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METHODS

Selfishness, cooperation, the evolutionary point of view and its implications for economics

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ABSTRACT

The assumed selfishness of market actors could be considered in the context of two perspectives: macroeconomic and microeconomic. The first concerns the market mechanism as the most effective from the social well-being or the wealth of a nation points of view. The latter is based on the premises of the nature of human beings. I have distinguished between two possible ways of understanding selfish forms of behaviour in the market: as rational economic behaviour i.e. the most effective from the *gains and losses point of view* (i.e. public interests in the works of A. Smith) or as selfish from the psychological point of view (this is mostly presented by J. S. Mill's theory). The first approach seems to be concerned with the creation of the most effective market mechanism from the State's point of view. In the context of historical processes over 400 years, cultural evolution "has been promoting" selfish behaviour; for example, it was widely presented in T. Hobbes' works and then for over 200 years, the theory of A. Smith has been supporting and moulding the institutional context of market and social behaviour. Thus, positive economics describes the market created by the ideas of a neo-classical paradigm, which is based on the normative premises of A. Smith and J. S. Mill. Moreover, the virtual market behaviour described by "effects" (f. e. Veblen's effect) and failures seems to be a manifestation of a discrepancy between market reality and the classical assumptions.

The social evolution of human beings has been advantageous to the human species. Moreover, from the social point of view, pro-social behaviour is "natural" as well as desirable and it has been preferred by the cultural evolution. Competitiveness assumes that somebody has to lose, because someone gains. Cooperation looks for gains for all the players. The choice is political, and not imposed by selfishness.

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1. Introduction

A. Smith (1776) claimed that there is no need to promote public interest; and the wealth of a nation should be ensured from egoistic behaviour. Thus, the most effective market behaviour in the context of the best means of resource allocation should be based on the selfishness of all the actors. J. S. Mill (1904

[1874]) claimed that selfishness is a natural quality of human beings. He further claimed that people always maximize profits and minimize threats. Both these theories of classical economics (i.e. Mill's theory of *homo oeconomicus* and A. Smith's theory of *the invisible hand of the market*) have legitimated the basic rules of the present economies of Western countries. Consequently, the behaviour of all market actors

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has been moulded by them for over two hundred years. Moreover, these principles have been shaping social behaviour, resulting in compromises of social norms.

These classical premises are questionable from psychological as well as economical points of view. First, I challenge Mill's theory on human beings and particularly selfishness in the context of the only one possible behaviour of human beings. Second, I analyse the premises of a market mechanism based on pro-social behaviour in the context of market failures (i.e. practice), some behavioural theories, and the socio-economic conditions of present Western societies. My analysis may justify cooperation based on pro-social behaviour in the same way that competition was justified by selfishness in A. Smith's theory. My point of view is based on an evolutionary perspective, which includes the methodology of both biological and social sciences; this is based on the theory of the co-evolution of genes and culture.

Thus, in order to put forth my hypothesis, in Section 2, the theories of classical economics are analysed, suggesting the above two approaches of selfishness in economics. Next, in Section 3, *altruism*, *selfishness* and *pro-social behaviour* are defined. In contrast to J. S. Mill's theory, in Section 4 and Section 5, studies on the altruism of human nature and co-operation based on pro-social behaviour are reviewed. The former section deals with the evolutionary paradigm and biological sciences, while the latter is concerned with socio-psychological theories on human nature. Consequently, in Section 6, based on the socio-biological research presented in the previous sections, an institutional context is investigated; the game theory is presented as an explanation of ubiquitous selfishness in the "classical organised" market. Finally, in Section 7, the possibilities of creating economic systems based on pro-social behaviour are analysed. Thus, command-and-control and the Japanese economy are given as examples. The former economy was unsuccessfully established in some countries like Poland, Russia, and Hungary. The latter refers to a market economy based on the cultural rules of cooperation; the pro-social values are also involved in the ideas of Corporate Social Responsibility or the cooperatives which have been developed in Western economies. Based on the above examples of pro-social economic types of behaviour, egoistic behaviour cannot be seen as exclusive market behaviour; and ubiquitous market egoism presented in the classical theories can be challenged and explained by individualistic values, which have been legitimized in the market. The above analyses are then summarized as conclusions in Section 8; in addition, some normative postulates are given in this section.

2. Selfishness in the context of economic rationality

The assumed selfishness of market actors can be considered in the context of two perspectives: macroeconomic and microeconomic. The former deals with creating the most effective market mechanism from the social well-being or the wealth of a nation points of view, while the latter is concerned with the premises of the nature of human beings, their behaviour and values. Hence, the distinction between the two

possible ways of understanding selfish behaviour in the market can be made as follows:

- as the rational economic behaviour of human beings (i.e. the most effective way of achieving goals); this idea is primarily based on public interest in the works of A. Smith
- as selfish from the psychological point of view; this is mostly presented by J. S. Mill's theory.

