



2. Institutions: The Economic Perspective

2.1. THE PRESENT STATE

Institutional Economics distinguishes neatly between a positive (explanatory) and normative (policy-oriented) analysis. This distinction is succinctly made in all economic or rational choice approaches to institutional analysis, including its main variants of transaction cost economics, the economics of property rights, or principal-agent theory (for an extensive survey, see Eggertson, 1990). This contribution looks at the main characteristics of a positive analysis of institutions from the point of view of the politico-economic approach since this is the one that best highlights this essential distinction.

2.1.1. Positive Analysis of Institutions

The main thrust of Modern Political Economy (or Public Choice) is to explain how social institutions function. Institutions are seen as a set of constraints defining individuals' possibilities, i.e. they determine (in addition to the resource constraints such as the income and time available) what an actor can and cannot undertake. Institutions may be considered as generalized 'rules' (see Keman, 1997). Alternatively, one may distinguish three types of institutions that shape individual behavior, as follows.

- (a) *Decision-Making Mechanisms*. Major systems are the market (or the price system), the political system, hierarchy (or the bureaucratic system), and the bargaining system (where interest groups dominate). In addition, there is decision making by tradition (in particular the principle of 'first come, first served', or the special rights of the first-borne sons) or by random devices (which also have a long history).
- (b) *Formal and Informal Rules*. Individual behavior is constrained by legal restrictions, the infringement of which is accompanied by government-imposed punishment. The infringement of informal rules such as conventions and customs is also accompanied by punishment in the form of social sanctions, ranging from mild disapproval to eviction from the community one lives in.

- (c) *Organizations*. Generalized 'rules' may be frozen into a large variety of different organizations, some of which are in the more private realm (e.g. families), while others – in particular parties and the state – are in the public or political realm.

The political institutions that Public Choice deals with are generally taken to be democratic. Accordingly, the behavior of voters and of politicians in and out of power has been at the center of attention. Three models of government may be distinguished:

- (i) the politicians in power are completely subservient to the voters who decide by simple majority (*median voter models*);
- (ii) (Usually two) parties compete for as many votes as possible (*models of party competition*); and
- (iii) the government may pursue ideologically oriented policies, but has to ensure that it receives a sufficient number of votes at discontinuous elections (*politico-economic models*).

The three types of models have been subjected to empirical tests, and it has been shown that they perform well when they are applied under the appropriate institutional conditions in democracies. In contrast, there have hitherto been few studies of the workings of authoritarian or dictatorial political institutions.

Administrative institutions have been analyzed in the context of the economic theory of bureaucracy. Much knowledge has been gained about the internal workings of hierarchically organized institutions. Behavior towards other institutions has mostly been modeled in terms of budget maximization, but other goal functions, such as maximizing influence (which again boils down to having an as large organization as possible), or an easy life for the top bureaucrats, have also been analyzed. It has proved difficult, however, to integrate public bureaucracies into a macro-model of politico-economic interdependence.

Political Economy has also paid a great deal of attention to interest groups, revealing the conditions under which they are able to form and are able to overcome the public good or free-riding effects involved. Suppliers of goods and factors of production (i.e. both producers and workers) find it easier to establish strong pressure groups, whereas consumers and taxpayers are generally only weakly organized or not at all. As a consequence, their interests tend to be disregarded in an economic policy process that strongly relies on bargaining between established groups.

The modern political economist's approach to institutions is based on two building blocks:

1. The *model of human behavior* assumes that individuals pursue their own interests, subject to the constraints imposed by income, time and institutions. Preferences, by contrast, are strictly separated from, and taken to be independent of, constraints. The reason for this procedure is that

preferences are difficult, if not impossible, to observe and measure independently of the particular behavior studied. A change in behavior that is attributed to such a preference change does not lead to any testable implications, since the change cannot be observed independently. It is just a more or less tautological rephrasing of the observed behavior change in terms of a preference change. Changes in behavior are therefore attributed to changes in empirically observable constraints. The most basic hypothesis in economics is that a change in constraints that raises the price of a good or of an activity reduces the demand for the good and the extent of the activity (*Price Effect*). This hypothesis is refutable and therefore empirically testable. Take, for instance, the empirical observation that people use their car less. If this behavioral change is simply attributed to a change in tastes ('people are less fond of driving'), no empirical refutation is possible. If, by contrast, one attributes the behavioral change to a change in constraints (e.g., the government has instituted more severe liability rule, thus noticeably raising the cost of insurance and driving), the statement is empirically testable. It may be, for instance, that such new regulations have been introduced in another nation, and – keeping all other influences constant – have not reduced car use.

