

## 2 The Economic Model of Behaviour

The purpose of this chapter is to present ‘homo oeconomicus’, i.e. to describe the general model of individual behaviour which is the basis not only for economics but for all approaches of the social sciences which understand human action as rational choice between alternatives.<sup>1</sup> The single individual is the unit of the analysis: the individual human being is in the focus of consideration.<sup>2</sup> This is a natural starting point for a social science which sees itself as a ‘human science’. Moreover, it corresponds to our occidental tradition which considers – at least since the Enlightenment – the (autonomous) individual as the central point of philosophical and political reasoning.<sup>3</sup> It is presupposed that human beings are in a situation of scarcity so that they cannot satisfy all their needs together, at least not simultaneously.<sup>4</sup> The question of how the individual behaves in certain decision situations is the topic of economics.

First, we will deal with human behaviour and how it can be comprehended as ‘rational action’ within the framework of the economic model of behaviour. As ‘full rationality’ often cannot be presupposed, the question must also be answered as to what role ‘bounded rationality’ plays within this framework. Additionally, the relevance of norms and rules for human action is to be discussed. Peoples’ intentions, which are, within the frame-

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<sup>1</sup> See also B.S. FREY (1980) or W.H. MECKLING (1976), K. BRUNNER and W.H. MECKLING (1977), and K. BRUNNER (1987). In the latter papers, homo oeconomicus is called “REMM”: Resourceful, Evaluating, Maximising Man. S. LINDENBERG (1990) has further developed this concept to “RREEMM”: Resourceful, Restricted, Expecting, Evaluating, Maximising Man.

<sup>2</sup> Starting from the observation that the modern ‘bourgeois society’ gives – compared to other societies – the central role to the single individual, the fact that in economics the single individual and not, for example, a social class or any other collective actor plays the active part makes up the ‘bourgeois’ view of this approach.

<sup>3</sup> For a classical reference see IMMANUEL KANT (1787, pp. 467ff., especially pp. 467f.; 1785, pp. 64ff., especially p. 71).

<sup>4</sup> See for this ARMEN A. ALCHIAN and WILLIAM R. ALLEN: “Given the limitations of nature and the unlimited desires of man, scarcity is inevitable and pervasive.” (1964, p. 12.)

work of our model, reflected in the preferences, are especially essential for the way they act. Finally, there is the question of how individual action is motivated: How far does the assumption of self-interest bring us, which is usually employed in economic models?

## 2.1 Human Behaviour as Rational Action<sup>5</sup>

The individual's decision situation is essentially described by two elements: by preferences and restrictions. Both elements are strictly distinguished in the economic analysis.<sup>6</sup> In a given situation the restrictions limit the individual's leeway of action; to these restrictions belong, besides others, the income of the individual, the market prices of goods, the legal frame of his actions but also the (expected) reactions of other individuals. Within this leeway, there are the various alternatives of acting which are available and from which the individual can choose. It is not necessary that the individual knows all alternatives. Generally, he knows only part of his choices and often merely a very limited one, and he is aware of only some of their consequences. Before taking a decision he must, therefore, evaluate these alternatives, he has to build up (conditional) expectations or forecasts.<sup>7</sup> One of his alternatives is nearly always to postpone the decision and to search for additional information in order to increase his knowledge about possible actions and their consequences. The preferences are derived from the intentions of the individual, they reflect the individual's ideas of value as they have been developed during the process of his socialisation, and they are principally independent of the actual possibilities of action. According to these preferences, the individual assesses the various alternatives at his disposal, he weighs up the pros and cons, the costs and benefits of the alternatives against each other and finally chooses that (those) alternative(s) which come(s) closest to his preferences or which promise(s) to bring about the maximum net benefit.<sup>8</sup> Thus, in this model human behav-

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<sup>5</sup> As to the concept of 'rational action' see, for example, C.G. HEMPEL (1961) or G. MEGGLE (1977).

<sup>6</sup> The economic approach differs in this respect from other approaches in the social sciences which do not make this distinction at all or at least not so strictly, as, for example, traditional sociology.

<sup>7</sup> H. ESSER (1996) denotes this the "definition of the situation" which precedes every action.

<sup>8</sup> JOHN RAWLS, who calls this concept "the standard one familiar in social theory", remarks that "in the usual way, a rational person is thought to have a coherent set of preferences between the options open to him. He ranks these op-

behaviour is interpreted as a rational choice by the individual from available alternatives or – to speak in the language of economics – as ‘utility maximisation under constraints with uncertainty’.<sup>9</sup>

The distinction between preferences and restrictions is not the same as the one between objectives (ends) and means, which plays an important part in traditional economics as well as in normative decision theory. (In the latter, it is probably inevitable.)<sup>10</sup> The distinction between purposes and means is usually connected with the assumption that values are inherent in the first, but not in the latter, which is in correspondence to the ordinary (pre-scientific) use of language. However, at least since GUNNAR MYRDAL’s (1933) ‘classical’ contribution it is obvious that means, as a rule, are not value-free; therefore, this distinction is questionable if not untenable.<sup>11</sup> When evaluating the various alternatives and then deciding on the ‘best one’, homo oeconomicus assesses ‘means’ and ‘objectives’ among the alternatives. In other words, when he pursues a certain goal in a given situation, it is important to him how this goal is achieved.<sup>12</sup> When he wants to travel from Munich to Zurich, for example, it is also important for him how and by which means he will reach this destination, whether by rail, in his own private car or by plane. Or, if a political decision is taken, it mat-

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tions according to how well they further his purposes; he follows the plan which will satisfy more of his desires rather than less, and which has the greater chance of being successfully executed.” (1971, p. 143.)

<sup>9</sup> As the individuals’ behaviour is oriented toward the (potential) consequences of the various possible actions, one also speaks of a ‘consequentialist’ approach in this context. See for this, for example, A.K. SEN and B. WILLIAMS (1982).

<sup>10</sup> See for this, for example, LIONEL ROBBINS: “Economics is the science which studies human behaviour as a relation between ends and scarce means which have alternative uses.” (1932, p. 16.) For a critique of LIONEL ROBBINS’ position, see I.M. KIRZNER (1973, 1982) (with reference to L. v. MISES (1940)).

<sup>11</sup> In formal decision theory and especially by applying optimisation methods in quantitative economic policy, this can be handled by constructing additional target variables that are identical to the instrument variables. While the latter are formally still treated as being value-free, the corresponding target variables can be given weights. (See for this, for example, G.C. CHOW (1975, p. 154).) From this the problem arises that there are always more objective than instrument variables so that ‘normal cases’ in the sense of JAN TINBERGEN (1952), where the number of instruments has to be at least as large as the number of objective variables which (with some additional assumptions) can lead to exact solutions, do not appear any longer.

<sup>12</sup> More recently, the utility derived from the instrument variables is called ‘procedural’ in contrast to ‘outcome utility’, which is derived from the objective variables. See, for example, B.S. FREY, M. BENZ and A. STUTZER (2004) as well as M. BENZ (2004).

ters whether this is done by a dictator or in a democratic process. On the other hand, the objective (purpose) is as a rule only an (also value-loaded) instrument in order to achieve a superior objective. Lastly, there is only one single purpose left which in itself is no longer a means, namely the purpose of utility maximisation, which is striven for by the choice among the available alternatives. All other aims, like profit maximisation of entrepreneurs or vote maximisation by politicians, are only (value-loaded) means when referred to this purpose. Therefore, it is reasonable to stop speaking of purposes and means in the following, and to talk only of alternatives and their evaluation.<sup>13</sup> At first, the idea might be striking that (within the framework of the economic model of behaviour) profit maximisation should not be the purpose of the entrepreneur's actions, but is only a purpose derived from the assumption of utility maximisation and as such not identical with the latter. At least, the assumption of profit maximisation is made in nearly all microeconomic textbooks presenting the theory of the firm.<sup>14</sup> On the other hand, it should be obvious that it is quite important for the entrepreneur how such a profit is achieved. Two different procedures, which are likely to achieve the same profit, are different alternatives for him, which will generally bring about different utility. He will weigh up both according to his preferences and then take a decision in favour of the one that seems to be more advantageous. This, however, is only one example revealing that homo oeconomicus is generally not only financially motivated.<sup>15</sup> He does not assess only the material qualities, but, for example, also esthetical qualities, in principle all qualities (characteristics) which are connected with a certain alternative he can choose. In ordinary language, he does not consider only 'economic' categories, the maximisation of his (monetary) income and the optimal basket of his consumption goods.<sup>16</sup>

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<sup>13</sup> See G. GÄFGEN (1963, p. 102 ff.) as to the transition from the 'purpose-means-thinking' to that according to the principle of evaluation of alternatives.

<sup>14</sup> See for this, for example, the literature presented in *Section 3.1* when dealing with microeconomic theory.

<sup>15</sup> According to S. LOFTHOUSE and J. VINT (1978), this is valid nearly throughout for classical political economy. Contrary to that, however, JOHN STUART MILL gives the following "complete" definition of political economy: "The science which traces the laws of such phenomena of society as arise from the combined operations of mankind for the production of wealth, in so far as those phenomena are not modified by the pursuit of any other object." (1836, p. 323.) Here the materialistic aspect obviously prevails.

<sup>16</sup> As to this, GEORGE C. HOMANS writes in his 'rehabilitation' of 'economic man': "The trouble with him was not that he was economic, that he used his resources to some advantage, but that he was antisocial and materialistic, inter-

Two issues are important for considering an individual's decision within the framework of the economic model of behaviour: The independence of the decision and the rationality of the decision. Independence of a decision means that an individual acts according to his own preferences (and not according to the preferences of others). Of course, he can take into account the interests of others in his preferences; in an extreme case, he can be envious or malevolent, but also altruistic and benevolent. As a rule, however, 'the axiom of self-interest' is presupposed: The individual acts exclusively according to his own interests. Thus, envy, malevolence, altruism and benevolence are excluded. Of course, the individual knows that he does not live in isolation, but within a society. Corresponding 'social orientations', for example, the desire to live in a democratic society, are part of his preferences. The interests of other individuals are taken into account, however, only insofar as they influence the individual's range of action. In his *Theory of Justice* JOHN RAWLS calls such behaviour "mutually disinterested rationality" (1971, p. 144). This 'axiom' is in fact an empirical assumption that in special situations has to be checked, modified or even rejected.

The second point is the rationality of the decision. In this context, rationality does not mean that the individual chooses the optimum way of acting at every moment, that he goes through the world like a walking computer, which always finds out the best of all available alternatives in a flash. This distorted picture of the 'homo oeconomicus', which up to now is still to be found in many (text)books of microeconomics and which has rightly been criticised again and again, is not in line with the modern interpretations of the economic model of behaviour.<sup>17</sup> Rationality in this model means only that the individual, following his intentions, is principally in a position to assess and evaluate his action range and then to act accordingly.<sup>18</sup> It has to be taken into account, however, that the individual must

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ested only in money and material goods, and ready to sacrifice even his old mother to get them. What was wrong with him were his values: he was only allowed a limited range of values; but the new economic man is not so limited. He may have any values whatever, from altruism to hedonism, but so long as he does not utterly squander his resources in achieving these values, his behaviour is still economic. ... In fact, the new economic man is plain man." (1961, p. 79 f.) After citing this passage, H.D. DREITZEL states: "Here the model of the rationally behaving human being becomes the basic figure of sociology." (1965, p. 6.)

<sup>17</sup> For criticism of this concept of rationality, see also K.J. ARROW (1986).

<sup>18</sup> J.W.N. WATKINS gives a similar definition of the 'principle of rationality', which he, however, calls "just rough and provisional": "An individual is placed in a certain objective problem-situation. He has certain aims (wants, preferences) or perhaps a single aim, and he makes a factual appraisal (which may be

make his decision without being fully informed and that the search for additional information is costly. He also often has to decide under time pressure. The individual will be especially willing to accept costs for additional information if he realises a relevant change of his action leeway and he therefore has to assess and evaluate his alternatives once again. A rational individual reacts to such a change 'systematically', i.e. neither by chance nor randomly, but also not in a strongly traditional manner by keeping strictly to given rules independent of the concrete situation.<sup>19</sup> Therefore, his behaviour can systematically be influenced by providing incentives, which in most cases result from changes of the individual's action leeway (his restrictions). Thus, in this concept, the philosophically meaningful and often discussed distinction between human behaviour and human action disappears: Behaviour of individuals is explained by assuming that they act rationally.<sup>20</sup> As a consequence, forecasts of behavioural changes as a reaction to changes of the action leeway are possible.

In other words, within the framework of the economic model of behaviour individuals are supposed to adapt to changed environmental conditions according to their objectives (preferences) in a systematic and therefore predictable manner. Such changes can result both from the actions of other individuals, for example by political measures, as well as through changes of the 'natural' conditions. This is formulated as a principle by HARTMUT KLIEMT as follows: "Every intentional human behaviour is to be explained as individual adaptive behaviour guided by preferences." (1984, p. 17.)

According to the logic of science, this 'weak principle of rationality' might, as a basis for the economic model of behaviour, be of similar im-

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a misappraisal) of his problem-situation. The rationality principle says that he will act in a way that is 'appropriate' to his aim(s) and situational appraisal." (1970, p. 172). He explicitly refers the term 'appropriate' to KARL R. POPPER (1967).

<sup>19</sup> For the discussion of such kinds of 'irrational' behaviour see G.S. BECKER (1962) as well as, referring to him, J. ELSTER (1979, p. 137 ff.).