In the first approach, the selfish behaviour of all the actors in the market is the best strategy for ensuring the wealth of a nation; there is no more useful an effort for the promotion of public interest. This approach seems to be concerned with the creation of the most effective market mechanism from the State's point of view. This is embodied in such expressions as the following:

The rich... divide with the poor the produce of all their improvements. They are led by an invisible hand to make nearly the same distribution of the necessities of life which would have been made, had the earth been divided into equal proportions among all its inhabitants (Smith, 1759, part IV chapter 1)

and

The natural effort of every individual to better his own condition... is so powerful, that it is alone, and without any assistance, not only capable of carrying on the society to wealth and prosperity, but of surmounting a hundred impertinent obstructions with which the folly of human laws too often encumbers its operations (Smith, 1776, book 4, chapter V, section IV),

or

Every individual... generally, indeed, neither intends to promote the public interest, nor knows how much he is promoting it. By preferring the support of domestic to that of foreign industry he intends only his own security; and by directing that industry in such a manner as its produce may be of the greatest value, he intends only his own gain, and he is in this, as in many other cases, led by an invisible hand to promote an end which was no part of his intention (Smith, 1776, book 4, chapter II).

Therefore, economic behaviour is based on individualistic values; and human egoism is claimed to be a rational way of promoting public interest. Nevertheless, pro-social behaviour, under new conditions, and the long period of experience of the *laissez-faire market* (i.e. being aware of externalities) can be understood to be a more effective (i.e. rational) way of promoting public interest. In other words, a rational person may not be one who maximizes utility (i.e. individual rationality), but one who maximizes the social goals or benefits of a team as in Japanese culture¹ (i.e. social rationality). It is especially considerable when the economic goal is changed; and the wealth of a nation's point of view is replaced by the quality of

¹ See more in Section 6.

life goal. E. Taylor (1957, pp. 32–33) noticed that classical economists unnecessarily mixed economic rationality with human egoism and the goals of economic activity. The former deals with the most effective way of achieving any goals, while the latter is concerned with human motives that can be egoistic or altruistic; in fact, these goals as well as motives are not the subject of economics because they can vary. Therefore, economic behaviour does not need to be characterised by ubiquitous egoism and competition based on it as well as by the wealth of a nation. Moreover, A. Smith noticed that “How selfish soever man may be supposed, there are evidently some principles in his nature, which interest him in the fortune of others, and render their happiness necessary to him, though he derives nothing from it, except the pleasure of seeing it” (Smith, 1759, part I chapter 1). Thus, due to this approach, there is the question as to whether the wealth of a nation or rather the new value of social development (i.e. the quality of life) is ensuring the selfishness of all the actors and the competition; and whether the pro-social behaviour (imposed by selfishness or altruism) and cooperation can be more rational as well as more possible in the present socio-ecological conditions. The answers can be based on evolutionary economics defining the present conditions and the efficacy of market mechanism in the context of socio-ecological relationships.

In the second approach (i.e. the psychological point of view mostly presented by J. S. Mill’s theory), the discussion should be based on psychological and social theories or studies of human nature, human motives, needs and so on. J. S. Mill, as a famous utilitarian, was more focused on the nature of human beings. Hence, his works were more involved in a discussion on the natural character of mankind and the goals of human beings. This is reflected in his works *Utilitarianism* (2001 [1863]) or *On Nature* (1904 [1874]):

Of the social virtues it is almost superfluous to speak, so completely is it the verdict of all experience that selfishness is natural... But sympathetic characters, left uncultivated and given up to their sympathetic instinct are as selfish as others. The difference is in the kind of selfishness: theirs is not solitary but sympathetic selfishness; l’egoisme à deux, à trois, or à quatre; and they may be very amiable and delightful to those with whom they sympathise, and grossly unjust and unfeeling to the rest of the world (Mill, 1904 [1874], pp. 27)

and

Will is the child of desire, and passes out of the dominion of its parent only to come under that of habit. That which is the result of habit affords no presumption of being intrinsically good; and there would be no reason for wishing that the purpose of virtue should become independent of pleasure and pain, were it not that the influence of the pleasurable and painful associations which prompt to virtue is not sufficiently to be depended on for unerring constancy of action until it has acquired the support of habit... In other words, this state of the will is a means to good, not intrinsically a good; and does not contradict the doctrine that nothing is a good to human beings but in so

far as it is either itself pleasurable, or a means of attaining pleasure or averting pain. But if this doctrine be true, the principle of utility is proved (Mill, 2001 [1863], pp. 40–41).

These utilitarian values were involved in the long-running nature-versus-nurture dispute on whether the individual is essentially a *blank paper* (i.e. *tabula rasa*) then shaped by culture or whether individuals are presented in the terms of the heredity that governs them. The latter has been resolved in the light of genetic studies; however, an ethical dispute on the goodness or badness of human beings and the generally inborn qualities of human beings is then continued. Nevertheless, from the evolutionary point of view, it seems to be of interest to investigate to what extent it is possible to create all the desired human behaviour. The rest of the problems in this dispute are only questions about the appropriate creation of values due to the desired results.

