Who is *Homo Economicus* and What is Wrong with Her?

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Abstract: Economists take a very counterintuitive view of human behaviour, reducing life to a single-minded pursuit of maximising either profit or pleasure. The current article critiques the two major theories of human behaviour that have dominated Economics for a century, pointing to the accumulating evidence that refutes them.

The Homo economicus model or how economists see the person

At its most basic Economics is about human choice. In our lives we have to make choices as to how to allocate our limited resources to best satisfy our unlimited desires. Economists try to model human behaviour in order to be able to predict what choices we make in what circumstances.

Currently, the model most prevalent in Economics, which aims at describing how a human person makes choices, is the model of *Homo economicus*, economic man. According to this model all people are reduced to a single, representative (or 'average') human being who has only two traits: she is rational, and she is profit seeking.

In this article I describe two versions of the *Homo economicus* model and argue that both of them have major flaws. The first version is empirically proven false, while the second is too general, and for that reason can neither be proven nor disproven by experiment. Both versions are too crude and simplistic to be able to describe something as complex as human choice.

Before exploring the two, rather simplistic, conceptions economists have of their fellow human beings, I must start with a brief discussion of rationality. That is because rationality, in one form or another, lies at the heart of all human choice. That is to say, every person acts for reasons, regardless of how 'good' or 'bad' those reasons might be.

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What do economists mean when they talk about 'rational choice'?

The ideas of rational choice, and thus *Homo economicus*, were born, along with economics in general, by Adam Smith, who famously postulated that people are mainly motivated by self-interest:

'It is not from the benevolence of the butcher, the brewer, or the baker that we expect our dinner, but from their regard to their own interest'¹

That is to say the butcher, banker and brewer provide us with their respective services, not because they like us, but because we are paying them to do so. This sentiment was more formally developed by George Homans in his theory of social exchange. According to him every social structure could be perfectly explained by studying the action of individuals. In other words, to understand society, all we need to do is look closely at the individual, and study how she makes her decisions. Homans claims that individuals are motivated by the benefits and costs that result from their actions. Before acting, people carefully compare those costs and benefits and then act in such a way as to maximise their profit (benefits minus costs). In fact a central tenant of the social exchange theory is:

'no exchange (interaction between two people) continues unless both parties are making a profit²

Two major traits of Homo economicus emerged from Homans' theory:

- (1) People act in such a way as to maximise their own profit. Call this *the self-interested assumption*.
- (2) Keeping the first rule in mind, people 'rationally' weigh benefits and costs before they choose how to act. This means the profit calculation that precedes any action is both accurate and well-informed. The economic actor knows fairly precisely the results associated with a given action. When interacting with others, she knows both what her beliefs and desires are, and she knows what the beliefs and desires of the other people engaged in the exchange are. Thus, when she finally decides to act, she knows exactly what the consequences of her act will be. Call this *the informed rationality assumption*.

Immediately, an objection can be made that feature (2) of *Homo economicus* is unrealistic. We often do not know what are the precise benefits and costs associated with our actions. Furthermore, we often do not even know what our

¹ Smith, Adam. The Wealth of Nations.

² Homans, George. Social Behaviour: Its Elementary Forms. London: Routledge and Kegan Paul. 1961

own beliefs and desires are, not to mention those of others. Economists respond to this criticism in two ways.

One response is that we learn the true costs associated with our actions through psychological conditioning.³ It is true that we sometimes make the wrong decisions. However, as we keep making similar decisions over and over again, we can observe their results. Through trial and error, we learn what actions are beneficial, and what costly, and adjust accordingly. For example, the baby may touch the pretty, glowing light-bulb once, but when she gets burned, she will learn not to do it again. Thus, over the long run, people learn the true consequence of their actions and act (and calculate) accordingly.

The above response is good, but not sufficient to defend assumption (2). For example, psychological conditioning works well for explaining how we accurately make small, everyday choices. However, the biggest, costliest, and most significant choices in life are often made only once, or a very limited number of times: choosing a university, buying a house, choosing a spouse. In all those cases, we simply do not make the choice often enough to be able to 'learn' from our mistakes.

