



## Book Reviews

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*The Mirage of Oil Protection* by Robert L. Bradley Jr. Lanham: University Press of America, 1989, 266 pages.

The Cato Institute, one of the livelier and more scholarly of the numerous anti-intervention organizations, sponsored this effort to discredit both key features of widely advocated oil security policies -- an import fee and the strategic stockpile. Overall, the book is a useful view of oil security issues that nearly justifies the blurbs of such diverse observers as Adelman, Haberler, Tussing, and Mead.

Bradley begins surveying concerns over falling oil prices and the advocates and opponents of an oil import tax. He shows how oil producers and their friends in Congress are echoed by various academics and William F. Buckley Jr. in supporting a fee.

He turns to a review of the history of oil protectionism so broad than even many specialists may learn something new. Bradley succeeds admirably in warning against repeating past errors. He shows how protectionism aided oil producers at the expense of the rest of the economy and probably contributed to the development of OPEC.

Bradley then examines the protection of refineries, providing much interesting information and effectively refuting the case for protection. However, the discussion is somewhat disembodied from the rest of the book.

The next chapter (and a supporting appendix on alternative fuels) provide the central case against import fees. Bradley gives evidence from past crises and the current situation that the danger of disruption is overrated. He believes past crises were far less disruptive than often contended and that the present state of the world energy market has lessened the dangers.

After another appendix which criticizes estimates of the benefits and costs of an oil import fee, he presents his positive "free market" program for oil. The chapter reviews three areas -- reforms already undertaken, the harm to the domestic economy associated with past and proposed import fees, and needed policy reforms. Among the negative impacts are higher prices, aggravating problems of debt repayments by oil exporters, and the loss of oil-producing equipment export sales.

The author's list of reforms include many standard ones such as repeal of remaining natural gas price controls, the windfall profits tax on

oil, and the ban on exporting Alaskan oil. He points out that a substantial part of the tax to finance the Superfund to clean up toxic waste is inefficiently levied on actions that do not directly or indirectly generate toxic wastes. He argues that environmental controls -- such as those on lead in gasoline and in restricting oil and gas leasing -- are excessive. He also opposes mandatory fuel use standards and advocates lesser regulation of electric utilities. He denounces the International Energy Agency as the internationalization of a centrally planned approach to oil.

The only jarring note is that he proposes a few tax favors to the oil industry. These include eliminating the 50 percent of net income limit on depletion allowances for those still entitled to such allowances and excluding the allowances from the list of preferences subject to the alternative minimum tax. Bradley seems to consider this the most feasible way to correct for the baneful effects of a corporate income tax. A forthright attack on the tax and a call for general reform would have been more consistent with Bradley's approach to public policy.

The book's principal weakness is failing to provide enough of the analytic case against import taxation and the strategic stockpile. The neglected points are no harder to state nontechnically than the ones Bradley covers. He effectively deals with the macroeconomic disruption part of the import tax argument and skewers its advocates for failing to consider adequately that the tax also has undesirable macroeconomic effects. He goes on correctly to indicate the problems of measuring the impacts.

However, he neglects the international trade literature on the practical pitfalls of trying to manipulate prices by "optimal tariffs"; that literature suggests many reasons why an oil import fee may not optimally lower world oil prices. The propensity to set the tariff too high, the tariff war aspects, and the problems of setting the tariff in a world of bilateral oligopoly all suggest that optimal oil taxes are unlikely.

An unjustly neglected analysis by Newlon and Breckner argued that the stockpile is a correction for a government failure: namely, that the imposition of price controls in crises removes incentives to optimal private stockpiling of oil for crises. Many have noted that the rules for stockpile disposal are unduly restrictive. Few recognize the intrinsic problem is that the stockpile treats the symptoms, not the disease. Until fears of excess profits are eliminated, efficient stockpiling is unlikely. Bradley senses this, but he could (and should) have developed the argument more fully.

This is a valuable contribution that will educate both the experienced and the novice. The discussion is lucid and truly suitable to the proverbial intelligent lay reader. Bradley's sweeping criticism of inter-

vention may strike some as extreme. Another view is that Bradley has absorbed a broader literature and better recognized the problems.

