

man capital investments and assignment of workers to jobs as in the Roy model, in which worker choice of occupation on the basis of income maximization generates self-selection phenomena (A.D. Roy, "Some Thoughts on the Distribution of Earnings," *Oxford Economic Papers*, Vol. 3, 1951). Mortensen partially bases the assumption of worker homogeneity on Danish data showing that one group of workers (managers) have a greater variance of wages than all workers taken together. He argues that if the Roy model were valid, each occupational group would have less dispersion than the full sample (pp. 50–52). However, Mortensen only considers a special limiting case of the Roy model in which there is perfect correlation in abilities among different occupations. In the general case, with less than perfect correlation in abilities, dispersion in the logarithm of wages can be greater in the highest-paying occupation than in the full sample. Also, worker heterogeneity in a general Roy model would yield substantial occupational overlap in wages, as shown in the Danish data.

Human capital investments, stochastic processes, dual labor markets, and assignment provide explanations for distributional phenomena. Equilibrium search models deserve serious consideration along with these current theories. Random components of wages for identical workers, a major contributor to earnings inequality, are better explained by the Burdett-Mortensen equilibrium search model than by these other models. It would be desirable to incorporate heterogeneous labor into the model in order to investigate how search displaces or modifies existing theories of income distribution. Nevertheless, this monograph stands on its own as a significant contribution to the theory of inequality, wage dispersion, and the distribution of earnings.

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Markets and Diversity. By Sherwin Rosen. Cambridge, Mass.: Harvard University Press, 2004. 359 pp. ISBN 0-674-01075-2, \$59.95 (cloth).

Sherwin Rosen was one of the preeminent labor theorists of his generation. At the time of his death in March 2001, he was the President of

the Society of Labor Economists and President-Elect of the American Economic Association. For this volume, he had already selected, from well over 100 articles he had published, 12 papers that he felt represented his best works on topics related to heterogeneous labor markets, and he had written a draft of the introduction. The latter, which was also to be his Presidential address to the American Economic Association, was checked for accuracy (citations and the like) after his death by his long-term colleague and sometime coauthor, Ed Lazear. Labor economists throughout the world owe a great debt of gratitude to Harvard University Press and Lazear for seeing the volume through to completion.

The papers in this volume make clear how extraordinary the contributions to labor market theory were that Rosen made during his career. They also illustrate that Rosen was a theorist who was interested both in explaining empirical phenomena and in helping empirical economists to understand the meaning of empirical relationships that they had estimated.¹

For example, the first paper in *Markets and Diversity* is Rosen's 1974 *Journal of Political Economy* article, "Hedonic Prices and Implicit Markets." Prior to this paper, economists seeking to estimate whether compensating wage differentials existed for an unfavorable job characteristic (risk of injury, say) would regress an individual's wage rate on his or her personal characteristics and the unfavorable job characteristic and then interpret a positive coefficient for the unfavorable job characteristic as indicating the presence of compensating differentials. Through careful modeling of a market in which workers had heterogeneous preferences and firms had heterogeneous technologies of production, Rosen demonstrated that the relationship that was being estimated was the equilibrium market relationship between wages and the unfavorable job characteristic and that this conveyed little information about either the preferences of workers to avoid unfavorable job characteristics or the willingness of employers

¹Many of the wonderful papers of Rosen's that are not included in this volume are equally important ones to labor economists and further illustrate his interest in connecting labor market theory and empirical analysis. One famous early paper that quickly comes to mind is his work with Ned Nadiri on interrelated factor demand that was published in the September 1969 *American Economic Review*.

to reduce their provision of these characteristics. To adequately understand the market requires researchers to estimate structural models of the demand for and supply of these job characteristics.

Once he had developed a formal structure with which to analyze this problem, Rosen and his colleagues illustrated how it could be applied to a variety of topical areas. For example, the present volume includes his 1975 *Journal of Econometrics* paper with Joseph Antos, "Discrimination in the Market for Public School Teachers," which was the first paper to show that what appear to be discriminatory salary differences between teachers of different races may instead reflect differences across school districts in non-pecuniary conditions of employment. Similarly, the book includes Rosen's and Richard Thaler's 1975 NBER paper, "The Value of Saving a Life: Evidence from the Labor Market," which illustrated how the methodology could be applied to estimate the demand price of individuals for reducing occupational risk.

Rosen's focus on using market models to understand empirical relationships is also seen in the papers in the second section of the book, which deal with human capital accumulation. An analytic approach that became a routine for the generation of labor economists who were influenced by the pioneering work of Jacob Mincer on earnings profiles (*Schooling Experience and Earnings*, 1974) was to regress an individual's earnings on the individual's years of schooling, years of potential labor market experience, and years of potential labor market experience squared, and then interpret the coefficient of years of schooling as an estimate of the rate of return to education. Rosen and Robert Willis's "Education and Self Selection," which appeared in the October 1979 *Journal of Political Economy*, showed the problem with this interpretation. In a world in which individuals have heterogeneous ability and face differing costs of education, schooling is endogenously determined and the return to schooling can only be estimated using a structural model of earnings and schooling attainment.

The third section of *Markets and Diversity* deals with fundamental questions that relate to the distribution of income in our society. In his 1981 *American Economic Review* paper, "The Economics of Superstars," Rosen asks why increasingly in our society a relative small number of people in a field earn enormous amounts of money. Or, to put it another way, why does the distribution of returns to individuals in our society appear to be much more skewed than

the distribution of abilities? He shows that this pattern arises in markets in which individuals differ in taste, in which there is imperfect substitution among different sellers, and in which the costs of production of a service do not increase proportionately to the size of a seller's market.