In this paper, I am investigating cooperation and pro-social behaviour in the context of the “natural” character of the classical theories; in these theories, the selfishness of all the market actors is assumed. There are three main perspectives used from which to deal with this problem: biology, psychology, and sociology (the institutional determinants of market behaviour). All these perspectives overlap and they are based on the premises of the paradigm of evolutionary economics. The presentation of these perspectives is necessary, because the concept of economic behaviour in the theory of classical economics is based on the two varying approaches presented above. I will also try to explain how the selfishness of market actors is facilitated by “classical” market rules.

3. Pro-social behaviour, altruism and selfishness

K. Monroe defines “altruism as behaviour intended to benefit another, even when this risks possible sacrifice to the welfare of the actor” (Monroe, 1996, pp. 6–7). From the evolutionary point of view, pro-social behaviour can be demonstrated by altruists and egoists. Moreover, altruistic and selfish behaviour can characterise an individual. “The world is not divided into altruists and nonaltruists; the potential for altruism exists in all people” (Monroe, 1996, pp. 233). Thus, in practice, individual differences are depicted as well as context differences: moods, material standards of living, institutional precondition (i.e. “classical” market rules or a social context); all of these factors may influence human behaviour and mould a variety of motives (van den Bergh et al., 2000 or Henrich et al., 2001). Consequently, I assume that the individual can be an altruist or an egoist, or represent both of these types of behaviour; however, all of the qualities can produce pro-social behaviour. *Pro-social behaviour* is defined as helping behaviour that benefits others, while *selfishness* is defined as a motivation to gain self-benefit even as applied to the welfare of another person. In contrast, *altruism* is understood as a motivation to increase another person’s welfare without concern for one’s own welfare. Therefore, pro-social behaviour characterises behaviour intended to benefit another and can be produced by egoists when they contribute to their own welfare, by altruists (it is obvious), and by an individual who

can behave altruistically and egoistically (it depends on the context). In conclusion, there are possibly numerous motives that can produce the same behaviour and individuals can behave pro-socially when gaining self-benefits. However, the classical theories are based on the individualistic ethos which only fosters selfish motives, presuming the ubiquitous selfishness of all human beings. As a consequence, the only possible market behaviour is based on competition, despite the fact there are pre-conditions for cooperation.

4. Evolution of human species

In the biological sciences, the premises of altruism can be based on the three main outlooks of the evolution of human beings when seen as:

- a genetic determination of social animals (when an individual's behaviour is genetically determined or the reproduction of a particular individual is impossible),
- a cultural goal and cultural predisposition of human beings in the process of the co-evolution of genes and culture (when this is partly determined by culture and genes i.e. social context is analysed),
- a generalised attitude towards other people based on the theory of kin selection can also be investigated (pretty, culturally determined altruism).

In the biological sciences, altruism is usually analysed in the context of “selfishness of genes”. It is established in the theory of evolution that natural selection characterizes the selfish interests of species or rather genes (Dawkins, 1978). However, there are animals that “decided to adapt” as a social group: the adaptation of the whole group provides the “costs” of individuals by specialisation; for example, ants have individuals that never will be reproduced, i.e. soldiers. Thus, the interests of the genes are “hidden in the queen's genotype”. Soldier castes sacrifice their lives to work to the total exclusion of reproduction; and presently these sterile castes re-emerge generation after generation (Clark, 1989, 2002). Furthermore, a genetic predisposition to human altruism is claimed to be revealed by a team of Israeli scientists (Bachner-Melman et al., 2005). They compared behavioural traits (presented in questionnaires) with the structure of respondents' DNA; a gene variant on chromosome number 11 was claimed to determine altruistic behaviour. However, a more detailed investigation of it is noticed by them. Thus, from the biological point of view, altruism can be genetically determined, especially when the adaptation of a species as a group is investigated.

By taking the next approach (the second bullet) into consideration, the evolution of human beings is seen in the context of culture as an important determination of altruism. T. Dobzhansky established that the successes of mankind's evolution are based on the evolution of social species. Hence, “Man is a zoological species. But this species has evolved properties so unique and unprecedented on the animal level that in man the biological evolution has transcended itself” (Dobzhansky, 1959, pp. 75). In biological sciences, it is based on the conception of the co-evolution of genes and culture. The

success of mankind's evolution is related to the flexibilities of human behaviour. Culture, by moulding biological qualities, prepares human beings to learn desirable behaviour. Consequently, human nature arises from our long period of infant dependency. Thus, the longest period of education and upbringing in the animal world is “planned” by the culture. Therefore, pro-social attitudes are included in the adaptation of society; they are awarded and favoured by the culture, because of their input in social development and evolutionary successes. Consequently, success in evolutionary terms has biological and cultural meanings. Biological success depends on rules which help us adapt better to the environment and prolong our species through future generations. Cultural success is concerned with a strategy chosen to adapt an environment to social systems; it is determined by the system of values i.e. society can be “a guardian and a steward” of ecosystems, or “an acquirer and a conquistador”. The former deals with ecological ethics (or deep ecology), while the latter is concerned with the individualistic and anthropocentric ethos. Societies can freely create an environment due to their needs and there is no “natural” mechanism of resource allocation imposed by selfishness since human evolution is an interdependent process of biological and cultural evolution. Contrary to the classical assumptions, human beings are not egoists, because those feelings bind them inextricably to their surroundings and especially to other people; it seems rather that the incentives of economic systems (cultural rules) influence them to engage in such behaviour. Thus, the following questions remain as to why societies stubbornly base markets on biological competition (assuming ubiquitous selfishness) and social life on cultural premises have focused on cooperation (based on pro-social behaviour). Furthermore, taking the problems of environmental economics into consideration, success in terms of the evolution of human beings is not directly imposed by success under the conditions of the neoclassical economic goals based on competition and the idea of *homo oeconomicus*; in terms of the realism of this behavioural model as well as its accuracy and predictability (van den Bergh et al., 2000). Thus, cooperation and pro-social behaviour can be the requested qualities of human beings which are facilitated by cultural evolution; and this is the matter of values which are not imposed deftly by a biological evolution. Consequently, economic behaviour does not have to be imposed by egoism, as J. S. Mill claimed, because there is no capacity to act altruistically; and competition is not the only possible strategy, because of assumed ubiquitous egoism.

