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ARTICLE

MORAL SENTIMENTS AND SELF-INTEREST IN ADAM SMITH: TWO COMMENTS

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Abstract
This study is a reconsideration of a theme, connecting The Theory of Moral Sentiments and The Wealth of Nations, namely the interplay between moral sentiments and self-interest. Two aspects of the theme are examined. The first consists of an interpretation of the so-called 'das Adam Smith Problem', an issue originally pointed out by nineteenth-century German scholars. The second, building on the insight of Smith on the association of shame and poverty, reports on recent research that seeks to examine how emotions impact the perception of economic interests and behaviour in marginalized groups.

Keywords: Adam Smith; moral; sentiments; self-interest; emotions; sympathy; trust; shame; stigma; self-image; dream building

JEL codes: B12; B31; O12; J15; D91

1. Introduction

This study focuses on two facets of the interplay between moral sentiments and self-interest, a key theme in both of Adam Smith's classic works, The Theory of Moral Sentiments (TMS, hereafter) and The Wealth of Nations (WN, hereafter). Of course, Smith wrote WN after TMS, but the two books are often seen by commentators or scholars as being directly opposed to each other in terms of their underlying views about what motivates human behaviour.

Nineteenth-century German scholars of the German Historical School were the first to use the phrase 'das Adam Smith Problem' to describe their perceived foundational inconsistency between TMS and WN: in the first book, human behaviour is driven by moral sentiments in contrast to the second book where human behaviour is driven by self-interest. In Section 2, an interpretation of the so-called 'das Adam Smith Problem' is discussed. In particular, the argument is that self-interest, sympathy (interpreted as common knowledge of self-interest) and trust (interpreted as the enabler of coordination across self-interested agents and deterring opportunistic behaviour) together constitute the moral sentiments that underpin the processes of mutually beneficial trade and specialization that, in a commercial society (a 'society of strangers' in Smith's words), generate the wealth of nations.

In a different vein, Hirschman makes the point that self-interest can check the negative impact of destructive emotions. Imagine you leave a pub late at night, and as you leave, a group of men, intent on doing harm to you, start to follow you. If you had cash in your pocket, you could simply throw it on the ground (provided it is well lit) while running away. As the men stop to pick up the cash, you run away. Here, self-interest checks emotions. Section 3 examines the interplay of emotions and economic interests, specifically how emotions impact self-interest. Building on the insight of Smith on the association of shame and poverty in the Theory of Moral Sentiments, it reports on recent research, based on joint work with Ghosal *et al.* (2022), that seeks to examine how emotions impact the perception of self-interest and, hence, behaviour in marginalized groups.

The last section concludes.

2. The 'das Adam Smith Problem': an interpretation

Nineteenth-century German scholars of the German Historical School were the first to use the phrase 'das Adam Smith Problem' (see Oncken, 1898, and Zeyss, 1889) in order to describe their perceived foundational inconsistency between Smith's first work, The Theory of Moral Sentiments (1976a), and his later work, The Wealth of Nations (1976b).

'The Problem as such, states that there is an irreconcilable difference or inconsistency between The Theory of Moral Sentiments, with its sympathy-based concept of human nature, and The Wealth of Nations, founded on an egoistic theory of self-interest' (Montes, 2003).

In TMS, Smith elaborated on the argument that moral judgement was based on 'sympathy', by which he meant the capability of an individual to immerse themselves in the situation of another to align their own 'sentiments' into accord with those of their fellow human being. In WN, however, Smith developed an account of the gains of trade under the assumption that every individual was motivated primarily by self-interest: 'It is not from the benevolence of the butcher, the brewer, or the baker, that we expect our dinner, but from their regard to their own interest. We address ourselves, not to their humanity, but to their self-love, and never talk to them of our own necessities but of their own advantages' (pp. 26–7, WN).