<sup>20</sup> See also G. KIRCHGÄSSNER (1985) for this. MAX WEBER adopts a similar if not even the same position when he writes about social behaviour: "It will be called human 'behaviour' only insofar as the person or persons involved engage in some subjectively meaningful action. Such behaviour may be mental or external; it may consist in action or omission to act. The term 'social behaviour' will be reserved for activities whose intent is related by the individuals involved to the conduct of others and is oriented accordingly." (1922, p. 1.) This position is, of course, not uncontested. A different view is taken especially by those authors who combine with the term 'action' a moral demand as, for example, B.M. PATZAK (1984).

portance for the social sciences as the ‘principle of causality’ for the natural sciences.<sup>21</sup> In the same way as in natural sciences talking about (natural) laws does not become possible before accepting the principle of causality, in social sciences the understanding of human actions is not possible if the distinction between preferences and restrictions (purposes and means), which is embedded in the economic model of behaviour, is not accepted and if it is not presupposed that the individuals use the means at their disposal in a (subjectively) rational way to reach their objectives.<sup>22</sup>

The assumption of rationality and – based on it – the economic model of behaviour can of course also be seen as a hypothesis which can principally

<sup>21</sup> See for this also K.R. POPPER (1967), M. TIETZEL (1981, p. 131 ff.), B. ABEL (1983, p. 133 ff.), G. KIRCHGÄSSNER (2005a) and, for a somewhat different position, S.J. LATSIS (1983). Of course, the principle of causality can also be understood differently. (As for the importance of the principle of causality see, for example, W. STEGMÜLLER (1960) or H.W. ARNDT (1976) as well as especially M. BUNGE (1959)). Besides this, the analogy between the principle of rationality and the principle of causality is restricted. Whereas, for example, the principle of rationality can also be and often is comprehended in a normative sense, this does trivially not apply to the principle of causality.

<sup>22</sup> It is interesting that not only the ‘new economic history’ as represented, for example, by DOUGLAS C. NORTH (1981), (see for this also P. STOLZ (1979) and R. TILLY (1988)), but also the traditional ‘understanding’ branch of history applies exactly this ‘economic’ model of behaviour and, therefore, also the underlying rationality principle, although history and (theoretical) economics seem to be methodologically at a far distance from each other at first sight. (The latter is underlined by the dispute of methods (‘Methodenstreit’) started by CARL MENGER (1883) between his (Austrian) theoretical school and GUSTAV SCHMOLLER’s historical school of political economy. (See for this, for example, J.A. SCHUMPETER (1954, p. 814f.)) In this context, for example, J.W.N. WATKINS writes about the principle of rationality: “But the principle can also be cast in the form of a methodological rule that enjoins historians and other investigators of human behaviour, not necessarily to accept the principle *qua* factual postulate as true, but to proceed on the supposition that it is true. In this last form ... it says, first of all, that to provide a conjectural explanation for a past action is to postulate a decision-scheme which has a practical conclusion of which that action could be the natural outcome.” (1970, p. 209.) And KARL R. POPPER looks at such an approach as “a *purely objective method* in the social sciences which may well be called the method of *objective* understanding, or situational logic.” (1962, p. 199.) In another work he calls this procedure “situational analysis” (1972, p. 178.) (See also the references given there.) For a discussion and a critique of KARL R. POPPER’s conception of the social sciences see V. VANBERG (1975, pp. 109ff.), M. SCHMID (1979, 1979a) as well as D.W. HANDS (1985). – For the application of the Rational Choice Approach in historical sciences, see also A. FRINGS (2007).



be tested empirically. Due to the generality of this hypothesis, however, such testing might be rather difficult. However, tests are principally (and often rather easily) possible if the restrictions and/or preferences are specified in more details, i.e. if additional hypotheses are added.<sup>23</sup> But then ‘combined hypotheses’ are tested, which does not make it easy to decide whether (in case of failure) the assumption of rationality and with it the behavioural model or (one of) the additional special assumption(s) has to be rejected.<sup>24</sup> If this behavioural model, as it is supposed here, is seen as prerequisite for understanding human action, the difference between ‘explanation’ and ‘understanding’ disappears: I can understand human action only if I can explain it by means of such a model of rational behaviour.<sup>25</sup>

The actions that are open to an individual, usually refer to other individuals. Economics, therefore, is less concerned with the actions of but the *interactions between* individuals. If one action is, for example, making a contract, this can be achieved only if – in a given situation – both (all) partners agree. As rational individuals, they will agree only if both expect a net-benefit for themselves, which means that – given the respective preferences – the expected utility of the service in return to be performed by the contracting partner has to exceed the expected costs, which must be borne for the individual’s own service. But this is exactly the situation of (productive) exchange, and such exchange does not just take place in the economic and legal areas, but everywhere, for example also in politics.<sup>26</sup>

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<sup>23</sup> See, for example, the anomalies discussed in *Section 6.1*, especially those that result from the model of maximising (subjective) expected utility.

<sup>24</sup> The assumption of rationality can also be understood in a normative (prescriptive) sense by labelling certain behaviour as rational. This does not necessarily imply an ethical qualification. (Concerning the usage of the assumption of rational behaviour on a prescriptive and descriptive purpose, see also AMARTYA K. SEN (1987)).

<sup>25</sup> MAX WEBER, who usually is attributed to the ‘understanding’ branch of the social sciences, puts this into similar words. He looks at sociology as “that science which aims at the interpretative understanding of social behaviour in order to gain an explanation of its causes, its course, and its effects.” (1922, p.1.) (As to MAX WEBER’s position see, for example, E. ANGEHRN (1983).) Besides, this also corresponds to our ordinary language usage of ‘understanding’. Here, we also think in categories of motives (preferences), means (restrictions) and limited information. – As to the discussion of the term ‘understanding’ in social sciences, see, for example, W. STEGMÜLLER (1969, p. 360 ff.), A. BÜHLER (1987) as well as the contributions in G. SCHURZ (1990).

<sup>26</sup> The same applies to co-operations between partners that are usually based on (explicit or implicit) contracts; in this sense they can be interpreted as exchange as well.



Therefore, as already mentioned in the introduction, social interactions can nearly always be interpreted as exchange, and this is largely the case if the economic model of behaviour is applied.<sup>27</sup>

It could be assumed that such a theory of individual behaviour is intended to explain exclusively, or at least mainly, the actual behaviour of single individuals. In fact, economics is hardly interested in the behaviour of single individuals but in the behaviour of so-called ‘aggregates’ such as, for example, consumers, entrepreneurs, or voters. It is not the behaviour of a certain single individual that is interesting, but the ‘typical’ behaviour, which is considered: regularities in the behaviour of all or at least the majority of the individuals in the respective group.<sup>28</sup> Here the micro-theory offers (only) the basis in order to be able to explain the macro-phenomena. This is not a contradiction, as it might seem at first glance. If by change of a certain macro-variable, the conditions for the actions of all individuals of a certain group are influenced in a similar way, it is to be expected that their reaction will, not in every single case but on average, show that regularity which can be explained by the individual decision calculus. Thus, a rise in petrol prices will, for example, not induce every car-driver – *ceteris paribus* – to save petrol. For the economic way of reasoning it is, however, only relevant that, on average, consumers react with savings so that the rise in prices leads to a reduction of the total quantity demanded. This behaviour, which actually could be observed after the high increases of petrol prices in the years 1973/74, 1979/80, and since 2005, can – by using some additional ‘weak’ assumptions – be derived for the ‘typical’ consumer

<sup>27</sup> Of course, there are also some different approaches. KENNETH E. BOULDING (1968, 1973), for example, distinguishes three fundamentally different kinds of interaction among individuals: love, exchange, and fear, or, “three groups of social organizers”: “the threat system, the exchange system, and the integrative system.” (1969, p. 4.) With the assumption of self-interested behaviour, love and fear are mostly excluded if the economic approach is applied to analyse a social problem and emphasis is put on the exchange system. Contrary to this, KENNETH BOULDING is concentrating in his work on the two other systems. – In a similar way CHARLES E. LINDBLOM distinguishes between exchange, authority, and persuasion as “basic methods of social control” (1977, pp. 11f.).

<sup>28</sup> Correspondingly, JOHN R. HICKS writes when dealing with the law of demand: “In all our discussions so far, we have been concerned with the behaviour of a single individual. But economics is not, in the end, much interested in the behaviour of single individuals. Its concern is with the behaviour of groups. A study of individual demand is only a means to the study of market demand.” (1939, p. 34.) – See for this also F.A. v. HAYEK (1952, p. 48 ff.) as well as K.R. POPPER (1967, p. 3).

from the individual optimality calculus of the theory of consumer behaviour.<sup>29</sup>

There is still another reason why the consideration of aggregates is of central importance for the social sciences: It is the only way to comprehend the social consequences of individual actions which are *not-intended* by the single individuals and which lead to a *spontaneous order*.<sup>30</sup> This is a central task of the social sciences, according to many authors even *the* central task.<sup>31</sup> For economics this is almost trivial and since ADAM SMITH (1776) taken for granted: Usually none of the individuals active in the market has the intention of starting a social co-ordination mechanism, the market mechanism, but by their activities, they nevertheless all contribute to it, consciously or unconsciously, intentionally or against their intentions. To alter an example of KARL R. POPPER (1945, II. p. 96) in some respect: If all those people who live in multiple dwellings decided to move into one-family houses and if they tried to realise this intention, this would cause a rise of land prices and together with it of one-family houses, which would presumably be against the intentions and the interests of those who started this process. In the end, some of them would not realise their intention at all. But not only the functioning of the market mechanism is an unintended side-effect resulting from the actions of many individuals, the same applies – as shown below – to political mechanisms. And there are

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<sup>29</sup> Reversibly, the reduction of petrol prices after 1985 brought about a rise in demand. – For the problems which arise if a negatively sloped collective demand function is to be derived (without additional, restrictive assumptions) from the optimising behaviour of the individuals see, for example, G. KIRCHGÄSSNER (1993).

<sup>30</sup> This is called the “emergent nature of social phenomena” by K.J. ARROW (1994, p. 3).

<sup>31</sup> See, for example, KARL R. POPPER who discusses “the main task of social sciences. It is the task of analysing the unintended social repercussions of intentional human actions.” (1945, II, p. 95.) (See for this also the 23<sup>rd</sup> thesis of KARL R. POPPER (1962, p. 102).) And FRIEDRICH A. V. HAYEK writes: “If social phenomena showed no order except insofar as they were consciously designed, there would indeed be no room for theoretical sciences of society and there would be, as is often argued, only problems of psychology. It is insofar as some sort of order arises as a result of individual action but without being designed by any individual that a problem is raised which demands a theoretical explanation.” (1952, p. 69.)

many other institutions resulting thereof; institutions whose efficiency may well be in the interest of the individuals concerned.<sup>32</sup>

When examining the intended and the unintended social consequences, the economic approach bases its explanation on the behaviour of the single individual. Correspondingly, this explanatory approach is called ‘methodological individualism’.<sup>33</sup> ‘Actions’ as they are understood in our context, can only be performed by individuals, but not by collective groups or aggregates. They do not have autonomous preferences that are independent of those preferences to be found with the individuals acting in them. Therefore, – in contrast to other theories of social sciences – collective decisions are the result of the aggregation of individual decisions and not of independently acting collectives.<sup>34</sup> This idea is not new; on the contrary, it has already been part of the classical programme of political economy.<sup>35</sup> Unlike, for example, many versions of Marxist theories, there are neither in classical nor in modern (‘bourgeois’) economics (nor in the sociology in the tradition of MAX WEBER) economic classes which act independently.<sup>36</sup> But there are workers (employees dependent on their wages) who can organise themselves, for example in trade unions, to represent their equal or similar common interests. This may well be the basis for a ‘class consciousness’, but this consciousness is the consciousness of the workers concerned and not of a working class above them and quasi to be thought of as a subject of its own.<sup>37</sup> In the same way an ‘organic theory of the

<sup>32</sup> Here a distinct difference must be made between intention and interest: Even if I do not intend the social effects resulting indirectly from my actions, they may well be in my interest.

<sup>33</sup> The exact meaning of ‘methodological individualism’ is intensively debated in the literature. The term can be traced back at least to JOSEPH A. SCHUMPETER (1908, p. 88). But the conception can already be found with CARL Menger (1883, p. 90 ff., p. 151 ff. as well as p. 193 ff.). For the modern conception see especially J.W.N. WATKINS (1953, 1958), for the discussion, for example, S. LUKES (1973, p. 110 ff.) as well as H. LENK (1977).

<sup>34</sup> That ‘social variables’ exist, variables which are not generated by single individuals but emerge from the social process, i.e. by the interaction of the individuals, and that they have an impact on the individual decisions, does not create problems for the concept of Methodological Individualism. Insofar, K.J. ARROW (1994), who sees such a problem, seems to fall victim to a misunderstanding. The single and important point is that only individuals (are able to) act.

<sup>35</sup> See for this H. ALBERT (1977, p. 183; 1978, p. 53).

<sup>36</sup> Of course, this is no argument against the sociological class conception and its (possible) usefulness.

<sup>37</sup> Corresponding views, which are to be found, for example, in Marxist theories, can be referred to EMILE DURKHEIM. In his “Rules of Sociological Method” he

state', considering the state as an independently acting subject, is incompatible with the economic approach.<sup>38</sup> On the other hand, it is quite compatible with methodological individualism that individuals – if within a collective group – behave differently as if they were isolated. There are not only quite different possible actions at their disposal, but also the assessment of their situation (and their information) can be decisively influenced by such a group. This can result in formulating new demands and objectives that would not even be imaginable without the social interaction in that respective group or between different social groups. But the fact remains that it is only the individual who can 'act'. Thus, a theory of individual behaviour is not as a rule, and by no means necessarily, a theory of the behaviour of *isolated* individuals. If this difference is seen, many arguments brought forward against theories of individual behaviour are no longer tenable.<sup>39</sup> At the same time, it becomes difficult to argue in favour

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writes on collective consciousness: "Individual minds, forming groups by mingling and fusing, give birth to a being, psychological if you will, but constituting a psychic individuality of a new sort. It is, then, in the nature of this collective individuality, not in that of its associated units, that we must seek the immediate and determining causes of the fact appearing therein." (1895, p. 103 f.). And he comments on this in a footnote in the following way: "In this sense, and for these reasons, one can, and must, speak of a collective consciousness distinct from individual consciousness." (p. 103.) However, this passage is not necessarily typical of the whole of EMILE DURKHEIM's works, a fact which makes it possible "to correct Durkheim by Durkheim" (p. 42) on this point or "to defend Durkheim against Durkheim himself" (p. 34), respectively, as RENÉ KÖNIG (1961) writes in his introduction to the German translation of the "Rules".