2. *Institutions* are analyzed in a *comparative way*. The task is to contrast various imperfect institutions as they exist in reality rather than comparing them to ideal types. The 'Nirvana' approach is rejected as misleading: there are no perfectly functioning institutions, and it therefore does not make sense to prove that the existing state is not 'optimal'. Rather, we must compare real institutions among which a choice may actually be taken.

2.1.2. *Normative Analysis and Proposals for Policy*

The findings reached by positive analysis are transformed into suggestions for policy application along two lines, which are mutually exclusive.

1. The institutional alternatives are evaluated on the basis of a *social welfare function*. However, Social Choice Analysis (which is a part of Public Choice) has proved that an aggregation of individual preferences into a social welfare function, or even into a social choice function, is generally impossible provided 'reasonable' conditions are fulfilled. The search for the circumstances under which reliance on a social welfare function is acceptable has resulted in a dead end, at least from the point of view of economic policy. While an institution producing a Pareto-superior outcome is preferred by all individuals concerned (and therefore no voting paradox arises), this is definitely not so if aspects of distribution are taken into account (as well as strategic behavior). As distributional issues are ever present, and are often of overwhelming importance in social life,

there is no hope of deriving normative conclusions by using a social welfare function.

2. Information based on positive analysis is offered to the individuals as citizens who are better equipped to take decisions conforming to their own preferences. Under *appropriate institutional conditions* allowing the expression of the preferences via voting (which are in principle met in a democracy) the politico-economic interaction leads to results that fulfill individual preferences as far as possible. This second procedure is far superior to simply stating that this or that *should* be done because it is 'rational from the economic point of view'. Such statements are not only inconsistent with the individualistic basis of economics but have also little, if any, effect on economic policy.

2.1.3. Toward New Frontiers

Modern Political Economy (see, e.g., Mueller, 1979; Frey, 1978) has generally been accepted (though not always put into practice) by scholars concerned with the positive economic analysis of institutions. The consequences for normative analysis and policy-making, however, have been disregarded in the social sciences, and particularly in economics, where, for example, general equilibrium analysis or neoclassical public economics still lack institutional content.

Rather than expanding at great length on what is generally known among modern institutionalists, this paper concentrates on what I consider to constitute fruitful steps for *future research*. Section 2.2 deals with Institutional as Constitutional Choice. Section 2.3 is concerned with the model of man used as the basis of that analysis. In Section 2.4 empirical analyses of human behavior are critically analyzed from the point of view of modern institutional economics. Concluding remarks are offered in Section 2.5.

2.2. INSTITUTIONAL AS CONSTITUTIONAL CHOICE

Outcomes cannot be the subject of choice. Outcomes *emerge* as the result of the social interaction of individuals acting within institutional environments. This is the essence of constitutional economics (see, e.g., Buchanan, 1977; Mueller, 1996). Accordingly, outcomes can be influenced only by the choice of institutions. They serve as generalized *rules* according to which the current politico-economic process takes place. It is thus crucial to distinguish the level at which the institutions are *chosen* from the current politico-economic process in which individuals act *within* given rules. As no rules exist at the pre-constitutional stage and as there is no possibility of forcing individuals at that stage, the choice of institutional rules has to be made unanimously, which means that everyone must expect to benefit from the rules. Consensus

on rules can be reached because, at the constitutional level, the individuals act behind the veil of ignorance, i.e. no one knows in which position he or she will be at the post-constitutional stage (see Frey, 1983).

The basic consensus in constitutional choice should be looked at as a logical characterization, and not as an historical one. It is immediately applicable to institutions chosen at the international level (Frey, 1984). Such rules can only be arrived at by consensus as there is no world government that could force the individual nations to accept rules.