Finally, the theory of kin selection can be investigated to explain altruistic values based on the biological evolution, but, in conclusion, becoming rather pretty, culturally determined goals. W. D. Hamilton (1964, 1972) established the mathematical model of an individual's behaviour in the context of this theory. The parents' interests contribute half of the genes that make up their offspring. There is a 50% chance that a parent and his/her offspring will share any particular gene. The same ratio holds between siblings (i.e. a half), because they share the same parents. Thus, this mathematical model can explain the selfish reason of pro-social behaviour. The probability that people in the same country/nation share their genes is very high and may explain patriotic or nationalistic behaviour focusing only on one's own interests, nation or state.

Consequently, concern for all the people in the world may be explained by global empathy for all human beings. Their behaviour can be derived from two sources:

- kinship is not limited to the nation or State because of the much higher mobility of people (“global village”);
- the global influences caused locally are threats to people all over the world and the concern for other people focuses on the protection of ourselves (i.e. our genes).

In addition, from the cultural point of view, one more socio-psychological source of global empathy is possible. It is concerned with a system of values created in the cultural evolution by education, respect of human beings, and so on; this behaviour can be separated from any of the biological backgrounds depicted above. Thus, it is very difficult to assess either the motives of human behaviour or the best strategy of surviving:

Taken separately, neither of these problems is too hard [altruism and egoism]. Taken as a tangle, however, they become almost impenetrable. They differ not only because they arise from different inquiries and use their terms in distinct senses, but because they point to quite distinct ranges of example. No doubt the acts that a conscious agent believes will pay him often actually do so. All the hard work of prudence is devoted to making this happen. But it is always an uncertain business. Gamblers may win fortunes while the most careful accountants overwork and die of thrombosis. And even if outer events turn out as expected, feelings may not. Both the successful (surviving) accountant and the successful gambler may find that they do not know what to do with their success. Things are liable to turn to ashes in people’s mouths. There are therefore constant difficulties in deciding what “really pays.” And what pays at one time of life or in one situation may be disastrous at another. When should the payoff be declared? People fall into Solon’s paradox; they find themselves saying “call no man happy till he is dead,” and then reflecting that that hardly seems the time to do it either (Midgley, 1995, pp. 118).

Global policies or the international movements of non-governmental organizations are a mixture of all the above interests of biological and cultural evolution.

5. Psychological view of human nature

In psychological theories, pro-social behaviour is mostly considered as an element of socialisation based on values and inborn skills focused on the adaptation of social rules; hence, it is not moulded by inborn social skills. However, C. Grant noticed that there is a

predominance of the egoistic perspective in psychology in the basic orientations that have characterized that discipline from its inception. The recently favoured behaviourist approach sees human beings as stimulus–response mechanisms, open to the egoistic appeals of

social engineers... The more humanistic approach associated with Freud’s clinically oriented psychoanalysis is still more blatant in its egoistic orientation than its behavioural successor... The assumption is that humanity is essentially composed of egocentric individuals (Grant, 2000, pp. 35).

Therefore, this point of view has been frequently described in the traditional paradigm of social sciences like E. Durkheim’s theory of *homo duplex* (Lukes, 1985) or Cartesian’s theory of dualism. In these theories, two separate natures of man, biological and social, are emphasised; nevertheless, the social context of human nature is widely described. In addition, some inborn social skills as well as inborn altruism are considered. For example, S. Lowy wrote: “Loneliness is the hunger of the ‘social instinct’. From time immemorial man has felt the necessity of living amongst, and with, fellow-beings. He needs them to supplement his own personality, i.e. to buttress up his own subjective and objective insufficiency; he needs them to enjoy his similarity to his fellowmen, and at the same time his awareness of difference from them” (Lowy, 1999, pp. 73). Hence, social demands and complaints about the selfishness of market mechanisms can result from “social instinct”.

The psychological theories of altruism are analysed in the context of three perspectives:

- a goal of educational processes in psychoanalytical theories,
- higher-order needs in humanistic psychology,
- evidence in experimental psychology.

