Homo Economicus Under Multiple Pressures

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Abstract The issues around *homo economicus* are deep, and the debates over it have been heated. The chapter identifies four pressures that have shaped these concerns and conversations—deriving from economics itself, from the common sense, from disciplines other than economics (such as sociology, experimental psychology, and cognitive neuroscience), and from important features and processes in social reality (such as self-interest as a social norm, exposure to money, and the marketization of society). Economic theories assuming *homo economicus* find support from such trends in society, while the common sense and other disciplines largely speak against it. Among the themes examined are the applicability of the model of *homo economicus* across a negotiable range of phenomena, the negligibility of the falsity of its idealizing assumptions, and the consequences of designing policies on the presumption that people are sufficiently close approximations to *homo economicus*.

Keywords *Homo economicus* · Idealised model · Economic theory · Common sense · Psychology · Marketisation · Applicability · Negligibility

1 Introduction

Homo economicus has always been a contested creature, regardless of its particular incarnations. Some of the contestations are more or less constant, recurring across the history of the concept. Others are historically more specific, prompted by changes in economics itself or in neighbouring disciplines or in larger cultural circumstances. The same applies to the various justifications that have been proposed in support of

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the concept. It is obvious that the story of *homo economicus* is also a story of the various tensions and debates that have accompanied its development.

That *homo economicus* is subject to ongoing debates is not surprising in the least—it would be surprising if this were not the case. The reason is also quite obvious: *homo economicus* appears to be about us—about human beings, their cognitive and moral properties, and these are also the subject not only for several scientific research fields, but also for ordinary commonsense conceptions of what we humans are like, and how we should be. On the other hand, *homo economicus* is not like us at all. This is rather easy for us to see, and this makes the concept so deeply puzzling.

Things are made complicated by variations and uncertainties in what precise concept of *homo economicus* is being discussed and what precise claims are supposed to be made about human behaviour when using the concept.

I will address these issues by framing them as deriving from "pressures" on the concept of *homo economicus*. I identify four such pressures: one from economics itself (what economics needs to assume to accomplish what it is expected to deliver); another from the common sense (with a rich nuanced image of our moral and cognitive qualities); a third from other disciplines (what they appear to imply about human behaviour); and yet another from aspects of social reality (such as the norm of self-interest, money, and marketization as constitutive of our culture). I will examine these pressures and point out affinities and tensions between them.

But first we need to have some initial clarity of what we are talking about and of what some of the issues are. The rough ideas presented next will be refined as we proceed to subsequent sections.

2 What Are We Talking About, and How?

So what are we talking about when we talk about *homo economicus*? From an abstract metaphysical point of view, we seem to be talking about a *thing*—at least apparently a possible human being—in terms of a set of *properties* attributed to that thing. These properties are described in terms of"assumptions" of a theory or model. This brings out an important qualification in how we should answer the question about what we are talking about here.

On the one hand, we seem to be directly talking about "models of man" as the phrase used to go. *Homo economicus* is a model, an imagined thing the (imagined) properties of which are characterized by the assumptions of the model. And as we know, this must be put in the plural: there are many models of *homo economicus*, depending on the schools of economic thought and the stage of their development (see e.g. Morgan 2006). On the other hand, when using these models, we seem to be indirectly talking about real things, such as people—or "agents" more generally—populating the world. We may ask whether this or that human individual is, or behaves in some aspect of his/her life as, a *homo economicus*; but by this we mean to ask whether this or that model of *homo economicus* has an appropriate relationship with the properties of that individual such that we could characterise it (e.g., her or him) as a *homo economicus*.

I will primarily be talking about *homo economicus* as a model—or rather a set of models—of human (and possibly other) beings, and secondarily about those beings in the world being *homo economici* or being like *homo economicus*. The assumptions of such a model describe the model, and they play a key role when asking questions about real beings.

The set of such assumptions is seldom articulated in full, and they are seldom formulated in a way that captures much psychological nuance. The following list encapsulates an extended set of properties and puts them in a way that is recognizable to most people without an education in economics (such a list will therefore be useful for examining the relations between *homo economicus* and the common sense). *Homo economicus* is

- Determined: Knows what wants, with no conflicts in motives
- Informed: Knows how to get what wants
- Chooser: More options is better
- Self-seeker: Pursues own interests only
- Greedy: More is better
- Calculative: Likes to, and is able to, calculate
- Emotionless: No feelings of shame, fear, honour, empathy
- Amoral: Doesn't recognize ethical principles
- Asocial: Loner, blind to social norms, community values, common interests

Some of these characteristics are ordinarily found venerable, some others less so, even to the point of being reprehensible. Those educated in economics have learnt more streamlined formal versions of *homo economicus* that conceal much of the psychological nuance—as well as potentially morally dubious aspects—that are explicit in the above list. These versions include those that maximize their expected utility (or expected returns in the case of business firms), have "well-ordered preferences" (understood in terms such as completeness and transitivity), are informed about the available options and the probabilities of their consequences, and are capable of solving any given optimization problem.