A second defence of the *Homo economicus*' ability of rational calculations emerges. This is the famous 'as if' response outlined by Milton Friedman.⁴ Look, say economists, we realise that each individual person often does not explicitly calculate anything before acting. We also know that people often make mistakes. However, on average, over time, and over large populations, these mistakes cancel each other out. For example when buying a house, one inexperienced buyer will be duped in paying too much, while another will manage to dupe the owner and pay less than a similar house is worth. However, on average, the market price of the houses in question will average out to the actual one. And, on average, the profit the two buyers get is maximised. Thus, even if people do not learn from big choices they make, the free market does, as it takes into account all information. Therefore, the average person can be construed as a 'black box'. We do not know what her exact decision making process is, but on average she acts *as if* she were rationally calculating profits.

With the above defence in mind, *Homo economicus* perseveres as both (1) profit seeking and (2) rational.

Now, let us take a closer look at the first assumption about the rational economic human. It simply states that the economic agent is profit seeking. Here the word profit can be understood in two ways. Depending on how we

³ Scott, John. Rational Choice. From Understanding Contemporary Society: Theories of The Present. Sage Publications. 2000

⁴ Friedman, Milton. *Essays in Positive Economics*. University of Chicago Press. 1953

understand it, we arrive at the two mainstream conceptions of *Homo economicus*.⁵

First version of Homo economicus: payoff-rationality

We can take profit, in its usual sense, meaning the amount of money one gets for doing X. Under that interpretation *Homo economicus* only cares about her payoffs. A payoff⁶ is the money our *Homo economicus*, call her Jane, gets from interacting with others of her kind. Since Jane is well informed (second assumption) she knows exactly what she, herself, as well as the others she is interacting with, believe and what motivates them. She further knows the exact payoff (amount of money) each of her possible actions carry. Due to her profit seeking nature, in each interaction Jane will act in such a way as to maximise her payoff.

The payoff rational Jane is one way to represent the average economic actor. With the two simple assumptions we have about her, we can predict how she will act in a whole host of situations. If the Jane model is accurate, the predictions we make about her, will be able to truthfully predict how actual people will act in similar real-life situations.

This proposition is empirically not so. In fact there are two major classes of problems; two major ways in which people act differently to what our Jane-theory predicts.⁷

Collective action

The first major problem can be called the problem of collective action and consists of the following: If everyone acts like Jane,

'how is it possible to explain the co-operation of individuals in groups, associations, and other forms of joint action?'⁸

An example of this problem is voting. Picture a group of ten people who behave like Jane. These people want to pass some political motion that would affect their community. In order for the motion to pass, at least six of the ten people need to show up to the voting-booth and cast a vote. In order to get to the polling booth, each person needs to pay £2 for public transport. However, if more than six show up, and the motion passes, each of the ten people will receive a benefit of £10.

⁵ Hodgson, Geoffrey. *An Evolutionary Economics without Homo Economicus*. University of Chicago Press. 2013

⁶ Ibid.

⁷ Scott (2000)

⁸ Scott (2000)

Now consider how the payoff-rational Jane will analyse the situation. She only cares about her own monetary reward. She sees three possibilities of the final vote outcome:

If more than five of her neighbours go to vote, she will get the ± 10 reward for sure, and she does not actually need to spend ± 2 to go cast a vote. So she will stay at home.

If less than half of her neighbours show up to vote, then even if she votes, her vote would not ensure a majority. She would not get £10, but she would incur the cost of transport - £2. In that case she also chooses to stay at home.

Finally, she could be the sixth, majority making voter. In that case, if she goes to the voting booth she wins $\pounds 10-\pounds 2=\pounds 8$, and if she stays at home she gets nothing. So Jane will go to vote, but only under the condition that she knows she is the tie-breaking voter.