<sup>38</sup> Such organic theories of the state were and are still used in traditional public finance, but also in other social sciences. This is indicated by concepts such as 'state reasoning' ('Staatsraison'), 'public welfare' or 'social welfare'. See for this also *Section 4.1*.

<sup>39</sup> In this context FRIEDRICH A. V. HAYEK talks of the "silliest of the common misunderstandings" about the economic model of behaviour or, quite generally, methodological individualism: "the belief that individualism postulates (or bases its arguments on the assumption of) the existence of isolated or self-contained individuals, instead of starting from men whose whole nature and character is determined by their existence in society. If that were true, it would indeed have nothing to contribute to our understanding of society. But its basic contention is quite a different one; it is that there is no other way toward the understanding of social phenomena but through our understanding of individual actions directed toward other people and guided by their expected behaviour." (1949, p. 6.)

of theories of collective behaviour that are not based on individual behaviour.<sup>40</sup>

This does not mean, however, that the economic model of behaviour can only be applied to explain collective behaviour.<sup>41</sup> REINHARD ZINTL (1989) has pointed out that individual behaviour can also be explained or predicted if an individual's alternatives can be reduced so severely by restrictions that individual factors (like personal preferences) play only a minor part. Thus, for example, within the framework of the economic theory of politics, not only the behaviour of voters (as an aggregate) can be explained, but also the behaviour of individual governments if their leeway is strongly limited by the re-election constraint. On the other hand, the resort to sociological or psychological approaches seems to be appropriate in order to explain the behaviour of individual (single) voters, because here above all personal factors are decisive.<sup>42</sup>

The restrictions to which the individual agents are subdued can, in many cases, easily be identified. In the simplest case of consumer choice in the private household, these are the income of the household as well as the given prices of the various goods. In contrast to that, it is rather difficult to uncover the individuals' preferences. Apart from surveys using questionnaires with all their methodical difficulties<sup>43</sup>, usually they can be uncovered only indirectly: knowledge of the individuals' behaviour and of their

<sup>40</sup> As to the transformation problem of connecting individual effects with collective phenomena, see also K.D. OPP (1979, p. 99 f.) as well as S. LINDENBERG (1977).

<sup>41</sup> There are also economists who represent the point of view that the economic model of behaviour can contribute nothing at all to the explanation of individual behaviour but who, nevertheless, hold the view that this (individualistic) model can be used to explain developments in the economy. One of the representatives of this view, ARMEN A. ALCHIAN, writes about economic analysis: "To regard it as a theory of individual behavior is fatal." (1953, p. 601.) The background of this assessment is the consideration that because of strong competition (ex post) only that behaviour will survive in the economic process which bears the requirements of the economic process, independent of the single individuals' intentions ex ante or their motivations. (For the discussion of this 'evolutionary' approach of economics, see below *Section 8.3*.)

<sup>42</sup> See for this G. KIRCHGÄSSNER (1980).

<sup>43</sup> Economists use such surveys mainly when they apply the 'contingent valuation method'. (See for this, for example, the papers in R.J. KOPP, W.W. POMMEREHNE and N. SCHWARZ (1997).) This method is mainly used to estimate the money values of the benefits of environmental goods and/or the costs of environmental damages. (See, for example, A. ENDRES and K. HOLM-MÜLLER (1998).) For a survey of the different methods to reveal the preferences for public goods, see W.W. POMMEREHNE (1987).

restrictions allows one to draw conclusions about their preference orderings.<sup>44</sup> Furthermore, preferences as a rule are more stable than restrictions; they change more slowly than restrictions. Therefore, the economic theory explains changes in human behaviour almost exclusively by changes of the restrictions. If the restrictions change, certain alternatives of acting become relatively more advantageous, others relatively less advantageous, and individuals increasingly choose those alternatives that have become more attractive.<sup>45</sup> As these preferences are supposed to be relatively stable, the question is, however, only seldom asked where these preferences come from, how they are formed and how they are (or can be) influenced.

This also means that with the help of the economic model of behaviour, in the first line changes in the behaviour of individuals or differences between individuals can be explained, but hardly ever the levels of activities. This is the case in traditional economics but also holds for its application in other social sciences. For example, given a specific situation, it can be explained how the consumption of petrol will change after a rise in its price. The quantity of the consumption, however, cannot be explained, except if a comparison to other countries with different conditions is made. Changes in the voting turnout can be comprehended with this approach, but hardly its level.<sup>46</sup> On the other hand, it can be explained why under certain conditions, for example, for general elections, turnout is higher than under different conditions, for example, for local elections.<sup>47</sup>

Thus, economics might be seen as a science that deals with changes of social conditions. Human behaviour can be influenced or changed if the conditions under which people act, in our terminology the restrictions, are changed. This might sound revolutionary and remind some people of Marxism. There, the main determinant of human behaviour, respectively of the struggle between the different classes, is the economic basis; if this basis changes, the behaviour of these classes changes too. Modern economic theory differs, however, from Marxism or at least from many of its versions in a crucial respect: It starts from a realistic image of human be-

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<sup>44</sup> In microeconomics, this is done using the ‘revealed preference approach’. See for this P.A. SAMUELSON (1953) or K. Lancaster (1974, p. 241 ff.).

<sup>45</sup> In other words, there is a (partial) substitution of the less attractive alternatives by those, which have now become relatively more attractive. CARL CHRISTIAN VON WEIZSÄCKER speaks of the “confidence in the effectiveness of the substitution principle” as the common basic conviction of the economists (1976, p. 69).

<sup>46</sup> The fact that what can be said about the turnout level clearly contradicts empirical evidence, is one of the ‘anomalies’ of the economic model of behaviour which is dealt with in *Chapter 5*.

<sup>47</sup> See for this G. KIRCHGÄSSNER (1980).

ings and takes them with their value conceptions (preferences) for granted. It does not try to ‘improve’ them nor does it maintain that these preferences will ‘improve’ under changed conditions. Changed economic conditions do not imply that egoistic (bad) people transform into altruistic (good) people; even under changed conditions the same (old) human beings act. It is possible that they now act ‘better’ according to some objective or some normative system, but not because they would have become better, only because they react to changed conditions.<sup>48</sup>

## 2.2 Bounded Rational Behaviour and the Influence of Rules

The concept of the ‘homo oeconomicus’ as presented here, i.e. the economic model of behaviour, has often been criticised within and also outside economics. However, many objections are not directed against the concept as such, but against that extreme special case, denoted as “Paleo-Homo Oeconomicus” by CHRIS DOUCOULIAGOS (1994), as it is often presented in microeconomic textbooks, namely against the walking computer which is fully informed and always decides as quickly as a flash of lightning. RALF DAHRENDORF for example, who overall takes quite a favourable view of this concept, writes: “Social science has so far presented us with at least two new and highly problematical creatures whom we are unlikely ever to encounter in our everyday experience. One is the much debated *homo oeconomicus* of modern economics: the consumer who carefully weighs up utility and cost before every purchase and compares hundreds of prices before he makes his decision; the entrepreneur who has the latest information from all markets and stock exchanges and bases his every decision on this information; the perfectly informed, thoroughly rational man. In our everyday experience this is a strange creature” (1958, pp. 21f.). Against this view of homo oeconomicus, it can rightly be objected that economic agents are never fully informed and that they are no walking computers either. This assumption is unrealistic and empirically falsified. It is not without good reason that ROBERT H. FRANK writes that “People of the sort who inhabit economic models surely do exist: but most of us (economists included!) make every effort to steer clear of them.” (1987, p. 602).<sup>49</sup>

<sup>48</sup> See D. COLLARD (1978, p. 59 f.) as to the respective position of KARL MARX.

<sup>49</sup> The probably oldest criticism of this traditional concept of the homo oeconomicus goes back to THORSTEIN VEBLEN, who gives the following caricature: “The hedonistic conception of man is that of a lightning calculator of



It is obvious that scientific assumptions must always abstract from reality in a certain way and, therefore, are 'unrealistic' and in individual cases refutable. The point is that such abstractions must not filter out the essential aspects of the problem at stake. To what extent this has happened or still happens through the usual assumptions in economics, will not be discussed in detail here. MILTON FRIEDMAN's famous contribution to the methodology of positive economics in 1953 opened a discussion on that question, which continues and even intensified during the eighties.<sup>50</sup> It seems to be important, however, to remember that the criticised caricature of the *homo oeconomicus* is only an extreme special case which abstracts, for example, from the existence of uncertainty or information costs. As will be shown below in *Section 3.1*, such abstractions are not essential components of microeconomics and they are not typical of the modern economic theory which is discussed here and which is to be seen as behavioural theory in the sense mentioned above.<sup>51</sup> But then many objections must be dropped or, in RALF DAHRENDORF's words, the *homo oeconomicus* becomes a creature considerably less strange than before.

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pleasures and pains, who oscillates like a homogeneous globule of desire of happiness under the impulse of stimuli that shift him about the area, but leave him intact. He is an isolated, definitive human datum, in stable equilibrium except for the buffets of impinging forces that displace him in one direction or another. Self-imposed in elemental space, he spins symmetrically about his own spiritual axis until the parallelogram of forces bears down upon him, whereupon he follows the line of the resultant. When the force of the impact is spent, he comes to rest, a self-contained globule of desire as before." (1898, p. 389f.) LOUIS DE ALESSI, who quotes this passage, remarks correctly that this view is "out of touch with current theoretical and empirical work" (1983, p. 71) in economics.

<sup>50</sup> For a critical judgement of MILTON FRIEDMAN's position see E. NAGEL (1963); of the more recent discussion T.D. STANLEY (1985), J.-L. ARNI (1989), TH MAYER (1993), G. PELLONI (1996) or U. MÄKI (2000). RALF DAHRENDORF adopts the same position as MILTON FRIEDMAN when he writes: "In economic theory the protracted argument over whether a *homo oeconomicus* who permanently weighs profits and losses is a realistic image of man's economic behavior has been decided: literal realism is quite unnecessary as long as the theories based on this model provide powerful explanations and useful predictions. ... To the extent that the assumptions underlying scientific theories become 'realistic,' they also become differentiated, restricted, ambiguous, uncondusive of definite explanations or predictions. In this sense, then, the less realistic and more stylized, definite and unambiguous the assumptions underlying a theory are, the better the theory is." (1963, pp. 92ff.)

<sup>51</sup> See also B.S. FREY (1980, 1992).

Whereas RALF DAHRENDORF admits that this concept has turned out to be generally suitable for analysing economic processes, there are quite a number of critics, among them also economists, who dispute this. These critics maintain that the economic model of behaviour contradicts the findings of modern psychology and, therefore, is to be rejected. The (alleged) findings of psychology are accepted as an authority to which the economic theory would have to adjust.<sup>52</sup>

It is, of course, permissible to compare economic theory with the findings of psychology, simply because economists often refer the problems that they cannot explain to the field of psychology. This applies especially to questions concerning the origin and change of preferences.<sup>53</sup> When considering psychology, and especially social psychology, more closely, it becomes however obvious “that at least part of psychology looks at man’s behavior in fundamentally the same way as economics; namely, as responding to positive and negative incentives in a coherent and predictable manner. Both, psychological and economic man are thus regarded as behaving rationally and as maximising their utility.”<sup>54</sup> According to KARL-DIETER OPP, the psychological theory behind the economic approach is “equivalent to the expected value theory of social-psychology” (1979, p.7), as it is represented, for example, by N.T. FEATHER (1959) or by KLAUS KAUFMANN-MALL (1978, 1981). But this does not mean that some traits of the economic model of behaviour do not contradict psychological findings and that subsequently economists could not learn from psychologists.<sup>55</sup> But a general contradiction is out of the question. Moreover, whenever a contradiction between psychological knowledge and the economic approach seems to occur, it is not sure that the economic approach should

<sup>52</sup> Vice versa, some economists as, for example, W.H. MECKLING (1976), reject the psychological approach. See for this B.S. FREY and W. STROEBE (1980).

<sup>53</sup> For a critique of this procedure, see R. ZINTL (1986).

<sup>54</sup> W. STROEBE and B.S. FREY (1980, p. 144). See also B.S. FREY and K. FOPPA (1986).

<sup>55</sup> See, for example, A. FURNHAM and A. LEWIS (1986), the contributions in A.J. MACFADYEN and H.W. MACFADYEN (1986), S.B. LEWIN (1996), or the contributions in issue 2/2 of the *Swiss Journal of Economics and Statistics*, 1997. A number of more recent psychological studies is especially interesting for economists; they deal with anomalies of the economic model and especially of the model of expected utility maximisation, based on the Axioms of JOHN V. NEUMANN and OSKAR MORGENSTERN (1948). (See, for example, the contributions in D. KAHNEMAN, P. SLOVIC and A. TVERSKY (1982), in R.M. HOGARTH and N.W. REDER (1987), in I. BROCCAS and J.D. CARILLO (2003) as well as many contributions in the *Journal of Economic Psychology* founded in 1981.) See for this also *Section 6.1* below.

be adjusted. The different research interests, the explanation of the behaviour of (single) individuals versus the explanation of aggregate behaviour, can lead to different abstractions from reality that – *prima facie* – might lead to contradictions between both approaches. In such a case, the adaptation of the economic to the psychological theory might even be a step backwards.<sup>56</sup>

Quite a number of critics reject the assumption of rationality of the economic model, which they identify in the sense of a ‘full rationality’ with explicit optimising or maximising behaviour. In doing so, they can refer to the fact that prominent advocates of the economic approach as, for example, GARY S. BECKER or KARL BRUNNER, use the term ‘maximisation’ explicitly when they characterise their methodology.<sup>57</sup> But even these authors generally use this term not in the sense of an explicit (mathematical) optimisation of an objective function, but in the sense of a systematic choice (according to certain criteria) from given and known alternatives. In contrast to the traditional textbook version, the ‘modern’ homo oeconomicus is not always an ‘optimiser’ as already pointed out above. Therefore, the economic model of behaviour is also compatible with the concept of ‘bounded rationality’ developed by HERBERT A. SIMON (1955).<sup>58</sup> There, the individual behaves as a ‘satisficer’ and not as an optimiser, he searches so long among the alternatives at his disposal until he meets a ‘sufficiently’ acceptable one, and then he decides in favour of it. If after a long search, however, no such alternative is to be found, the individual reduces his aspiration level and then looks for an alternative that according to this lower level is acceptable.