For framing and settling controversies over *homo economicus*, there is a prior issue of how to interpret its contents regarding whether it is at least partly about internal mental features and processes in human agents, or rather about their overt behaviour. *Internalist* versions read it as representing internal cognitive capacities, dispositions and processes that are being invoked when using *homo economicus* for whatever purposes, such as explanation, prediction, design or what have you. *Externalist* versions read *homo economicus* as being quiet about anything mental, and instead as representing the structure of agents' manifest behaviour. Curiously, and somewhat misleadingly, given the vocabulary that is commonly used when discussing these issues, internalist perspectives seem fit for "behavioural" approaches, while externalist perspectives are favoured by "behaviourist" approaches. The difference between the two will play a role for the power of pressures on *homo economicus* as we will see in Sect. 3.

When putting forth assumptions about *homo economicus*, what exactly is being said? And what exactly is being asserted about human behaviour? These questions can be asked and answered from several perspectives. One deals with *quantification*. How many? All, many, few, none, which? This can concern *cultures* within which people live and act, such as more collectivist and more individualist cultures. Does *homo economicus* apply to all cultures, or just to some, or perhaps none? It can concern *times*—past, present and future. Does *homo economicus* apply always, or just to limited time periods, or perhaps never? It can concern *domains of action*, such as market and non-market spheres of society. Does *homo economicus* apply to all spheres, to just some, or none? Finally, the issue can concern *individuals*. Does *homo economicus* apply to all individuals, or just to many or some, or perhaps none? Does it apply to groups, representative agents, institutions—and if so, which?

The perspective from quantification must be supplemented by another one. From this other perspective, we may refine the contents of the expression I used in the previous paragraph when asking questions about quantification in "applying" the notion of *homo economicus*. "Apply" and its derivatives such as "applicable" are indeed far from unambiguous concepts. What exactly is it for *homo economicus* to apply or for it to be applicable? What is being said and asserted when applying the notion, and how does this relate to the real world, whatever the quantification?

On the face of it, it seems obvious that the assumptions of *homo economicus* are *idealizations*, and so they appear false, violating facts of the matter about human behaviour. Our preferences are not complete or perfectly transitive. We are not properly informed about the relevant probabilities, nor are most of our information processing capacities terribly impressive. The power of emotions, moral sentiments and pro-social preferences in moving us is often much greater than nil. And so on.

While the contents of *homo economicus* is put in terms of such idealizations, it is evident that there is no intended assertion that real people are like that, such that the idealizations would be claimed to be exactly true about them. On the contrary, they are generally recognized as false if interpreted as truth-valued statements about real people. Users of the model may also entertain other options. One is to suggest that the model of *homo economicus* is not used and should not be used for making any claims at all about people's behaviour; the model is perhaps considered just a "fictional" component in a larger theoretical structure that is used for making truth-valued claims—such as predictions—about aggregate-level phenomena. Another option is to suggest that if claims about individuals are made, they must be qualified, resulting in ideas such as these: the model is only approximately true of real people; some of its assumptions are closer approximations, some others further away from the exact truth; some people are closer, some others further away from the model behaviour; and so on.

However, the idea of approximation alone is unhelpful. It must be put in a pragmatic context of purposes and interests. The question we must ask is this: *how close is close enough for serving this or that cognitive or non-cognitive interest or purpose?* How much divergence between the model and the target reality is *negligible* given the purposes sought to be served? To answer this question, we would need answers to two other questions: What is the degree of approximation, the distance between the model and the target? What are the purposes that the model is supposed to serve?

The first of these questions—about the actual degree of approximation—is not easy to answer in the case of *homo economicus*; a sizable room for judgement remains. It should be easier to determine the purpose for which the model is supposed to be used. Such possible purposes include explaining aspects of individual behaviour; predicting aggregate level phenomena; and providing advice for policy and institutional design. Each such purpose must then be made more specific; for example, by specifying some required minimum degree of predictive precision, or by specifying some narrow aspect or feature of behaviour sought to be explained. Based on these two pieces of information—about the actual degree of approximation and the specific precise purpose—we could then decide whether the distance between what the model says (or what its assumptions appear to say) is the case and what actually is the case is negligible or non-negligible, that is, whether the model (or its assumptions) is close enough or too far from the facts of the matter (on the notion of negligibility, see Musgrave 1981; Mäki 2000, 2011).