The constitutional approach is incompatible with those institutional analyses in which *end states* or *outcomes* are the object of choice. This applies in particular to the studies in which the 'efficiency' (usually simply cost comparisons) of alternative production arrangements are compared. Much effort has been devoted to the question of whether private firms produce more efficiently or at a lower cost than public or cooperative firms. The constitutional approach suggests that such studies overlook the crucial questions: *What process* and *what institutional rules* have led to the choice of either the private, public or cooperative production arrangement? This shifts the focus of attention away from a purely technical comparison of outputs and/or costs to the study of how well individual preferences have been represented when the decision about the mode of production was taken.

Consider waste disposal, for instance. Assume that in a particular town the public administration has decided on its own accord that this service will be undertaken by one of its divisions and that no competition by private suppliers is permitted. In that case, the mode of production has been decided according to the preferences of the public administrators (among whom the public employees' union has a large say), while the preferences of the consumers and the taxpayers have not been represented (at least not directly) and have therefore tended to be disregarded. Not surprisingly, then, the waste disposal service will not be produced X-efficiently or at low cost. According to the preferences of the members of the public administration, however, the service may well be produced in the 'right' way, viz., to yield them the highest possible net benefit. Following this view, it cannot be surprising that an economist's advice that private production would be more 'efficient' and less costly than the existing public production will be rejected or ignored by the decision makers in charge. The decision makers will point out that the economist considers only the relevant output or counts elements as cost that according to the decision makers, should be counted as benefits. This is, for example, the case for wages going to the members of the public firms. Provided the decision makers have not made a mistake, the production *is* efficient if their valuation is used. Even if they accepted the economist's arguments, the decision makers in charge would not switch to a private or cooperative mode of production because they would lose thereby.

The constitutional approach looks at whether the whole decision process was one-sided. Taking a normative perspective, public choice economists

would suggest a change in the rules under which the decisions are taken. Above all, they would suggest that the consumers and the taxpayers have a (more direct) say in the decision process, e.g. by using direct referenda. If this is the case, their preferences would be taken into account with the result that better outcomes will emerge.¹

The constitutional approach to institutional choice has so far been little appreciated and used. It is still a minority view in economics, probably because it departs strongly from established ways of thinking, and requires a new view of the economy and society.

2.3. ECONOMIC MAN AS A BASIS OF ANALYSIS

The homo oeconomicus underlying institutional analysis is subject to *several limitations* which so far have received insufficient attention. There are (at least) four major shortcomings (see more extensively Frey, 1992).

1. Everyday experience, as well as carefully designed experiments, show that people's willingness to contribute to the financing of a public good is higher than predicted by orthodox economic theory (for extensive surveys see Ledyard, 1995; Sally, 1995). Indeed, individuals in many situations do not act as *free riders*. One important instance where the economic model of man cannot explain behavior is when people vote though the benefit calculus suggests that they should abstain.
2. People find it difficult to deal with *uncertainty*. Real life studies (Kunreuther et al., 1978) as well as a considerable number of experiments (Kahneman and Tversky, 1979; Kahneman, Slovic and Tversky, 1982) reveal, for example, that individuals treat small probabilities differently from large ones. A probability increase by a factor of 10, say from 0.07% to 0.7% is definitely not considered equivalent to an increase from 7% to 70%.

By now a large number of anomalies of individual behavior (mostly under uncertainty) have been revealed by experimental psychologists and economists. Paradoxical counterevidence against the orthodox economic model of behavior under uncertainty was been produced by Allais as early as 1953, and Ellsberg (1961). It is now well established that individuals consistently and significantly violate expected utility maximization. (For a wealth of evidence, see Schoemaker, 1980, 1982.) A number of irrationalities in individuals' behavior are well known, having achieved the status of 'effects':

Reference Point Effect. Alternatives are evaluated by people relative to a point of comparison instead of in terms of total wealth;

Sunk Cost Effect. People tend to take past cost into account in their decisions though it is rational to disregard immutable things;

Endowment Effect. Goods in a person's endowment are valued more highly than those not held in endowment;

Opportunity Cost Effect. Out-of-pocket monetary costs are given greater weight in the decision calculus than opportunity costs of the same size.