This model of bounded rational behaviour is often understood as an alternative to the economic model of behaviour,<sup>59</sup> but this applies only insofar as oneself – as well as many critics, but also many traditional economists – is bound to the concept of the individual who under full information is permanently optimising. Then both models can be tested empirically against each other.<sup>60</sup> When considering the more recent conception of the homo oeconomicus, both these models are special cases of a more general concept, because HERBERT A. SIMON’s model also contains

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<sup>56</sup> See for this, for example, S. LINDENBERG (1990).

<sup>57</sup> See, for example, G.S. BECKER (1976a) or K. BRUNNER and W.H. MECKLING (1977) and K. BRUNNER (1987).

<sup>58</sup> See for this also H.A. SIMON (1978, 1979), J. CONLISK (1996) as well as A. RUBINSTEIN (1998).

<sup>59</sup> This view is adopted especially by HERBERT A. SIMON himself, but it is also to be found, for example, with RONALD A. HEINER (1983, p. 564).

<sup>60</sup> See for an example A. KAPTEYN, T. WANSBECK and J. BUYZE (1979).

those elements which are decisive for the economic model of behaviour: The distinction between preferences and restrictions, the evaluation (of a part) of the alternatives, the decision among the evaluated alternatives according to one's relative advantage, and with that the possibility to influence this behaviour by a change in the environmental conditions (incentives).

Such concepts of bounded rationality are especially important if there is only little knowledge about the possible actions and above all about the consequences to be expected. In such situations, it is relevant to develop and to apply "rational search procedures".<sup>61</sup> Such procedures should not in every single case, but at least on average, lead to decisions with acceptable results. They can be, for example, approved rules of thumb, but – in the computer era – also highly complicated mathematical algorithms. In this context, HERBERT A. SIMON speaks of "procedural rationality" (1978, p. 8), in contrast to the usually considered 'substantial rationality'.<sup>62</sup>

How 'boundedly' rational the behaviour of individuals is, depends largely on the institutional conditions under which it takes place. Inter alia it is important how well the individuals are (and can be) informed about the alternatives at their disposal, the costs of additional information, and the return of such information, respectively the costs of 'wrong' or sub-optimal decisions. If the competitive pressure is high in a market, there is a strong incentive to look for the objectively best action. But in monopolistic (or oligopolistic) situations, 'sufficiently adequate' solutions might be acceptable. Something similar holds with respect to market transparency: if auction and non-auction markets are compared, if, for example, the stock market is compared with the market for consumer goods. It can generally be assumed that markets provide greater incentives for rational behaviour in the sense of the traditional model than other social decision mechanisms like, for example, political or bureaucratic procedures. This may be the essential reason why many social scientists see the application of the economic model of behaviour restricted to the 'economic' area in the traditional sense. From what has been said above, it should be obvious that this is a misunderstanding, because a very specific and restrictive version of it is treated as equivalent with *the* economic model of behaviour. This, however, implies that bounded rational behaviour is excluded from the realm of the theory of rational behaviour and is regarded as being non-rational or even irrational. Actually, however, this is one important variant of rational behaviour, just as the model of expected utility maximisation derived by JOHN V. NEUMANN and OSKAR MORGENSTERN (1944) which is discussed

<sup>61</sup> H.A. SIMON (1978, p. 11).

<sup>62</sup> On the foundations of procedural rationality, see also F. LAVILLE (2000).

below. Bounded rational behaviour is *rational* and not irrational behaviour.<sup>63</sup>

It may be objected against all this that in reality the behaviour of individuals is characterised less by rational (or bounded rational) decisions but more by their adherence to (social) norms, as was presented by RALF DAHRENDORF (1958) in his picture of the ‘homo sociologicus’. This sociological model based on EMILE DURKHEIM’s (1895) tradition of a non-individualistic sociology or social sciences, is often opposed to the economic model as being the ‘more realistic one’.<sup>64</sup> But this comparison is questionable if it intends to express explicitly or implicitly that the homo oeconomicus does not follow rules. Of course, he also does this, because in a world of limited information and limited resources, it is rational to follow rules at least in ‘standard situations’. This is not only valid, for example, in traffic, but applies also to many ‘economic’ decisions in the traditional sense, for example, to many consumer decisions.<sup>65</sup> The individual can also use ‘contingent rules’, i.e. rules which indicate for a whole class of situations how (according to his own preferences) to behave best.<sup>66</sup> Moreover, during the last decades, an essential point of the (theoretical) discussion about monetary policy has been whether, and if that is the case, which monetary rules should be applied.<sup>67</sup> In any case, however, a reasonable individual, whoever it may be, whether a consumer, an investor or the president of a central bank, will never use such a rule blindly, but will change his behaviour as soon as he registers a relevant change of his acting condi-

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<sup>63</sup> According to this, HERBERT A. SIMON himself writes “that almost all human behavior has a large rational component, but only in terms of the broader everyday sense of rationality, not the economists’ more specialized sense of maximization.” (1987, p. 2.)

<sup>64</sup> See for this *Chapters 5 and 9*.

<sup>65</sup> Ronald A. HEINER (1983, 1990) even adopts the view that (in many cases) behaviour is only then predictable if individuals do not strictly optimise because of their information problems, but orientate themselves by rules. For a critique of this proposition, see G. KIRCHGÄSSNER (1993a, pp. 188ff.).

<sup>66</sup> In the theory of quantitative economic policy, such rules are derived explicitly by taking into account given preferences and restrictions. See for this, for example, G.C. CHOW (1975), on the criticism of this concept see R.E. LUCAS (1976) and also the survey by K. BLACKBURN (1987).

<sup>67</sup> See for this, for example, R.E. LUCAS (1980), A. BLINDER (1987) as well as J.B. TAYLOR (1998). This discussion goes back at least to M. FRIEDMAN (1948) and his idea of a fixed rule for monetary policy which is still propagated by some economists. Today, the most prominent rule is the ‘Taylor Rule’ first proposed by JOHN B. TAYLOR (1993). For a discussion of this rule, see, for example, M. WOODFORD (2001).

tions, and possibly adapt his rule to the new situation. Of course, this also applies to contingent rules if a situation emerges which is not yet covered by them. If these rules are not seen absolutely, but as a means being at the individual's disposal to save decision and information costs, there is no contradiction between the economic model of individual behaviour and the application of rules by the individuals.

Whereas the individual can impose upon himself such 'internal' rules and can also change them again if necessary, his actions confront him with 'external' rules of behaviour which are given by society, for example in the form of legal prescriptions. In many cases, it is rational for the individuals to keep to them. This is true because disregarding these rules may be connected with considerable costs for the individual, which must be taken into account when weighing up the expected costs and benefits of breaking a rule. But there are limits to this, too: It may be rational for an individual in some situations to disregard legal prescriptions. If, for example, the traffic lights are red, but no traffic is in sight, pedestrians often cross the street and so violate the traffic law. The danger of being punished for that is extraordinarily small. In the same way, speed limits are frequently exceeded, in certain situations nearly always. The latter happens if, for example, at construction sites on a highway, a maximum speed of 60 km/h is prescribed. In such situations, many drivers obviously exceed the permissible maximum speed, but only few of them by more than 20 to 30 km/h. In such situations, the following happens: Individuals (drivers) compare the utility (saving of time) with the costs (expected fines) of the speed limit violation and then follow that internal rule of violating the external rule, which they expect to maximise their net utility in the 'normal case'. In exceptional cases, if they, for example, know that there are frequent radar controls at a certain place or if they are in a hurry, they do not keep to their own rules (for 'normal' situations), however. Such violations of legal rules do not happen just in traffic, but also often in other, perhaps more important social areas. The strongly expanding shadow economy in many countries has been an obvious example during the last three decades. The result of all this is that social (legal) rules within the framework of the economic model of behaviour just are, nothing more and nothing less, than a certain kind of additional restrictions, the disregard of which can imply costs which might be considerable in some cases.<sup>68</sup>

External rules, however, do not just consist of legal prescriptions, the observation of which is to be safeguarded by threats of legal sanctions. They frequently consist 'only' of socially acknowledged norms that are

<sup>68</sup> As to this problem, see also *Section 4.2*, below.



expected to be followed.<sup>69</sup> Such norms are to be found in every society and also in every minor group of a society. They work in the same way in Western-type states as in criminal organisations, for example, in the Mafia. The advantages of a membership in such an organisation can only be fully used, if it is known, respectively assumed, by the other members that one actually complies with the rules in force. One needs a corresponding reputation. If one loses this reputation, one also loses these advantages or at least part of them.<sup>70</sup> As long as there are no major reasons for breaking the rules and/or as long as there is the danger that the violation of the rules becomes known, a rational individual will comply with the socially acknowledged rules. Consequently, he will not behave like a “rational fool” in the sense of ARMATYA K. SEN (1977) who, quasi as a kind of ‘mini-maximiser’, tries to use even the smallest short-run advantage for himself without thinking of possible long-term consequences. Thus, socially acknowledged norms are additional restrictions for the actions of rational individuals. What is, however, peculiar about them is the fact that their violation often brings about only small costs in the short-run, but possibly considerable ones in the long-run.

An example for the effectiveness or ineffectiveness, respectively, of such moral rules is the attempt to protect the natural environment using ‘moral instruments’, i.e. introducing new environmental ethics. Even if all individuals, producers as well as consumers, advocate verbally such a policy, their behaviour will be quite different depending on their situation. In principle, consumers have the possibility of following such rules; they only have to bear the costs of fewer consumption possibilities and/or less leisure time. As experiences with voluntary programmes to reduce trash or recycle show, a considerable part of the consumers will change their behaviour in the desired direction, at least as long as the costs of such behaviour are small. The producers face quite a different situation. A private firm in competition with other firms can hardly bear additional costs to protect the natural environment if the competitors do not have to carry the same costs. Given the state of the environmental policy of the government, it will mainly follow a strategy of (long-term) profit maximisation, even if it shows some verbal engagement for environmental policy for image cultivation. On the other hand, a firm in a safe monopolistic situation is able to bear such costs. However, because this reduces its monopoly rent, owners

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<sup>69</sup> As to the importance of social norms for behaviour see, for example, S. GÄCHTER and E. FEHR (1997), K.-D. OPP (1997) as well as H.P. YOUNG (1998).

<sup>70</sup> In Western society this is effected explicitly by being deprived of one’s ‘civil rights’ for some time or permanently, for example, of the active or passive right to vote.



and managers of such firms will have only little incentive to introduce 'expensive' measures to protect the natural environment.<sup>71</sup>

Moral rules in particular show that the transition between external and internal rules is in reality fluent, despite the fact that this distinction is analytically meaningful. As far as moral norms are internalised, they belong to the internal rules. There might be, however, only few (moral) rules that are exclusively internal ones. Typically, moral rules refer to the behaviour against third parties, and societies or communities usually demand that their members adhere to certain such rules. If individuals intend to remain members of such a community, they have to expect sanctions if they violate these rules. As the results of SIMON GÄCHTER and ERNST FEHR (2000, 2002) show, such sanctions have not necessarily to be executed by official agents of the respective community, but are often imposed by ordinary members who do not have any direct benefit but are committed to see that the corresponding norms are observed.

Besides the argument that the behaviour of individuals is mainly rule-governed and that the economic model of behaviour does not include this, another objection that is occasionally put forward against this model is that it is a behaviourist one.<sup>72</sup> This assertion is hardly compatible with the reproach discussed above that the concept of the homo oeconomicus contradicts the findings of psychology. It explicitly or implicitly presupposes that behaviour is explained according to a simple stimulus-response-model as it has been partly used within the framework of psychological behaviourism.<sup>73</sup> This objection fails to see that within the framework of the eco-

<sup>71</sup> On the role of 'moral instruments' in environmental policy see W.J. BAUMOL and W.E. OATES (1979. Pp. 282ff.) as well as G. KIRCHGÄSSNER (2000).

<sup>72</sup> This reproach is made by Marxist authors, for example, by M. WETZEL (1973). For the analysis of it see also KARL-DIETER OPP (1979, pp. 105f.) and HERBERT A. SIMON (1985, pp. 293f.). For the latter, this reproach is hardly understandable just because he is an economist *and* a psychologist.

<sup>73</sup> Of course, one can try to provide the economic approach with a 'psychological foundation' by referring to hypotheses of the psychological theory of learning. HANS J. HUMMEL and KARL DIETER OPP (1971), for example, did this within the framework of their approach of a 'behavioural-theoretical sociology'. (See for this also G.C. HOMANS (1961) and K.D. OPP (1972).) According to VICTOR VANBERG, a '*liberalised* neo-behaviourism' is taken in this approach as a basis, which is far from presupposing mechanical incentive-reaction patterns for human behaviour as might have been the case with the traditional behaviourism of JOHN B. WATSON (1924, 1927). There is, however, no need for such a psychological foundation as far as the economic approach in the social sciences is concerned; many of its representatives even reject it explicitly. (See the discus-

conomic model, behaviour is explained by referring to individual decisions whereby preferences and, therefore, intentions, play a major part. This objection becomes completely absurd, however, if one takes into account that the homo oeconomicus can also act strategically. The restrictions of his actions include the (expected) actions of his interaction partners. For this reason, his choice of the optimum alternative is co-determined by the expected reactions to his actions.<sup>74</sup> Such strategic situations play an important part (not only) in economic life. They are treated formally within the framework of 'game theory'. Since the fundamental analysis of these problems by the mathematician JOHN V. NEUMANN and the economist OSKAR MORGENSTERN (1944), economics can hardly be thought of without game-theoretical concepts.

