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## Designing Economic Mechanisms

A mechanism is a mathematical structure that models institutions through which economic activity is guided and coordinated. There are many such institutions; markets are the most familiar ones. Lawmakers, administrators, and officers of private companies create institutions in order to achieve desired goals. They seek to do so in ways that economize on the resources needed to operate the institutions and that provide incentives to induce the required behavior. This book presents systematic procedures for designing mechanisms that achieve specified performance and economize on the resources required to operate the mechanism, i.e., informationally efficient mechanisms. Our systematic design procedures can be viewed as algorithms for designing informationally efficient mechanisms. Most of the book deals with these procedures of design. Beyond this, given a mechanism that implements a goal function in Nash equilibrium, our algorithm constructs a decentralized, informationally efficient mechanism that implements that goal function in correlated equilibrium.

Leonid Hurwicz is Regents' Professor of Economics Emeritus at the University of Minnesota. Internationally renowned for his pioneering research on economic theory, particularly in the areas of mechanism and institutional design and mathematical economics, he received the national Medal of Science in 1990. A member of the National Academy of Sciences and the American Academy of Arts and Sciences, Professor Hurwicz is a former President and Fellow of the Econometric Society. The recipient of six honorary doctorates, he serves on the editorial board of several journals and coedited and contributed to two collections for Cambridge University Press, *Studies in Resource Allocation Processes* (1978, with Kenneth Arrow) and *Social Goals and Social Organization* (1987, with David Schmeidler and Hugo Sonnenschein). His recent publications include papers in *Economic Theory* (2003, with Thomas Marschak), *Review of Economic Design* (2001, with Stanley Reiter), and *Advances in Mathematical Economics* (2003, with Marcel K. Richter).

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