

Is the model of human nature in economics fundamentally flawed?

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1. A brief history of economic thought...

Questions of human nature and identity have not received much attention from economists, despite philosophical interest in the topic since at least the ancient Greeks (see Trigg 1999). They matter because what we believe about human nature informs our understandings of both human behaviour, and of what is conducive to human flourishing. Economic analysis in the modern period, beginning with the Enlightenment, adopted the utilitarian model proposed by Jeremy Bentham, which claimed that human beings are solely motivated by the pursuit of pleasure and the avoidance of pain. This was thought to be a sufficient explanation of behaviour, and a basis for judging what is ‘good’ for human beings. So in the late 19th Century, the economist F. Y. Edgeworth was able to claim that ‘the first principle of Economics is that every agent is motivated only by self-interest’.¹ Edgeworth was aware that this was not particularly realistic, but argued that it was a reasonable assumption for the activities to which he applied his analysis – war and contract.

The ‘rational economic man’ (REM) model emerged from the linking of the older utilitarianism of Bentham and Mill, to the idea that human beings evaluated the range of actions available to them, seeking to identify the outcomes that would maximise their utility. This gave rise to the synthesis in Alfred Marshall’s celebrated Principles of Economics (1890) which was foundational to the development of economic analysis as a discipline in the 20th century. The weakness in Marshall’s exposition was that ‘utility’ is not measurable. So operationally it was impossible to tell if a person’s actions did indeed maximise his or her utility. For the same reason it also failed as an indicator of individual wellbeing. Moreover since utility is not interpersonally comparable, it could not be used to evaluate social utility (so Bentham’s requirement that society should seek those outcomes that maximise the sum of individual utilities cannot be implemented). Economic theory was rescued from this embarrassment by the work of Allen and Hicks (Hicks 1956) in the 1930s, who demonstrated that standard results in consumer theory could be rescued by assuming no more than ordinal utility and revealed preference. This required the economic actors only to express consistent preferences across the range of options available to them. The abandonment of the older utility analysis was completed by the work of Samuelson (1938), who showed that standard results in consumer theory could be derived with no more information than rationality in choice. In particular, all that was needed was ‘non-satiation’, that is the consumer prefers

¹ From F Y Edgeworth (1881), quoted in Sen (1977).

more of a good to less of a good: this is the ‘revealed preference’ theory. This change in the basis for consumer theory carried with it a significant change in emphasis, from a utility maximising model, to a model of rational choice. For example, in deciding what to purchase in a given time period, the consumer is modelled as choosing among the set of options available, given her disposable income resources, the one that best satisfies her preferences. Why she chooses a particular option is not important, but she must make rational, that is consistent, choices. With this change in the basis for theorising, the ‘rational economic man’ (REM) model was transformed into ‘rational choice theory’ (RCT).

The broader assumptions of this theory have been succinctly laid out by Becker (1976). All human behaviour can be viewed as involving participants who: (1) maximise their ‘utility’; (2) form a stable set of preferences; and (3) accumulate an optimal amount of information in a variety of markets. The maximand is nothing other than own self-interest: so an individual who allows himself any goal or motivation other than single-minded pursuit of his own welfare is violating the demands of rationality². The hegemony of the rational choice model in economics has been noted by Sen (2009, Chapter 8, p 190). He comments: ‘... not only does RCT, even in its broadest form, presume that people do not actually have different goals from the pursuit of their own welfare, but it also assumes that they would be violating the demands of rationality if they were to accommodate any goal or any motivation other than single minded pursuit of their own welfare, after taking note of whatever external factors influence it.’

RCT has retained a stranglehold on economic theorising, as even a cursory glance at the papers in any of the leading theory journals will confirm. It has of course been adapted and extended in scope. Notably choice under uncertainty has developed the concept of expected utility, where choice is based on the ‘utility’ from a range of outcomes multiplied by the subjective probability of those outcomes, across a number of options. Game theory has successfully applied the rational choice framework to situations where the outcomes for one economic actor depend not only on her choices but also on the choices of other actors with whom she interacts. The key concept is that of Nash equilibrium, where each actor chooses the action which will maximise return (income/ utility/ preferences) given the range of actions available to the other actor (in a two person game). The key insight is that such equilibria are ‘stable’, in the sense that neither player will wish to change their actions: but both the players could do better if they colluded to fix the outcome jointly. Either way, the players are modelled as pursuing their own interests.

