

5. Die fünf Beiträge des dritten Teils sind unter dem Titel „Special Topics in Social Choice“ zusammengefaßt. Der Titel ist etwas irreführend. Wohl handelt es sich um Themen, die nicht im Zentrum der allgemeinen Diskussion liegen. Doch wenigstens drei Beiträge sind von direkter Bedeutung für die thematische Verbindung von Ethik und Entscheidungstheorie.

Borch („Ethics, Institutions and Optimality“) untersucht den Einfluß ethischer Normen (in Form von Konventionen) und institutioneller Bindungen (in Form von Restriktionen der Entscheidungsfreiheit) auf Individualentscheidungen. Borch zeigt anhand konkreter Situationen (Lohnbestimmung, Versicherungsentscheidungen), daß derartige Einflüsse für die Suboptimalität im Sinne von Pareto verantwortlich sein können.

Selten („The Equity Principle in Economic Behaviour“) behandelt einen ähnlichen Aspekt. Selten versucht aufzuzeigen, daß reales ökonomisches Verhalten auch dann durch ein (verallgemeinertes) Gleichheitsprinzip bestimmt wird, wenn dies nicht offenkundig ist. Nach der sogenannten „proportional equity rule“ werden zwar nicht die individuellen Anteile selbst, wohl aber die Quotienten aus Anteilen und bestimmten Gewichtungsfaktoren (Einsätze, Produktivitätsbeiträge, aber z. B. auch Machtanteile u. ä.) gleich verteilt.

Gewissermaßen als Zusammenfassung dieser positivistischen Argumente zur Frage ethischer Prinzipien in kollektiven Entscheidungen plädiert Suppes („The Distributive Justice of Income Inequality“) ausdrücklich dafür, daß die normative Fragestellung „Wie sollen wohlfahrtsrelevante Güter verteilt werden?“ zu ergänzen um die deskriptiv analytische Frage „Wie werden sie denn verteilt?“. Am Beispiel des Kriteriums der Seniorität und einer vergleichbaren Analyse der Ginikoeffizienten für die Gehaltsunterschiede an amerikanischen Universitäten macht Suppes deutlich, daß der Blick auf reale Gegebenheiten durchaus Chancen für „... some new ideas about distributive justice“ eröffnen kann.

6. Die Bedeutung des Buches als Orientierungspunkt in der für den einzelnen nicht mehr überschaubaren „social choice“-Diskussion wurde schon erwähnt. Sie soll noch einmal wiederholt werden, denn dadurch wird das Buch lesenswert für jeden, der an dieser Diskussion interessiert ist.

Der speziell am Thema des Haupttitels interessierte Leser dagegen wird vermutlich nicht alle Erwartungen erfüllt finden. Doch gerade er weiß ja, daß angesichts der bisherigen Vernachlässigung der ethischen Grundlagen in der „social choice“-Diskussion der in dem Buch begonnene Weg umso mehr zu begrüßen ist.

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L. G. Telser: *Economic Theory and the Core*. XIX, 407 p. Chicago—London: University of Chicago Press. 1978. £ 25.20.

The central notion of this book is a game theoretical solution concept, the core. It is the set of all imputations or reallocations of all agents' total holdings such that no group of agents can offer a better alternative

to each of its members by only using the group's own total resources. Depending on the context the outcomes for the traders are real numbers or vectors.

With the exception of chapter 10 on "The Core of a Market, Money, and the Role of Prices", where an exchange economy is formalized by an implicitly defined game without sidepayments, a game is in the whole book described by a superadditive real-valued characteristic function. Telser's basic assumption in all applications in the book is that the values of coalitions under the characteristic functions, describe always what the coalitions can guarantee to themselves under most adverse conditions. A second basic feature of Telser's whole analysis is a deviation of his core from the one which is standard in the literature. Telser a priori excludes the all-player coalition from the class of legal coalitions. That makes the core loose one of his advantages as a solution concept, namely to contain Pareto optimal elements only. A justification of this has been given by Telser only in his earlier book "Competition, Collusion, and Game Theory" (1971). There he argues that only the pressure by an effective counter coalition can cause a coalition to realize its value. But the all player coalition fails to have opposition. Anyway, as a consequence, the reader has to be watchful at those parts of the book, where Telser relates own results to known facts from the literature. The heart of the book in some sense is chapter 4 where the game theoretical prerequisites are derived. The central notion of this chapter is the "kindness" of characteristic functions. It is just the property which is necessary and sufficient for the nonemptiness of the core. Kind characteristic functions are characterized by having an elasticity at least one with respect to the number of traders of a given type in a continuous game. An extensive analysis of those characteristic functions is presented.