The notion of negligibility can then be incorporated into that of *applicability*. For a model to be applicable to a domain of phenomena, it is not required that it is exactly accurate about the facts. It is enough if the extent to which it gets the facts wrong is negligible given this or that purpose. The notion of negligibility also helps to see the nature of those situations that prompt modellers to modify their models by relaxing idealizing assumptions and replacing them by more "realistic" ones. In such situations, the gap between a model and the target domain is considered too large to be negligible, hence the gap must be narrowed for it to become negligible for some purpose; thus (at least some of) the idealizing assumptions play the role of *early-step* assumptions that are to be relaxed and be replaced by less idealizing assumptions (again see Musgrave 1981; Mäki 2000, 2011, 2020).

Idealizing assumptions are often used for promoting the *tractability* of a model, enabling the use of a given set of formal tools that facilitate its theoretical and computational treatment (Hindriks 2006; Mäki 2011). The extent to which such assumptions distort the facts may or may not be negligible. In case it is negligible, there is no need for revision as long as a given purpose is being served. In case it is not negligible, there is need for relaxing the tractability-enhancing idealizations, but getting there may have to wait until other formal tools have been employed or developed. No doubt issues of tractability have played a role in the debates and developments around *homo economicus*.

3 Sources and Species of Pressure

What I call pressure is a loose metaphor that is intended to cover various constraints and demands—desiderata and criticisms—that often give rise to response. They may consist of theoretical goals and epistemic virtues, empirical evidence, challenges and demands from outside, such as from other disciplines and commonsense points of view, and social reality.

3.1 Economics

Consider first *economics* itself. Why is it that one or another version of *homo economicus* is almost regularly assumed when economic theories and models are being constructed? Why is this? What purposes are being served? What pressures are being recognized and responded to, by yielding or by evading? Note that economics has no need for sticking to any conception of "human nature" (as is often suspected in critical commentaries). It does not hold such a conception, thus cannot be blamed for having got human nature wrong (more on this below). Hence there is no pressure deriving from a need—no demand—for a view of human nature. So what is the point? Why assume *homo economicus* if not attempting to capture human nature?

We need to understand the *disciplinary conventions* that drive and shape what economists do when constructing and accepting their models—they act under the pressure of such conventions, as it were. There are roughly two kinds of such pressure, call them substantive and methodological. *Substantive pressure* derives from disciplinary conventions that determine theoretical needs such as being able to derive downward sloping demand curves and to establish the possibility of, and some sort of attraction towards, market equilibrium. Merely for such derivational accomplishments, rationally choosing *homo economicus* is not necessary, as the same outcomes can be generated by assumptions about irrational or random choice, as established by Becker (1962). Yet some of the methodological conventions, such as those cited next, speak for the former.

Methodological pressure derives from disciplinary conventions that fix a set of methodological virtues and vices that shape and constrain what is being done and how, what sorts of models and assumptions to consider and accept, and what not. Here I mention just two such virtues. *Tractability* is a prerequisite that supports simplicity pragmatically conceived: simplicity of use. Tractability is a ubiquitous desideratum in any cognitive effort, but it takes on different forms in different settings, shaped by the concepts and formal tools available in a given research field. Simplicity—that contributes to tractability—is also a component in another methodological virtue, that of *unification*. Models and their assumptions are expected to explain much by little, that is, to unify a broad range of types of phenomena by deriving their descriptions from a small set of simple explanatory principles. Unification occurs in terms of simple *explanantia* that are stable across applications. It contrasts with complex *explanantia* that are ad hoc, varying from case to case (on unification in economics, see e.g. Mäki 2001; Mäki and Marchionni 2009).

No doubt *homo economicus* satisfies the desideratum of tractability, and it has usually been constructed and put in use with unification in mind. Tractability and unification can be seen as virtues of cognitive economy and efficiency. On the other hand, models of satisficing behaviour (in the vein of Herbert Simon), species of *homo* *altruisticus*, or the varied models suggested in recent behavioural literature could appear inferior in not perfectly meeting these specific methodological pressures.

3.2 Common Sense

We then briefly discuss *the common sense* as a perspective from which to view *homo economicus.* From this perspective pressure keeps generated spontaneously. The source of this pressure consists of things such as ordinary everyday experience and reasoning, including introspection, commonsense concepts and beliefs. The first point to make is that, from the commonsense point of view, we tend to recognize *homo economicus* as being *about* human beings. It appears to *refer to* human agents and to attribute to them properties that are among the sorts of properties, roughly, that we humans have anyway—preferences and intentions, beliefs and expectations, etc. We recognize these items as familiar and talk about them as part of our ordinary everyday lives. In this sense, *homo economicus* does not go beyond the realm of *commonsensibles* (see Mäki 1998 for this notion).