Perhaps this dominance of REM/RCT in economic analysis does not matter too much if what is being analysed is the demand for potatoes, or the interaction of firms in oligopolistic markets. The assumptions do not immediately strike one as improbable. However, the extension of the model into other areas of life can seem problematic. A particular example is the work of Gary Becker (1991) in applying economic rationality to the analysis of the family, and in particular marriage. In his seminal analysis, he explored the economic gains

² Though to be fair to Becker he did allow for altruistic behaviour within a marriage: see Becker (1991) which is discussed below.

from marriage, modelling the married household as a 'firm' which gains from specialisation in household production and outside employment, from sharing household expenses, and from the production of children. In searching for a marriage partner, a person evaluates the range of possible candidates and then evaluates the prospective gains with each one. She marries the one who promises to provide the greatest economic gains. In Becker's analysis, once married, the couple behave altruistically, pooling and sharing the gains: this is in fact a quite traditional conception of commitment within marriage, though Becker is reluctant to use the language of love. However, the marriage may not last. One or other of the partners may identify an alternative partner who will generate greater economic gains, and the marriage may end in divorce and remarriage. This contract view of marriage has come to dominate the economic analysis of marriage, though with one amendment.

Whereas Becker allowed for altruism in marriage, later contributors to the literature have pointed out the inconsistency in preferences and behaviour. If REM/ RCT dominates behaviour before marriage, and in divorce, why not within marriage? Becker's analysis breaks his own commandment that preferences should be consistent over time and across all situations. Lundberg and Pollak (1996) summarise a subsequent literature that removes Becker's 'inconsistency' of preferences. After the first romantic glow of being together, the partners revert to type, with bargaining over their shares of the gains from marriage. In bargaining the default is always the outside option: if a bargained share is less than this 'threat' point then the partner simply walks away. Even if the marriage remains, the partners may no longer seek cooperative outcomes in the sharing of tasks within the marriage and the gains from it. They may revert to a non-cooperative equilibrium generating lower gains overall, but the marriage will continue if the gains remain better than the outside option. Lundberg and Pollak call this the 'separate spheres' model of marriage, where each partner pursues the best outcome for him, or her, in sharing out the gains. What is missing from this analysis of marriage is any conception of marriage as a 'covenant' in which the man and the woman commit to each other 'for richer, for poorer; for better, for worse; in sickness and in health; until death us do part'. The contract understanding of marriage has been particularly influential in the United States, where it has informed the reform of State laws relating to marriage and divorce. In its extreme form it suggests that the government should no longer make statutory provision for the regulation of marriage and divorce, but should allow couples to make their own private contracts based on whatever 'meanings' of marriage they happen to share.

2. Philosophical critiques of REM/ RCT

The thinness of the assumptions about human motivations in REM/RCT was famously exposed by Amartya Sen (1977) in an article entitled, 'Rational fools: a critique of the behavioural foundations of economic theory'. At the core of his critique is a distinction between 'sympathy' and 'commitment'. Sympathy denotes a situation where my welfare or sense of wellbeing is affected by the position of others. This can be envy of those whose lot in life is better than my own. But it could also be that I am personally affected by the sight of misery experienced by others, since that has a negative on my welfare. The typical example is the discomfort that a rich tourist may feel in encountering abject poverty on the streets of a

poor nation. This may not be just a fear of being robbed by a poor person: it can be a genuine sadness that a fellow human being is so destitute. Giving to a beggar in such a situation may be entirely explicable within the REM/RCT framework: ‘altruism’ in giving is completely rational, given my preferences. Compare this with ‘commitment’, that is the choice of an action that will actually *lower* my welfare or wellbeing, for example, giving to a neighbour without expectation of reciprocation, or work motivated by the desire to serve others. Such actions are more difficult to rationalise within the REM/RCT framework, without doing violence to the idea of self-interest. Yet, Sen asserts, the social world in which we live is populated with such commitment. It enables families to function as families and communities to function as communities, not just as associations of people contracting with each other. At least it gives us a much richer understanding of the full range of human motivations and behaviours.

A rather different critique has been offered by Jon Elster (1985). His challenge is to the model of choice that underpins RCT: how can we explain autonomy, rationality and the ability to choose that the model requires. The form of the standard argument can be broken down into its components. The idea is that beliefs and cognitions about the choice set, plus desires or preferences, *cause* observed behaviour. But we have no access to the mental machinery to support the causal account: it is simply an inference from behaviour to a supposition that it must come from the interaction of beliefs about the choice set with the individual’s preferences.