However, Jane is well-informed and knows that her neighbours are making the exact same calculations. There is only a small chance of her being the tiebreaking voter, so payoff-rational Jane will never consider it worthwhile to vote. In fact, the more people in her community, the less the change Jane is the tie-breaking voter. When we get to large countries, where millions of people can vote in elections, the chance of any one person being a majority maker is miniscule. Not worth the cost of going to the booth.

Thus, economic theories, which take Jane as starting points, predict that whenever there is a vote, no one will show up. However, in reality people do show up to vote, often in the millions. They do this despite the fact that they have to incur a small cost, and despite the knowledge that their vote will most likely not make any difference. Thus, the actual behaviour of people is inconsistent with the assumption that humans are pay-off rational and only care about their monetary payoff.

Group	Country	Mean offer ^a	Modes ^b	Rejection rate ^c	Low- offer rejection rate ^d
Machiguenga	Peru	0.26	0.15/0.25	0.048	0.10
			(72)	(1/21)	(1/10)
Hadza	Tanzania	0.40	0.50	0.19	0.80
(big camp)			(28)	(5/26)	(4/5)
Hadza	Tanzania	0.27	0.20	0.28	0.31
(small camp)		(38)	(8/29)	(5/16)	
Tsimané	Bolivia	0.37	0.5/0.3/0.25	0.00	0.00
			(65)	(0/70)	(0/5)
Quichua	Ecuador	0.27	0.25	0.15	0.50
			(47)	(2/13)	(1/2)
Torguud	Mongolia	0.35	0.25	0.05	0.00
	-		(30)	(1/20)	(0/1)
Khazax	Mongolia	0.36	0.25		
Mapuche	Chile	0.34	0.50/0.33	0.067	0.2
-			(46)	(2/30)	(2/10)
Au	PNG	0.43	0.3	0.27	1.00
			(33)	(8/30)	(1/1)
Gnau	PNG	0.38	0.4	0.4	0.50
			(32)	(10/25)	(3/6)
Sangu	Tanzania	0.41	0.50	0.25	1.00
farmers			(35)	(5/20)	(1/1)
Sangu	Tanzania	0.42	0.50	0.05	1.00
herders			(40)	(1/20)	(1/1)
Unresettled	Zimbabwe	0.41	0.50	0.1	0.33
villagers			(56)	(3/31)	(2/5)
Resettled	Zimbabwe	0.45	0.50	0.07	0.57
villagers			(70)	(12/86)	(4/7)
Achuar	Ecuador	0.42	0.50	0.00	0.00
			(36)	(0/16)	(0/1)
Orma	Kenya	0.44	0.50	0.04	0.00
			(54)	(2/56)	(0/0)
Aché	Paraguay	0.51	0.50/0.40	0.00	0.00
			(75)	(0/51)	(0/8)
Lamelara ^e	Indonesia	0.58	0.50	0.00	0.00
			(63)	(3/8)	(4/20)

TABLE 1-THE ULTIMATUM GAME IN SMALL-SCALE SOCIETIES

⁶ This column shows the mean order (as a proportion) in the ultimatum game for each society. ⁶ This column shows the modal offer(s), with the percentage of subjects who make modal offers (in parentheses). ⁶ The rejection rate (as a proportion), with the actual numbers given in

Parentheses. The rejection rate for offers of 20 percent or less, with the actual numbers given in parentheses. ^e Includes experimenter-generated low offers.

Reciprocity and Fairness

A second, more serious problem, with the payoff-rational model is it is not able to account for considerations of reciprocity that abound in our society. That is to say, real people very often reciprocate the kind or unkind actions of others: If you are mean to me, I will be mean to you and vice-versa. They do this without considering their monetary payoffs. To illustrate this we will

Note: PNG = Papua New Guinea. ^a This column shows the mean offer (as a proportion) in the ultimatum

consider a game called the Ultimatum Game (UG). In this game two players, Jane and John, have to split a sum of money between them. John plays first and proposes how to split the money. Jane then considers the split offered and can accept or reject it. If she rejects, none of the players get any money. If she accepts, the players get money according to the allocation proposed by John.