Psychoanalytic theories established the personality as part of an educational process that can be understood from the evolutionary point of view as a process of the creation of values by cultural evolution; for example, the *superego* in S. Freud’s theory determines human behaviour due to the needs of social systems. Thus, from the biological point of view, these motives of pro-social behaviour are the costs of adaptation to the environment as a society. The conception of personality in S. Freud’s theory is based on the three organizational units or systems in interaction: *id*, *ego*, and *superego*. The *ego* mediates between *id* impulses (i.e. biological inborn qualities) and culturally created *superego* prohibitions. Thus, the personality of human beings is a “product” of two rather opposite and unconscious elements of the human mind (Roth, 1998). The *ego* is understood as rational, conscious, the thinking part of our personality, our self-image. Thus, the *superego* is created in a process of both education and upbringing while being strictly determined by the cultural environment of the baby. Consequently, the personality presented by the *ego* is not only moulded by the inherited qualities, but is also created in the inseparable process of education; hence, this is the basic way of creating pro-social behaviour and the capacity to act altruistically.

Moreover, in humanistic theories, altruism caused by cultural activity can be similarly explained. A Maslow’s hierarchical structure of needs states that people must satisfy each need in turn, starting with the first, which deals with the most obvious needs for survival itself. Consequently, the highest groups present the higher-order needs that are

unlimited and can never be satisfied. Moreover, the higher-order needs are not clearly defined and can be determined by culture. *Self-actualisation* or some needs in the group of *esteem needs* can be satisfied by the genuinely altruistic behaviour of human beings. Therefore, a genuine form of altruism may be expected; i.e. focused on the values of help for other people and there is nothing to analyse in the terms of profits.

Finally, there are numerous experiments in psychology supporting the altruistic behaviour of human beings. For example, C. Grant (2000) described some experiments called the ABC of altruism. They were based on the hypothesis of C. Batson, which established that altruism is a reflection of empathy (the empathy–altruism hypothesis).

Therefore, help for others or devoting one's life to helping people are possible in the context of much evidence. In the case of an heroic action that could “cost life”, the hero has no sense in the terms of cost–benefit analysis. There is nothing to gain, in particular, and that usually “heroes” do not expect any rewards; or if they do so, the risk from the rational point of view is much bigger than possible gains. Thus, the discussion on the nature of human beings will probably be continued in science. However, based on the short presentation in this paper, one conclusion can be drawn due to the goal of the paper: there is possible as well as “natural” pro-social behaviour resulting either from the selfish motives or the altruistic motives of human beings.

6. Institutional incentives for the creation of selfish behaviour

Based on the research of biological and social sciences, the following problems might be of interest to investigate: why selfish behaviour in the market is better than cooperation. Why is selfishness embodied in economic rationality? Companies, if they have an opportunity to cooperate, try to do so even if the “guard of selfish market rules” in the form of different social institutions forbids them from doing this. Moreover, we can ask why these means of cooperation seem to present unnatural behaviour. One of the possible answers is market failures; however, it proves an unnatural character of the market mechanism.

Moreover, market rules engage people to be selfish and they facilitate selfishness, because of competition rules. Thus, market factors have to behave according to established market rules even if they do not favour them. Consequently, selfish behaviour is promoted and chosen from a variety of possible types of human behaviour that are more or less favoured by different individuals. In addition, these principles shape social behaviour. F. Hirsch (1976) coined the term *commercialisation of social life* referring to a process of replacing social norms by private standards shaped in the market by the individualistic ethos. Hence, human beings have to be selfish, because all the market institutions are based on these rules. The market system entitles individuals to selfish behaviour. For example, systems of education or healthcare are based on market rules; and the conditions of customers are very much connected with their market decisions. Moreover, the system of education is seen in the context of competition with others in the labour market and is based on competition between

students; finally, a successful man is understood in the context of material possession or market successes. It can contribute to both: material exclusion from society as well as a psychological one when somebody is, for example, unemployed or there is a substantial gap between individuals (some economic “effects” describe the market behaviour of customers in the context of the social systems of values). Thus, “losers” in a school can be excluded from a market and unemployed; and customers (when the wrong market decision is taken) from social life: from education, healthcare, entertainment; in other words, selfishness in social life is imposed by the market mechanism. Moreover, in this context, P. England (1993) suggested a ridiculous phenomenon in which the head of a household who is efficient at earning money and completely altruistic about sharing it within the family, as the same person must be perfectly selfish in the market and perfectly unselfish at home. The external greed should affect family life, or the internal altruism should affect public life.