In the technical sense, a game is a situation in which two or more players interact according to exactly given rules. This interaction can be, as is the case with most games in the traditional sense, non-co-operative (competitive): One individual plays against one or more opponents. But it can also be co-operative, for example, by entering into negotiations with the interaction partners. Every player has a given number of possible actions (strategies) from which he has to choose the optimum by taking into account the (expected) actions of his fellow players. If the same game situation appears repeatedly, one speaks of 'repeated games'. To the situations which are called 'game' here belong not only games in the traditional sense but also many other decision situations, for example, when oligopolists fix their prices, or when party programmes are set up for elections.

Exactly the game-theoretical concepts have proved to be very fruitful for transferring the economic approach into the various other social sciences: There is no social science which could be thought of today without the model of the 'prisoner's dilemma';<sup>75</sup> and that game theory can be applied widely, for example, in political science, is convincingly demonstrated in the textbook by WILLIAM H. RIKER and PETER C. ORDESHOOK (1973).<sup>76</sup>

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sion in V. VANBERG (1975), who himself is a representative of this behavioural-theoretical sociology, and see also the discussion below in *Section 8.2.*)

<sup>74</sup> See for this also J. ELSTER (1979, p. 18 ff.).

<sup>75</sup> As to the prisoner's dilemma see below *Section 2.4.* – According to R.J. AUMANN (1987, p. 468), there have been more than one thousand contributions alone in the field of social psychology in connection with the prisoner's dilemma already at this time.

<sup>76</sup> See for this also R. SELTEN (1971) as well as quite generally for the social sciences M. SHUBIK (1964).

## 2.3 On Preferences

These considerations, which refer in the first instance to the assumption of rationality, do not remove all objections to the economic model of behaviour. A number of further objections are directed against the treatment of preferences within this framework. Even if the strict division between preferences and restrictions – which is not always without problems – is accepted as a reasonable procedure, there are (at least) three problems concerning the treatment of preferences within the economic approach: (i) the assumption of constant preferences, (ii) the ethical (moral) question as to whether the factual preferences can or should be accepted, and finally (iii) the question of the validity of the self-interest axiom, i.e., what part altruism can or should play in this model. The first two questions are dealt with in this Section, whereas the third one, because of its special relevance to the economic model, will be discussed in the following *Section 2.4* as well as in *Chapter 5*.

When the economic model of behaviour is applied, it is usually presupposed that the preferences of the individuals change much more slowly than their restrictions and that the former can, therefore, be assumed to be constant for the purpose of the analysis.<sup>77</sup> On the other hand, it is not to be questioned that individuals have different preferences nor that these preferences can change in the course of time. However, as long as preferences cannot be observed independently of individuals' actions, the question must be asked whether a research strategy is reasonable explaining human behaviour through changes in the preferences. As SIEGWART LINDENBERG (1984) showed in his debate with CARL CHRISTIAN V. WEIZSÄCKER (1984), relying on preference changes is connected with a number of problems. The most precarious of them may be the great danger of immunising theoretical statements: Any behavioural change can *ex post* be 'explained' by referring to changed preferences. As long as the preferences cannot be observed independently of the actions, such statements cannot be tested and rejected: they are without empirical content. Therefore, it is generally more reasonable to explain changes in (observed) human behaviour by

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<sup>77</sup> GARY S. BECKER and GEORGE STIGLER (1977) even go considerably beyond this position by presupposing identical preferences for all individuals. Contrary to them, ARMEN A. ALCHIAN and WILLIAM R. ALLEN have regarded differences in individuals' preferences as a very constitutive element for microeconomic theory. ("Postulate 5: Not all people have identical preference patterns." (1964, p. 23.)) And some economists as, for example, ARIE KAPTEYN and TOM WANSBECK (1982), B.S. FREY (1997) or W. DOLFSMA (2004) consider also the formation of preferences.

changes of the restrictions (which can be observed independently) than by changes in the preferences (which cannot be observed independently). This especially applies to the non-experimental social sciences.<sup>78</sup>

Another argument against the assumption of constant preferences is that individuals, as long as they do not know (all of) their possible actions, cannot form corresponding preferences either. According to the extent in which their action leeway either widens objectively or the information on it increases, their preferences will change correspondingly. As individuals often do not know exactly the implications of their actions and as they are, therefore, also unable to evaluate them, they will – according to this argument – form their preferences in the course of their actions. For this reason, the argument runs, preferences cannot be seen independently of the possible actions.<sup>79</sup>

This argument can be maintained only as long as preferences are understood to be the actual assessments of the advantages and disadvantages of the respective alternatives. Trivially, these assessments cannot take place before the consequences of the various possible actions are sufficiently known. However, such a restricted notion of preferences is neither necessary nor sensible within the framework of the economic model. As stated already at the beginning, decisions are always based on incomplete information, and this incompleteness does not refer just to the different alternatives as such, but also to their consequences. And as nearly always the possibility of searching for additional information about alternatives exists, one might also – if possible – try preliminarily some alternatives to obtain information on their consequences in order to learn whether they have to be judged as positive or negative.<sup>80</sup> This does not require a change of preferences, i.e. a change of the criteria by means of which these consequences

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<sup>78</sup> One can try to get information about the preferences, respectively their changes over time, from *other* actions than those that are being investigated in a specific research context. But on the one hand, in the non-experimental social sciences this is only possible under certain conditions, and on the other, an assumption of constancy is required here as well: The preferences must be constant between the actions which have been examined for comprehending the changes in preferences, and those actions which are to be explained by means of these changed preferences. – As to possible procedures of discovering preferences, see W.W. POMMERHNE (1987).

<sup>79</sup> See for this also L. v. MISES (1949) as well as I.M. KIRZNER (1973). – In this sense, the approach of HARTMUT ESSER (1996, 1999) discussing the ‘definition of the situation’ would also belong to the process of preference formation.

<sup>80</sup> Such a procedure corresponds quite closely to the model of bounded rational behaviour in the sense of HERBERT A. SIMON (1955), which was discussed above.

are evaluated. If an individual changes his opinion as to the relative advantage of a certain alternative, because he is now more aware of the respective consequences, so has this nothing to do with a change in preferences; it is a change of the state of information. If, on the other hand, after performing such an action, all the consequences appear as expected, why should the individual then change his preferences?

Due to a too narrow notion of preferences, a change in the preferences is frequently but unnecessarily supposed when changes in the restrictions and/or in the information of individuals are sufficient to explain changes in their behaviour. The present discussion about the preservation of the natural environment is a typical example: the fact that individuals nowadays increasingly stand up for the environment and demand measures for protecting it, is often attributed to a change of their preferences. It is, however, not necessary to resort to this in order to explain this 'environmental consciousness' which has increased without any doubt. One must not forget that environmental goods such as clean air, clean water or quietness are probably 'superior' goods: as income increases, the demand for them rises over-proportionally.<sup>81</sup> Subsequently, the changed environmental consciousness can be partly due to a rise in real incomes (per capita) in the Western industrial countries. Alone, this argument is hardly sufficient for explaining the behavioural changes. What is probably more important is the fact that (many) individuals have realised that the pollution of water and air can have negative effects on themselves. Consequently, they demand political measures against this deterioration. In this case, the cause for the change in their behaviour is due to a change of the information they possess. Additionally, if they realise that pollution is in some respects worse today than was the case, for example, 50 years ago, and if they therefore support demands for environmental protection to which they were once indifferent, they have changed their behaviour because the restrictions of their present or future possibilities of action have changed. It is likely that a combination of all these effects has occurred. Thus, recent demands for an increased protection of the natural environment can, but need not, be connected with a 'change of values', i.e. with a change of preferences.

However, there are not just behavioural changes that need to be explained, but also behavioural differences. Such differences can result from different preferences. If, for example, Catholics – *ceteris paribus*, i.e. with the same income and the same education – vote differently from Protestants or Atheists, this can hardly be explained by referring to differences in the restrictions. According to the ordinary language usage, this is due to

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<sup>81</sup> See for this K. ZIMMERMANN (1984, p. 505).

differences in the preferences. These, however, have not come into existence just by chance and were fixed from the beginning, but have developed over the process of socialisation. This makes it possible to put forward hypotheses and to empirically investigate how certain factors influence preferences in a certain way and, via the preferences, the behaviour of individuals. Such factors can be, for example, belonging to a certain class or religion or even the level of education. Investigations into the influence of these factors have been made, for example, within the framework of the sociological theory of voting, and they supplement the investigations based on the economic approach.<sup>82</sup> Therefore, the assumption of constant preferences cannot imply that these preferences, the process by which they are formed, or the factors influencing them, are excluded from scientific analysis. Whenever this happens, it is to be contradicted.

But do the factual preferences of individuals have to be accepted? Due to the fact that preferences are accepted as they are implicitly or explicitly expressed by individuals, one fails to differentiate between the needs which are actually expressed and the 'true' needs.<sup>83</sup> In a certain sense, this is a 'democratic' point of view: It is presupposed that citizens are mature and self-responsible and that each of them is able to decide best for him-/herself. Despite the fact that this is in line with our Western political tradition since the Enlightenment, it is in contradiction to the view of many philosophers and social scientists who always feel responsible in their emancipatory efforts to provide a scientific foundation for specific norms that enables them to classify certain needs as good or bad, justified or not justified.<sup>84</sup> As already said in the introduction, social scientists who are committed to the principle of value-freedom as proposed by MAX WEBER, cannot claim to have superior knowledge that would enable them to do so. Such elitist arrogance which can be found, for example, with representatives of the 'critical theory' of the Frankfurt School or the constructivist philosophy of the philosophy of science schools of Erlangen and Konstanz, is, or should at least be, far from them.<sup>85</sup>

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<sup>82</sup> As to the comparison of these two approaches, see G. KIRCHGÄSSNER (1980).

<sup>83</sup> One has, nevertheless, to take into account that in certain situations, for example, when demanding public goods, individuals consciously express their factual preferences in a distorted way because of strategic considerations. This, of course, brings about difficulties in comprehending these preferences correctly. See for this W.W. POMMERHNE (1987).

<sup>84</sup> As to this tradition, which goes back to PLATO, and the potential implications of such views, see K.R. POPPER (1945).

<sup>85</sup> See G. KIRCHGÄSSNER (1982) who criticises these positions.

As already elaborated above, this does, however, not mean that value judgements and along with them the factually expressed preferences are excluded from the scientific discussion.<sup>86</sup> Preferences can be questioned, for example, with respect to their origin, their consistency and also their aptitude for being generalised. But neither the social sciences nor philosophy can release the individuals (and also the social scientists themselves) from deciding for themselves, which value judgements are to be valid, or which preferences they are to accept as the 'right' (true) ones. This does not imply that the individual cannot regard the value judgements of others or even of the majority as being wrong.

Clear and distinct as all this may seem, there are, however, two difficult problems remaining. On the one hand, preferences are not given a priori, but they develop during the process of socialisation in which social institutions participate to a considerable extent. But what value judgements are to be conveyed there? Can social scientists make a (scientific) contribution to decide this question? JAMES M. BUCHANAN (1986) suggests using in this context "a distinction in our thinking between the *constitutional* level of the discourse, evaluation, or choice and the *post-constitutional* level." (p. 86.)<sup>87</sup> On the post-constitutional level, the actual preferences are regarded as given. In this context "pushpin ... *is* as good as poetry" (p. 89f.). "At a second, or 'constitutional' level of discourse, however, existent sets of preferences need not be accepted, and, indeed, one of the aims of such a discourse becomes effective criticism of such preferences with some view toward 'improvement' through appropriate institutional change. Preferences for pushpin are not as good as preferences for poetry, and the social philosopher-cum-scientist has, as one of his central tasks, the design of a constitutional-institutional structure that will promote the emergence of 'better' preferences (for example, poetry)." (p. 90). While on the post-constitutional level, i.e. during the current economic and political process, the social scientist (as all other people, too) must accept the factually expressed preferences of others and cannot differentiate between the 'good ones' and the 'bad ones', on the constitutional level, i.e. 'behind the veil of uncertainty', one can possibly agree as to which institutions are most suited to bring about 'good' preferences. On this level, even unanimity may be achieved. During the current social process, where the economic and political decision procedures that have been agreed on must be applied, every attempt, as well intended as it might be, to prescribe the peo-

<sup>86</sup> See H. ALBERT (1963).

<sup>87</sup> The differentiation between these two levels is discussed in detail below in *Chapter 7*. For its application in the theory of economic policy, see, for example, B.S. FREY and G. KIRCHGÄSSNER (1994).



ple ‘better’ preferences involves the danger of totalitarianism pointed out by KARL R. POPPER (1945). But also on the constitutional level one must be aware of the fact that it is – according to all existing evidence – rather difficult to influence the individuals’ preferences with a certain purpose in mind.