Several Smith scholars have taken different approaches to addressing the problem. Just in the last quarter of the twentieth century, Montes (2003) points out that 'The editors of the 1976 Glasgow Edition of The Theory of Moral Sentiments, David D. Raphael and Alec A. Macfie (Smith 1976a), triggered the first stage by categorically dismissing Das Adam Smith Problem as "a pseudo-problem based on ignorance and misunderstanding". (TMS, intr. p. 20). In the second stage, Richard Teichgraeber stated that the treatment of it had been "perfunctory" ((1981), p. 106) and Laurence Dickey (1986) considered that the Problem "is still very much alive today" ((1806), p. 609), setting in motion a succession of novel approaches that implicitly or explicitly suggest that Das Adam Smith Problem ought not be overlooked. Finally, in the third stage, Spencer Pack (1997) has defended the idea of "partial resolutions," and recently James Otteson (2000) has argued for the "real" Adam Smith Problem, contending that some proposed explanations for solving it rest on insufficient grounds'.

The notion of sympathy is central to the 'das Adam Smith Problem': 'The sympathetic process, in its broad sense, can and ought to be understood as fundamental to moral judgment and, more importantly, to morality itself, as a motivation for action that does not entail a simple means-to-ends perspective… underlining the social nature of the Smithian sympathetic process' (Montes, 2003).

For Smith, sympathy is 'a power which has always been taken notice of, and with which the mind is manifestly endowed' (TMS, p. 321). Teichgraeber (1981) argues that 'the originators of das Adam Smith…equated Smith's account of sympathy with benevolence and then tried to explain the disavowal of benevolence in the famous passage' (the one cited above).

In TMS, Smith points out that sympathy involves the individual taking the role of an observer 'to put himself into the situation of the other' (TMS, p. 9). However, sympathy cannot mean a complete 'correspondence of sentiments'. It is inevitably tempered by one own's self-interest (TMS, pp. 20–1).

Smith argued that 'sympathy' would most dependably support a social order that could be described as an 'assembly of strangers': 'we will naturally expect… less sympathy from an assembly of strangers, and we assume, therefore, still more tranquility before them… if we are not at all masters of ourselves, the presence of a mere acquaintance will really compose us, still more than that of a friend; and that of an assembly of strangers still more than that of an acquaintance' (TMS, p. 22) and 'though among different members of society here should be no love and affection, the society, though less happy and agreeable, will not necessarily be dissolved' (TMS, pp. 85–6).

Is there a role for sympathy in a free market economy where each person is driven by self-interest, without a consciously altruistic or benevolent motive?

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At a minimum, sympathy must imply that every self-interested individual ('intends only his own security' (WN, 456)) must be able to put themselves in the situation of other individuals who are also motivated by self-interest. So, every self-interested individual must know that other individuals are also self-interested, must know that other individuals know that all individuals are self-interested and so on. In other words, sympathy in a society of self-interested people must, at a minimum, imply the common knowledge of self-interest. It follows that such a common knowledge of self-interest, tempered by the self-interest of each market participant, but also, in turn, tempering the pursuit of one's own self-interest, is an essential condition for the functioning of markets, underpinning the social relationships created by trade and economic activity.

An example may help clarify the point.

Consider a buyer and a seller who wish to trade a single unit of an indivisible good. The buyer will typically have a maximum price at which she is willing to buy the good determined by her valuation of an additional unit of the good in question (her marginal valuation), call it p_b. In turn, the seller will have a minimum price at which he is willing to sell the good determined by the cost of procuring (producing) an additional unit of good (the marginal cost), call it p_s.

When these values are known to both buyers and sellers, the common knowledge of self-interest must imply that the price at which the good, if traded, will be between p_s and p_b. A self-interested buyer cannot expect a self-interested seller to trade at a price below p_s and vice versa, and a self-interested seller cannot expect a self-interested buyer to pay a price higher than p_b. Thus, sympathy, involving the individual to take the role of an observer 'to put himself into the situation of the other' (TMS, p. 9), must temper pursuit of self-interest and, in turn, be tempered by self-interest: the buyer knows that seller will trade at a price higher than p_s but will not be willing to trade at a price higher than p_b, and vice versa, the seller knows that the buyer will only trade at a price lower than p_b, but will not be willing to trade at a price lower than p_s.

