

## The Microstructure of Securities Markets.

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tion, location) and fixed (length of settlement) characteristics. Consequently, although income differentials narrowed over time, differences in wealth tended to persist. William Newell's survey of wills in an antebellum Ohio county shows the progress of equality in the treatment of children. This "modern" approach to inheritance, he demonstrates, was strongest among younger, more literate household heads, but spread rapidly to older, wealthier generations, as the region became more settled. Their analysis, based on intensive sampling from a variety of manuscript sources, deepens our understanding of the dynamics of frontier settlement, but their conclusions remain tentative until confirmed by further research.

The other original contributions analyze the determinants of natural population growth in the United States. Paul David and Warren Sanderson and Jennifer Wahl offer complementary studies of the decline in marital fertility in the nineteenth century. Robert Fogel, on the other hand, explores the relationship between nutritional standards and mortality rates.

David and Sanderson identify distinct phases in the transition to marital fertility control: the initial adoption among native couples in the Northeast around mid-century and the subsequent diffusion to native couples in other regions. Wahl confirms this chronological and spatial trend. The similarities end here, however. David and Sanderson explain how these married couples achieved low fertility rates, despite the rudimentary methods of birth control, by limiting the frequency of sexual intercourse. Their evidence is carefully gleaned from a survey of 44 married women, whose experiences are broadly representative of native couples in the urban, professional classes, but is admittedly slim. Wahl, in contrast, analyzes two large samples of mainly rural households, taken from genealogical records. The sample data are not entirely consistent, but with the exception of the relationship between wealth and children, the evidence confirms a variety of hypotheses derived from previous studies and the new home economics. Fogel's paper, really a progress report on two research projects, presents and evaluates their preliminary results: the "cycling" in mean heights and life expectancies between 1700 and 1930-70. Fogel explains the

decline in heights and the correlation between heights and mortality rates by the "nutritional" hypothesis and then explains away the numerous paradoxes or anomalies that apparently contradict this relationship. As is true of all the papers in this section, while certainly not the final word on the subject, the arguments are provocative and contain interesting insights. It remains to be seen whether they withstand the pressure of additional research.

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## 300 Domestic Monetary and Fiscal Theory and Institutions

## 310 Domestic Monetary and Financial Theory and Institutions

The microstructure of securities markets. By Kalman J. Cohen, Steven F. Maier, Robert A. Schwartz and David K. Whitcomb. Englewood Cliffs, NJ: Prentice-Hall, 1986. Pp. ix, 254. \$36.95. ISBN 0-13-581794-3.

With the events surrounding October 19, 1987, the question of security market design has taken a more prominent position on the public policy agenda. This is the primary focus of this book, and it should be of interest to economists studying the structure of financial markets. Much of the book is a summary of the authors' previously published work, and hence it will be most useful to those who have at least a passing knowledge of other models of "market microstructure."

The book is divided into four sections, three of which are designed to contribute to our understanding of the market design question. The first provides an overview of financial markets, concentrating on a comparison of existing institutions and an analysis of the impact of changing communication technology on the institutions. The second presents a theoretical framework for the analysis of trading institutions. The third stands somewhat apart from the primary focus on the book and deals with the statistical properties of transaction prices. The fourth section uses the observations and analysis of the earlier part of the book to formulate policy recommendations.

After a general discussion of the issues, an overview of the literature and a methodological introduction, the second chapter provides a comparative analysis of securities markets worldwide. I know of no other single source of such detail on so many different exchanges. The discussion benefits from the authors' personal observations based on interviews with officials at and visits to the various exchanges. This chapter by itself makes the book useful for researchers in financial markets—empiricists will find it useful in interpreting the data they study, theorists will find many modeling guidelines. The first section concludes with a discussion of the specific computerized trading mechanisms in use and a forecast of future developments.

Chapter 5 presents the analytical tools which are used in the policy analysis section (Section IV). This material is drawn from the authors' previously published work and it is adequately summarized here. The authors present a formal model of the bid-ask spread which incorporates the simultaneous existence of designated market-makers and limit orders. Unfortunately, this chapter does not include a discussion of other theories of the spread that have appeared in the literature since the authors' original work.

Section III (Ch. 6 and 7) discusses issues related to the statistical properties of observed returns, and also represents summaries of previously published work. Chapter 6 discusses the role of the bid-ask spread and nonsynchronous trading in inducing serial correlation in stock index returns and biases into capital asset pricing model (CAPM) betas. Chapter 7 develops a beta estimator that, in principle, corrects for the biases. These are important econometric issues, but the analysis is not related to the growing evidence, both theoretical and empirical, that index returns may be serially correlated absent any trading fictions.

Chapters 8 and 9 focus on public policy questions. Chapter 8 discusses the welfare implications of fragmented markets versus a consolidated market. The authors reach the conclusion that the benefits of fragmentation (competition among exchanges, for example) are outweighed by the benefits of consolidation (maintenance of priority rules, information consolidation).

This conclusion is particularly interesting given their forecast in Chapter 3 that developments in communication technology may lead to more fragmented markets. Of course, their final argument is based on a subjective (but informed) weighting of competing arguments, and, at the very least, the authors' documentation of the arguments should spur more formal assessments of the costs and benefits.

Chapters 4 and 9 deal with the need for and provision of supplementary stabilization (i.e., stabilization beyond that provided by self-interested speculators). Chapter 4 presents evidence that specialists do stabilize prices. In Chapter 9 the authors argue that stabilization may exhibit features of a public good in that providers of stabilization (specialists, market-makers and limit order submitters) supply a good for which they are not directly compensated. If this is true, then stabilization may be undersupplied (if indeed it is valuable). By arguing that the primary beneficiary of stabilization is the corporation (i.e., its shareholders), they argue that the efficient way to internalize the externality is for the corporation to pay for the services of a stabilizer.

I suspect that many of the hypotheses of the authors will not go unchallenged—starting from the primary assertion that stabilization (as opposed to liquidity) is necessarily valued. Certainly individuals would like their wealth to be less volatile (other things equal), but there is not a clear relation between wealth and "stabilized" prices. Presumably, volatility in wealth is more closely related to volatility in the underlying value of the portfolio, something that is left unaffected by stabilizing intervention.

Our understanding of the role of security market microstructure is not extensive, and hence to object to some of the conclusions in a book such as this is probably beside the point. What we should ask is that the various arguments be lucidly explained, and this the book does quite well. While little formal analysis in the book is new, and a wide range of regulatory issues and complementary models are ignored, the authors' observations on existing institutions are excellent, and for this reason the book is recommended.

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