Moreover, for the choices and behaviour to be rational, the choice set must be well founded empirically: but how much evidence does the person need to make a rational choice? In fact, many choices are made, and have to be made, with inadequate evidence. For example, probabilities have to be attached to a range of possible outcomes of the choices to be made. But these probabilities may not be known, at least with sufficient precision to apply expected utility. The person may decide that he or she needs more information before making the choice: but that requires a prior decision about how many resources should be expended to improve the information set, and that decision itself may be subject to imperfect information, for example about the gains from undertaking further searches. For example, how many searches do I pursue on the internet to find the best deal on the new refrigerator I want to purchase if I have no prior knowledge about the likely distribution of retail prices? In any case, why do we have to assume that the agent chooses the optimal solution? It may take considerable effort of mind to identify the optimum, and agents may not have the time or inclination to do this, opting instead for a satisfactory choice. In any case, perhaps there are multiple optima, which may not be distinguishable by the agent. Even if the agent can identify an optimum, he may not select it because of *akrasia* (weakness of the will): for example if it requires greater effort on his part in order to achieve a better outcome, he may end up with an easier option because he cannot be bothered to stir himself to action.

Sen (2009, Chapter 8) explores a helpful distinction between rational choice in general and RCT. He notes that RCT requires that ‘people choose rationally if and only if they

intelligently pursue their self-interest and nothing else'³, with altruism presumed to be self-interested. Sen prefers to define human rationality in choice more broadly: 'Rationality of choice ... is primarily a matter of basing our choices on reasoning that we can reflectively *sustain* if we subject them to critical scrutiny.'⁴ Reasons to choose must be examined carefully – not every time we have to choose, of course, since we can accumulate experience and develop habits that reflect those reasons. The implication is that the RCT framework can still be used, but with a wider remit than just maximising self-interest. Sen notes the oddity that economic theory has latched exclusively onto Adam Smith's 'self-love', ignoring the other motivations that are described by Smith, such as sympathy, generosity, and public spiritedness. Sen's point is that it is plausible for an agent to hold to a plurality of sustainable reasons for making choices: this undermines the simplicity and elegance of RCT, but gains in realism.

3. Economic critiques of REM/RCT

V.L. Smith (2008) reviews compelling evidence that participants in experimental games played under carefully controlled conditions persist in behaving cooperatively, even if they fully understand that their 'best' interests in interactive games would be served by non-cooperative (Nash) behaviour. This evidence appears to contradict any simple notion of self-interested motivations. Smith's explanation is that participants in these games operate with 'constructive rationality' – 'emergent order in the form of practices, norms, and evolving institutional rules governing action by individuals, that are part of our cultural and biological heritage and are created by human interactions'. He gives the example of the rules followed by communities in Switzerland to regulate the grazing of Alpine meadows in the spring and early summer. These meadows are 'commons', open for grazing by animals owned by any villager. The incentive for any individual is to place as many cattle as he possesses on the meadows, and indeed it would be 'rational' to maximise returns by buying in stock in the spring to put out to graze. The result, as in all examples of valuable common resources, would be overgrazing and degrading of the quality of the grassland. The solution to this problem, which has evolved over the years, has been that the villagers will put out to graze only the animals that they personally have cared for and fed over the winter months. This social norm serves to prevent self-seeking 'rational' behaviour, and is part of the tradition of the village evolved over many generations. Similar social arrangements are found in other parts of the world where it is necessary to regulate the use of common resources⁵. Smith's contention is that social norms involving cooperation between people, and countering individualistic behaviour along the lines of REM/RCT, are common in daily life. So participants in experimental games bring that 'constructive rationality' into the laboratory where the games are being played. That is why they behave cooperatively when playing the games, even when they are well aware that the logic of the game requires non-cooperative responses.

