

Biography of Jeffrey S. Banks

by John Duggan

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Jeffrey Scot Banks was a scholar who made wide-ranging contributions to economics and political science. He was born in 1958, received his BA in Political Science from the University of California Los Angeles in 1982, and received his PhD in Social Science from the California Institute of Technology in 1986. Jeff started his first tenure-track position in 1986 at the University of Rochester and was promoted to Full Professor of Economics and Political Science in 1991. Jeff left Rochester in 1997 to join the faculty at Caltech, where he remained until his death in 2000 due to complications from the treatment of leukemia. Jeff's productivity as an academic was prodigious: at the time of his death, he was a Fellow of the Econometric Society, he was a member of the editorial boards of seven journals, and he had published 43 articles and two books—with an additional book and eight additional articles published posthumously.

Jeff's work had an impact in a large number of fields, including game theory, social choice theory, economic theory, international relations, experimental economics, and political economy. In game theory, his work with Joel Sobel [14] produced the concept of divine equilibrium, used to select from sequential equilibria in signaling games. In social choice, Jeff characterized the set of outcomes generated by varying the order in which bills are considered (this is now known as the "Banks set") [6]; he contributed to the understanding of the dimensionality conditions under which the core of the spatial model is generically empty [9]; and with David Austen-Smith, he authored a two-volume book that has provided students and researchers with much-improved access to the cutting edge of the field [4, 5]. In economic theory, his work with Rangarajan Sundaram on multi-armed bandits expanded our knowledge of optimal decision rules when faced with a set of choices with stochastic outcomes [15]. In international relations, Jeff established general results on the probability of war, importing the techniques of incentive compatibility and the revelation principle from the literature on mechanism design [8]. In experimental economics, Jeff and coauthors John Ledyard and David Porter analyzed the performance of market mechanisms in allocating indivisible resources in the face of uncertain demand or supply [13].

Perhaps the largest impact of Jeff's work was in the field of political economy. With David Austen-Smith, Jeff made seminal contributions to

the understanding of elections and government formation in parliamentary systems [1] and of the ramifications of strategic voting under private information for the classical Condorcet jury theorem [3]. With John Duggan, Jeff established foundational results on existence of equilibria and connections to the core in general legislative bargaining games [10]. On the topic of elections, Jeff considered the effect of small costs due to deviations from campaign platforms [7]; with John Duggan and Michel Le Breton, he provided bounds on mixed strategy equilibria in the Downsian model [12]; and in separate papers with David Austen-Smith, Rangarajan Sundaram, and John Duggan, he made a number of contributions on the topic of repeated elections [2, 11, 16].

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