That *homo economicus* and the common sense deal with the shared realm of commonsensibles facilitates the latter to impose critical pressure on the former. There indeed appears to be a rather stark conflict between the two. The conflict is not one of *referring* to, being *about* a shared domain, it is rather one of giving different *representations* of what they both are about, associated with respective beliefs. Commonsense representations are accompanied by c*ommonsense beliefs* about human behavior, and these appear to be at odds with the idealizations that make up *homo economicus.*[1] The relevant commonsense beliefs consist of what we ordinarily consider we humans are like, what we expect from ourselves and others, predictively and normatively. In an apparent contrast to *homo economicus*, the common sense recognizes divergent features such as plurality of clashing motives; radical shortage of information; limits in calculative powers, even reluctance to engage in calculation; weakness of the will; relatively strong other-regarding motives; limits to greed; importance of emotions, morality, community, reciprocity, fairness.

This clash is reflected in Philip Pettit's distinction between the common mind and the economic mind (Pettit 2001). Both are concerned with what we humans do, are inclined to do, and are advised to do. According to *the economic mind*, you do and should do *X* since it is in your personal advantage to do *X* (this captures the self-seeking dimension of *homo economicus*). According to *the common mind*, you do and should do *X* due to reasons such as membership in a group, loyalty, fairness, trust, kindness, reciprocity, honesty (as can be seen, this suggests two senses of'common' in 'common mind'). As Pettit puts it, *homo economicus*" files in the face of common sense" that does not recognize the model as accurate of human beings

[1] Note that a more refined discussion would have to consider the asymmetry between commonsense beliefs and the assumptions of *homo economicus*: the latter are not beliefs, nor are they believed true!

in most contexts. I will return to Pettit's thoughts in the next section, to discuss the conditions of applicability of the model.

3.3 Other Disciplines

There is a long history of challenging *homo economicus* by appealing to research results produced by *scientific disciplines other than economics*, such as experimental psychology, cognitive neuroscience, anthropology, and sociology (see e.g. Coats 1976). Much of the pressure on *homo economicus* deriving from such other disciplines shares a great deal with the pressures coming from the common sense, often providing theoretical articulations and systematic empirical support for familiar commonsense perceptions. The most recent wave of behavioural economics is no exception to this.

Focusing here on the critical pressures from the behavioural challenge, it points out cognitive and motivational departures in human behaviour from conventional versions of *homo eonomicus* (see e.g. Thaler 2000). Based on experimental and other findings, it is argued that *we are not that smart*—that is, not very rational in the more conventional sense. We are not very informed nor terribly capacitated in information processing. We suffer from "biases" such as overoptimism, overconfidence, framing effects, loss aversion, fears, manias, and other sources of foolishness. As for what drives us, *we are not emotionally and morally cold, nor predominantly selfish.* We are capable of altruism, pro-social preferences, empathy, quilt, shame, regret, pride, joy, envy, hatred, love, and other familiar emotional and motivational states also recognized by the common mind.

A series of studies across fifteen culturally varied small-scale societies produced an interesting body of evidence (Henrich et al. 2004). In its "hunt for *homo economicus*" the interdisciplinary project combined experimental and ethnographic approaches, and went beyond the usual studies that use university students as their subjects. Applying game experiments like the ultimatum game, dictator game, and public goods game, the project focused on the selfishness component in *homo economicus*. Even though this large study left many issues open, it firmly concluded that *homo economicus* is falsified by the evidence from all fifteen small-scale societies; and that there is a great deal of cross-cultural variation in the extent to which subjects in these societies deviate from *homo economicus*—variation that cannot be explained in terms of individual differences, but requires invoking differences in the social and economic structure of these societies.

Linking this last conclusion with what we said above about the grounds—disciplinary conventions—on which economics tends to stick to one idealized model (or a family of closely knit models), we can see that the cross-cultural heterogeneity in behavioural dispositions poses a challenge to one standard defence of *homo economicus*. This defence is put forth in terms of the universality and unifying role of *homo economicus*: no other idea of human behaviour is able to unify an equally wide range of phenomena in equally simple terms. The results of the "hunt" seem to suggest that no such unification can go through since there is too little unity in human behaviour across situations. Relatively small deviations from the model may be possible to accommodate by arguments from negligibility, but if the deviations are large and if they vary greatly from society to society, the task will be more difficult. This gives rise to issues of applicability, to be discussed in the next section.