Certainty Effect. Outcomes obtained with certainty are attributed greater weight in people's decisions than those which are uncertain even when the known expected utilities are the same.

Framing Effect. The way a decision problem is formulated and the way the information is presented has a marked effect on individual decision, though rational persons should not be affected.

(For surveys see Slovic, Fischhoff and Lichtenstein, 1977 and Payne, 1982 from the psychological perspective; and Shapira, 1986; Machina, 1987 and Eichenberger, 1992 from the economic point of view.)

3. The behavior of individuals is shaped by the *cognitive processes* surrounding choice; it is certainly not determined by end state utility only. This has been pointed out by such insightful welfare economists as Sen (1979, 1982) and also underlines Simon's (1957) satisfying model of behavior.
4. Individuals are (partly) able to *construct the kind of person* they had been in the past and, more importantly, will be in the future. In this sense, preferences are not given but can be shaped by the person concerned. One possibility is to use self-commitment (see Elster, 1979; Hirschman, 1982; Schelling, 1980 or Thaler, 1980); people bind themselves by various measures (e.g. by explicit promises or even by having themselves bound to the mast, as Ulysses did) in order to overcome their weakness of will of which they are aware (in Ulysses' case not to fall prey to the Sirens' attraction).

The limitations and shortcomings of the orthodox homo oeconomicus do make a difference in terms of human behavior. They are relevant because they generally carry over to the *aggregate*, i.e. to the level in which economists are interested (see, more precisely, Frey and Eichenberger, 1989, 1994). Anomalies are not randomly distributed among individuals, so they do not wash out when a group of people is considered. Neither may it be assumed that competitive markets eliminate these kinds of irrational behavior. Rather, it has been shown (e.g., Shiller, 1984; Thaler, 1992) that anomalies exist even in financial markets - - i.e., in markets where competition is assumed to be nearest to the competitive ideal - which is inconsistent with rational behavior and with the 'efficient market' hypothesis. There are even conditions under which anomalies among individuals are strengthened by the process of aggregation. A case in point is the fiscal intervention of governments which tends to punish successful individuals and firms by (high) taxation, and supports unsuccessful individuals and firms by the solidarity principle, or because they have the stronger political arguments. If individuals and firms prone to anomalies or irrational behavior have a higher probability of being poor and making losses, and the rational ones of being successful - which is, of course, the assump-

tion of the survival of the fittest in the market (Alchian, 1950; Friedman, 1953) – then this governmental intervention blocks and counteracts the elimination process. The effects produced by the anomalous actors are strengthened, those by rational actors are weakened.

The anomalies discussed are important for institutional choice analysis. To name just one major consequence: the expected utility maximization model, which according to the Von Neumann/Morgenstern axioms is equivalent to the definition of rational choice under uncertainty, and which underlies standard models in public microeconomics such as optimal taxation (see, e.g., Sandmo, 1976) or optimal public pricing (see, e.g., Bös, 1987), can no longer serve as a general model of behavior. It follows that an institutional choice analysis that endeavors to improve our understanding of the real world and wants to make worthwhile suggestions for social improvement has to make a strong effort to introduce a better model of human behavior.

There are two ways to cope with this challenge. The first is to completely *reject* the economic model of behavior and to seek refuge in some other approach. To take this course would be unwise for at least three reasons:

- (i) the economic model of behavior has served well in many areas of application within and beyond the market. The 'economic approach to social problems' as championed by Becker (1976) – of which *Political Economy* or *Public Choice* is a variant – has been able to throw light on many aspects of social life that had hitherto been neglected;
- (ii) the contributions based on the 'rational choice' approach have found considerable attention and acceptance in other social sciences, especially in political science (see, e.g., Riker and Ordeshook 1973) and in sociology (see, e.g., Opp, 1979; Lindenberg, 1983 and Coleman, 1990) as well as in history (e.g., North and Thomas, 1973);
- (iii) in psychology – the science which is most intimately concerned with individuals – the economic model of behavior is in the process of being taken seriously (see, e.g., Stroebe and Frey, 1980; Lea, Tarpy and Webley, 1987; MacFadyen and MacFadyen, 1986) because it goes beyond a person's cognition of a situation, his or her motivational state and unexplained drives, and also takes into account that behavior is limited by a set of restrictions, most importantly by institutional conditions.