³ Sen (2009), p 179

⁴ Sen (2009), p 180

⁵ On these arrangements, see the work of Elinor Ostrom (1990)

A rather different critique of REM/RCT is implicit in the work of Richard Layard (2005) on 'happiness'. His starting point is 'Happiness is feeling good, and misery is feeling bad', which is close to Jeremy Bentham. He cites a wealth of empirical studies that show that happiness is correlated with the quality of family relationships, financial situation, being in work, relating to the community and friends, personal freedom, and values – in that order. Unhappiness arises from the loss of a spouse, unemployment, poor health, loss of a job, loss of freedom. Layard seeks to set all these empirical findings in a generalised Benthamite framework, because he wants to insert them into the formation of policies. For example, he strongly advocates the extension of cognitive and talking therapies to deal with the depression felt by so many of the population. The evidence, he claims, is that this would make a major contribution to the general 'happiness' of society. But this interpretation is not the only conclusion that might be drawn from the evidence. The overwhelming characteristic of the empirical studies he cites is that human flourishing is multidimensional, and often strongly related to the quality of human relationships enjoyed by the person. It may be possible to follow Layard and with sufficient ingenuity reduce all these to a single metric of 'happiness' but that seems to miss the point. The standard economics texts do not of course enquire about the content of preferences, just that they should be stable and consistent. But if people's preferences are complex and rich, the standard model is at most a pale reflection of life as it is really lived.

This conclusion about the complexity and richness of human life, and what makes for human flourishing underpins the work of Amartya Sen on 'commodities and capabilities'. In his seminal work in 1985, Sen noted that human flourishing is multidimensional, not just fixated on material goods as economics sometimes appears to assert. He proposed that health, human relationships, education, life expectancy should be additional dimensions or 'basic goods'. He linked these to the concept of capabilities, by which he meant the capacity to live a life conducive to attaining the 'basic goods', and consistent with cultural expectations. This can be illustrated by considering the incidence of poverty. We might for example distinguish between the deserving poor, who lack capabilities, and the 'undeserving poor' who fail to exercise the capabilities that they possess, and hence remain in poverty. The two groups might have the same measured household income, but it is evident that the situation of the two is quite different, and this should inform any policies for poverty alleviation. Consistency with cultural expectations has an effect on the measurement of poverty. Thus a particular low income in a low income community will not have the same effect as the same income in a wealthy community. In the latter case, the person may feel themselves excluded from participation in the life of the community, because for example they don't have the right clothes or have their own transport. The implication is that it will generally be right to measure poverty in relative rather than absolute terms, when developing policies for poverty alleviation.

Sen's approach underlies the work of Sabina Alkire (2002). She combines the capabilities approach of Sen with a longer list of natural law goods, based on the work of John Finnis (1980). These are: life itself, knowledge and aesthetic experience, meaningful work and play, sociability and friendship, self-integration, authentic self-direction, and transcendence giving

meaning and values. While this list is somewhat different from the ‘happiness’ goods identified by Layard, being abstract rather than concrete, none the less the two are evidently consistent in the elements that they identify as contributing to human flourishing. The main difference is that while Layard is optimistic that all can be reduced to a single metric of ‘happiness’ (on a scale that includes ‘misery’ at one end of the spectrum), Alkire, following Finnis, notes that these basic goods are incommensurable. It is clear that a reasonable person would want more of any one element: but there is no objective means of trading off more of one element against less of another, at least in any quantitative sense. However the list does provide a framework for measuring ‘poverty’ in a more comprehensive manner, and in the definition of goals in human and economic development that transcends the economist’s fixation on income and material goods. Development in this framework needs to devise ways in which to develop the capabilities of people to improve their lives in all dimensions of basic goods.

4. Social and ethical critiques

Deirdre McCloskey (2006) in her book, The Bourgeois Virtues, provides a critique of standard economic theorising, based on an exposition of the seven classical virtues as the basis for the ‘good life’. She distinguishes the three Christian virtues (hope, faith, love) and four older pagan virtues (justice, temperance, courage, and prudence). Her claim is that Adam Smith’s writings should be read in the context of the entire edifice of virtue ethics. The problem with the modern successors of Smith in the defence of the market economy is that they have reduced their understanding of the market economy to just the one dimension of ‘prudence’, that is the pursuit of self interest in economic activity. This has two consequences. First, economic analysis has a very limited understanding of human motivations. While prudence, and perhaps temperance, are indeed key virtues for commerce and productive activities, economic actors can be motivated by the other virtues and often are. There is a need for justice and love to soften the pursuit of economic gain, and that is often present in market behaviour. Her concern is that by focussing solely on self-interest in writing about markets, agents may come to believe that prudence is the only virtue to inform their market behaviour, to the detriment to the practice of other virtues. The second consequence is that the other virtues get lost in evaluating markets: with bourgeois values, it is possible for the market economy to be both productive and moral. In this McCloskey claims to be following closely the insights of Adam Smith, especially in his Theory of Moral Sentiments.