This section of the book also contains two papers on tournaments, including a 1981 *Journal of Political Economy* paper Rosen wrote with Ed Lazear, "Rank-Order Tournaments as Optimum Labor Contracts." The problem addressed in this paper can be simplified as follows. Two vice-presidents of a company are each paid the same salary (they are roughly equal in productivity) and are in line to be considered for promotion to the presidency when the president retires. When the president does retire, the vice-president who is judged to be marginally the better performer and the better candidate is promoted to president and her salary is doubled or tripled, while the other stays in his same position or leaves. If the two were of roughly equal productivity, why is the compensation difference between them now so large?

Lazear and Rosen show that the large difference in compensation between the winner and the loser of the promotion tournament does not reflect the magnitude of the productivity difference between them. Rather, in a world in which effort and ability are hard to monitor and there are random factors in performance, large compensation differentials between the winners and losers of promotion tournaments are pareto optimal in the sense that they induce all participants in the tournament to work harder than they otherwise would. This paper so intrigued me when it was first published that I spent years trying to figure out how to empirically test the proposition and, with Michael Bognanno, eventually used data from professional golf tournaments to see if the predictions it generated proved valid (they did).

Each of the 12 papers in this volume is a gem, and readers who were unaware of Rosen's major contributions to labor market theory and empirical research will come away from this book with a sense of what a great economist he was. Each paper is a model of clarity and of depth of analysis. Readers will understand better why so many labor economists mourned Rosen's untimely early death.

I have often told a personal story about Sherwin Rosen. He was truly one of my heroes, and my own doctoral dissertation and early research on overtime hours were motivated by an earlier paper of his that is not included in this volume ("Short-Run Employment Varia-

tion and Class-I Railroads in the U.S., 1947-1963," *Econometrica*, July/October 1968). About 25 years ago, I approached Rosen at a conference and told him that any one of his papers was deeper and contained more insights than the sum of everything I had written up to that date. He gave me a hurt look and protested that I had gotten it all wrong. He and I did different things, he said; the empirical policy-related research that I did was very important, and what I did, I did very well. His words have stayed with me all these years and kept me focused on doing what I do.

I was not Rosen's student, I was never a colleague of his in the same university, and I never wrote a paper with him—yet he was a mentor to me. I know that many other labor economists of my generation and later ones feel exactly the same way. If you read the papers in *Markets and Diversity* you will understand why.

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Human Resources, Management, and Personnel

Labor Exchange Policy in the United States. By David E. Baldocchi, Randall W. Eberts, and Christopher J. O'Leary. Kalamazoo, Mich.: W. E. Upjohn Institute for Employment Research, 2004. 295 pp. ISBN 0-88099-303-0, \$45.00 (cloth); ISBN 0-88099-302-2, \$20.00 (paper).

Many years have passed since anyone has distilled in one place what is known about labor exchange policies, programs, and practices in the United States. Given the dramatic changes that have taken place in labor markets, worker demographics, work force institutions, and technology over the past several decades, a serious reexamination of labor exchange such as that provided by *Labor Exchange Policy in the United States* is past due. This volume is part of an Upjohn Institute triptych updating our understanding of three key pillars of human resource development policy as articulated in 1973 by Frederick Harbison in *Human Resources as the Wealth of Nations* (Oxford University Press): maintenance, utilization, and development.

Unemployment Insurance in the United States, by Christopher O'Leary and Stephen Wandner (Upjohn, 1997), addressed maintenance, and *Job Training Policy in the United States*, by Christopher O'Leary, Robert Straits, and Stephen Wandner (Upjohn, 2004) tackled development. The present volume, an edited collection of chapters on labor exchange, examines the utilization of the work force. Together, these volumes represent an important addition to the library of any policy analyst interested in work force development.

For the uninitiated, labor exchange encompasses such key functions as providing job seekers with labor market information and bringing them together with employers to facilitate good employer/employee exchanges or "matches." The latter is often referred to as "job brokering." Over the years, labor exchange has generally drawn less attention and fewer resources than have other work force policy components. Funding for public labor exchange has declined steadily and substantially over the past few decades, falling by over one-third in real terms, even as labor markets and the challenges faced by employers and job seekers have become far more daunting.

The book's contributors—an interesting mix of leading researchers and practitioners with extensive domestic and international experience—offer readers a comprehensive examination of modern labor exchange policies, programs, and practices in this country and do a solid job of placing them in context. This is no mean feat and is one that could have taken many more pages to accomplish. The contributors offer a great variety and range of views, from the conceptual and empirical to the historical and comparative.

Randall Eberts and Harry Holzer start off by providing an essential historical overview of labor exchange in the United States and its changing mission over the years. They relate labor exchange to the ways that job seekers now search for work and employers now find workers. Neil Ridley and William Tracy offer a more detailed look at labor exchange services and how they have changed over the years, with particular insights into self-service tools for job search. They also explain how labor exchange services relate to services provided through the new breed of work force intermediary organizations and one-stop career centers under the Workforce Investment Act (WIA) of 1998, both of which have entered the exchange business. One-stops are both competitors and collaborators, offering core and core-assisted services—