This leaves the second approach to overcome the shortcomings mentioned: to improve the existing economic model of behavior. Such an attempt may concentrate on a more satisfactory treatment of either (i) the constraints with which an individual is faced, or (ii) the preferences of the individuals. In the context of dealing with the observed anomalies of individual behavior, a reformulation of the underlying preference structure has been attempted by various authors (e.g., Loomes and Sugden, 1987; Machina, 1987). A less

formal course to give more content to individual preferences is by integrating results gained from empirical research. The following section discusses such an effort to broaden the preferences considered in institutional analyses, namely to capture the notion of fairness among individuals.

2.4. FAIRNESS AND INSTITUTIONS

Individuals often exhibit strong notions of what they consider to be 'just' or 'fair'. For instance, they may refuse to further demand a good when they feel that a price rise is unfair. Individuals' perceptions of unfairness may relate to two different aspects:

- (a) The *institutional process* may be considered more or less fair. The fairness perceptions may relate to the institution as a whole (such as the market vs democracy) or to parts thereof (e.g. the extent of co-determination in firms, or the extent to which the citizens may articulate their wishes via initiatives and referenda in a democracy).
- (b) The *outcome* of the politico-economic process may be considered to be more or less fair. Thus, for instance, a highly unequal distribution of income (as the outcome of the economic process) is generally judged to be unfair, and the government is called upon to rectify it. The outcome notion of fairness is the one traditionally used in (welfare) economics, and also underlies such concepts as Rawls' (1972) 'difference principle' according to which the least well off persons should be in as good a situation as is feasible under the existing resource constraints.

The two aspects of fairness are not unrelated to each other. As laboratory and field experiments on 'procedural fairness' (see Lind and Tyler, 1988; Tyler and Kramer, 1996) have revealed, individuals are prepared to accept outcomes which are less beneficial to them if they consider the institutional process which has produced these outcomes to be fair. In contrast, individuals want to be compensated by more favorable outcomes when the institutions producing them are taken to be unfair.

In the following, the two aspects of fairness will be dealt with by discussing relevant results from research which the author and his coworkers have undertaken. The first section deals with the evaluation of institutions in terms of perceived fairness; in this case the decision-making mechanisms of using the price system, the administrative system, a random and a traditional mechanism. Section 2.4.1. thus makes a contribution to the *fairness of institutions*. The second Section 2.4.2. analyzes outcomes of particular situations *in terms of fairness* by looking at the distributions that result depending on the institutional conditions under which individuals act, in this case the extent of interactions feasible between the players in a specific game, the Dictator Game.

2.4.1. Fairness of Institutions

Empirical concepts of the individual's notion of institutional fairness have been analyzed in joint work by psychologists and economists (Kahneman, Knetsch and Thaler, 1986). In a representative telephone survey in two Canadian cities, the following scenario was read to the participants:

A hardware store has been selling snow shovels for \$15. The morning after a large snow-storm, the store raises the price to \$20.

82% of the participants (N=107) rated this action as 'unfair', and only 18% considered it to be 'acceptable' to take advantage of the short-run increase in demand due to a blizzard. The same question (translated into German) was asked of a representative sample of 400 persons living in Zurich and Berlin in a written survey (Frey and Pommerehne, 1993). It turned out that 83% of all respondents (N=155) considered the rise in price to be unfair. Thus, virtually the same evaluation was found despite the differences of continent and time.

Several other scenarios also suggest that to raise prices when demand increases is considered unfair. On the other hand, it is found acceptable to raise prices when cost increases. This result conflicts with orthodox economic theory, which treats opportunity cost exactly the same as any other cost.

From the point of view of the political economy of institutional choice, these fairness experiments can be improved in two respects:

The first improvement is to use the scenarios in a *comparative perspective*. In the example given here, the participants had to state whether they find the use of the price system fair or not. They did not have the possibility to express whether they find the use of prices to ration demand more or less fair than, e.g., an allocation by a traditional method such as 'first come, first served', an allocation by the public administration, or the use of a random mechanism.