Finally, there is the feminist objection, arguing that *homo economicus* turns out to be a model of economic *man* at most, thus biased and lacking in generality. The characteristics attributed to the economic agent are, at most, if at all, properties found in males. Ridiculing Adam Smith's famous passage,"it is not from the benevolence of the butcher, the brewer, or the baker that we expect our dinner, but from regard to their own interest", Nancy Folbre (2001, 9) states and asks, "it is not usually the butcher, the brewer, or the baker who fixes dinner, but his wife or mother. Does she act out of self-interest, too?" The objection is that *homo economicus* fails to capture important parts of economically relevant action, such as household work, caring behaviour etc. This too will cast doubt on the generality and unifying capacities of *homo economicus.*

4 Issues of Applicability

An obvious first move in responding to pressure is to argue that the model of *homo economicus* is just like any other model in that it *isolates* (with the help of various omissions and idealizations) a fragment of the whole set of human dispositions and capacities, with an associated belief that this isolated fragment is the (most) relevant one (see Mäki 1992). This response alone would be incomplete, thus it must be amended with further steps. Among other things, these will specify criteria of relevance in terms of domains and questions.

There are several options for such further steps in responding to pressure. Consider model M1 applied to domain D1 – designate this as < M1, D1 > – and consider pressure that requires response. One way to respond is to revise M1, resulting in < M2, D1 > , which is hoped to eradicate or alleviate the pressure by improving the model by de-isolation or by re-isolation (where de-isolation is a matter of supplementing the isolated items with some additional items, while re-isolation occurs by replacing one isolation by another). Call this the *revise-the-model response.* Another way to respond is to adjust the intended domain of application, while keeping the model intact. The result might be < M1, D2 > . The idea is that while M1 has problems with domain D1, it will be more smoothly applicable to domain D2. Call this the *adjust-the-domain response.* This response is often accompanied by some further ideas about problems posed or questions asked about phenomena in any given domain. Thus one may respond to a pressure by moving from question Q1 to question Q2 while at the same time either sticking to domain D1 or switching to domain D2. The hope is that the model is more capable of dealing with Q1 than with Q2. This is the *adjust-the-question response.*

While the revise-the-model response is the one pursued by behavioural and other associated approaches, the latter two responses—adjusting domains and/or questions—have been popular in past efforts to align conventional *homo economicus* with the world. These moves are expected to make it easier to justify *homo economicus* when appropriately applied; that is, to make it easier to defend the negligibility of its factual inaccuracies.

One example is the recent debate over the relevance of behavioural evidence for assessing *homo economicus*. A precondition of critical pressures from behavioural research to be even considered is an internalist interpretation of *homo economicus*. The model must be read as having contents dealing with internal mental capacities, dispositions, and processes. These contents could then be targets of the challenge. Another precondition is to set agent behaviour as the appropriate *explanandum*; or at least to establish it as a potential difference maker—and thereby a relevant *explanans*—for macro-level phenomena. On these conditions, theoretical change is an appropriate response to critical behavioural evidence.

One can escape the need for theoretical adjustment in response to behavioural evidence, however, by not accepting those preconditions. One may adopt an externalist interpretation of *homo economicus*, not allowing for any implications about internal mental matters; and one may insist that it is not the task of the model to explain agent behaviour but rather to explain and/or predict aggregate phenomena. Behavioural critique would have no or little bite, and *homo economicus* would be protected by setting it beyond the reach of behavioural evidence (see Gul and Pesendorfer 2008; cf. Hands 2013).

Most of the current debates about *homo economicus* have concerned human individuals, their preferences and the pursuit of maximum utility, but the earlier history of economics has also focused on using the model for depicting business firms and their rational pursuit of maximum profits. It is here that we find other illuminating examples. These include Fritz Machlup's (1967) account of the proper application of various theories of the firm. This account provides an applicability argument that combines domains and questions. The argument seeks to justify the model of the perfectly competitive profit-maximizing firm that had been challenged in the famous "marginalist controversy" two decades earlier in the 1940s. The challenge appealed to empirical evidence directly related to the decision-making behaviour by business firms. Critics argued that evidence shows that business firms do not maximize their expected returns, *homo economicus* style. Firms do not set the marginal cost equal to marginal revenue, required by profit maximization. Machlup responds by providing an argument that builds upon the presupposition that such direct comparisons between models and evidence alone are irrelevant and that they must be supplemented with considerations about domains and questions. He argues that it is not the task of this theory to help explain firm behaviour.

Among the characteristics of the *domain of phenomena* to which the model of perfectly competitive firm is applicable, Machlup cites a sufficiently large number of business firms that function under sufficiently competitive situations. And when using the model of perfectly competitive profit-maximizing firm, the proper *explanatory question* to ask is not about how individual firms behave. It is about qualitative changes in market level variables, such as price and quantity, in response to changes in the circumstances. By contrast, other theories of the firm, such as managerial and organisational theories, can be used for asking and answering questions about firm behaviour, also when the numbers are small and the situations are not very competitive.

