize it. Thus became evident the written literature pertaining to economics.
7. Max Webber's Types of Rationality; Stephen Kalberg (1980)
8. Basic Economics Texts, esp; Hall R Varian
9. Rational Agent and Choice pertain to Micro-Economic Analysis
10. Rational Expectations is a Macro-Level Collective Concept
11. From Theory of Utility to Production and beyond
12. Mathematical Modelling began in the 17th century when statisticians began taking interest in the subject, followed by mathematicians' foremost among them G Achenwall, William Petty and Jevons.
13. All the classical religious and superstitious beliefs and domination of Papacy, before the invention of the printing press.
14. This was shown by the upcoming scientifically and experimentally proven works by the members of the new revolution/Renaissance.
15. The first strong and valid criticisms to the stable and stagnant economic theory came from Karl Marx and J M Keynes. Other disciplines, as they opened to behavioralism began to criticize classical economics from the onset.
16. Conclusions and findings from a number of scientific studies and experiments
17. With the birth of the New-Classical School of Economic Thought, the shift in definitions was clearly seen and since then it has endeavoured to move in a more realistic and acceptable direction of thought; >Over-Confidence and emotional regulation failure; Chu W, Im & Jang H (2002).
18. Psychology & Economics; evidence from the field;
19. The history of Psycho-Physics; Murray (1993)
20. Collected works; especially 'Thinking Fast & Slow'
21. A Behavioral Model of Rational Choice Simon H A, (1955)

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- How do Economists Think About Rationality?; Tyler Coven (2001)
- Rationality in Economics; Peter J Hammond

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