Indeed, if $p_b < p_s$, then there will be no trade; for trade to occur, it must be the case that $p_b \geq p_s$: this follows from common knowledge of self-interest, itself a consequence of sympathy between self-interested individuals, 'a society of strangers', trading with each other in a market setting. So, sympathy and pursuit of self-interest are mutually compatible, and indeed, both are essential for mutually beneficial trade to take place between the buyer and the seller.

How can the buyer be sure that the good sold by the seller is of a sufficiently high quality to meet her wants? How can the seller be sure that the specie with which the buyer pays him is not corrupted in value? Addressing these questions brings into focus that in any such transaction, there must be trust between the buyer and the seller and without such trust no mutually beneficial trade can occur. Can such trust be based on self-interest and sympathy?

Here, again, self-interest can provide a foundation, especially when relationships, such as the one between the buyer and the seller described above, persist in time. If the buyer gets cheated once, then the buyer will not return to the seller again in the future. The seller, anticipating such an outcome, will have no incentive to sell a lower-quality good to the buyer. Again, note that it is sympathy, stemming from a common knowledge of self-interest, coupled with the realization that economic relationships persist over time, which leads to trust emerging between the buyer and the seller. Indeed, the theory of repeated games formalizes this intuition.

From this perspective, both TMS and WN are concerned with different facets of 'society of strangers': if sympathy provides the basis of moral sentiments in such a society, then, in WN, Smith provides an account of the conditions (including common knowledge of self-interest and the emergence of trust as economic relationships persist over time) under which mutually beneficial exchange occurs in such a society as well.

Such an interpretation is consistent with the view that Smith was trying to provide a comprehensive theoretical account of the commercial economy and society that was emerging around him in both TMS and WN. Commercialization, with its expansion of market-based activity, must mean more frequent and repeated economic interaction between strangers (i.e. not immediate members of one's own family or

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friends). TMS, in this interpretation, can be taken to provide an account of morality, and WN, an account of the consequent economic progress and welfare, in such a setting.

Other instances of trust-enabling coordination between agents are just as important.

Consider Rousseau's parable of the stag–hare hunting game (Rousseau, 1964). Rousseau uses the game to contrast the gains of hunting hare, where the risk of non-cooperation is small or non-existent and the individual reward and social benefit are equally small, against the gains of hunting the stag, where both the individual reward and social payoff are greater if the hunt is successful but dependent critically on successfully coordinating individual actions. If the risk of non-coordination is high, hunting the hare becomes risk-dominant as success in this activity does not depend on what other agents do, even though coordinating successfully to hunt the stag leads to both individual and social gains. For the stag hunt to emerge as the outcome, individuals need to trust that other individuals will show up: hence, trust depends not only on the operation of justice but also on efficient rules of coordination.

Note that such coordination failures are legion.

For example, while the degree of specialization may depend on the extent of the market, the extent of the market may also depend on the degree of specialization, so that progress in a commercial economy will depend how the underlying coordination problem is solved. In the presence of external economies of scale, if the return to investment by an individual firm depends on the average level of investment by other firms, clearly firms must be able to coordinate their investments, as both the degree of specialization and the extent of the market are mutually determined.

Smith notes that trust requires the operation of justice, which is a system of 'rules' that enforce what it is that the individual 'ought to think himself bound to perform… from the most conscientious dread, either of wronging his neighbour, or of violating the integrity of his own character' (TMS 330). The administration of such justice is a public good as is the resolution of coordination failures, both of which require the state with the capacity to provide such goods.

As articulated by Smith, such a view of commercial society is diametrically opposed to mercantilism where the measure of wealth is gold and all economic activity is viewed as a sort of zero-sum game, where if a buyer benefits, the seller must lose (and vice versa, if a seller gains a buyer must lose). Such a view leads to protectionism, autarchy, and, of course, monopoly determined by state (in Smith's time royal) charters and the domination of social and political relations by unaccountable oligarchies. Implicit in Smith's conception of a 'society of strangers' is the view that they have similar powers, that is the option to opt out of exchange is consistent with subsistence, there is equality of permission if not opportunity and justice operates equally for all. If an oligarchy dominates such a society, justice cannot operate, sympathy will not temper the pursuit of self-interest or lead to trust, exchange will not be voluntary and force or compulsion will prevail.