In the paradigm of evolutionary economics the institutional context was seen as an important determinant of market behaviour; for example, the socio-psychological determinants were widely presented in the Veblen, snob, or bandwagon effects (Leibenstein, 1950). Thus, taking into account the context the market determinants of self-interested behaviour as well as other possible types of behaviour can be explained. The classical institutional context (not assumed by classical economists) reveals the motives of the other actors. As a consequence, the market actors behave egoistically, because they expect the same from the other market players; moreover, the market equilibrium is only covered by the egoistic types of behaviour of all the players. For example, it is meaningless (or even risky) to act other-regardingly when all suppose to act egoistically; in addition, there is a dependency involved in this behaviour: if only one buys an ecological car and the rest do not, it doesn't do anything to the environment, but definitely changes one's position in the market in terms of one's income. Finally, one's neighbour will buy one's house, because one will spend money on the car. The egoism of one's neighbours is legitimised by market institutions.²

Interesting arguments for cooperation and altruism are provided by M. Rose. He described the strategy in biology based on the *unbeatable strategies* of a game understood as “strategies that could not be improved on if all members of a population adopt them. The unbeatable strategy of a game is expected to be an end-point for evolution; because once we get there, we can't go anywhere else. In other words, unbeatable strategies are our initial predictions for the strategies that we expect evolution to produce in the organism under study” (Rose, 1998, pp. 65). This may also explain some biological determinants of human behaviour in the market. The possible types of behaviour of animals in this theory are based on three strategies: *display* (D), *attack* or *aggression* (A) and *retreat* (R). As

² Thus the legal protection of freedom of thought and liberty of conscience, competitive markets, private property in the means of production, and the monogamous family are examples of major social institutions. Take together as one scheme, the major institutions define men's rights and duties and influence their prospects, what they can expect to be and how well they can hope to do! In this way the institutions of society favor certain starting places over others (Rawls, 1999, pp. 6–7).

a result, when both play *D* after some jumping around, one will win, and one will lose. Thus, both will pay the price of their protracted displays, and one will receive the benefits that go with the prize. Consequently, when both play *A*, one of them will be injured in the contest, at a great cost, but the costs for both are very high. Finally, when one always plays *A* and the other always *R*, the *A* player always wins. Furthermore, the key idea of an unbeatable strategy is embodied in the possibilities to change the strategy by player as a response to the strategy of the rest of the players. For example, one individual plays *D*, unless his opponent plays *A*, in which case the first individual also plays *A*. As a result, “The bottom line on this is that neither simple pacifism nor outright militancy seems to win the day in animal contests... Consider the prospects for Retaliator [strategy like above: *D* when *D*, *A* when *A*] against Hawk [always plays *A*] Retaliator is just a Hawk in all-Hawk populations, so it can always invade them. But Hawk does not do as well as Retaliator in mixed populations of Hawks and Retaliators, because the Retaliators are Dove-like [always plays *D*] in their interactions with each other. The more Retaliators there are, the more Retaliators act like Doves, and the better Retaliator does relative to Hawk. This will tend to force Hawk out of the population by straightforward individual selection. Once Hawk is gone, Retaliators act just like Doves, so that seemingly they are pacifist. But they are always ready to fight, upon provocation” (Rose, 1998, pp. 67). Thus, based on this theory, the diverse behaviour of individuals as consumers in the market and as citizens or parents at home may be explained. For example, M. Sagoff (1988, pp. 54) depicted a similar inconsistency of social and consumer choices in the context of different values of individuals as citizens and consumers.

Thus, the conclusion that there is no reason to justify market competition by the nature of human beings can be also taken from the theory of the game. In addition, R. Dawkins’ theory may be challenged by unbeatable strategies. He described selfishness as an inherited quality of all the creatures in the context of its domination over altruism in the process of natural selection. “Even in the group of altruists, there will almost certainly be a dissenting minority who refuse to make any sacrifice. If there is just one selfish rebel, prepared to exploit the altruism of the rest, then he, by definition, is more likely than they are to survive and have children... After several generations of natural selection, “the altruistic group” will be overrun by selfish individuals” (Dawkins, 1978, pp. 8). However, the altruists can survive when the unbeatable strategy is investigated; they will behave egoistically against selfish individuals while altruistic behaviour will be presented against the altruists and against the egoists ready for cooperation. The market mechanism based on competition determines selfish behaviour in the culture similar to the assumptions presented above. Assuming a variety of motives of human beings, the institutional context (market rules) is like the “move of the first player” in the game theory which provokes “Retaliators” to selfish behaviour (thus, selfish behaviour is generally more popular in the market because of the behaviour of “Retaliators” and the egoists); however, it will be possible to cause pro-social behaviour when the context is changed (consequently, pro-social behaviour will generally be more popular because of the behaviour of “Retaliators” and the altruists).

The market actors are dependent on the institutional context, which was omitted in the classical theories and the context was politically established (not determined by the egoism of human beings, which is understood as the only possible behaviour). Consequently, market rules are a policy matter and, presently, market behaviour is constantly determined by *laissez-faire* rules. However, there are many possible ways of organising market behaviour even if the rule of *laissez-faire* seems to be the best strategy in the earlier stages of industrial revolutions. Moreover, it may paradoxically create the not logical consequence of neo-classical goals. On the one hand, the policy is concerned with the nation’s prosperity by the promotion of the selfish interests of the market actors, while, on the other hand, the types of behaviour which are directly focused on national prosperity are rejected, because they lack profit maximizing behaviour (i.e. selfish motives). Altruistic behaviour would not be included in the market, because they impose market failures. In other words, since the “classical” market mechanism is not devoid of failures, why is rational behaviour in the market based on the individualistic ethos, while “rational” social relationships are mostly focused on cooperation (by the way, this is also not devoid of failures, but focused on the gains of all the players).

