IN REVIEW

A Somewhat Powerful Overview
Reviewed by Richard L. Gordon

POWER SYSTEM ECONOMICS: Designing Markets for Electricity by Steven Stoft

In his new book, Steven Stoft presents a textbook for those concerned with power system economics. The apparent target readers are those who are involved with market implementation but are not proficient in economics. Thus, while the book is predominantly theoretical, the exposition is kept simple.

Stoft breaks the treatment into six sections: power market fundamentals, reliability, price spikes and investment, market architecture, market power, and locational pricing. The sections differ greatly in focus and success; for example, the sections on market fundamentals try to survey electricity market basics in about 100 pages. The treatments range from excellent to superficial; on balance, he provides a remarkable survey of the key points.

Pricing The first chapter opens with an inadequate discussion of the possibilities of competition and of the defects of regulation, but it concludes with an excellent overview of the virtues of real-time pricing. Unfortunately, throughout the rest of the book, the rigidity of retail prices is tacitly treated as an immutable barrier to efficiency. The familiar issues of the market power distinction (and the problem of determining if) is ignored. Stoft ignores that many economists assert the technical definition of market power, but never explicitly states the controversies being treated. Since they are not economists, they will not be aware of the controversies being treated. They will be greater for those with a more casual interest. Economists will grasp his arguments, but unless they already are electricity specialists, they will not be aware of the controversies being treated. Stoft presents a textbook for those familiar with the area will be unfamiliar with his arguments. The problems will be rephrased in terms of the underlying economics to grasp his arguments. The problems will be greater for those with a more casual interest.

Basic problem is that he suggests but never explicitly states the controversies associated with treating monopoly. Stoft shifts from market power to monopoly power without recognizing that many observers argue that most firms fit the technical definition of market power, but only a "large" degree of power constitutes undesirable monopoly. Stoft ignores that distinction (and the problem of determining when the power is sufficient to merit regulation). The use and critique of the standard measures ignores the underlying problems of identifying and measuring a monopoly. Most fundamentally, the discussion barely notes that extensive competition in generation was the rationale for restructuring. The premise was that this competition eliminated monopoly power.

Too much summary Throughout the book, the allocation of space is problematic. Stoft is devoted to the point of fanaticism to summarization. A preface summarizes the book and each chapter has an overall summary and a précis of each section. That occurs although the chapters are themselves summary. The actual exposition is invariably terse and, in the worst cases, nonexistent.

For example, he claims without explanation, “If the congestion rent is paid to the owners of transmission lines, too few lines will be built” (p. 25). How restricting income produces insufficient income is unclear; the most plausible interpretation is that “it” was erroneously substituted for “unless.”

Conclusion The book is a valuable addition to the extensive literature on public utility economics. The terseness employed may be the book's greatest drawback in attaining its goals.

The danger is that much of the intended audience will lack sufficient comfort with the underlying economics to grasp his arguments. The problems will be greater for those with a more casual interest. Economists will grasp his arguments, but unless they already are electricity specialists, they will not be aware of the controversies being treated. Since they are not Stoff’s intended audience, others unfamiliar with the area will be unfamiliar with both the theory and the practical problems that Stoff treats.

The book’s greatest weakness is its treatment of the issue of the proper role of government in electricity market design. His title suggests that he ignores Hayek’s justly celebrated warnings about the limits of knowledge.