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Book Reviews

PRIVATIZING TRANSPORTATION SYSTEMS, edited by Hakim, S., Seidenstat, P. and Bowman, G., Westport, CT: Praeger Publishers, 1996, pp. 335, ISBN 0-275-94807-2.

Privatization evolved from the philosophy that government involvement in the marketplace should be reduced, occurring in the United States in the 1970s, spreading to Britain in 1979 and then to the rest of the world by the late 1980s. Two primary motives to privatize are the belief that the private sector can perform more efficiently and the private sector represents a new source of funding. The focus of this book is the privatization of transportation systems—the divestment of public sector transportation infrastructure (or firms) and the delegation of public sector transportation services to the private sector. Case studies of privatization in various modes are presented by the book's numerous contributors.

The book is divided into four sections: overview (Chapters 1–4), privatizing airports and ports (Chapters 5–9), privatizing roads (Chapters 10–14) and privatizing mass transit (Chapters 15–18). Chapter 1 defines privatization and provides an overview of transportation privatization efforts in the United States and abroad. Chapter 2 is the first of several chapters that discusses US private toll road initiatives. Chapter 3 explores public–private partnerships in infrastructure, defined as cooperative ventures between governments and the private sector to develop or improve public-purpose infrastructure. The increasing frequency of these partnerships is attributed to: growing infrastructure shortfall, growing public acceptance of direct user fees in lieu of taxes, success of previous partnerships, increased public sector experience in implementing the partnerships and the changing legal/policy environment. Examples of highway public–private partnerships, where a private developer takes the initiative, include buy–build–operate, build–transfer–operate, build–operate–transfer and build–own–operate. Chapter 4 identifies creative market options for private financing of urban transit services, for example, alternative revenue, borrowing and leasing options.

Chapter 5 explores the conflicts among airport owners, airlines and private venture capitalists that arise in attempting to privatize airports. Case studies for the Morristown Municipal, Grand Canyon National Park and Atlantic City Airports suggest that such attempts are probably the most controversial of all to privatize transportation infrastructure. Chapter 6 identifies the benefits and costs of airport privatization. Benefits include reducing the financial burden on local government, cost savings, greater access to capital, a greater number of pricing options and a wider range of airport activities for consumers. Costs include those attributed to: the monopoly power held by privatized airports, an increase in negative externalities such as noise pollution and the transition from the public to the private sector. Chapter 7 is an in-depth case study of the attempt to privatize the Albany County Airport, highlighting the chronology of events surrounding the proposed conversion from public to private governance and the reasons (for example, opposition from neighborhood associations and the business community) why the conversion was never implemented.

Chapter 8 presents an historical perspective of (sea) port privatization. Four basic reasons are given for the recent trend (beginning in the late 1980s) in port privatization around the world—disenchantment with port authorities, need for increased efficiency, need for increased autonomy of port management and need for an increased financial effort from the private sector. Chapter 9 sketches port strategies for improving port system performance: (1) commercialization—giving public port management freedom similar to the private sector; (2) liberalization—lessening the public port organization's monopoly power by allowing the private sector to provide the same services; (3) privatization—transferring functions previously performed by government to the private sector; and (4) port administration modernization—enhancing management effectiveness without changing the port's institutional structure.

In 1991 Congress dramatically changed US highway finance by enacting the Intermodal Surface Transportation Efficiency Act (ISTEA), reversing seventy years of federal opposition to toll roads by encouraging state governments to make use of private capital and direct user payments to increase highway investment. Chapter 10 gives an overview of highway privatization under ISTEA, discussing state private tollway legislations, types of private toll projects and leveraging federal funds. Chapter 11 responds to the question of the feasibility of highway privatization. That is, who gains and who loses from privatization? Chapter 12 shows how the pricing and investment principles used by the US telephone system could be applied to roads—paying for roads, paying for road damage, charging for congestion and paying for pollution costs. The author of this chapter, Gabriel Roth, is one of the earlier contemporary advocates of private toll roads. Chapter 13 is authored by William Vickrey, a recent recipient of the Nobel Prize in Economics, demonstrating the applicability of competitive market principles to transportation. Privatization and marketization are distinguished, where the latter may involve the public or private sector and where services are sold at a price that approximates that of a free competitive market. Topics discussed include street parking, off-street parking, queuing at traffic bottlenecks and congested intercity corridors. Chapter 14 summarizes lessons learned from road privatization that relate to: the private sector reimbursing the public sector, the speed of the project funding process, obtaining local support, the sensitivity of private sector investors to the environment, the project selection process and the size of the project.