The conditions of applicability of marginalist theory suggested by Machlup thus combine domains and questions. As features of the domain of relevant phenomena, there must be large numbers of firms, and these must act under competitive circumstances; and regarding the explanatory questions, they must be the ones cited above, concerning qualitative market level changes as the *explananda*. If these conditions are met, then the divergence from the facts of the idealizations and omissions of the theory is negligible, and the model can be applied.

Another perspective from which to specify the conditions of applicability of *homo economicus* sets the focus on the *types of agent* of behaviour. One could argue that Machlup's account has carved out the proper domain of application of *homo economicus*, placing it in *business behaviour rather than consumer behaviour* (subject to further conditions pointed out above). The reason would be the fact that business behaviour is often subject to severe competitive exigencies to a far larger extent than is consumer behaviour. There is a causal mechanism for the elimination of non-profit-maximizing firms of the sort that does not control the fate of consumers, not at least with equal force (see e.g. Satz and Ferejohn 1995). In case one holds an image of *homo economicus* that associates it primarily with individual human beings, this would give reason for some reordering.

Another argument focuses on the *kinds of decision* that are made by economic agents rather than who these agents are. The issue is about the sorts of decision that *homo economicus* is more likely to be adept for making. Behavioural economists have concluded that evidence suggests that *homo economicus* is more suited for representing *simple and recurrent decisions* than complex long-term decisions. This would be a relatively easier domain of application, and again reason for some reordering. Here is a summary statement:

> Ironically, rational choice models might therefore be most useful in thinking about the simplest kinds of decisions humans and other species make — involving perceptual tradeoffs, motor movements, foraging for food, and so forth — and prove least useful in thinking about abstract, complex, long-term tradeoffs which are *the traditional province of economic theory* (Camerer et al. 2005, 55).

Yet another way to single out the proper domain of application of *homo economicus* is in terms of *the economic domain* in contrast to non-economic domains. An early example of this is JS Mill's conception. Defining *homo economicus* in terms of wealth seeking, Mill believes that it dominates the economic domain. This is to say deviations from it are negligible here. However, such deviations are not negligible in the non-economic domains of family, friendship, community life. Hence in these domains *homo economicus* is not applicable: "With respect to those parts of human conduct of which wealth is not even the principal object, to these Political Economy does not pretend that its conclusions are applicable." (Mill 1844, 98)

As I read it, Philip Pettit (2001) proposes a refined Millian view on these issues. By and large, the distinctions between the economic and non-economic domains, and between the economic mind and the common mind coincide. Yet he suggests that there is a special role for the economic mind to play also in the non-economic domain. Focusing on the element of self-interest in *homo economicus* in the economic and non-economic domains, Pettit examines issues of existence and efficacy. What kind of *modal existence and efficacy* are enjoyed by the two minds, the common mind and the economic mind? The options include *actual and virtual* existence and efficacy. Pettit's suggestion is that *in the economic realm*, the economic mind *actually* rules. This is to say the self-seeking disposition continuously drives behaviour as a matter of actual fact. *In the non-economic realm*, the situation is less straightforward. The suggestion is that the common mind, most of the time, *actually* rules. This is to say we are mostly driven, as a matter of actual fact, by other-regarding motives and reciprocity, feelings of community and fairness, and the like. This set of drivers is actually active in mostly taking care of everybody's interests, so there is no need to mobilize the economic mind. Yet the self-seeking economic mind plays a role all the time *virtually*. It permanently lurks in the shadows, so to speak, ready to be mobilized when needed. It is disposed to get actualized at times when the agent feels her interests are not being sufficiently served just by relying on the operation of the common mind. This may occasionally happen in the non-economic domain, while it continually happens in the economic domain.

Pettit's account can be considered a refined version of an old position within economics, at least since Wicksteed and Marshall. As I said earlier, economics has no need to make assertions about some deep"human nature" such as claiming that ultimately and predominantly, people are egoists by their nature, regardless of context. Economics needs no such assumption. The traditional position is that it is sufficient to assume that *when engaged in market exchange* the agent will not promote the interests of the other party in the transaction, but rather seeks to maximize her own net benefits, utility or net revenue. After exiting the market, the agent may use that outcome as she wishes—donate it for philanthropy, please her family, drink herself to ruins etc. These activities are not—or do not have to be—supposed to be governed by rational self-interest. On this view, the market constitutes the domain of application of *homo economicus*. Or using a little stronger wording with a metaphysical bent, the market is the natural habitat of *homo economicus.*

This last idea gives rise to piquant issues about the boundaries of markets and about arenas of action more generally. These will play important roles as we next discuss the fourth and final source of pressure, that of changing social reality itself. In contrast to pressures deriving from the common sense and scientific disciplines other than economics, some of these pressures support *homo economicus.* There are trends in social reality that may make it more hospitable to *homo economicus.*

5 Social Pressures

The ways in which larger social structures and human behavioural propensities are related to one another is a perennial issue in the social sciences. As such a grand issue, it remains unsettled, but piecemeal progress can be made and has been made in clarifying its details. This is the case with *homo economicus* too. The picture of how its propensities are connected to larger institutional and cultural structures is subject to ongoing research and debate.