In our written survey undertaken for Zurich and Berlin, the fairness of the price system was analyzed when the respondents were explicitly confronted with other allocation mechanisms. The excess demand situation was characterized in the following way:²

On a popular sightseeing spot which can only be reached on foot there is a water source. The water is filled into bottles and sold to thirsty hikers for the price of SFr. 1.- (DM 1.-) per bottle. The daily production and thus the inventory per day amounts to 100 bottles. On an especially hot day 200 hikers would like to buy a bottle.

Please indicate *how fair* you consider the following methods for allocating the bottles to the hikers:

- (a) A price increase to SFr. 2.– (DM 2.–) per bottle?
- (b) Selling the bottle for SFr. 1.– (DM 1.–) according to the principle 'first come, first served'?
- (c) Selling the bottle for SFr. 1.– (DM 1.–) according to a random mechanism (e.g., to all persons whose surnames start with A to P)?
- (d) The commune buys all the water for the price of SFr. 1.– (DM 1.–) per bottle and distributes according to its own principles?

The answers (N=293) given were (see Table 2.1):

TABLE 2.1
Fairness evaluations of decision-making systems

Decision-making system	Evaluation	
	Fair	Unfair
(a) Price	27%	73%
(b) Tradition	76%	24%
(c) Random	14%	86%
(d) Administration	43%	57%

As expected, the price system is considered to be somewhat less unfair; 'only' 73% of the respondents take it to be unfair compared to when the price system is evaluated in isolation (where 83% found it to be unfair). There is a clear ranking of the decision making mechanism: tradition, i.e., an allocation according to the principle of 'first come, first served' is considered to be by far the fairest; more than three-quarters of the respondents find it to be fair. More than 40% of the respondents find an allocation undertaken by the public administration -- or more precisely, the commune -- to be fair. This is quite a sizeable proportion in view of the fact that many economists proclaim government allocations to be badly made (or to be inefficient). A solution of the excess demand situation by a rise in price is taken to be much less fair; almost three-quarters reject it as being unfair.

The ranking of the decision making systems according to the population's evaluation of fairness thus is:

- the fairest : tradition,
- 2nd fairest: administration,
- 3rd fairest : price, and
- least fair : random.

The second improvement is to identify more precisely the institutional setting within which the individuals are supposed to act. The scenarios by Kahneman, Knetsch and Thaler do not specify the conditions of a choice at the constitutional level because: (i) the scenario is constructed as a once and for all situation instead of a repetitive one, and (ii) the evaluation had to be given under a condition of certainty instead of behind the veil of ignorance.

In the survey of Zurich and Berlin, a question was addressed to the respondents in order to test whether the evaluation of the price system differs according to whether the underlying situation is taken to be expected (i.e. normal and repetitive) or unexpected. It may be hypothesized that when an excess demand situation is a normal and expected occurrence, the rise in price is considered more in terms of a *rule* than if the underlying situation is an unexpected, unique occurrence.

The difference between the two situations was directly addressed when it was asked:

- How is your evaluation when the especially hot day occurred completely unexpectedly?
- Do you find the rise in price to SFr. 2.- (DM 2.-) per bottle more acceptable, equally acceptable, or less acceptable?

The answers were:

- more acceptable 8%,
- less acceptable 64%, and
- equally acceptable 28%.

The evaluation of the respondents is very clear: the price system is taken by almost two thirds (64%) of the respondents to be fairer in an expected, normal situation – i.e., as a decision making *rule* – than it is as a pure rationing device in an unexpected, once and for all situation. It follows that the strongly negative evaluation of a rise in price found in the study by Kahneman, Knetsch and Thaler (and replicated by us) is due to the fact that the respondents reject pricing as a device for rationing a *fixed* supply in a unique situation. On the other hand, in a situation in which prices work as an allocation system (and where it also serves to increase supply) it is regarded more favorably.