Hence, self-interest, sympathy and trust together constitute the moral sentiments that underpin the efficient functioning of a commercial society (a 'society of strangers'), which, over time, leads to the wealth of nations. In turn, economic progress ought to reinforce all the moral sentiments. Whether or not it necessarily does so is moot, a point emphasized in the extensive critical literature on globalization and its discontents.

To this end, in the following section, we turn to the issue of how emotions and economic interests mutually interact.

3. Emotions, economic interests and marginalization

How do emotions and economic interests interact to determine human behaviour either individually or collectively?

In his book, 'The Passion and the Interest', Hirschman (1977) makes the point that self-interest can check the negative impact of destructive emotions such as anger that leads to violence. Hirschman and Rothschild (1973) formulate the so-called tunnel effect, which refers to the propensity for individuals to be either pleased or frustrated by the success of others if they believe that this signals either an

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improvement or stagnation (or deterioration) in their own prospects, so perceptions of future payoff gains or losses can lead to corresponding shifts in emotions.

So, there is good reason to believe that self-interest can impact emotions and research on the biological and neurological foundations of emotions provides supporting evidence (see Barrett, 2018).

However, what if emotions impact perceived self-interest?

In particular, what if shame in marginalized communities impacts the perception of their interests and, consequently, their behaviour? Could an emotion such as shame constitute an additional source of disadvantage over and above the material disadvantage of being marginalized?

Smith was aware of how poverty leads to shame: 'poverty causes pain… not just because it can leave people feeling hungry, cold and sick, but because it is associated with unfavorable regard… The poor man… is ashamed of his poverty. He feels that it either places him out of the sight of mankind, or, that if they take any notice of him, they have, however, scarce any fellow feeling with the misery and distress which he suffers' (TMS).

Erving Goffman echoes this point: '[t]hose who have dealings with [the stigmatized individual] fail to accord him respect and regard…; he echoes this denial by finding that some of his own attributes warrant it' (Goffman, 1963). Such distorted self-perception could create a 'self-fulfilling pessimism about the returns to effort for certain activities' (Loury, 1999).

Social exclusion and marginalization may trigger internal constraints that, over time, lower the outcomes a person achieves. Can the effects of social exclusion and stigma on self-perception be mitigated, to change the actions and outcomes of those so marginalized?

Being poor or marginalized often brings stigma, which may distort a person's self-image, inducing suboptimal choices and resulting in a psychological poverty trap. Based on a study conducted in Kolkata's brothels, Ghosal *et al.* (2022) show that psychological interventions to mitigate adverse effects of internalized stigma can induce positive behaviour change—both in the short and medium terms—in the form of improved self-image, better savings choices and preventive health care.

Economic analysis of poverty and social exclusion typically examines how external resource constraints perpetuate the lack of access to nutrition, credit and education (Jensen, 2010) or health precautions (Dupas, 2011). However, such research often does not explain some 'self-defeating' behaviour of poor and marginalized individuals, for example, not taking up welfare benefits (Currie *et al.*, 2001; Moffit, 1983), reluctance to open and use bank accounts (Bertrand *et al.*, 2004) or to adopt cheap and preventive health measures (Katz and Hofer, 1994).

The psychology literature on self-affirmation (Sherman and Cohen, 2006; Steele, 1988) posits that every individual wants to maintain a self-image of being a good, moral person and threats to the adequacy of such a self-image can result in defensive reactions yielding counterproductive outcomes.

Therefore, Ghosal *et al.* (2022) examine whether restoring an adequate self-image alone can be a trigger for positive behaviour changes among those who face social stigma. To address this issue, the researchers in that paper worked with female sex workers in the state of Kolkata. These women face significant social stigma rooted in repugnance (Roth, 2007) towards sex work, and they internalize it. Such internalized stigma has been identified by researchers as a serious public health threat because it discourages sex workers from seeking health care, essential to preventing and treating HIV (Shannon and Montaner, 2012).