A second, implicit, critique of the concepts of economic analysis comes from Catholic Social Teaching. This teaching in its modern form began with the Encyclical *Rerum Novarum* in 1891, and has developed through many documents published since, especially in the last 30 years of the 20th century and the beginning of the 21st.⁶ A key principle is that of the

⁶ Conveniently summarised in the *Compendium of the Social Doctrine of the Church* (2005)

‘common good’, which indicates ‘the sum total of social conditions which allow people, either as groups or individuals, to reach their fulfilment more fully and easily’. So it is emphatically not the sum of individual goods, as in standard economic measures such as national income. The common good includes for example, a responsive and responsible government, a sound judicial system, the protection of the environment, and access for all to basic goods such as food, housing, work, education, basic health care, freedom of expression and communication, and religious freedom. A second principle is the universal destination of goods: the theological basis is that the good of the created order is a gift for all humanity, and should be shared equitably. This is a natural right, which requires ‘a common effort to obtain for every person and for all peoples the conditions necessary for integral development, so that everyone can contribute to a more humane world’. This principle undergirds the ‘preferential option for the poor: the requirement to attend to the needs of the poor, the marginalised, and the disadvantaged, both in our own society and worldwide. A third principle is that of subsidiarity, which is intended to support the flourishing of the institutions of civil society, beginning with the individual and the family, going up through intermediate organizations, to the structures of government at all levels. The principle is simply that a higher level institution should never take upon itself a role that is properly that of a lower level institution, but should help the latter to fulfil its functions more effectively. For example, the state should not seek to control in any way the functioning of the family unit in the procreation and upbringing of children, but support the family in its responsibilities e.g. by ensuring that families have sufficient resources to meet their basic needs. Pluralism, with a wide variety of different institutions, is to be welcomed and supported. A fourth principle is that of solidarity. This principle emphasises the social nature of human beings, with our interdependence expressed in relationships. We are not just individuals interacting by contracting, but a community that seeks the good of all its members: with increasing global interdependence it is right for us to seek to redress the inequalities that exist internationally. Solidarity counters individualism, with the problems of inequality that it brings with it, and instead engenders a commitment to pursuit of the common good.

The key point to note from Catholic Social teaching is that it is based on an understanding of human nature. Hence the common good is, as noted above, focuses on enabling people to fulfil their *telos* – the purposes for which they were created. This has consequences not just for social ethics, but also for personal agency and behaviour. If you assume that human beings are no more than ‘rational choice’ agents, you miss the fuller picture of human beings in relationship with others at various levels in society, which does presumably affect their behaviour markedly.

A third implicit critique has been offered by Christian Smith (2003)⁷ from within a sociological framework. His contention is that the motivation of human action is to act out and sustain moral order, which makes human life significant. In his account actions are motivated by a normative duty to do what is right or good or just, rather than the means/ ends

⁷ There is insufficient space here to attend to Christian Smith’s more recent work on human personhood, What is a person? (2010). This book gives a detailed account of the concept of personhood that Smith believes should be foundational for sociological analysis. It is, not surprisingly, much richer than the thin conception of REM/ RCT.

oriented desire to seek personal benefits. Specifically he criticises RCT for its ignoring of the variability in people's preferences and values which are derived from larger systems of moral order. People may inhabit very different moral orders, and so behave in ways that may be morally offensive to those inhabiting other orders (compare for example the views of Islamic fundamentalists and secular humanists on the role of women in society). 'Interests' (to underpin 'self-interest') are invariably culturally mediated. People act in self-interest, not because it is in some way innate, but because the moral order in which they live their lives tells them they should. Smith illustrates these moral orders by identifying the narratives that arrange human actions into organised wholes and illuminate their meanings. His contention is that the dominant narrative that motivates social sciences as practiced in the West is the 'liberal progressive' narrative. This narrative tells a story of progressive liberation from the inequality, exploitation, and prejudices of traditional societies, arising from human aspirations for autonomy, equality and prosperity. The goal is to establish modern, liberal, democratic, capitalist, welfare societies, but there is much work still to be done to achieve this. The struggle is for 'the good society in which individuals are equal and free to pursue their self-defined happiness'. This definition of the good society leads to a secondary narrative of 'ubiquitous egoism': 'Once upon a time, people believed that human self-centredness was a moral flaw needing correction through ethical and spiritual discipline... But noble as it sounds more perceptive and honest thinkers have come to see the cold, hard, simple fact that, beneath all apparent expressions of love and altruism, all human motives and concerns are really self-interested...' (p. 84). If Smith is correct in his analysis, people are much influenced in their behaviour by the narratives that condition their lives and circumstances. The 'ubiquitous egoism' narrative which has come to dominate modern economic analysis is by no means the only option, and indeed may be misleading as a universal basis for that analysis.