These surveys on fairness of institutions intend to show that the fascinating research on the limits of the orthodox economic model of human behavior can be expanded in order to make them directly relevant to institutional analysis.

2.4.2. Institutional Effects on the Fairness of Outcomes

Game theoreticians have constructed a particular situation – called the ‘Dictator Game’ – which captures the extent of fair behavior in a simple way (see Kahneman, Knetsch and Thaler, 1986). There are two players, one of which (the allocator) receives a given sum of money. He or she may pass on to

TABLE 2.2

Dictator Game under three institutional conditions

Institutional Conditions	Fairness-Share
Anonymity	26%
Identification	50%
Discussion	48%

Source: our experiments.

the recipient any share of the money received (all, nothing, or any amount in between). Game theory takes human beings to be self-interested and therefore makes a clear prediction for this one-shot game: the allocator gives nothing to the recipient. As long as no binding contracts can be established, this result also holds if the two persons are not anonymous but know each other, and if they can talk to each other. Indeed, in game theory such discussion taking place before the individual decisions are taken are called 'cheap talk' as it is predicted to be irrelevant to the outcome.

In a series of experiments undertaken at the University of Zurich in the autumn of 1993 and 1994 we tested empirically whether people really behave as theoretically predicted.³ We distinguished three treatments, representing different institutional conditions under which people act:

- (i) anonymity, in which the allocator does not know who the recipient is;
- (ii) identification, where the two players can look at each other but may not talk;
- (iii) discussion, which allows the participants to talk to each other before the allocator makes the division.

In our experiment, the allocator was given SFr. 13.– (i.e. ECU 8.13 or US\$ 10) in real money, and there were (depending on the treatment) between 78 and 34 persons involved.

Table 2.2 shows the results of our experiments. 'Fairness' is defined as the share given by the allocator to the recipient.

The outcomes of our experiments differ massively from the theoretical predictions:

- (a) The fairness share is substantial under all institutional conditions. Even under anonymity, on average the allocators pass on one quarter of the sum received to the recipients; when the two persons can establish verbal and non-verbal communication, the sum received is divided equally.
- (b) Communication doubles the fairness share even when no binding contracts are possible. Identification and discussion⁴ establish a sort of 'psychological contract' which has a binding effect.

The experiments suggest that human beings do not act so egoistically as presumed in orthodox economic and game theory. Moreover, they show the importance of fairness for human behavior under different institutional conditions. Obviously, the experimental work discussed is only a beginning, but it presents an important step towards a more realistic – and fortunately also more agreeable – homo oeconomicus. This contributes to a sounder behavioral basis for institutional economics.

2.5. CONCLUDING REMARKS

Institutional Economics can make a distinct contribution to a better understanding of human behavior and the way it depends on varying circumstances. While positive Political Economy has been generally accepted and has been increasingly used, the policy conclusions have been rather neglected. The constitutional approach, concentrating on how the rules are chosen which then determine the outcomes, presents an important avenue consistent with the individualistic basis of modern economics. It has been argued that the underlying model of human behavior as it is now commonly used has serious shortcomings and must be developed further. Most importantly, psychologically based anomalies in decision making and aspects of fairness have to be introduced. Aspects of human behavior that have hitherto been neglected can be made directly useful for institutional analysis.

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NOTES TO CHAPTER 2

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¹ This has been empirically supported by Pommerehne (see, e.g., 1990) and Steenenbergh (1992, 1995).

² It turned out that the following excess demand situation referring to water was considered to be very similar to the one referring to snow shovels. The situation was changed because most inhabitants of Berlin are never confronted with the need to shovel snow as the overwhelming majority live in large multi-family houses where snow shoveling is the duty of the caretaker.

³ For a more complete presentation of the results see Frey and Bohnet (1995) and Bohnet and Frey (1995) where the experimental design is described in full.

⁴ That discussion raises cooperation in prisoner's dilemma games has been well established in the literature (for an extensive survey see Sally, 1995). The prisoner's dilemma and the dictator game have the same basic structure since in both cases individuals refrain from acting in their egoistic self-interest by either acting cooperatively (in the prisoner's dilemma game) or fairly (in the dictator game); see Andreoni and Miller (1994).