EQUILIBRIUM MODELS IN ECONOMICS PURPOSES AND CRITICAL LIMITATIONS 1ST EDITION Free

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In both cases, the assumptions needed to produce explanations of economic events are open to question. This book critically exam This book critically examines both model building cultures by examining the major problematic assumptions employed building equilibrium models with particular attention to the assumptions used to characterize learning, knowledge, and expectations. These assumptions are recognized as essential in any equilibrium model that claims to address the dynamics of decision making. These assumptions are also the object of the critiques provided by those developing evolutionary models and by those promoting the development of complexity economics. Attention is also given to the

inadequacies of what is taught to beginning students when it comes to the question of whether equilibrium models can provide a realistic explanation of economic events and objects such as prices, market demands, and market supplies.

Keywords: equilibrium models , learning vs. Lawrence A. Forgot password? Don't have an account? All Rights Reserved. OSO version 0. Equilibrium Models in Economics is a trenchant exploration of how the discipline has grappled with attempts to understand and explain the way information, knowledge, and the expectations of actors participating in the economy influence outcomes and behavior. It presents a realistic, workable theory of knowledge and learning, simulating how decision makers and other actors operate in fast-changing equilibrium conditions. Equilibrium models and explanation Chapter 2. Equilibrium attainment vs. Does general equilibrium attainment imply universal maximization? Chapter 4. Time and knowledge matters: General equilibrium attainment. Chapter 5. Equilibrium concepts and critiques: two cultures. Part II: The limits of equilibrium models Chapter 6. Recognizing knowledge in equilibrium models. Chapter 7. Limits of equilibrium methodology: An educational dialogue.

Chapter 8. Equilibrium models vs. Chapter 9. Microeconomics and Basic Mathematics. New Delhi: VK Publications. Microeconomic Theory 6th ed. Vrinda Publications. Microeconomic Theory. Retrieved 4 October International Trade Theory And Policy. Economics Applied Macroeconomics Political economy. Categories : General equilibrium theory. Hidden categories: Articles with short description Short description matches Wikidata. Namespaces Article Talk. Views Read Edit View history. Help Learn to edit Community portal Recent changes Upload file. Third, suppose contracts specify states of nature which affect whether a commodity is to be delivered: "A contract for the transfer of a commodity now specifies, in addition to its physical properties, its location and its date, an event on the occurrence of which the transfer is conditional.

This new definition of a commodity allows one to obtain a theory of [risk] free from any probability concept These interpretations can be combined. So the complete Arrow—Debreu model can be said to apply when goods are identified by when they are to be delivered, where they are to be delivered and under what circumstances they are to be delivered, as well as their intrinsic nature. So there would be a complete set of prices for contracts such as "1 ton of Winter red wheat, delivered on 3rd of January in Minneapolis, if there is a hurricane in Florida during December".

A general equilibrium model with complete markets of this sort seems to be a long way from describing the workings of real economies, however its proponents argue that it is still useful as a simplified guide as to how real economies function. Some of the recent work in general equilibrium has in fact explored the implications of incomplete markets , which is to say an intertemporal economy with uncertainty, where there do not exist sufficiently detailed contracts that would allow agents to fully allocate their consumption and resources through time. While it has been shown that such economies will generally still have an equilibrium, the outcome may no longer be Pareto optimal. The basic intuition for this result is that if consumers lack adequate means to transfer their wealth from one time period to another and the future is risky, there is nothing to necessarily tie any price ratio down to the relevant marginal rate of substitution , which is the standard requirement for Pareto optimality.

Under some conditions the economy may still be constrained Pareto optimal , meaning that a central authority limited to the same type and number of contracts as the individual agents may not be able to improve upon the outcome, what is needed is the introduction of a full set of possible contracts. Hence, one implication of the theory of incomplete markets is that inefficiency may be a result of underdeveloped financial institutions or credit constraints faced by some members of the public.

Research still continues in this area. Basic questions in general equilibrium analysis are concerned with the conditions under which an equilibrium will be efficient, which efficient equilibria can be achieved, when an equilibrium is guaranteed to exist and when the equilibrium will be unique and stable. In a pure exchange economy, a sufficient condition for the first welfare theorem to hold is that preferences be locally nonsatiated. The first welfare theorem also holds for economies with production regardless of the properties of the production function.