In fact, in a market based on cooperation, selfish motives (self-interested individuals) could not be avoided; as well as the pro-social behaviour of producers and consumers, these are noticed in *laissez-faire* markets; however, pro-social behaviour would dominate. This is similar to the social programmes established by the government as well as the problem of *free riders*. Hence, what should be chosen is a political matter:

- less social care with accidental cases included, where social support is needed, but is not achievable,
- more social care with accidental cases (free riders) included, where social support is not needed, but is received.

This is the political decision that could never have perfect solutions. Some examples of market behaviour based on cooperation are presented in the next section.

7. Market failures and a market based on pro-social values

As a matter of fact, there are many “failures” of selfishness in market behaviour; a lack of them in the “pro-social oriented markets” could not be expected. Thus, the assumptions made either about exclusive altruism or about exclusive selfishness are wrong. Pro-social behaviour does not contradict selfish behaviour. The thesis of this work is that for over 400 years cultural evolution “has been promoting” the selfish behaviour presented in T. Hobbes’ works; in addition, for over 200 years, classical economists have been supporting the institutional context of the market and social behaviour. Thus, the normative models of human nature and of resource allocation have become positive economics; and the problems of the present economies are more or less described by the failures of classical normative models. Consequently, ubiquitous egoism can be understood in the context of unbeatable strategies and

the institutional context of a market which provokes competition based on selfishness.

The crucial problem of the present critics is that there are no practical solutions for the market mechanism since socialism appeared the wrong solution. F. Block wrote:

For more than a century, discussion of economic alternatives has been dominated by debates over the relative merits of capitalism and socialism. Today, however, capitalism has come to refer to an extremely wide range of economic arrangements; private ownership of the means of production can encompass many different approaches to employee participation and representation of the public interest. Socialism, meanwhile, has become problematic due to both the failure of the Soviet model and the implausibility of Marx's vision of a society beyond scarcity (since time will always be scarce, and some people will always be striving for greater status and recognition). Thus, the issue is no longer capitalism versus socialism, but rather how to create economic institutions that give maximum scope to democratic participation (Block, 1997, pp. 356).

Hence, there is presently a tendency to investigate an economy based on the model of competition, but not profit maximization at the same time. J. Bergh, A. Ferrer-i-Carbonell, G. Munda (2000) reviewed some alternative behavioural models which emphasised the lack of social context of the neoclassical model; they pointed out some issues to challenge it: groups and aggregation, citizens and norms, consumer sovereignty and changing preferences, and altruism. Lately, the idea of Corporate Social Responsibility and other beyond-compliance initiatives widely presented in the markets have been investigated (f. e. Prakash, 2000).

Some other ideas based on a cultural context are presented in the Japanese model of capitalism (Phillips, 2003, pp. 38–43). It strongly focuses on teamwork, cooperation and consensus between the needs of different individuals in the company. J. Hendry (Hendry, 1992) described the pro-social process of the education of children and the differences between Western countries and Japan in the context of changes in modern Japanese society. Freedom in their ancient language is not understood in the term of free choices, but in the context of freedom to depend on others; thus, not being independent of others. It seems to be the first step in creating the future strategy of consensus and cooperation between different groups of interests. In addition, this is also very good evidence of the opportunities for the creation of a society focused on pro-social behaviour. Furthermore, G. A. Steiner and J. F. Steiner described the philosophy of Japanese companies in the context of the Japanese culture that clearly seems to be beyond the profit maximization's context:

the behavior of Japanese firms reflects historical and cultural as well as economic realities... Business was seen to have a clear goal: "to make the country dominant and ensure preservation of the Japanese race in a hostile world." This rational goal was combined with a Confucian tradition that spells out duties in terms of direct relation-

ships. Thus it has seemed normal for Japanese businesses to take responsibility for their employees by building housing, roads, and other public facilities for them (Steiner and Steiner, 2001, pp. 285).

Culture is a tremendously potent instrument for adaptation to the environment. When being asked about altruism, the answers could be based on the meanings of economic rationality, that should be separated from the economic goals and the motives of human behaviour (this is proceeded with the paradigm of utility maximization in economics). The main point is the creation of systems that could be covering the economic aim as well as a social task. However, self-interested behaviour should be expected; therefore, state institutions would "protect pro-social behaviour" as they presently "protect utility".