The intervention studied was a training programme to reduce such internalized stigma of sex workers, as a means to empower them for behaviour change. It consisted of eight weekly sessions in the form of group discussions among 15–20 sex workers. The programme was conducted by Durbar, a Kolkata-based NGO engaged in empowering sex workers for over 25 years. Sessions would begin with a discussion of participants' individual identity as sex workers, framed to help them perceive themselves more positively: Could they perceive what they do as providing entertainment and hence themselves as entertainment workers? Would they agree that they earned a living through honest means, and if so, would they regard themselves as morally superior to a thief? The intervention also tried to recast their group self-image and highlight their collective strength, citing their successful sex workers' cooperative bank initiative (USHA) as an example. Using this foundation of a positively recast self-image, the programme then offered directed and perseverant effort pathways (e.g. how to deal with violence and build mutual trust and organization) towards better life outcomes.

At the end of each week, all programme participants (both 'treatment' and 'control', that is those that received the training and those that did not) received a payment of Rs. 100. This payment could be deposited either into a current account that offered a lower interest rate or a one-year fixed deposit account with a higher return. The investment in a fixed deposit reflects a more future-oriented effort by study participants. Both types of accounts were with the sex workers' cooperative bank, USHA.

The control group participants also came together every week (in groups of 20–25) to give us their savings choices. These weekly savings choices constitute one of our main economic outcome variables. Two other key outcomes for these sex workers were their self-reported psychological outcomes and their routine health check-ups at Durbar clinics.

Three months after the eight-week programme, we find significantly improved self-image reported by sex workers who received the training, including a lower sense of shame about their occupation, greater ability to face challenges and greater ease in public interaction.

The researchers also found that the treatment group was 25–50 percentage points more likely than the control group, to choose a fixed deposit savings option over the current account. This finding reflects a greater effort by the treatment group towards securing their future, triggered by their improved self-image. Several alternative mechanisms that could be driving the savings results, including concerns that participants may have unwittingly been 'nudged' to choose the fixed deposit following their interactions with experimenters (social desirability bias), have been ruled out.

Sex workers who received the training also report a 9 percentage point increase in the likelihood of going for routine health check-ups over those who did not receive the training.

Importantly, the researchers found that the above short-term effects of the programme on savings and health benefits also persist in the medium term. Using administrative (non-self-reported) data obtained from the official records of the cooperative bank and local health clinics, the treatment group sex workers were 53 percentage points more likely to keep their accounts open 15 months after the programme ended, along with higher account balances. They were also 15 percentage points more likely to continue with preventive health check-ups, 21 months after the programme. It is striking that this is despite no discussion of health issues during the eight-week programme.

It is fair to say that the key empirical finding so far does not neatly fit into a conventional rational choice framework: sex workers—both in the treatment group (initially) and in the control group—invest in the dominated current account option, despite its lower return and the fact that there is no penalty to breaking the fixed deposit investment. In a conventional rational choice framework, there is no reason a person's self-image should influence her choices. Neither is there any explanation for why individuals who have a higher initial sense of shame should respond more strongly to psychological intervention, as measured by their savings and health choices.

An alternative behavioural explanation is developed here, drawing on the key elements of self-affirmation theory (Cohen and Sherman, 2014). To paraphrase these authors, all individuals have a desire to maintain a positive self-image—which is a 'global narrative of oneself as a moral and adaptive actor ("I am a good person")' (p. 336, ibid). However, they must do so within the constraints of the reality of their social position—and, as a sex worker, facing social stigma can diminish a person's self-image inducing defensive (short-run) reactions, often at the cost of their own long-term well-being.

Consider a world where an individual must decide about an investment opportunity that presents itself today. This opportunity could be of a financial nature, or it could be related to savings in a fixed deposit account, skill development or improving long-term health. A key feature is that the gain from this activity depends on the ability of the individual to persist in the face of adversity.

Two factors matter. The first is the action $e \in \{0,1\}$ that the individual chooses today (invest or not). The second is self-image. Self-image is modelled as a belief that an individual has about her own ability to persist in the face of adversity and is indexed by $\alpha \in [0,1]$.