Here I briefly point out three sources of pressure in social reality, all of them supposedly supporting or reinforcing attributes of *homo economicus*. They are the *norm of self-interest* in some cultures; the involvement of *money*; and *marketization* of society. Unlike the reverse pressures from the common sense and other scientific disciplines, these are pressures that buttress and encourage the existence and exercise of the qualities of *homo economicus*. If these socially and institutionally based tendencies were to materialize uninhibited, the model would become increasingly accurate and its inaccuracies would become increasingly negligible.

Psychologists have investigated self-interest not only as a driving motive of behavior, but also as a *self-reinforcing social norm* (e.g. Miller 1999). The norm is found to be particularly strong in some cultures, for example in USAmerica. For it to function as a norm, people are *expected* to pursue their own interests, in activities ranging from those involved in workplace relations to voting in elections and beyond; and apparently non-selfish behaviour is often *interpreted* as ultimately selfish. In such cultures, the prevalent rhetoric of self-interest reinforces self-interested behaviour and the interpretation of behaviour as self-interested. People are moved by a fear to be exploited if they do not actively seek their self-interest. Institutions are designed and constructed assuming that self-interest is dominant. Such cultures would be more suitable domains of application of—at least this one attribute of—*homo economicus*.

As a special case of self-interest functioning as a social norm, recent research and debate on economics students prompts exciting questions. Does the study of economics reinforce self-interest as a norm? Economics students have been compared to students in other disciplines and found to behave in more self-seeking ways (see e.g. Frank et al. 1993). Is this due to them having been exposed to *homo economicus* as a major part of their education, inducing them to internalize self-interest not only as acceptable but as expected? Has a modelling assumption been turned into a social norm? This theme is too large to be explored further here. It just illustrates the general idea in this section.

Another source of supportive pressure on *homo economicus* in social reality is the *presence of money*. Again, psychologists have shown that when exposed to money in various ways—when handling money, when primed with money, when there is talk of money—people's behaviour changes, resulting in reduced helping behaviour; reduced compassion; a business decision frame with unethical outcomes; endorsement of unregulated free market and social inequality (see e.g. Vohs et al. 2006). This suggests that situations that involve the presence of money in suitable ways would be more apt for inclusion in the domain of application of *homo economicus* than those that do not involve money.

Money is of course not a separate institution with consequences for human behaviour. It is an integral part of the institutional structures of *the market*. As I said earlier, the market is the natural habitat of *homo economicus*. Calculative self-interest is often considered appropriate for the arena of the impersonal market, both morally acceptable and practically functional. Indeed, relatively free from moral blame, agents who are closer approximations of *homo economicus* will do better in the market arena. This means there is functional support available in social reality for these closer approximations.

Among the mega trends of contemporary culture, the *marketisation of society* plays a significant role in the persistence of *homo economicus*. Growing proportions of our social lives and institutional arrangements are governed by market principles (see e.g. Sandel 2012). This is to say that what is happening is relative growth of the market arena as well as relative growth of conceiving arenas of action as markets. This has consequences for how we behave, should behave, and expect others to behave. If indeed behaviour in a *homo economicus* style is appropriate for the market arena, then the trend towards extensions of the domain of the market will also push towards what we may call *homo economisation* of people. In general, this is an example of how institutions and individuals may co-evolve.[2]

Part of the trend of marketization is spontaneous, while another part is deliberately *designed*. This may be direct or indirect. Institutions and organizations may be directly designed on the basis of market principles; what was not a market arrangement may become so by design. On the other hand, policies may be designed and implemented on the presupposition that the relevant behavioural responses will be similar to those in the market, thereby indirectly promoting market principles. In both cases—designing institutions and designing policies—one assumes *homo economicus*, namely that people are, or will become, negligibly close to it in their behavioural responses.