Another question has been put forward concerning the ‘economic ethics’, respectively the ‘ethics of capitalism’, especially by the contributions from FRIEDRICH A. V. HAYEK.<sup>88</sup> The point is whether the survival of our political and/or economic system requires the internalisation of certain norms by a majority of individuals. FRIEDRICH A. V. HAYEK (1976, 1977) maintains that our system of norms, especially the demand for ‘social justice’, still means an orientation towards principles which in former times used to be necessary for human beings’ survival in small hordes but that this system is not adapted to the conditions of a modern society. According to this view, our moral conceptions are not (yet) sufficiently adapted to the conditions of a modern society. But even if this statement and the conclusions drawn by FRIEDRICH A. V. HAYEK are contradicted – and there are many objections to them<sup>89</sup> – the problem is nevertheless relevant, and is an interesting question for the social sciences as well. It is, however, not really a normative question: Whether the survival of a certain society requires obedience to certain norms or even the internalisation of certain value judgements is a cognitive question that can be answered independently of an assessment whether these norms are good or bad.<sup>90</sup> If this question is answered and unanimity has been reached that the survival of this society is the highest aim, unanimity might also be achieved as to which preferences are ‘good’ or which are not according to this end. There might, however, be members in the society who are not interested and who, therefore, do not assess such preferences as ‘good’ either. Even the (possible) fact that certain preferences are necessary for the survival of a society or even of mankind, is by no means a sufficient reason for classifying these preferences as ‘good’, and even less for the behaviour towards such norms.

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<sup>88</sup> See, for example, F.A. v. HAYEK (1973, 1976, 1979) as well as P. KOSLOWSKI (1982).

<sup>89</sup> See, for example, P. KOSLOWSKI (1982, p. 57) or G. KIRCHGÄSSNER (1995). – See also SCOTT GORDON (1981) who criticises FRIEDRICH A. V. HAYEK’s political economy and philosophy.

<sup>90</sup> As the case of abortion shows, conflicts can arise. Somebody who believes that abortions are morally reprehensible might nevertheless come to the conclusion that abortions are necessary to stabilise the population and – in this way – to make the (longer-run) survival of humankind possible.

Moreover, the statement that certain preferences are necessary for the survival of a society or of humankind is, as is always with such statements, to be judged rather sceptically. The present environmental discussion is a good example of this. It is often maintained that a new consciousness has to be developed, an ‘environmental consciousness’ in order to be able to survive.<sup>91</sup> Yet, human beings need to change their *behaviour* in some areas distinctly. As was shown within the framework of environmental economics, such changes of behaviour are to be achieved, however, much more simply and more effectively not by trying to change the preferences, but by changing the restrictions so that it is in the individuals’ self-interest to behave in line with environmental requirements.<sup>92</sup>

## 2.4 The Assumption of Self-Interest

We have not yet discussed the nature or character of *homo oeconomicus*. As already mentioned above, he is generally assumed to pursue only his own interests: he is principally eager for his own advantage, he is self-interested. Often he is judged to be even selfish or egoistic.<sup>93</sup> According to FRANCIS Y. EDGEWORTH the assumption “that every agent is actuated only by self-interest” is even “the first principle of Economics” (1881, p. 16). Although the utility of others can be included in his utility function and in this way it is possible to represent altruism, this seldom happens. Therefore, the question is whether individuals actually nearly always behave self-interestedly or if they also behave altruistically or ‘morally’, and in which situations such behaviour might occur. From this the question is to be distinguished whether the assumption of self-interest may or may not be appropriate for methodological reasons, even if one knows that this assumption can be wrong in some or even many situations.

<sup>91</sup> See for this, for example, A. AUER (1984, pp. 71ff.) or F. FRASER-DARLING (1969).

<sup>92</sup> Even then, it is difficult to enforce behaviour that is oriented towards ecological sustainability. As this demands restrictions that benefit mainly the members of future generations, it is hard to see how we can set incentives, which force individuals to follow such behaviour driven by their self-interest. See for this, for example, G. KIRCHGÄSSNER (1997a). – See also W.J. BAUMOL and W. OATES (1979) as to the discussion how effective the various instruments of environmental policy are.

<sup>93</sup> In the terminology of OTFRIED HÖFFE (1975, pp. 42ff.) man has a ‘substantial’ in contrast to a ‘formal’ self-interest; the latter is corresponding to the weak rationality principle discussed above. – For the development of ideas of self-interest, see D.H. MONRO (1987).

Self-interest and especially selfishness is generally not considered to be a positive character quality, which makes it understandable that many people refuse to accept this quality as a general behavioural assumption. After all, we should be able to recognise ourselves in such an (economic) model of behaviour, and we do not like to see ourselves too 'unpleasantly'. Is not (almost) everyone convinced that at least he or she is not striving only for his/her own advantage?<sup>94</sup> And many a person may ask whether politics should really be based on taking advantage of people's selfishness instead of appealing to their insight.

First of all, it may be pointed out that *homo oeconomicus* may not be quite so unpleasant. After all, he behaves neutrally towards other people. As long as he is in no special relation to him, he is indifferent about his 'neighbour's' well or unwell-being. He looks at him neither with envy nor with maliciousness, but neither is he pleased about his well-being. He behaves like the priest and the Levite in the parable of the good Samaritan in the gospel of St. Luke (10: 25 – 37) who saw and passed the man attacked by robbers. This 'mutually disinterested rationality' is certainly not a distinct Christian behaviour, but probably an apt description of our behaviour in many situations.<sup>95</sup> Not only entrepreneurs behave in such a way when maximising their profits, although in this situation this assumption might be most likely plausible.<sup>96</sup> Occasionally, professors behave in such a manner as well, and not only those of economics, but also, for example, those

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<sup>94</sup> Another reason why this assumption is often refuted might be that we recognise in it an aspect of ourselves, which we know quite well but do not appreciate very much. See for this also HANS G. NUTZINGER: "Man appears in this model as a rational advocate of his own interests. It is perhaps not only the simplicity of this conception but also that it is close to reality which leads to an emotionally overloaded rejection of this approach, as it provides us an unwanted view in our own, hidden mirror image" (1997, p. 85).

<sup>95</sup> Contrary to this, KENNETH. E. BOULDING writes: "Selfishness, or indifference to the welfare of others, is a knife-edge between benevolence on the one side and malevolence on the other. It is something that is very rare." And he continues: "We might feel indifferent toward those whom we do not know and with whom we have no relationships of any kind, but toward those with whom we have a relationship, even the frigid relationship of exchange, we are apt to be either benevolent or malevolent." (1969, p. 6.) But even if the latter was true, the assumption of 'neutral' behaviour might nevertheless be an apt characterisation of 'average' behaviour.

<sup>96</sup> At least the statement which is frequently heard that the economic model with its assumption of egoism cannot be transferred to areas outside the economy indicates that egoism or self-interest is, if at all, most likely to be accepted and tolerated with respect to economic relations. – A similar argumentation is presented by K.W. ROTHSCHILD (1992, p. 23).

of philosophy, law, sociology, or even theology. And like the profit-maximising entrepreneur, they should not be reproached for such behaviour; but one should take it into account. Already FRIEDRICH II of Prussia wrote in his political legacy of 1752: “Who believes that the world is crowded by villains, thinks like a misanthropist; to imagine that all animals with two legs and without wings are honest people, means to be mistaken like a fool.”<sup>97</sup> Thus, such behaviour is not only to be seen in our capitalist world, but also elsewhere, and human nature as presupposed in economics might not be so unrealistic. And the analysis of actual behaviour should be based rather on a realistic image of human beings than on an optimistic ideal picture.<sup>98</sup>

In addition, there are many situations in which individuals just cannot help behaving self-interestedly. An entrepreneur who wants to maintain his share in a competitive market cannot provide his employees with extraordinary social or monetary benefits, if he is afraid that a price increase, due to increased costs, endangers the sale of his products. After all, this would not be in the workers’ interest either, at least as soon as it would endanger their jobs.<sup>99</sup> Similar implications apply to many consumer decisions.

There are also many situations, however, where people behave selfishly despite the fact that they could behave differently and – from a moral point of view – perhaps should do so. This holds especially if they try to reach

<sup>97</sup> Translated from R. DIETRICH (1986, p. 273).

<sup>98</sup> In this context, the position of ADAM SMITH, the founder of classical political economy, is interesting. In his main philosophical work *The Theory of Moral Sentiment* he expressly admits altruistic behaviour to man when beginning this book with the following sentences: “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.” (1759, p. 9.) Nevertheless, he also writes in the same book: “We are not ready to suspect any person of being defective in selfishness.” (1759, p. 304.) And in his main economic work published seventeen years later, *An Inquiry into the Nature and Causes of the Wealth of Nations* (1776), he exclusively proceeds from self-interest. (See for this R.H. COASE (1976), D. COLLARD (1978, p. 51 f.) as well as S. LOFTHOUSE and J. VINT (1978, p. 588 ff.).

<sup>99</sup> Of course, this does not mean that firms are generally not in a position to provide their workers with social benefits nor that the latter must always go to the debit of the firm’s profit. On the contrary, there are examples where additional social benefits cause an increase of the firm’s profit due to improved motivation of the workers. In this case, however, a self-interested entrepreneur is well advised to introduce such benefits. An altruistic motivation is not needed.

their objectives with guile, if they behave ‘opportunistically’.<sup>100</sup> Individuals do sometimes break their promises if it is to their advantage. Or they pass on incomplete or biased information to make use of informational asymmetries. This happens not only on the market for second-hand cars, but, for example, also in claims against insurance companies. Moreover, the not infrequent practice of calling in sick (without a serious reason) on Mondays and Fridays is a kind of opportunistic behaviour. As OLIVER E. WILLIAMSON (1985) has shown, many social institutions have developed with the purpose of reducing opportunistic behaviour. One of the main functions of civil law is to ensure that contracts are correctly adhered to. According to tort law, in some cases opportunistic behaviour can even be punished. But many mechanisms have also been developed outside legal regulations that provide strong incentives to act according to contractual agreements. This holds, for example, for bonus systems of health insurance companies or for securities in relation to credit contracts. If one could generally assume that individuals are following their self-interest in an honourable way, i.e. without guile, such institutions would hardly be necessary.

Finally, in many cases the true motivations of individuals are of little relevance or no relevance at all, for the social result of their actions. As THOMAS C. SCHELLING (1978) showed by numerous examples, there are many situations in which the conditions of acting are so fixed that individual behaviour influences the individual result, but not the social one. This applies, for example, to games, in which it is settled in advance that there will be one winner and several losers, independently of how good the players are. The performance of the individual and his motivation are important for the outcome as to who will be the winner in the end, whereas the social result that there will be just *one* winner, is independent of that. The motivation of the individuals is irrelevant for the social result. Individual motivation is also not very relevant in many cases where a change in the aggregate behaviour results from a similar change of the action conditions of all individuals: A reduction of the demand for petrol stemming from a considerable rise in petrol prices is, for example, largely independent of the consumers being egoistic or in any sense altruistically motivated.

But this is not generally valid. If, therefore, the question of self-interest, and with it the question of motivation, of *homo oeconomicus* is important

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<sup>100</sup> The following definition for opportunism is given by OLIVER E. WILLIAMSON: “By opportunism I mean self-interest seeking with guile. This includes but is scarcely limited to more blatant forms, such as lying, stealing, and cheating. Opportunism more often involves subtle forms of deceit. Both active and passive forms and both *ex ante* and *ex post* types are included.” (1985, p. 47.)

in our context, this has nothing to do with a moral judgement of individuals' behaviour. As mentioned in *Chapter 1*, we are interested in a 'positive' theory to explain human behaviour, and not in a normative one to judge it. The essential reason for dealing with the question of motivation of individuals is to be seen in the fact that there are situations in which the social result of individual actions depends considerably on the motivation of the individuals, whether their behaviour is purely self-interested, non-co-operative, or even opportunistic, or co-operative, respectively. The result of non-co-operative behaviour may altogether be distinctly worse for the persons concerned than the result of co-operative behaviour. In this context, 'co-operation' describes behaviour that is governed by certain rules or norms. It is advantageous for all members of the corresponding society or group if all or at least a large majority of the individuals behave according to these rules. Nevertheless, their observance imposes costs on the individual and cannot be enforced by explicit sanctions or probably cannot be enforced at all, so that the possibility of norm-deviating behaviour exists. Whereas a purely self-interested individual will break such a rule, a co-operative individual might keep to it and thus give away a potential individual utility gain for himself.<sup>101</sup> Some individuals, and in certain situations even many individuals can actually be observed to behave altruistically, respectively co-operatively. But then a theory of individual behaviour should also be able to comprehend such behaviour.

The basic structure of such situations can be shown by means of the following 'game situation', which according to A.W. TUCKER is called 'prisoner's dilemma'.<sup>102</sup> Two prisoners are accused of having committed a series of crimes together. The public prosecutor's evidence is weak: Without confessions, he can convict both of them only on minor infractions. Therefore, promising no punishment, he tries to win each of them as chief witness against the other one. This results in the following situation for both prisoners who cannot communicate with each other: If both confess, each of them will be punished severely with ten years of imprisonment. If neither confesses, they will both get off with a relatively light punishment of two years. If only one of them confesses, he will get off without punishment as chief witness, whereas the other one will be severely punished with 12 years of imprisonment. This situation can be shown in the following diagram:

<sup>101</sup> Thus, the point in this discussion is not beneficial behaviour in the traditional sense.

<sup>102</sup> See for this, for example, R.D. LUCE and H. RAIFFA (1957, pp. 94ff.).

		Prisoner 1	
		Confessing	Non-confessing
Prisoner 2	Confessing	10 years for both	12 years for 1 and no punishment for 2
	Non-confessing	no punishment for 1 and 12 years for 2	2 years for both

Figure 2.1: Prisoner's dilemma

This can be simplified and generalised by the following 'payment matrix', where 'payment' in this context means years of imprisonment:

		Individual 1	
		Strategy A <sub>1</sub>	Strategy B <sub>1</sub>
Individual 2	Strategy A <sub>2</sub>	(-10/-10)	(-12/0)
	Strategy B <sub>2</sub>	(0/-12)	(-2/-2)

Payment to: (Player 1/ Player 2)

Figure 2.2: Payoff matrix for the prisoner's dilemma

In this situation, it would be reasonable for both prisoners to behave co-operatively and not to confess. Neither, however, can be sure that the other will not confess in the end. Therefore, it is sensible for each of them (it is individually rational) to confess as this is an advantage for him whatever the other one may do.<sup>103</sup> As a consequence, both will confess and will receive ten years imprisonment.<sup>104</sup>

<sup>103</sup> This is the Maximin solution of game theory. See for this, for example, E. RASMUSEN (1989, p. 103).