Implicitly, the theorem assumes complete markets and perfect information. In an economy with externalities , for example, it is possible for equilibria to arise that are not efficient. The first welfare theorem is informative in the sense that it points to the sources of inefficiency in markets. Under the assumptions above, any market equilibrium is tautologically efficient. Therefore, when equilibria arise that are not efficient, the market system itself is not to blame, but rather some sort of market failure. Even if every equilibrium is efficient, it may not be that every efficient allocation of resources can be part of an equilibrium.

However, the second theorem states that every Pareto efficient allocation can be supported as an equilibrium by some set of prices. In other words, all that is required to reach a particular Pareto efficient outcome is a redistribution of initial endowments of the agents after which the market can be left alone to do its work. This suggests that the issues of efficiency and equity can be separated and need not involve a trade-off.

The conditions for the second theorem are stronger than those for the first, as consumers' preferences and production sets now need to be convex convexity roughly corresponds to the idea of diminishing marginal rates of substitution i. Even though every equilibrium is efficient, neither of the above two theorems say anything about the equilibrium existing in the first place. To guarantee that an equilibrium exists, it suffices that consumer preferences be strictly convex. With enough consumers, the convexity assumption can be relaxed both for existence and the second welfare theorem. Similarly, but less plausibly, convex feasible production sets suffice for existence; convexity excludes economies of scale. Proofs of the existence of equilibrium traditionally rely on fixed-point theorems such as Brouwer fixed-point theorem for functions or, more generally, the Kakutani fixed-point theorem for set-valued functions.

See Competitive equilibrium Existence of a competitive equilibrium. Starr applied the Shapley—Folkman—Starr theorem to prove that even without convex preferences there exists an approximate equilibrium. The Shapley—Folkman—Starr results bound the distance from an "approximate" economic equilibrium to an equilibrium of a "convexified" economy, when the number of agents exceeds the dimension of the goods. For example, in economies with a large consumption side, nonconvexities in preferences do not destroy the standard results of, say Debreu's theory of value. In the same way, if indivisibilities in the production sector are small with respect to the size of the economy, [. The derivation of these results in general form has been one of the major achievements of postwar economic theory. In particular, the Shapley-Folkman-Starr results

were incorporated in the theory of general economic equilibria [12] [13] [14] and in the theory of market failures [15] and of public economics.

Although generally assuming convexity an equilibrium will exist and will be efficient, the conditions under which it will be unique are much stronger. The Sonnenschein—Mantel—Debreu theorem , proven in the s, states that the aggregate excess demand function inherits only certain properties of individual's demand functions, and that these Continuity , Homogeneity of degree zero , Walras' law and boundary behavior when prices are near zero are the only real restriction one can expect from an aggregate excess demand function. Any such function can represent the excess demand of an economy populated with rational utility-maximizing individuals. There has been much research on conditions when the equilibrium will be unique, or which at least will limit the number of equilibria. One result states that under mild assumptions the number of equilibria will be finite see regular economy and odd see index theorem. Furthermore, if an economy as a whole, as characterized by an aggregate excess demand function, has the revealed preference property which is a much stronger condition than revealed preferences for a single individual or the gross substitute property then likewise the equilibrium will be unique.

All methods of establishing uniqueness can be thought of as establishing that each equilibrium has the same positive local index, in which case by the index theorem there can be but one such equilibrium. Given that equilibria may not be unique, it is of some interest to ask whether any particular equilibrium is at least locally unique. If so, then comparative statics can be applied as long as the shocks to the system are not too large. As stated above, in a regular economy equilibria will be finite, hence locally unique. One reassuring result, due to Debreu, is that "most" economies are regular. Work by Michael Mandler has challenged this claim. Mandler accepts that, under either model of production, the initial endowments will not be consistent with a continuum of equilibria, except for a set of Lebesgue measure zero.

However, endowments change with time in the model and this evolution of endowments is determined by the decisions of agents e. Agents in the model have an interest in equilibria being indeterminate:. Indeterminacy, moreover, is not just a technical nuisance; it undermines the price-taking assumption of competitive models. Since arbitrary small manipulations of factor supplies can dramatically increase a factor's price, factor owners will not take prices to be parametric.

When technology is modeled by linear combinations of fixed coefficient processes, optimizing agents will drive endowments to be such that a continuum of equilibria exist:. The endowments where indeterminacy occurs systematically arise through time and therefore cannot be dismissed; the Arrow-Debreu-McKenzie model is thus fully subject to the dilemmas of factor price theory.