Consider the game from the point of view of our payoff-rational *Homo economicus* actors. Jane only cares about her payoff. If John offers her any money above zero, she has no incentive to reject. That is because if she rejects she gets nothing. John, being payoff-rational (and thus well informed), knows that Jane will accept any offer above zero. Since John, also wants to maximise his profit, the theory predicts that he will always offer Jane the least possible amount of money – the smallest coin available, and she will accept every time.

Unsurprisingly the experimental evidence gives results that are in stark contrast with the theory. In 2001 Ernst Fehr, Herbert Gintis and others (all economists) decided to conduct an experiment testing the UG prediction⁹. The researchers introduced the Ultimatum Game into 17 small-scale societies on five continents. The game was played many times within each society and the researchers' results are summarised in Table 1.¹⁰ The column 'Mean offer' signifies the average offer the first player made to the second across all games played within a given society. For example a mean offer of 0.26 means that Player One on average offered 26% of the total money to Player Two, keeping 74% for himself. We can see that in all societies, the offers were closer to a 50/50 split, than to a 'Player one keeps almost everything' split. This is starkly at odds with the predictions of payoff-rationality. If the people in the experiments behaved like Jane and John, we would be expecting the mean offer to be very close to zero. Furthermore, for most societies, the rejection rates were above zero, meaning that sometimes the second players actually rejected offers proposed by first players. For example in the Gnau case 10 out of the 25 offers made were actually rejected. Pay-off rationality predicts no rejections. Even if John offers zero, Jane has no explicit incentive to reject. She gets zero whatever she does in that case.

Of course, the results of the experiment can easily be interpreted if we consider that people care not only about their payoffs, but also about fairness. For example if Player Two deems the split proposed by Player One unfair, she is willing to reject the offer. This ensures that Player One gets nothing and is punished for his lack of fairness. Note that Player Two is willing to punish, even if this means that she will lose some money. Therefore she cares about something else over and above her monetary outcome.

¹⁰ Ibid.

⁹ Fehr, Ernest; Gintis, Herbert; et al. *In Search of Homo Economicus: Behavioural Experiments in 15 Small Scale Societies.* May 2001

These are just two examples of many illustrating the failures of payoffrationality. As a result many economists have abandoned the payoff-rational *Homo economicus* and focused on another version.

Second version of *Homo economicus*: utility maximisation

Now let us return to the self-interested assumption and look at another reading of the word 'profit'. A more general understanding of the word is simply profit = benefits – costs. Here benefits and costs do not need to be understood as strictly monetary, but can be anything. For example, one of the costs of stealing a piece of clothing from the shop is the shame and social disapproval the thief receives if she gets caught. One of the benefits is the adrenaline rush accompanying the illicit act. Both the adrenaline rush and the shame are not monetary. They contribute to your happiness in other ways. Economists call this kind of profit utility. In this example, shame decreases utility, while adrenaline rushes increase it. *Homo economicus*, under this interpretation, makes choice aimed at maximising her utility.

How is this done? Economists call people's wants and desires preferences. A preference is an internal valuation of the different things we might end up consuming. Satisfying our preferences brings us utility, which we want. The point is that when we act we consider our preferences and our environment (we are well informed), and make the choice that will best satisfy those preferences, given that environment. For example, I have one pound to spend, and I can use it to buy a chocolate bar or an orange. I prefer chocolate over oranges. Consuming a chocolate bar gives me more utility (makes me happier, more satisfied) than consuming an orange. So, if I were a utility maximiser, I would spend my pound on the chocolate bar. However, someone else, a more health-minded person, might value oranges over chocolate. So when faced with the same choice, she will spend her pound on oranges, thus maximising her own utility.

Under this interpretation, our payoff-rational Jane is simply a person who prefers money above everything else. Her preference are ordered so, that money is always on top; having money gives her the most utility. So, when given the choice, Jane will always choose to increase her money at the expense of everything else.