<sup>104</sup> Another illuminating example of this situation is given by J.L. MACKIE: "Two soldiers, Tom and Dan, are manning two nearby strongposts in an attempt to hold up an enemy advance. If both remain at their posts, they have a fairly good chance of holding off the enemy until relief arrives, and so both survive. If they both run away, the enemy will break through immediately, and the chance of



More generally speaking, the situation in which the socially ‘best’ outcome is achieved, demands that the two individuals co-operate with each other.<sup>105</sup> Nevertheless, it is ‘rational’ for each of them to behave non-co-operatively as this is even more advantageous for them, provided that the counterpart behaves co-operatively. If, however, both behave in that way, the socially best outcome is not brought about, but possibly even the socially least desired one. This can be avoided by explicit or implicit commitments that reward co-operative behaviour. In many cases, this can be reached through social institutions so that also self-interested individuals behave co-operatively and, thus, in the socially desired manner.<sup>106</sup>

Co-operation does not necessarily lead to a socially better (Pareto-superior) outcome because the situation of non-involved third parties can be worsened. (Even in the original example of the prisoner’s dilemma, the position of society is made worse by the co-operation of the two prisoners, because it has an interest that both are punished.) Cartels, for example, have the structure of a prisoner’s dilemma, and co-operation between their members, be it agreements about prices or the segmentation of market area, are legally prohibited, because consumers who are not taking part in these decisions have to take the burden of them. Thus, co-operation leads in many cases, but not always, to social improvement.

The prisoner’s dilemma is the most prominent, but only one example of social dilemma structures, i.e. of situations in which rational, self-interested behaviour leads to a result that is sub-optimal for those who are taking part in this decision but which could be improved by co-operation. RUDOLF SCHÜSSLER (1990) has, for example, discussed several other social dilemmas, which are much more difficult to solve than the prisoners’ dilemma.<sup>107</sup> It is, for example, more difficult to find a solution if one finds

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either of them surviving is markedly less. But if one stays at his post while the other runs away, the one who runs away will have an even better chance of survival than each will have if both remain, while the one who stays will have an even worse chance than each will have if they both run” (1977, pp. 115ff.).

<sup>105</sup> In this context the ‘socially best outcome’ is to be seen in that outcome which would be chosen by the individuals if they did not know in which position they are, i.e. if they were – according to JOHN RAWLS’ terminology – behind a ‘veil of ignorance’. (For this conception, see *Section 7.1* below).

<sup>106</sup> In *Section 7.2*, it will be shown that a ‘reasonable’ social order should contain exactly those rules that govern self-interested behaviour in this way.

<sup>107</sup> It is possible to interpret social problems quite generally as problems to solve social dilemma structures, as is done, for example, by KARL HOMANN and ANDREAS SUCHANEK (2000, p. 35ff.). It has to be taken into account, however, that not always mutually beneficial solutions are possible: changes of the status quo almost always produce winners and losers. (Technically speaking, this is

oneself in a game situation that is called the ‘battle of the sexes’. The usual standard example is a married couple who want to go out in the evening.<sup>108</sup> She wants to go to the theatre, whereas he would like to go to a football match. Although they have little interest in the other’s entertainment tastes, they want to spend the evening together. This game can be presented as follows in a payment matrix where the numbers represent the ‘utility equivalents’ of the two individuals concerned:

		Wife	
		Football	Theatre
Husband	Football	(2/1)	(-1/-1)
	Theatre	(-5/-5)	(1/2)

Payment to: (Husband/Wife)

*Figure 2.3: Payoff matrix for the battle of the sexes*

In contrast to the prisoner’s dilemma situation, (simple) co-operation does in this case not lead to a solution which would be advantageous to both, but one of the partners/players must behave ‘altruistically’: he/she must sacrifice his/her own entertainment choice to carry through the larger interest in spending the evening together. ‘Compensation’ can only be achieved if this game is played repeatedly by the same partners, and when they go alternately to one performance one time and to the other the next time.

If a purely egoistic behaviour was presupposed, sub-optimal solutions would generally be expected to come about. But we can daily observe altruistic behaviour in such situations, i.e. behaviour that is at least incompatible with (narrowly defined) self-interest. This also applies to the ‘battle of the sexes’, i.e. with respect to behaviour in partnerships and families. The behaviour within a family is, of course, no problem for the traditional

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always the case if we move along the Pareto frontier, i.e. if nobody can be made better off without making someone else worse off.) This is especially the case if distributional questions (or questions of justice) are to be discussed. For the (economic) discussion of problems of justice, see also J. ROEMER (1996).

<sup>108</sup> See for this, for example, R.D. LUCE and H. RAIFFA (1957, pp. 90ff.), as well as E. RASMUSEN (1989, pp. 34f.).

economic theory. There the family members mainly appear as consumers, and the theory of consumer behaviour generally assumes that the private household is altogether the relevant unit. In other words, altruism is presupposed within the family or – what might lead to the same result – identical or interpersonally comparable utility functions that are together optimised, whereas none of this holds outside the family. This procedure can be justified with the observation that altruism is mainly to be found where personal relations are very close and this is (or should at least be expected to be) given usually in families (respectively in similar partnerships).<sup>109</sup> For the analysis of the relations between the family (the private household) and other agents, self-interest can again be presupposed. The price for this procedure is, however, that behaviour within private households is excluded from traditional economic analysis.<sup>110</sup>

The situation becomes different if the number of players is not just two or small, but very large, and if the incentive structure is nevertheless the same as with the prisoner's dilemma. The larger the number of players, the more difficult it is to reach an agreement, making the incentive to behave co-operatively even smaller for each player.

In economic theory, this situation is dealt with in the theory of 'public' goods. Goods, independently of whether they are sold in markets or not, are usually characterised by the following two properties: (i) There is the principle of exclusion: Everyone who is not entitled to and/or is not willing to pay the corresponding price, can be excluded from the consumption of these goods. (ii) The consumption 'rivals': If goods are consumed by one individual, they cannot be consumed by another individual. Goods, which have these two properties such as bread, butter, cars or cigarettes, but also many services, are called 'private' goods. If these goods are offered on a market, everyone who wants to consume such goods is forced to contribute to their production by paying for them. No special public or social provisions are necessary to ensure this.<sup>111</sup>

'Public' goods are those that do not have at least one of these properties. For our context those goods are especially relevant where an exclusion is

<sup>109</sup> In the same way, the mutually negative feelings may also be very strong within families or similar partnerships, especially if these are on the point of breaking apart.

<sup>110</sup> There are studies that are more recent where the allocation within the private household is also considered. See, especially, G.S. BECKER (1981, 1988), but also, for example, M. BROWNING and P.A. CHIAPPORI (1998).

<sup>111</sup> For the purposes of our argumentation, individuals who come into possession of these goods illegally, for example, through theft, are excluded here.

either not practicable or – for whatever reasons – not executed.<sup>112</sup> In such a situation, it is rational for self-interested individuals not to contribute to the production of such goods but to behave as a ‘free rider’. This is especially the case when the group is so large that one’s own contribution to the production of these goods is negligible. There we have again the situation of a prisoner’s dilemma, but in contrast to the above, it is not with just two, but with a great many players. A voluntary co-ordination in order to bring about co-operation in this situation is hardly possible any more. In particular, if the individual contributions, which are necessary to bear the production costs, are non-negligible, the respective goods are not produced without coercive power or at best on a sub-optimal scale. Similarly, ‘public bads’, like pollution, are produced on too large a scale.<sup>113</sup>

This situation exists for many public services. The guarantee of legal security is such a public good for example. No citizen (of a democratic society under the rule of law) can be excluded from it. The provision and maintenance of this good, however, require considerable expenditure. Although (nearly) all citizens benefit from it, there is no country in which the citizens rely (solely) on voluntary contributions to finance this expenditure. Instead, taxes are used, i.e. payments which are collected with usage of sovereign coercion. It is completely rational that the same citizens, who are not willing to make such payments voluntarily, agree that the government can collect these taxes with coercion in order to guarantee the benefits that are to the advantage of all citizens.

However, such public goods are not just benefits provided by public authorities. Traffic security on roads and motorways is another example of such a public good. If in the Federal Republic of Germany, all drivers

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<sup>112</sup> If, in addition, consumption does not rival, these are ‘pure public goods’, otherwise these are ‘public goods in the wider sense’ or ‘commons’. In contrast, ‘public goods in the narrow sense’ are goods where exclusion is possible but consumption does not rival. For the theory of public goods which goes back especially to PAUL A. SAMUELSON’s (1954) work, see, for example, R.A. MUSGRAVE and P.B. MUSGRAVE (1976, pp. 49 ff.).

<sup>113</sup> This does not mean, however, that we always need a (central) governmental authority and its coercive power to ensure the production of such a good (or to prevent over consumption of commons). As ELINOR OSTROM (1990) shows, there are quite a number of institutional arrangements which allow the production of (especially local) public goods. On the other hand, even in these cases it is necessary that sanctions are available which allow the prevention of deviating (free riding) behaviour. Without such possibilities, i.e. solely with voluntary contributions of the individuals concerned, even the production of local public goods hardly takes place except for ‘low-cost situations’. See for this also *Chapter 5* below.

would voluntarily keep to the recommended maximum speed of 130 km/h, traffic safety would increase, i.e. more of this good would be produced. For every individual driver, however, it would be even more advantageous if all others kept to this recommended maximum speed except himself. Perhaps not all, but many German car drivers think in this way; hardly anyone, whose car is fast enough, abides by this speed limit. Therefore, the good 'traffic safety' is not produced to the corresponding extent. It is important to see that even drivers who themselves support a speed limit rationally do not *voluntarily* abide by such a limit, because they would have to bear costs in the form of additional transportation time, but without any measurable effect on the social outcome (the amount of traffic safety).

Today the problems arising from such situations are most precarious with respect to the preservation of the natural environment: Clean air, clean water and quietness are public goods: while the consumption rivals at least in densely populated industrial areas, exclusion is not at all or hardly possible.<sup>114</sup> The situation becomes especially precarious if these are 'international public goods', in other words in situations where the people who are affected come from several countries. International fishing grounds are a typical example: Self-interested rational behaviour of the individual fishermen or the fishing nations can lead to the extinction of the fish population due to over-fishing, which would result in the destruction of the fishermen's existential basis. But also global environmental problems like the 'ozone hole' or 'global warming' as a consequence of the saturation of the atmosphere with CO<sub>2</sub> are problems of international public goods.<sup>115</sup>

As long as pure self-interest is presupposed within the framework of the economic model of behaviour, free-rider behaviour can be expected by single individuals in such situations. This behaviour is widely spread as could be shown by means of many other examples apart from those mentioned above. Nevertheless, there are also cases in which citizens (regularly) pay voluntarily contributions to social institutions, which are useful for everybody, but where the individual contributions have only marginal effects. Voter turnout in democratic elections, which is discussed in more detail in *Chapter 5*, may serve as an example. If it is presupposed that the political system of (Western) democracies is advantageous for (nearly) all people concerned, that, however, its permanent existence can only be secured through voluntary contributions by a considerable percentage of citi-

<sup>114</sup> See for this also *Section 4.2* below.

<sup>115</sup> See the classical contribution of GARRETT HARDIN (1968) for further examples as well as for the question of overpopulation, which can be discussed in this context.

zens and that the participation in an election or referendum is such a contribution, the high turnout, which can be observed in many democracies, is an example of behaviour which cannot be explained by self-interested individual calculations.<sup>116</sup> Such 'co-operative behaviour' between people, who do not know each other, has also been proved in experiments.<sup>117</sup> Thus, citizens do not always and everywhere behave purely egoistically, but partly also co-operatively, respectively altruistically.

Such behaviour may only seem to be altruistic. This is obviously the case when a contribution to a public good is made solely because together with it a 'private good' is acquired that can be received only by those who have paid their contributions.<sup>118</sup> This argument, however, does not hold out for voter turnout as long as voting is not mandatory (and there are no legal sanctions for not voting) and as long as voting is secret. Furthermore, behaviour only may appear to be altruistic if individuals behave strategically according to their own long-term self-interest, which might contradict their short-term interests.<sup>119</sup> Such 'reciprocal altruism' was examined by PETER HAMMOND (1975), but above all by ROBERT AXELROD (1984),<sup>120</sup> and it plays a part in iterative games. If somebody meets the same person repeatedly, it is reasonable to behave co-operatively at first and then to adjust the behaviour in the following turns to the fellow player's behaviour in the preceding turn, i.e. to respond to co-operation with co-operation and to non-co-operation with non-co-operation. The expectation is that this kind of behaviour is an incentive for the partner(s) to behave co-operatively even if this means giving up short-term profit chances.

A series of experiments has shown that such 'tit-for-tat' actually is a superior strategy in the long run (in iterative two-person prisoner's dilemma games).<sup>121</sup> But even this is not sufficient to give a complete explanation for

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<sup>116</sup> See for this G. KIRCHGÄSSNER (1980), R. ZINTL (1986), and the discussion in *Chapter 5* below.

<sup>117</sup> See for this R.M. DAWES and R.H. THALER (1988). – As to the extent of the free-rider behaviour see, however, W. STROEBE and B.S. FREY (1982).

<sup>118</sup> See the discussion of the supply of such 'joint products' within the theory of interest groups going back to MANCUR OLSON (1965) which is dealt with in *Section 4.1.3*.

<sup>119</sup> See for this also T.C. SCHELLING (1978b).

<sup>120</sup> See R. AXELROD and W.D. HAMILTON (1981). – A biological and (based on it) a psychological explanation of the development of reciprocal altruism is to be found with W.D. HAMILTON (1964) and in ROBERT L. TRIVERS (1971).