5. Human nature in contemporary economics

What makes for human flourishing? Normative economics continues to be dominated by utilitarian welfare economics, with its emphasis on an individual's welfare being related positively to the quantities of goods and services consumed over time, and negatively to the work effort the person puts in. This is the foundation for the entire edifice of national income accounting, and the main basis for economic policy prescriptions. Critiques, even from intellectual giants like Amartya Sen, cut little ice with economic theorists. In practice, it is common in the actual practice of public policy, at least in development, to admit a wider range of factors contributing to human flourishing. A good example is the Millennium Development Goals, which include the eradication of extreme poverty and hunger, achieving universal primary education, promoting gender equality and empowering women, reducing child mortality rates, improving maternal health, combatting HIV/Aids, malaria and other diseases, ensuring environmental sustainability, and developing a global partnership for development. While it might be possible to interpret this list within a utilitarian understanding, it is clear that the motivation behind the listing involves a much wider understanding of human flourishing including health, education, and living in a sustainable environment. Another example is the 'multidimensional poverty index' developed by the

Oxford Poverty and Human Development Initiative (see Alkire and Santos (2010)), and now adopted by the UNDP as an important indicator of extreme poverty across the developing world. It considers ten indicators at the household level. Some are related to living standards, including cooking fuel, sanitation, water, electricity and flooring: other indicators relate to health (nutrition and child mortality) and education (years of schooling and school attendance).

In the analysis of economic behaviour, the REM/RCT model remains dominant. But if that model does not accurately capture human motivations and behaviours, then modelling based on it will surely be flawed. The extent to which it matters depends in part on the area of economic behaviour under consideration. It may be an adequate modelling strategy for production and trade, and for consumer behaviour in relation to the purchase of goods and services, but it is unconvincing when applied to other areas of human life, such as marriage and the family, service to neighbour and community, work and its motivations, and religious commitment and observance. In such areas we need to include in our analysis other motivations than 'relentless utility maximisation'.

6. Biblical and theological resources for a more comprehensive model of human motivation and behaviour.

There are a variety of theological approaches to developing a better model of economic behaviour. One could, for example, begin with the rich Roman Catholic tradition of natural law, some of which has already been alluded to above. Here we ask whether biblical theology gives us resources that might be useful. *A priori*, it seems entirely probable, given that the biblical materials give us much reflection and teaching about human motivations and behaviour. So what does the bible assert about human nature?

The starting point is that humanity is fallen. We were created in the image of God, for (*telos*) relationships with God and neighbour motivated by love, and to have responsibility for the created order. As indicated in Genesis 1 and 2, we are to have 'dominion' over the biosphere, Adam is placed in the garden to till it and keep it, and he is enjoined to 'name' the animals, that is to understand their purpose within the natural order. But the human race is also 'fallen', that is in rebellion against God, and autonomous and self-serving. The consequence is that all our relationships are fractured, and marred by selfishness and self-seeking behaviour. The *radical* interpretation and understanding of this doctrine is that human nature does indeed conform to the REM/ RCT paradigm. But there is a *gentler* version: the image of God in humankind is marred and distorted but not completely destroyed. The doctrine of common grace reminds us that even fallen human beings still love their children, care about their neighbours, and worry about the future of the planet. So self-seeking may not say it all about human behaviour.