Chapter 4 provides the mathematical basis for the first three chapters, which in some sense build a unity. According to examples from such different contexts as public goods, externalities, natural monopoly and monopsony and the theories of location and of capital, diverse characteristic functions are considered and discussed. Starting with all proper subsets of the all-player set being legal coalitions the core is analyzed. In case it turns out to be empty the class of legal coalitions is restricted in a suitable way. Accordingly the core becomes larger, and forbidding enough coalitions creates a nonempty (restricted) core. Restrictions on the class of coalitions are interpreted as e. g. property rights or zoning laws, depending on the context.

Chapter 5 concerns economic theory of information. A theory of storage, referring to the distribution of prices over time, is presented. The analysis is concentrated on points in the core which, under Telser's assumptions on production and storage cost functions and on market demand, are Pareto optimal. A central role in the analysis play traders' "self-fulfilling expectations". The expected equilibrium price, a real number in the considered one-commodity framework, is understood to be the Pareto price associated to a core element.

Chapter 6 provides “Empirical Studies of Storage and Prices”. An empirical analysis of storage for sixteen products (separately) is given. An econometric model is presented, followed by statistical explanations, supplemented by 17 pages with 33 correlograms.

Chapter 7 on “Price Distributions in a Competitive Market” originates predominantly from Telser’s specific notion of a not necessarily Pareto optimal core. In this chapter it is asked which conditions on the number and sizes of the traders in a market where price differentials may persist, suffice for supporting core elements by common unit prices. This amounts on analyzing under what conditions the core is Pareto optimal. The main result of this chapter can be stated roughly as follows. If the number of traders of each type exceeds a certain lower bound then there must exist a common unit price. The considerations in parts of this chapter are akin in spirit to the three “Remarks on the core of an atomless economy” by Schmeidler, Grodal, and Vind, in: *Econometrica* 40, 1973, where it is shown that allocations not in the (Pareto optimal!) core can be blocked by certain “small”, “local” coalitions.

Chapter 8 studies equilibrium price distributions in a competitive market where information and learning are costly. In a market with an infinite number of buyers and sellers cumulative distribution functions A and B describe sellers’ minimal acceptable prices and buyers’ maximal acceptable prices, respectively. Under certain conditions the market clearing prices $p_{m,n}$ of sample markets with n buyers and m sellers are shown to have distributions converging to the normal distribution with mean p_e , where p_e is the solution of $A(p) = 1 - B(p)$. The chapter is continued with a theory of optimal search and an analysis of equilibrium price distribution. It turns out that the marginal costs of search of the sellers determine the standard deviation of the equilibrium normal distribution.

In chapter 9 empirical studies of price distributions are presented and discussed in the light of the theory developed in chapter 8.

The last chapter, chapter 10, treats “The Core of a Market, Money, and the Role of Prices”. After a short historical introduction a two-firms-one-output model is described by a game with side payments under the headline of “Transferable utility”. It follows the formalization of an exchange economy by a non-sidepayment game, which, however, is not explicitly defined. The representation is standard. Examples of empty and nonempty cores are given, both for non-balanced games! In the next section a modification of the utility function leads to a “money-valuation” of allocations by the agents in terms of relative share of the total stock of the numeraire commodity. This valuation is used for the definition of a characteristic function. Telser continues with analyzing under which conditions every core allocation is a possible result of agents’ utility maximization with respect to a suitable chosen price. Results here are also standard. The chapter ends with an example and a short discussion of Aumann’s model of an economy with a continuum of traders.

As to judge Telser’s book one should perhaps measure it against the author’s pretension, made explicit in the second part of the intro-

duction. Comparing his present work with previous books on the core by Hildenbrand and by Scarf, Telser writes about these books: "Much of this work on the core is highly technical and emphasizes the mathematical at the expense of the economic aspects". Then he continues: "Exceptions to this assertion are my previous book (1972) and this one."

Accordingly one should expect two things from Telser's book. First, the mathematics should never be used at the expense of the economics, and its use should be always clear and correct. Second, a thorough and careful discussion of the core as a solution concept in general as well as in the special cases of applications.