To keep matters simple, suppose self-image depends entirely on a socially generated signal $\tilde{\alpha}$ (i.e. $\alpha = \tilde{\alpha}$). The social signal determines the individual's self-image, where values of $\tilde{\alpha}$ close to zero correspond to discrimination, resulting in a low self-image, and higher values of $\tilde{\alpha}$ result in a higher self-image.[1]

When the individual chooses $e = 0$, the utility of the individual is set equal to U_0. Choosing $e = 1$ commits a unit of initial resources (say wealth or health) to the investment opportunity and yields her a return positive return provided she successfully persists in the face of adversity; otherwise, she simply ends up where she initially started. Let $U_1(\tilde{\alpha})$ denote the utility of choosing $e = 1$, which is now a function of the self-image of the individual.

Note that $U_1(\tilde{\alpha})$ is a specific example of psychologically expected utility (Caplin and Leahy, 2001). $U_1(\tilde{\alpha})$ has two components, one based on the material returns from investment and one based on beliefs about oneself (self-image), which determines the ego utility of the individual and depends on the success of actions related to investment. The second component has the interpretation of a belief-dependent cost or benefit, depending on whether the mainstream of a society is stigmatizing the individual. A stigmatized individual will have pessimistic beliefs, and these beliefs will be associated with the fear of failure (a belief-dependent net utility cost); without this utility cost, pessimistic beliefs cannot, on their, deter the individual from taking advantage of the investment opportunity. When a person's self-image has been tarnished by internalizing stigma to a level below a certain threshold, the fear of failure results in choices that do not maximize her long-term investment returns.[2] Accordingly, we assume that $U_1(0) < U_0 < U_1(1)$.

Provided $U_1(\tilde{\alpha})$ is continuous in $\tilde{\alpha}$ and a single-crossing condition (if $U_1(\tilde{\alpha}) \geq U_0$ for some $\tilde{\alpha} \in [0,1]$, then $U_1(\alpha') \geq U_0$ for all $\alpha' \geq \tilde{\alpha}$) is satisfied, it follows that there exists a threshold value of the self-image $\bar{\alpha} \in [0,1]$ such that

(a) If $\tilde{\alpha} < \bar{\alpha}$, the individual chooses $e = 0$.
(b) If $\tilde{\alpha} \geq \bar{\alpha}$, the individual chooses $e = 1$.

The self-image of a discriminated individual, determined by the social signal, falls in the region $[0, \bar{\alpha})$ so that the fear of failure dominates resulting in a choice of $e = 0$. In contrast, the self-image of a non-discriminated individual is above α so that the fear of failure no longer dominates the higher material returns from investment resulting in a choice of $e = 1$.

According to self-affirmation theory, 'affirmations lift barriers to change through two routes: the buffering or lessening of psychological threat and the curtailing of defensive adaptations to it' (p. 339 ibid).

The theoretical framework captures the core idea of self-affirmation theory—that those lacking a sense of adequacy in their self-image may not respond positively to specific opportunities or challenges because of a 'fear of failure'. Facing stigma is more likely to lower a person's self-image below this threshold of adequacy, hence leading to suboptimal investment choices and outcomes. When a person's self-image is restored to an adequate level, her well-being hinges less on success or failure based on the particular investment decision.

'Dream building' was designed to impact two types of outcome variables: psychological outcomes (efficacy, self-esteem and happiness) and efforts to improve life outcomes in the foreseeable future

[1]A more general model would allow self-image to depend on an innate component and a socially determined component. This would complicate the expressions and the statement of our results without altering the insights and predictions of the model presented below.

[2]As Cohen and Sherman (2014) note, '…people tend to narrow their attention on an immediate threat (e.g. the possibility of failure), a response that promotes swift self-protection…' (p.339).

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(savings in fixed deposit accounts and health-seeking behaviour, i.e. future-oriented choice). Restoring the self-image of stigmatized sex workers encourages more positive actions towards future life outcomes by altering her self-image, which (a) increases the expected net benefit from investment and (b) reduces the utility cost associated with the fear of failure.

