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INSTITUTIONAL ECONOMICS:
WHAT FUTURE COURSE?

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Abstract

Modern Institutional Analysis is based on the economic model of human behaviour and emphasizes a comparative perspective. While the positive analysis has been generally accepted by now, the policy consequences have been neglected. The constitutional approach concentrates on the individuals' choice of rules which then determines the outcome. The existing economic model of man is deficient in various respects and must be further developed. Behavioural anomalies and fairness under various institutional conditions are discussed and the relevance for future institutional analysis is shown.

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I. The Present State

Institutional Economics distinguishes neatly between a positive (explanatory) and normative analysis. The main characteristics of the politico-economic approach with respect to positive and normative aspects of institutions are discussed in turn.

A. The Positive Analysis of Institutions

The main interest of Modern Political Economy is to explain how social institutions function. Political institutions are generally taken to be democratic. Accordingly, the behaviour of voters and of politicians in and out of power has been in the centre 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 receive 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 when they are applied under the appropriate institutional conditions in democracies, they perform well. In contrast, there have up to now been few studies of the working 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. Behaviour towards other institutions has mostly been modelled in terms of budget maximization, but it has proved difficult to integrate public bureaucracies into a macro-model of politico-economic interdependence.

In Political Economy much attention has also been paid to interest groups. It has been shown under which conditions they arise 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 tax payers are only weakly or not organized at all. As a consequence, their interests tend to be disregarded in an economic policy process which strongly relies on bargaining between established groups.

There are two theoretical bases to the modern political economist's approach to institutions:

(1) The *model of human behaviour* takes individuals to pursue their own interests, subject to constraints imposed by income and time. Preferences are strictly separated from, and independent of, constraints. Changes in behaviour are attributed to changes in constraints; i.e. it is built on the law of relative price effect (the relatively more costly good or activity is substituted by a less costly good or activity).

(2) *Institutions* are analyzed in a *comparative way*. The task is to contrast various imperfect institutions as they exist in reality. 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 between actual institutions among which a choice may actually be taken.

B. Normative analysis and proposals for policy

The findings reached by positive analysis are transformed into suggestions for policy application along two lines:

(1) The institutional alternatives are evaluated on the basis of a social welfare function. However, Social Choice analysis has shown that an aggregation of individual preferences to a social welfare function, or even to a social choice function, is generally impossible provided 'reasonable' conditions are to be fulfilled. The search for the circumstances under which this procedure 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 behaviour). As distributional issues are ever present, and often are 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 therewith 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 which fulfil individual preferences as well as

possible. This second procedure is far superior to what orthodox economists normally do, namely to simply state 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.

C. Towards 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 analysis of institutions. The consequences for normative analysis and policy-making have, however, been disregarded in the social sciences, and particularly in economics, where, e.g., 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 II deals with Institutional as Constitutional Choice while section III is concerned with the model of man used as the basis of that analysis. In section IV empirical analyses of human behaviour are critically analyzed from the point of view of modern institutional economics. Concluding remarks are offered in section V.

II. 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 1995). Accordingly, outcomes can be influenced only by the choice of institutions. Institutions in the sense used here are *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* and established 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, and not as a historical, characterization. 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 which 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 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 focuses the 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, for instance, waste disposal. Assume that in a particular town the public administration has decided out of 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 therefore tend 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, namely so as 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 which 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 emerge¹.

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 completely from established ways of thinking and requires a new view of economy and society.

III. Economic Man as a Basis of Analysis

The homo oeconomicus underlying institutional analysis, is subject to *several limits* 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 1993, Sally 1995). Indeed, individuals in many situations do not act as *free riders*. One important instance where the economic model of man cannot explain behaviour 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, e.g., that individuals treat small probabilities differently from large ones. A probability increase by a factor of

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

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 behaviour (mostly under uncertainty) has been revealed by experimental psychologists and economists. Paradoxical counterevidence against the orthodox economic model of behaviour under uncertainty has already been produced by Allais (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). Well known are a number of irrationalities in individuals' behaviour which have reached the status of effects: the certainty effect, the sunk cost effect, the endowment and the framing effect. Much attention has also been given to the preference reversal phenomenon, while the choice heuristics of availability, representativeness, anchoring or adjustment have in comparison been rather neglected by economists. (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 behaviour of individuals is shaped by the *cognitive processes* surrounding choice; it is certainly not determined by end state utility only as claimed by orthodox economics. This has been pointed out by such insightful welfare economists as Sen (1979, 1982) and also stands behind Simon's (1957) satisficing model of behaviour. The critique often advanced against Simon that it is just utility maximization subject to an additional constraint, is a typical example of an argument by orthodox economists who are incapable or unwilling to see the point.