This means that when designing institutions and policies based on the *homo economicus* presumption, one will, as it were, play the game of those who are closest to the model in their behaviour, thereby reinforcing their calculative self-seeking inclinations. The presupposition is that agents respond to incentives and thus their motivations are predominantly external. Those who satisfy these presumptions feel the game played is theirs and respond more or less predictably to the policy moves. On the other hand, those further away from *homo economicus* will feel less comfortable about the policies that do not rely on their internal motivations (such as those

[2]The connection between commercial market institutions and *homo economicus* has been recognized by social thinkers long ago. Max Weber is among them, writing this: "… the historical peculiarity of the capitalistic epoch, and thereby also the significance of marginal utility theory … for the understanding of this epoch, rests on the circumstances that … under today's conditions of existence the approximation of reality to the theoretical propositions of economics has been a *constantly increasing* one." (Weber 1973 [1908], 33) Thanks to Wade Hands for directing me to this passage.

deriving from duty, honour, decency, empathy, pride and shame). They will feel pressure to become closer approximations to *homo economicus* with weakening internal motivations.[3]

The previous paragraph invokes the quantification issue in terms of sets and subsets of individuals. There is indeed no reason to rely on a high degree of uniformity between people in regard to the relevant properties. Some have more of them in higher degrees, others far less. This suspicion is supported by empirical research. A study of 446 Tokyo residents, using dictator games and prisoner's dilemma games, provides an illuminating example (Yamagishi et al. 2014). The study concluded that the population can be roughly divided into three classes. One is the class of *homo economici*, those that are selfish and rational; they are intelligent, consistent, planful, socially successful, and they enjoy high life satisfaction. These closest approximations to the model comprise about 7% of the population. Another class is what the authors call *quasi homo economici*, those individuals who are selfish but impulsive, so not terribly rational; they are imprudent, reckless, socially unsuccessful, and have low life satisfaction. Their share was 8.7% of the population. The remaining and by far the largest group consists of ordinary people with ordinary pro-social attitudes and workable minimum degrees of rationality, as well as reliance on community spirits serving their interests sufficiently well.

If the conclusions of the Tokyo study are anywhere close to the representative facts, we can see that policies presupposing and promoting *homo economicus* style behaviour are tailored for the characteristic responses of just a fairly small minority of people without imposing much pressure upon them. Pressure upon others—ordinary community members and *quasi homo economici*—may be considerable, and failure to yield to the pressure may have harmful consequences for (the mental harmony of) those people and for society. The policies are designed in such a way that they force everybody to play the market game which is the game tailored for *homo economicus* types. While these types feel like being at home, others ultimately don't.[4]

6 Conclusion: Pressures and Tensions

Homo economicus lives its long life under multiple pressures—including those from the academic discipline of economics; from the common sense; from disciplines other than economics; and from various facets in social reality. These partly pull in different directions. The disciplinary conventions of standard economics, with partial support from aspects of social reality, are fans, while the common sense and many

[3] At this point psychiatrists may enter the conversation and start sharing observations about growing mental issues among various cohorts of the population.

[4] As Michiru Nagatsu pointed out to me, none of this rules out the possibility of policies that both presume and pressure agents to act like *homo economicus*; and that will not materially benefit the closest approximations to it (e.g. incentivizing them to contribute to public goods).

research fields other than standard economics are among the foes of the model of *homo economicus*.

Major tensions appear to prevail between the pressures on *homo economicus*. On the one hand, there are powerful forces in present society that press towards a *homo economization* of people, supporting their *homo economicus* qualities and pushing them to become ever closer approximations to the model. Advocates of the model in economics would welcome this as it would provide extra assurance that they are on the right track, encouraging them to go on basing their explanations and policy advice on the model—which in turn would reinforce the trends in social reality. On the other hand, the common sense and many research fields outside and even inside economics question the adequacy of the model other than for some restricted purposes. They imply that there are limits to *homo economization*, that is, limits beyond which it is no longer healthy to yield to the social pressures.

Nothing is perfectly unambiguous however. Consider the recent intrusions of some psychological insights into economics and the establishment of behavioural economics within standard economics. This has been enabled by not revising the grand scheme of constrained optimization, but rather by incorporating mental nuance into the scheme, thereby relaxing some of the idealizations of conventional *homo economicus*. Parts of *behavioural welfare economics* seem even more loyal to the more conventional versions of *homo economicus*, construing it as a normative ideal without those relaxations. In their actual behaviour, people make *mistakes*, that is, they deviate from the principles of *homo economicus* that, nevertheless, should be reconstructed as the ultimate arbiters in welfare considerations. This is to say behavioural welfare economics "… models human beings as faulty Econs [*homo economici*]. Its implicit model of human decision-making is that of neoclassically rational inner agent, trapped inside and constrained by an outer psychological shell. Normative analysis is understood as an attempt to reconstruct and respect the preferences of the imagined inner Econ." (Infante et al. 2016, 22) This perspective is a natural ally to the policies and trends in social reality that support the *homo economization* of us. These are to be celebrated for helping us to discover and unleash the neat "rational inner agent" in us (the "Econ within") that is being suppressed by the messy psychological shell.

The pressures are not constant, and neither are the tensions and partnerships between them. The way these tensions are resolved and these partnerships are renegotiated will shape not only the future of the model of *homo economicus* but also the future of the sources of these pressures.

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