Chapter 15 examines the status of the US public transit industry—cost escalation, declining market share and counterproductive incentives—and the effectiveness of competitive contracting for controlling transit costs in the United States and abroad. Chapter 16 sketches the competitive contracting experience of a single transit system, that of San Diego, describing cost savings and its experience in managing contracts. The system's effective monitoring program is attributed to: (1) performance incentives and penalties and (2) a regular staff that is given the task of monitoring contracted service. Chapter 17 posits the question why the New York City subway should be privatized. The city will retain a share in any profits and funds currently used to subsidize the subway can be released from the city and state budget to fund alterative desirable projects such as repairs and rebuilding of the city's roads, bridges and sewers. Chapter 18 chronicles the US government's creation of the freight railroad, Conrail, and its subsequent sale to the private sector (that is, its privatization), showing that effective reform of economic institutions is a slow and difficult process. Time is required to complete and review all analyses and for affected parties to adjust.

In summary, this book makes a significant contribution to the transportation privatization literature by bringing together in one volume privatization experiences across several modes. However, the book tends to be repetitious, especially in its coverage of private toll roads. Further, this reviewer was disappointed with its coverage of port privatization. Although port privatization has spread throughout the world in recent years, no case studies were provided to chronicle the process and its impact. Another shortcoming of the book is its coverage of railroad privatization. One railroad chapter is included, the Conrail chapter, but placed with the mass transit chapters, clearly misplaced. Just as for ports, railroad privatization is also spreading throughout the world; chapters dealing, for example, with the experiences in the United Kingdom and New Zealand would have been informative. Also, this reviewer was disappointed that the book did not end with a where-to-we-go-from-here (the future of privatization) chapter.

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THE ECONOMIC LAWS OF SCIENTIFIC RESEARCH, by Kealey, T., Houndmills, Hampshire: Macmillan Press and New York: St Martin's Press, 1996, 382 pp., $19.95 (paper).

One of the meager benefits of being a book review editor is having first pick of the titles crossing one's desk. To my own great profit, I exercised this privilege with Terence Kealey's *The Economic Laws of Scientific Research*, a forceful, wide-ranging, and erudite critique of public policy toward science. Anyone who reads the book's 'Preface and Acknowledgments' will at once be engaged and kept absorbed until the last page by the author's fluid exposition, his incisive observations on the folly of government funding of scientific research, and, not least, his wry humor—Kealey gets off some of the best one-liners in the contemporary scholarly literature.

Economists such as Nobel laureate Robert Solow and, more recently, Paul Romer, who have studied the contributions of technological change to economic growth should be positively embarrassed that it has taken a clinical biochemist to demonstrate that the emperor-sponsor of R&D has no clothes. (Romer in particular ought to be nearly suicidal to see long passages of his turgid prose cheek to jowl with Kealey's faultless phraseology.) And supporters of government funding for the arts and humanities should be terrified at the prospect that a critic as eloquent as Professor Kealey might be waiting in the wings to examine their case.

The Economic Laws of Scientific Research manoeuvres the reader through the set-piece battle waged between two very different world-views of the determinants of economic progress and of the sources of the new products and new technologies that underpin it. Commanding one side is Francis Bacon, who fathered the idea that pure science comes before applied science. In other words, the new technologies and new products that are the engines of enhanced productivity and economic growth depend crucially on advances in basic scientific knowledge that are by their very nature unmarketable and, hence, will not be supported at socially optimal levels by commercially minded enterprises. Government subsidy of pure science is consequently essential to prime the pump of economic progress.

Commanding the other side is Adam Smith, who concluded from empirical observation that applied science begets applied science. In the main, technological progress springs not from the efforts of the selfless scientific truth-seekers of academe but rather from the discoveries of engineers, operatives, and others employees of commercial enterprises who encounter practical production problems and who, being close to the market, have access to the information and face the incentives necessary to solve them. Pure science is valuable only to the extent to which it contributes to the solving of these practical problems, but (and this is a key point) to the extent to which it does, commercial enterprises will fund it. Science, both pure and applied, will flourish under a policy of *laissez-faire* if Smith is correct and, moreover, such a policy will avert the heavy tax and bureaucratic tolls government exacts in return for its largesse.

With these two world-views in mind, *The Economic Laws of Scientific Research* proceeds systematically to demolish the Baconian model. It does so by marshaling a mass of historical evidence demonstrating that mankind's great inventors have often been uneducated, sometimes illiterate, and almost always ignorant of the basic science underlying their discoveries. Indeed, the historical record shows that advances in pure science have not uncommonly followed the trials blazed by applied science. Technology not only breeds technology in a learning-by-doing fashion, it also breeds science. Moreover, rather than emerging from the