An additional perspective comes from Pauline theology. A key theme of his theology is the distinction between the 'sinful nature' and the 'spiritual' person in Romans 8, Galatians 5, and Colossians 3. So Paul in Galatians 5 exhorts his readers to 'live by the Spirit and you will

not gratify the desires of the sinful nature'. They have experienced God's redeeming grace, and are now called to live to the standards of their redeemed nature. So the distinction is made between the 'acts of the sinful nature' and the 'fruit of the Spirit'. The implication is that the fallen person has inbuilt tendency, due to the sinful nature, to act in ways that are contrary to their true nature created in the image of God; whereas the fruit are qualities of character enabling the Christian to live a renewed life, not subject to the sinful nature. In Romans 8, Paul notes that Christians are work in progress, and need to put 'to death the sinful nature' so the Spirit can direct our lives. In traditional Protestant theology this is the work of sanctification. Our suggestion is that this work restores the image of God in each person, so that a Christian will be motivated by love of neighbour, and by care for the natural order. This greatly strengthens the frail capacity to do these things that comes from common grace. The implication is that one would expect (hope for!) a different set of economic behaviours from Christian people, and that average behaviour in a population will be affected directly by the proportion of Christians. In addition, the presence of Christians in the population may have an additional exemplary effect, encouraging the work of common grace even in those who are not Christians, by setting a standard for others to follow. The metaphor of Christians being salt and light appears to have this implication. And the sociologists tell us that social expectations generally can have a substantial effect on behaviour.

7. Applications

It was this theological understanding of human nature and motivations that led us to attempt to model economic behaviour differently in application to two examples: marriage and divorce, and giving money and time voluntarily to help others. The structure of the argument is common to both: we postulate a Mixed Motive Valuation (MMV) function for the individual. The function has two dimensions. One dimension reflects the fallen/ sinful nature preferences along the lines of REM/RCT. The other dimension reflects the 'image of God' (marred but not destroyed by the Fall) and/ or progress in the Christian life, and hence the possibility that the person is motivated by love for others without regard to his or her own utility/ satisfactions/ preferences.

The first example is a paper on marriage and divorce (Menzie and Hay (2008)). The fallen/ sinful nature dimension is construed following the analysis of Becker and his successors outlined in section 1 above. The key variable is the effort expended in sustaining the marriage, which affects the probability of continuation of the relationship in the presence of an 'outside' option (divorce and 'recontracting' with another person). The standard cost benefit analysis applies: the lower the perceived gains from marriage, and the higher the prospective gains from the outside option, the less effort will be forthcoming, and the higher the probability that the marriage will break down. We then add the 'good' dimension, which in this context is commitment to a covenant marriage, 'for better, for worse; for richer, for poorer; in sickness, and in health; till death do us part' which constitutes a motivation to sustain the marriage for its own sake (or rather for the sake of each one of the couple). The stronger is this motivation, the greater the effort that the partners will make to keep the marriage together. Evidently the outcome will depend on the relative strengths of the two motivational dimensions.

We use this model to interpret the evidence on the incidence of marriage and divorce in the West. Part of the argument is that the increased opportunities for employment for women has raised the opportunity cost of the ‘traditional’ marriage with the woman staying at home to raise the family, so there is less willingness (within the Becker type models) to specialise in household production or even to have children. This was a key insight of Becker’s analysis. But we add to that the idea that the decline of the Judeo-Christian covenant view of marriage has changed the ‘framing’ within which the idea of marriage is discussed. Marriage has come more and more to be regarded as contractual arrangement which can be terminated by divorce; which no longer has a stigma attached to it. In terms of our model, the strength of the covenant view has weakened, and the weight attached to in the MMV is diminished.

The second example (Menzie and Hay (2012)) addresses the question of giving time and money to help neighbours in the community. The standard economic analysis of ‘altruism’, following the REM/ RCT model, suggests that the motivation to help neighbours arises from positive effects on personal utility or satisfaction. So other people’s utilities are an argument in one’s own utility function. This may reflect Sen’s concept of ‘sympathy’ – we suffer if we see someone else in need – but it falls somewhat short of true altruism. After all we only give sufficient to ensure that at the margin the returns to us in satisfaction are equal to spending the same marginal amount on ourselves. This is not the same as agape love! This then is the motivation for the person controlled by his sinful nature. Contrast this with a ‘spiritual’ dimension of behaviour by someone demonstrating the fruit of the Spirit in their lives. They have a commitment to love their neighbour unconditionally and without regard to their own welfare. This is modelled in the paper by introducing a second dimension to the MMV where the propensity to give to others is valued for its own sake.