Finally, the way of binding consumers' roles with those of producers seems to be an interesting proposal for markets based on cooperation. In Western economies, cooperatives seem to be a way of changing the classical view of prosperity, resulting from the egoism of all market actors. There are 10 core values, which are very much beyond the classical view of market motives: self-help, democracy, equality, equity, solidarity, honesty, openness, social responsibility, caring for others (Promotion of Cooperatives Recommendation, 2002, 2006, pp. 2). "People, who organize and belong to cooperatives, do so for a variety of economic, social, and even political reasons... In short, cooperatives are organized to serve member needs and are focused on generating member benefits rather than returns to investors. This member-driven orientation makes them fundamentally different from other corporations. Additional cooperative structural characteristics and guiding principles further distinguish them from other business models" (Kimberly and Cropp, 2004, pp. 2 and 4); there were almost 118,500,000 members in Europe in 1998 (Kimberly and Cropp, 2004, pp. 13 [source: International Co-operative Alliance, www.coop.org/statistics.html]). The market cooperation is provided by the pro-social goals of economic activity and a lack of the typical, in the classical view, polarization between the interests of the producers and the consumers in the market:

As for saying that co-operative organization abolishes the division of labour and brings us back to the primitive times when each man was constrained to produce for himself everything essential for his needs, it is true in so far as one can say that a consumers' co-operative society is an enlarged family which—as was formerly the case, and is the case today on certain farms—makes its own bread and jam, and which also spins, weaves, washes, &c. Yet it is not the consumer himself who does all that, but specialized workers, preferably members of the societies" (Gide, 1922. Consumers' Co-Operative Societies, New York, A. A. Knopf, pp. 24).

Another issue must be addressing the distinction between normative and positive economics. Positive economics describes the market created by the ideas of the neo-classical paradigm. Thus, postulates as well as opinions on new market models have a normative character. As a consequence,

ubiquitous selfishness is treated as a reality and the natural qualities of human beings; the pro-social habits are eternities. Ubiquitous pro-social behaviour in the market created on a basis other than selfishness could be as “positive” as selfishness is at present. Therefore, from the historical point of view, positive economics describes the normative premises that were brought alive due to the paradigm at that time.

8. Conclusions

Selfishness in classical economics should be analysed in the context of two approaches presented in the works of its creators. The first, established by A. Smith, deals with the selfishness of market actors as the most effective way of achieving public interests; while the second, presented by J. S. Mill, is concerned with human nature. These approaches have moulded the economies of Western countries in addition to the socio-economic and ecological consequences of it challenging selfishness in the context of both approaches. On the one hand, arguments refer to the theoretical assumptions created by the classical economists. On the other hand, water or air pollution, climate changes, colonisation, inequality in resource allocation, and poverty are among the numerous examples of market failures that are noticed by all economists. Finally, the wealth of a nation (i.e. the classical economic goal) does not always address the quality of life in terms of the quality of the environment, of health, or of social equality. Therefore, the wealth of nations or growth are presently being replaced in economics by new socio-economic values like the quality of life or development.

In this paper, I do not reject the proposals of classical economists. I claim that the theories presented by them are value-oriented and should be a analysing other possibilities in the context of new socio-economic and ecological conditions. As a result, the socio-economic strategy proposed by A. Smith and the narrow view of the character of human beings in J. S. Mill's theory are questionable in present socio-ecological conditions. Consequently, the *invisible hand of the market* has limited applications.

In this paper, I have investigated some research on the nature of human beings and the premises of pro-social behaviour in the market; this research seems to challenge the “natural” character of classical premises in the context of the evolutionary paradigm. First, either selfishness or altruism may be the best strategies of adaptation to the environment; thus, each of them may be good or bad depending on the context conditions. Second, human nature is neither genuinely selfish nor genuinely altruistic; both motives are broadly present in individuals. Third, ubiquitous selfishness in the market and society can be explained by the individualistic ethos, which has been moulding the behaviour of market actors for over two hundred years in the “classical economy”; thus, the market engages human beings to be egoistic in the market, despite the fact there is much evidence that the nature of human beings is not solely egoistic and that the *invisible hand of the market* is the means of resource allocation not devoid of failures. Human beings are presently seen as selfish and altruism may only disrupt the market mechanism. In addition, these principles have been shaping social

behaviour, resulting in a compromise of social norms. As a result, positive economics presently describes the normative classical assumptions established by political economy.

In contrast, I have tried to investigate the pre-conditions of market behaviour based on all possible human motives. Thus, I have taken into consideration market rules that will promote pro-social behaviour based on altruistic and selfish motives; that is, market rules focusing on cooperation. This is based on social norms, according to which economic systems should be created for people, not people should be created for economic systems; cooperatives or corporate social responsibility were given as the examples of such markets. When there are too many losers, the question is about a sense of competition. Competitiveness assumes that somebody has to lose, because someone gains, while cooperation looks for gains for all players. The choice is political, not imposed by selfishness or economics. There are many ways and many possible strategies; this is very close to the evolutionary point of view referring to the many successful strategies of adaptation to the environment. The evolution of life and of man has not been planned in advance; “it is a natural creative process which contains an element of freedom but also a risk of failure” (Dobzhansky, 1959, pp. 76). Therefore, this is rather imposed by the socio-ecological conditions in the context of our political decisions.

Although a market mechanism based on pro-social behaviour should be supported by market institutions, one similar to the present market in promoting utility maximization would promote pro-social behaviour; in addition, changes in human values seem to be necessary. Of course, selfish behaviour may not be excluded. However, competition seems to be much more “expensive” or energy-consuming than cooperation, especially in the context of the global relationships of all societies and the global consequences of the present economy. Therefore, we have to investigate a new system of resource allocation instead of “patch up the externalities” in good faith that people are only selfish and the quality of life could be improved by selfish behaviour.

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