(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 selfcommitment, a procedure discussed by Elster (1979), Hirschman (1982), Schelling (1980) or Thaler (1980).

The limitations and shortcomings of the orthodox homo oeconomicus do make a difference for human behaviour. They are relevant for economics because they generally carry over to the *aggregate*, i.e. to the level in which economists are interested in (see, more precisely Frey and Eichenberger 1989, 1994). Anomalies are not randomly distributed among individuals so that 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 behaviour. Rather, it has been shown (e.g.,

Shiller 1984, Thaler 1992) that even in financial markets - i.e., in markets where competition is assumed to be nearest to the competitive ideal - anomalies exist which is inconsistent with rational behaviour 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 behaviour have a higher probability of being poor and making losses, and the rational ones of being successful - which is, of course, the assumption 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.

These anomalies and the other developments mentioned 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 behaviour. It follows that an institutional choice analysis which endeavours 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 behaviour.

There are two ways to cope with this challenge. The first is to completely *reject* the economic model of behaviour 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 behaviour 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 special variant - has been able to throw light on many aspects of social life which have so far 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 behaviour 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 behaviour is limited by a set of restrictions.

This leaves the second approach to overcome the shortcomings mentioned: to improve the existing economic model of behaviour. 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 anomalies of individual behaviour observed, a reformulation of the underlying preference structure has been undertaken by various authors (e.g., Loomes and Sugden 1987, Machina 1987). A less formal course is to give more content to individual preferences by empirical research. The following section discusses such an effort, namely to capture the notion of fairness among individuals.

IV. *Fairness in the Economy*

A. *Survey Results*

Empirical notions of fairness of individuals acting in the economic sphere 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 snowstorm, 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 in 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 difference 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 criticised in two respects:

(1) The scenarios do not use 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 the 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 way²:

'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.

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 lives in large multi-family houses where snow shovelling is the duty of the caretaker.

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:

Decision making system	evaluation	
	unfair	fair
(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 by far considered to be 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 a quite 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
least fair	random

(2) The scenarios by Kahneman, Knetsch and Thaler asked the participants to evaluate *outcomes* and not *rules*. The specific conditions of a choice at the constitutional level do not appear in this setting, 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 has been 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%
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 favourably.

These surveys on fairness intend to show that the fascinating research on the limits of the orthodox economic model of human behaviour can be expanded in order to make them directly relevant for the choice of rules in institutional economics. Surveys are, of course, not the only way to gain such information, another useful way are experiments to which we now turn.

B. Experimental Results on Fairness

Game theoreticians have constructed a particular situation - called 'Dictator Game' - which captures the extent of fair behaviour 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 the recipient any share of

the money received (all, nothing, or any amount in between). Game theory as well as orthodox economic theory which both take human beings to be self-interested make 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, game theory calls such discussion taking place before the individual decisions are taken 'cheap talk' as it is predicted to be irrelevant for the outcome.

In a series of experiments undertaken at the University of Zurich in the autumn of 1993 and 1994 we empirically tested whether people really behave as theoretically predicted³. 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.

³ For a more complete presentation of the results see Frey and Bohnet (1995) and Bohnet and Frey (1994) where the experimental design is fully described.

Table 2 shows the results of our experiments. 'Fairness' is defined as the share given by the allocator to the recipient.

Table 2. Dictator Game under three institutional conditions

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

Source: our experiments.

The outcomes of the 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. They moreover show the importance on

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 as 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).

human behaviour 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.

V. Concluding Remarks

Institutional Economics can make a distinctive contribution to better understand human behaviour and its dependence 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 behaviour as it is now commonly used has serious shortcomings and must be further developed. Most importantly, psychologically based anomalies in decision making and aspects of fairness have to be introduced. So far neglected aspects of human behaviour can be made directly useful for institutional analysis.

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