The major requirement of the utility-maximising *Homo economicus* is that the choices she ends up making are consistent. That is to say, if I prefer chocolate bars over oranges, the theory will predict that I will always go for chocolate bars and never for oranges if I can afford both. Note that the consistency assumption was implicit in Jane's case also. She was assumed to prefer money

above everything else, and thus always she always made the choice of that gave her more money.

We can think of the payoff-rational Jane as a specific case of the more general utility-maximising Homo economicus model. There are many utilitymaximisers out there. They all have different preferences, and like consuming different things. Jane is just an example of a person who really, really likes having money.

The good news for supporters of the utility-maximising theory is that it solves all the problems that arise from assuming payoff-rationality. For example, the problem of voting is solved by simply pointing out that most people have a preference for voting. Going to vote increases their utility, as it makes them feel that they have fulfilled some civic duty. So, civic-minded people actually maximise their utility by showing up for the vote. That can explain why people actually go to the voting booths when elections are held. In the Ultimatum Game example, on the other hand, we can say that people have a preference for fairness over money (as already explained). Thus they will sometimes forego the opportunity of getting more money, in order to punish someone who is being unfair to them.

The utility-maximising version of *Homo economicus* is more general than payoff rational version. Its generality allows us to solve the Voting and UG problems. However, its generality is also a weakness in disguise.¹¹

Both utility and preferences are unobservable. They are internal to each person. There is no way for us to directly see a given person's preferences. We can only guess at what her preferences might be by observing her behaviour and choices. But that can lead us to explain away every behaviour by assuming a preference for it.

For example, if a person lights herself on fire, her behaviour is perfectly consistent with a rational utility-maximiser who has a strong preference for a fiery death. Or as the only economic joke goes:

Why did the chicken cross the road? To maximise its utility.

Geoffrey Hodgson points out that the utility-maximiser behaviour can indeed mathematically describe the behaviour of animals, as well as humans. Richard Dawkins goes even further in his famous book, *The Selfish Gene*. He describes animal genesas if they are 'selfish' utility maximisers, who have a preference for multiplying.¹² That is to say, even the behaviour of inanimate strings of

¹¹ Hodgson, I follow his argument

¹² Dawkins, Richard. The Selfish Gene. Oxford University Press. 1976

DNA is consistent with utility-maximisation. Not only people, but also birds, worms, bacteria, and molecules can be described as utility-maximisers.

What is more, utility-maximisation theory cannot explain how or why we acquire the preferences it purports us to have. As Hodgson says:

'it neglects the problem of explaining the causes of behaviour'¹³

The theory explained the self-immolator's actions with a preference for a fiery death. However, the utility-maximiser theory can say nothing about how such a weird preference came to be developed in that person. This goes back to the *as if* defence of the *Homo economicus*: If our actions can be approximated by a mathematical formula, economists ask, why look for the actual reasons that motivate us? But of course, the actual reasons are tremendously important, and we cannot claim to understand human choice if we neglect them.

That is the heart of Hodgson's critique. From economics, he says, we want a theory that tells us what is unique about human choice. We want a theory that tells us how culture and history shape us as decision makers. An *as if* theory of choice that works just as well for bacteria as for humans, will necessarily remain silent on both points. The *Homo economicus* assumption makes our theories unnecessarily blind to what is unique to human economic action. For these reasons we should search for an alternative, or modified theory. We should search for a new *Homo economicus*.

What should the diligent reader take away?

To recap, the vast majority of economic theories start with the assumptions that human beings behave like 'rational economic persons.' This rational economic person, or *Homo economicus*, has two major features: she seeks profit, and she does so in a rational manner. Based on how we understand the word 'profit', there are two distinct (but compatible) versions of the *Homo economicus*. I have argued that neither version can hope to fully describe human economic behaviour. Hence, we should begin a search for a new *Homo economicus*.

¹³ Hodgson (2013)