As to the first point, there are surprising contrasts in the level of Telser's formal analysis. On the one hand, there are large passages of correct mathematical analysis, culminating in the application of as deep theorems as Berge's Fundamental Theorem in chapter 4 or the Central Limit Theorem in chapter 8. On the other hand there is a confusing number of inaccuracies, faults and contradictory use of notation. I give some examples. In corollary 1 on page 151 it is correctly stated, that a characteristic function V is kind if and only if for every $t \in \mathbb{R}^n$ the game defined by V has a nonempty core. This is in contradiction to Theorem 3.5, where it is stated that V fails to be kind if and only if for almost all t the corresponding game has an empty core.

The Theorem 10.4 on page 371 is empty, since by the assumed super-additivity of the characteristic function the assumption of the theorem can never be fulfilled.

On page 380 Telser writes: "... if $u = f(x)$ is a nondecreasing quasi-concave function, then for fixed u , the function $f(x) - u = 0$ is convex in x ." This statement is supplemented by a likewise incomprehensible theorem in the notes on page 391. Clearly, the n functions defined by solving $u = f(x)$ for fixed u with respect to the n variables $x_i, i = 1, \dots, n$ are convex functions of the remaining $n - 1$ variables, respectively.

On page 41 Telser claims that production functions and cost functions of firms are equivalent concepts, forgetting that the last one is dependent on some prevailing price system in contrast to the first one.

At last Telser denotes functions sometimes correctly by symbols like V or $V(\cdot)$, but mostly he denotes a function by $V(x)$ the evaluation of V at a certain point x . This inconsistent use creates confusion at some points of the book.

Clearly, one should not overestimate those formal weaknesses, and rather concentrate on the economic content of the book. It is a crucial shortcoming of the present book, as a book on the core, that there fails to be any discussion of the core as a solution concept. In some of the cases treated in the book, however, a justification for the core as a or even "the" suitable concept would hardly be possible. The core, appealing as it is as a theoretical concept, is without much practical importance unless coalition building is really performable, i. e., the number of coalitions is small, or the core coincides with an other, operational solution

concept, e. g. the Walras equilibria. Moreover the core does not sufficiently take into consideration aspects like power or threats.

In my opinion Telser's present book, which in many respects can be considered as a continuation of his first book "Competition, Collusion, and Game Theory", overestimates the core as an almost omnipotent tool in economic theory.

However, it gives valuable suggestions and stimulations, and it offers alternative points of view for many problems. The strongest parts of the book in my opinion are the passages where longer verbal discussions of the different economic phenomena are given. Here, most of all, the reader can profit by Telser's doubtless deep and wide economic insight. The book is by no means without highly technical arguments and therefore not easy to read, but it can give a lot of insights to the labouring student.

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J. Hicks: *Causality in Economics*. XII, 124 pp. Oxford: Basil Blackwell. 1979. £ 5.95.

This is the first of his books which Sir John Hicks has devoted primarily and explicitly to the philosophy and method of economics. Certainly, in addressing himself to the subject of causality, Sir John has plunged in at the deep end. There is surely no more difficult concept in the philosophy of science, especially with regard to the social sciences. Sir John's interest in this problem developed out of a concern with what has been called "the micro-foundations of macro-economics". Certainly the foundations of macro-economics — micro- or otherwise — seem to need much more critical scrutiny, in respect of what is aimed at, or claimed, as the functions and objectives of "macro"-theories. In some ways the foundations of macro-economics seem much more problematic than those of orthodox micro-economics, or price theory, and have received much less attention.

Sir John distinguishes three kinds of causality in relation to time: sequential, in which cause precedes effect; contemporaneous, in which both relate to the same period; and static, in which both are permanencies. "Static" causality is illustrated by means of the classical steady state and the neo-classical production function, where time dimensions are neglected. "Contemporaneous" causality is represented mainly by the Keynesian "general theory". "Sequential" causality is explained in terms of lags and reserves. A difficulty, especially with regard to "static" and "contemporaneous" causality, as analysed here, seems to arise with regard to the kind of proposition in which these modes of causality are stated. Are such statements of "causality" analytic or synthetic, empirical or, perhaps, definitional, or, possibly, of some other type? Sir John observes, surely correctly, that "any statement of causality, of whatever kind, has reference to a theory. . . . So all statements of causality are matters of application of theory; but what is theory?" (p. 26). This is often a very