<sup>121</sup> This strategy goes back to ANATOL RAPOPORT. He successfully applied it in both turns of a 'computer contest', which was carried out by the University of Michigan. ROBERT AXELROD invited professional game theorists to send in computer programmes containing a rule that, after each turn in an iterative pris-

the observable altruistic behaviour. Individuals behave co-operatively towards others – not always, but frequently – not only when they do not know them, but also if any further interaction can be excluded. FRIEDRICH SCHNEIDER and WERNER W. POMMERHNE (1981) could, for example, show co-operation in experiments with ‘one shot games’.<sup>122</sup> Obviously, individuals behave as free riders to a much smaller extent than is assumed by traditional economic theory. They “have a tendency to co-operate until experience shows that those with whom they are interacting are taking advantage of them.”<sup>123</sup>

As already elaborated above, co-operative, respectively altruistic, behaviour in this context means the adherence to norms whose observance is advantageous for all members of this society or group, whose observance, however, cannot be forced by explicit sanctions or cannot be forced at all. Usually, it is attempted to internalise such norms during the process of socialisation. It makes sense to try to achieve this, even for a society consisting only of self-interested individuals. Thus, for example, teachers point out the advantages of democracy and the necessity of a high turnout for the functioning of a democracy in order to internalise the ‘civic duty of participating in elections’ to their students. If citizens participate later on despite the obvious costs of participation, the reason might be that they want to evade ‘psychic costs’: According to the theory of cognitive dissonance, there are costs if individuals consciously behave against the norms which they have internalised (and therefore also accepted).<sup>124</sup> These psychic costs

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oner’s dilemma game, requires a decision whether the player will behave co-operatively or non-co-operatively in the next turn. The whole ‘history’ of the game could also be taken into account. All strategies submitted were used by the players to play against all the others. ‘Tit-for-tat’ resulted altogether in the highest payments in both turns. (See R. AXELROD (1984, pp. 27 ff. as well as pp. 173 ff.) – However, the range of co-operative behaviour which has been achieved in this way, may be less broad than is mostly assumed. See for this K.D. OPP (1988).

<sup>122</sup> Moreover, experiments with repetitive games showed that a considerable number of players were still keeping to the co-operative strategy even in their last run of the game, although it was clear that further interaction was excluded.

123. R.M. DAWES and R.H. THALER (1988, p. 191).

<sup>124</sup> For the theory of cognitive dissonance developed by LEON FESTINGER (1957) see, for example, K.D. OPP (1970, pp. 251ff.), as well as the literature presented there. E. ARONSON (1972, pp. 85 ff.) does not only present this theory, but criticises it and points out its limits (pp. 131 – 139). – G.A. AKERLOF and W.T. DICKENS (1982) show how this theory can be used in the framework of economic analysis.



may be greater than those (real) observable costs resulting from obeying the norms, in our case from participating in an election.

As plausible and scientifically founded as all these considerations might be, considerable problems within the framework of the economic model arise if such psychic costs (or psychic satisfactions) are taken into account. Any behaviour can be explained with psychic costs, but none can be excluded. Then, human beings always act in their own interest. The theory would be immunised by this and be without empirical content, i.e. without explanatory power.<sup>125</sup> Therefore, it is advisable to explain human behaviour without resorting to psychic costs, whenever possible.<sup>126</sup>

As soon as it is possible, however, to objectively measure processes in the human brain the danger of immunisation can be avoided, even if such costs or benefits are taken into account. Today, such processes are investigated in the new rising field of 'Neuroeconomics'.<sup>127</sup> By scanning the brain of subjects, DOMINIQUE J.F. DE QUERVAIN et al. (2004), for example, show that punishment actions, which incur costs on those who are punishing,<sup>128</sup> activate the same areas of the brain which are also activated by actions which generate (in the traditional sense) satisfaction. This allows the inclusion of such psychological effects in a non-tautological (and empirically testable) manner in economic models. In a certain way, this rehabilitates the traditional general model of homo oeconomicus: He tries to get as much satisfaction as possible, and such satisfaction may also result from actions, which contradict the narrow version of the model, which considers only monetarily measurable aspects. The person who is considered here increases his/her utility by actions, which are costly without increasing her/his chances of consuming traditional consumption goods.

In many cases it is, however, not necessary to resort to such psychic costs (or satisfaction), if all social and not just the 'economic' effects in a more narrow sense are taken into account. A teacher, for example, who explains to his students the importance of voting, will become considerably less credible in their eyes if they find out that he himself does not vote.

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<sup>125</sup> See for this also H. MARGOLIS (1982, pp. 59 f.) as well as ERNST TOPITSCH: "The statement that human beings are always acting according to their self-interest can either be formulated tautologically, and then it is irrefutable but without content, or it can appear as a factual statement; then it is refutable and, moreover, probably wrong." (1965, p. 26.)

<sup>126</sup> As stated above, the objective in our context is to explain 'typical' behaviour. The psychologist who is interested in the behaviour of single (specific) individuals is in a different situation. See below *Section 8.2*.

<sup>127</sup> For introductions in this area see P.J. ZAK (2004) or C.F. CAMERER, G. LOEWENSTEIN and D. PRELEC (2004, 2005), E. FEHR (2006) or J. PURDY (2006).

<sup>128</sup> See for this *Section 5.2* below.

Workers who are organised in trade unions would react similarly against other members of their organisation.<sup>129</sup> One of the functions of the press in our society is among other things to point out the offences of norms by (prominent) members, even if these offences are of no legal nature. The fear of this modern version of a 'pillory' might induce many people to abide by social norms, even if they do not accept these norms as founded and/or if their observance is connected with costs.<sup>130</sup>

All this does not imply that altruism is irrelevant for human behaviour. However, to include it in the analysis requires the formulation of some very special hypotheses, which can be derived (from general assumptions) and tested empirically unless one wants to risk the immunisation of the theory and with it the loss of empirical content.<sup>131</sup> Therefore, the assumption of self-interest remains in most cases. But what is the foundation that it is possible and, moreover, even makes sense, to adhere to this assumption, although it is quite obvious that altruistic behaviour exists?

At first, it should be mentioned once again that there are many situations in which the question of self-interest or altruism is of secondary importance for the analysis. If certain alternatives become more attractive and others less through political measures, we can assume that individuals will shift their behaviour towards the now (relatively) more attractive alternatives. It is only the changes of restrictions, which matter here, as long as the preferences, and with them the motives, of acting people remain constant. Thus, for example, essential statements of the economic theory of politics can be maintained if altruism and not self-interest is presumed with

<sup>129</sup> If religious communities threaten their followers with punishments after death ('purgatory' or 'hell') in the case of disobedience to norms, this is, of course, also a threat with considerable sanctions.

<sup>130</sup> See, for example, K.D. OPP (1985a) as to the effects (effectiveness) of so-called 'soft incentives'. Today, the internet provides additional possibilities for such pillories that are increasingly used. Sexual offenders are, for example, made public in some states of the United States even after having served their sentence. This makes it nearly impossible for them to live a 'normal life'. But this means is also used by pupils and students against teachers and university professors.

<sup>131</sup> One might try to explain altruism 'biologically' respectively 'genetically' as this is done in socio-biology today. (See for this besides W.D. HAMILTON (1964) and R.L. TRIVERS (1971), H. MARGOLIS (1982, p. 26 ff.) or D.P. BARASH (1977, p. 76 ff.). But this is not the subject of discussion here, as our explanatory attempts are restricted to the social sciences. (See *Section 8.3* below as to socio-biology).

individuals.<sup>132</sup> The decisive assumption in these situations is that of rationality and not that of self-interest.<sup>133</sup> On the other hand, we must bear in mind that altruism is not usually the ‘typical’ behaviour of individuals in most situations; typical is rather the ‘neutral’ assumption of ‘mutually disinterested rationality’ – in the words of JOHN RAWLS (1971) – which allows the exclusion of altruism and malevolence. The focus of interest is to bring out the main features of human behaviour, to be ‘realistic’ in this understanding, and not to describe human behaviour in all its facets.<sup>134</sup>

Moreover, as will be discussed in *Chapter 5*, it depends largely on the costs whether people behave altruistically or follow their self-interest. The higher the costs of altruism, the lower – *ceteris paribus* – the readiness of the people to behave altruistically. In the case of typically economic decisions, especially decisions concerning production processes, altruism is normally quite expensive. On the other hand, it is relatively cheap to be al-

<sup>132</sup> See for this G. BRENNAN and J. PINCUS (1987) responding to J. QUIGGIN (1987).

<sup>133</sup> ARMEN A. ALCHIAN (1950) presents a much more pointed argument according to which individual motivations are completely irrelevant because of the selection pressure in competitive markets. We shall deal with this argument and the discussion around this position in *Section 8.3*.

<sup>134</sup> This ‘realistic’ interpretation of *homo oeconomicus* is criticised by KARL HOMANN, because it would block the way to the idea that “*homo oeconomicus* is an artificial figure which has been constructed because of certain research interests.” If economics would try to achieve an adequate model of human nature “it would at least with *homo oeconomicus* – or with its more elaborated development REMM – and with its whole model building from the outset be fighting a losing battle.” (1988, p. 111.) Of course, the *homo oeconomicus* is a theoretical construction, and this requires considerable abstractions from reality. These abstractions, however, must not lack the essential characteristics (for the respective investigation), if this construction is to be used for explaining actual behaviour. In this sense, therefore, the ‘proximity to reality’ of the behavioural model is essential for its performance. Similarly, MILTON FRIEDMANN writes: “the relevant question to ask about the ‘assumptions’ of a theory is not whether they are descriptively ‘realistic,’ for they never are, but whether they are sufficiently good approximations for the purpose in hand.” (1953, p. 15). And JOSEPH A. SCHUMPETER wrote already much earlier: “Surely, neither our ‘assumptions’ nor our ‘laws’ belong to the world of the phenomena themselves. But from this no objection against them follows, as this does not prevent that they *fit* to the facts. Where does this come from? Only because we have been arbitrary, but reasonably when in constructing our schemes, we have designed them with regard to the facts. ... Thus, we will not misuse our sovereignty, but make such assumptions, as they are imposed on us by the facts, and from which we reasonably can expect that they are not run down by them.” (1908, p. 527.)

truistic in referenda and to vote for redistributional programmes even if this has a negative impact on one's own income, as the probability that oneself is pivotal, i.e. that one's own vote decides whether this programme will be introduced or not, is extremely small. One might agree with JOHN QUIGGIN (1987) that citizens behave more altruistically, and therefore differently, with respect to political compared to economic (market) decisions. However, first of all, this holds only for voters but hardly for other political actors like politicians or the representatives of interest groups, and, secondly, this only holds for voters because at the ballot box the costs of altruistic behaviour are quite small and the psychic cost of non-altruistic behaviour might be considerable. Thus, such behaviour is compatible with the economic model of behaviour.<sup>135</sup>

Finally, in some situations it makes sense to presuppose contra-factually that individuals behave self-interestedly or even malevolently towards each other. For example, if one wants to know whether certain rules in the family law make sense or not, the question is not so much whether these rules prove effective with both partners behaving altruistically. As long as they do so, such rules are hardly required at all; the partners will come to an agreement without being helped by legal regulations. If the marriage is, however, broken and if the partners possibly meet each other perhaps even with hate, it is necessary that the rules of the family law prove effective (for example for the protection of the weaker side and especially the children). For such cases, it is really necessary to presuppose at least self-interested, if not even malevolent, behaviour, if they are to be analysed according to the economic model of behaviour. But this does not apply only to family law, but generally to the analysis of legal regulations. Many later amendments of laws are necessary for the sole reason that the original version of the law failed to take into account the actual possibilities of evading the law, which were detected and used by self-interested citizens.<sup>136</sup>

<sup>135</sup> The claim that individuals in the political area not only follow their individual interests but that they are also ready to show solidarity and conformity with the rules of the community, is also made by HANS HERBERT VON ARNIM (1987, p. 27). On the other hand, he demands that incentives are installed in a way that such behaviour is more profitable than today. Thus, he also supposes self-interested behaviour or at least assumes that this usually dominates. Thus, he actually goes along with the economic theory of politics which he before criticised because of its "not fully realistic" concept of the human being.

<sup>136</sup> This also applies to the analysis of constitutional rules. In this context DAVID HUME already wrote: "Political writers have established it as a maxim, that, in contriving any system of government, and fixing the several checks and controls of the constitution, every man ought to be supposed a *knave*, and to have no other end, in all his actions, than private interest. By this interest we must

Summing up, we can say therefore that the assumption of individual self-interest is a neutral assumption, which excludes behaviour which is – from a moral point of view – especially positive as well as especially negative. Therefore, it is typical of average human behaviour in many situations and in this sense also realistic. Furthermore, there are also situations in which the contra-factual presumption of self-interested behaviour seems to be reasonable. All this speaks for working with the assumption of self-interest as far as possible and deviating from it in favour of altruism (or other assumptions) only in certain special situations. The importance of such situations is, however, as will become apparent below, not negligible, especially if the economic model is applied in other social sciences, because there they are more relevant than in economics.

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govern him, and, by means of it, make him, notwithstanding his insatiable avarice and ambition, co-operate to public good. Without this, say they, we shall in vain boast of the advantages of any constitution, and shall find, in the end, that we have no security for our liberties or possessions, except the good-will of our rulers; that is, we shall have no security at all. It is, therefore, a just *political* maxim, *that every man must be supposed a knave*: Though at the same time, it appears somewhat strange, that a maxim should be true in *politics*, which is false in *fact*.” (1741a, pp. 42f.) This line of reasoning is also followed within the framework of ‘constitutional economics’. See for this *Section 7.2* below as well as G. BRENNAN and J.M. BUCHANAN (1983). – A somewhat different view is presented by B.S. FREY (1997a).

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Homo Oeconomicus

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