Three clear predictions emerge from the theoretical framework that studies how self-image considerations affect individual choices:

(1) The first is that an individual with a low enough self-image ($\tilde{\alpha} < \bar{\alpha}$) will choose not to invest ($e = 0$) even when the expected return from investment ($e = 1$) is strictly greater. This is consistent with the empirical finding on the more present-oriented savings choices of both treatment and control group sex workers during the initial weeks of the programme, as well as the greater persistence of such behaviour among the control group over time. The shift towards more future-oriented savings choices among a larger fraction of treatment group sex workers is consistent with the improvement of their self-image, to above a threshold level ($\tilde{\alpha} \geq \bar{\alpha}$).

(2) The second is that when $U_1(\tilde{\alpha})$, the utility from making the investment, is a convex function for low values of $\tilde{\alpha}$, the expected benefit of a boost in self-image and hence the change in investment behaviour will be higher for an individual with a lower self-image. This is consistent with the empirical finding that sex workers with a worse initial self-image are more responsive to a boost in their self-image, as reflected in their savings choices (Ghosal *et al.*, 2022).

(3) Poor self-image could have an adverse impact on individual's ability, real or perceived. For instance, self-affirmation theory discusses how it could deplete mental resources. In his classic work on stigma, Goffman points to how it can lead a person to have a poorer perception of his abilities. In their baseline data, Ghosal *et al.* (2022) do find a negative and significant correlation between sex workers' sense of shame about their occupation and their self-assessment of their ability on various dimensions. The theoretical framework above is able to incorporate these effects because beliefs correspond to one's self-image.

Note that so far, the assumption is that the person takes her self-image $\tilde{\alpha}$ as given (e.g. because this is a social signal that depends on her social position) and chooses high or low effort $e \in \{0, 1\}$.

Consider now a setting where the effort choice e and self-image $\tilde{\alpha}$ are required to be mutually consistent. In other words, the action chosen by the person also affects her self-image (e.g. 'I invest, hence I'm a person who takes charge of her life') through the realized outcome. Then, our stylized model leads to multiple equilibria, where $(e = 1, \tilde{\alpha} = \alpha_H)$ is one possible self-fulfilling outcome and $(e = 0, \tilde{\alpha} = \alpha_L)$ is the other. Notice that $[0, \bar{\alpha})$ is the basin of attraction for the welfare-dominated equilibrium $(e = 0, \tilde{\alpha} = \alpha_L)$ and $(\bar{\alpha}, 1]$ is the basin of attraction for the welfare optimal equilibrium $(e = 1, \tilde{\alpha} = \alpha_H)$. Therefore, whenever the initial social signal is $\tilde{\alpha} \in [0, \bar{\alpha})$ (respectively, $\tilde{\alpha} \in (\bar{\alpha}, 1]$), the individual converges on the welfare-dominated (respectively, welfare optimal) equilibrium.[3]

The welfare-dominated self-fulfilling scenario can be interpreted as corresponding to the notion of self-fulfilling pessimism described by Loury (1999) leading to statistical discrimination.

4. Conclusion

This study has examined two facets of the interplay between moral sentiments and self-interest.

An interpretation of the so-called 'das Adam Smith Problem', an issue that was pointed out originally by nineteenth-century German scholars, was set out, which involved the argument that self-interest, sympathy (interpreted as common knowledge of self-interest) and trust (interpreted as the enabler of coordination across self-interested agents) together constitute the moral sentiments that underpin the processes of necessary mutually beneficial trade in a 'society of strangers', but, whether economic

[3]The welfare-dominated equilibrium is a particular instance of a self-fulfilling mistake (Dalton and Ghosal (2018)).

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progress, in turn, reinforces such emotions is moot. Examining the conditions under which such a virtuous circle becomes possible is an open research question.

There are good reasons to believe that self-interest in market settings determines emotions, but what if emotions impact self-interest? Building on the insight of Smith on the association of shame and poverty in the Theory of Moral Sentiments, it reports on recent research (Ghosal *et al.,* 2022) that seeks to examine how emotions impact the perception of self-interest and, hence, behaviour in marginalized groups. However, such research is in its infancy and sustained effort is required to extend its empirical, analytical and normative foundations.

Research in economics must take moral philosophy seriously while being focused on problems that matter for human welfare globally.

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