This analysis should in principle be evaluated by appeals to evidence of behaviour. One example must suffice here. Akerlof and Kranton (2000) have argued that a utility function should include the person’s identity or self-image as one of its dimensions. One example that they give is of women working in professions or workplaces with a strong male culture, such as fire stations and law firms. They argue that there is evidence to indicate that women, in such environments, will seek to behave as if they were male workers. That is, at work at least, their self-image is masculine, and hence their behaviour is modelled on that of their male colleagues. Other identities may relate to ethnic background or immigrant status. This argument can be applied to the change of identity when a person becomes a Christian, followed by a process of ‘sanctification’ leading that person to demonstrate the fruit of the Spirit. In terms of the two dimensions of the MMV, the person’s behaviour should (will?) be more motivated by the desire to serve their neighbours unconditionally, and less by the pursuit of pure self-interest. Putnam and Campbell, in their study *American Grace* (2010) show that evidence of love for neighbours, indicated by charitable giving and volunteering in the community, is strongly correlated with religious commitment in the United States. Note that it is not the case that non-religious people do nothing for neighbours, but rather that religious people do more. The former is consistent with our earlier suggestion that a gentler understanding of human fallen-ness allows for people to behave well towards others, as part of common grace.

Only time will tell if our attempt to capture ‘good’ motivations and behaviour by the device of mixed motive valuation functions (MMV) tailored to the analytic needs of these two examples is meeting the challenge of those who complain that the REM/RCT model is just too thin to capture the complexity of economic behaviour. However it is worth noting two of the criticisms that our work has already attracted.⁸ First, progress with the MMV functions required us to assign putative ‘weights’ to the two dimensions – the fallen nature and the spiritual. This could appear to be doing no more than creating a higher level utility function with the two dimensions as arguments. Our interpretation of the MMV function is quite different: we are just noting that behaviour can be related to two different motivations, and the degree to which it is one rather than the other is captured by the function, without any implication that these motivations relate to utility. Indeed it is probably more appropriate to regard the MMV as simply reflecting preferences. Second, the approach we have taken does nothing to dispel the likely criticism from natural law social theorists, and virtue ethicists, that different dimensions of human flourishing are non-commensurable. For them the attempt to model behaviour arising from the two dimensions of our MMV functions is simply a mistake, as real people do not (unless they have been indoctrinated by economists!) make the implicit trade-off between these dimensions. We should stop trying to capture the complexity of human motivations and flourishing in funny little models.

8. Conclusions

This chapter has outlined the origins of the hegemony of rational choice models (REM/RCT) in modern economic analysis. Sometimes these models make explicit use of the concept of ‘utility’: at other times, the analysis can be conducted with an appeal to preferences underlying the choices of economic actors. These models have been the subject of sustained critiques both within and from outside the discipline of economics: the core of these critiques is that the content of the models is extremely thin, and fails to capture the range of what it is to be human agent. Some critiques focus on internal problems in the model, such as the narrow interpretation of ‘rationality’. Other critiques are more ‘empirical’ showing that the RCT model fails to consider the way in which preferences are formed (they just have to be ‘consistent’), or to take into account the range of human ‘goods’ that people commonly pursue in their economic and other aspects of their lives. This may not be of much significance for the analysis of markets for goods and services, but it looks strange when applied to marriage and divorce, or to behaviour related to serving ‘neighbours’. Moreover the practice of public policy, such as the stating of development goals in poor countries, routinely takes into account other dimensions of human flourishing.

There is then good reason to conclude that the REM/ RCT model of human nature widely used in economic analysis is flawed. But despite cogent critiques, including the work of the eminent economist, Amartya Sen, the core of economic theory remains unchanged. One reason may be that no one has so far come up with an alternative understanding of economic agency that might be used instead of RCT to model economic behaviour. This chapter reports

⁸ There has been some criticism of the use of simple functional forms in order to give tractability to our modelling. This is probably justified, and has had the unfortunate effect of focussing attention on the detail of the models rather than the message we are trying to convey.

on an attempt to provide an alternative based in the biblical understanding of human nature. This model is basically a 'Jekyll and Hyde' model, with the economic actor having both a 'good' side and a 'fallen' side to his or her nature. These are combined in a mixed motive valuation function (MMV) where the weights assigned to the two dimensions are based on the spiritual identity of the person, which to some may look suspiciously like a higher level utility function. Perhaps the desire of economists for simple and tractable mathematical models conflicts fundamentally with real behaviour which reflects a multidimensional set of goals or preferences which cannot be simply traded off.

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