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*Investment Choices in Industry* by Constance E. Helfat. Cambridge, MA: The MIT Press, 1988, 189 pages.

Many interesting research issues and questions regarding the treatment of cash flow uncertainty in firm investment decisionmaking are posed in this book. The author presents a good discussion of many of the relevant strands of literature which address this subject, and attempts to integrate several important segments of that literature. However, I have a series of disagreements with the author about a number of assumptions underlying the analysis in the book, and about the author's interpretation of certain implications of theory developed in the literature.

Essentially, the author makes a case for management utility under risk aversion as the determining objective function for firm investment (project portfolio) decisions. The shareholder return constraint is brought in only implicitly through a minimum net present value (NPV) as a "multiple of total initial cost chosen by the firm." The author continues, "Presumably a firm is unwilling to earn less than some firm-specific return on its portfolio, analogous to a hurdle rate" (page 14). This is a simplistic incorporation of considerable finance theory literature on the risk-adjusted opportunity cost of capital. The author reviews and discusses some of that literature, e.g., the Capital Asset Pricing Model (CAPM), but does not go further in drawing much from the key contributions of that literature other than the early mean-variance portfolio optimization approach and the much debated management utility. Helfat uses the riskless rate of return as the explicit discount rate for risky project cash flows to calculate NPV, then assesses the contribution of each project's variance to the total firm variance for the investment decision rule. Use of the riskless rate in this manner is not even a correct treatment of "certainty-equivalents." The risk-adjusted discount rate (i.e., opportunity cost) must be used for management's valuation process, even if for their own utility; or better yet, as a link to the total firm's shareholders if only as a constraint to the objective function. In a

"Tobin's q" approach as well, the value portion must be calculated with a risk-adjusted discount rate.

The method of NPV as a multiple of investment cost (even if it includes some minimum hurdle rate), as treated by the author, is also not consistent with most industry practice as the author claims much of the approach in the book is supposed to be.

The author then uses the model in an interesting analysis of uncertainty (cash flow variance) by component cash flow (e.g., revenues and costs) at the project level. The primary focus is an interesting empirical report/study of petroleum industry investment, including alternative energy technologies. The book is worth reading for this part as the author nicely structures and analyzes the sources of uncertainty in projects which must be addressed and managed, and perhaps hedged. This portion is a contribution to the literature and could be useful in any microeconomic approach to firm investment analysis. The major disagreement/disappointment I have with the book is the methodology and assumptions underlying how that cash flow analysis gets used for project valuation and investment decisions by management.

The author's work still has validity as a "reporting" of results, but it cannot claim to explain uniquely the interesting firm investment choices and changes which occurred in the recent decade. The valuable empirical study is not really a "test" of the author's model alone because the empirical results could hold for any of several models, e.g., the CAPM. Thus, even if managerial risk aversion holds, the author cannot make the strong conclusion on page 127: "The theory and evidence presented here suggest that large, diversified firms exhibit risk aversion of a particular sort -- they seek to minimize total firm risk."

Helfat uses an offshore petroleum tract lease bid valuation example. The author makes clear this is not a bidding strategy model, and cites that literature. Given the questionable assumption about management utility (for example: "Risk Aversion and Bidding Behavior for Offshore Petroleum Leases" by Smith, *Journal of Industrial Economics*, March 1982) the author uses the hypothetical firm's investment model to calculate the tract value to the management. There is much useful and interesting discussion presented by the author about this process. (The author should explain how the lease bid price enters the objective function as its form will not be intuitively obvious to many readers.) For example, the empirical data and asset share proportions for various categories of investment by the petroleum industry are interesting, and some of their implications discussed.

However, in addition to the questionable assumptions at base of the model, as discussed above, this lease valuation model has other serious shortcomings:

- It is a static model and does not account for the intertemporal investment decisionmaking process so prevalent in today's finance literature; nor, critically, for the "operating options" effects which are so important to the petroleum industry. (E.g., see "Option Valuation of Claims on Real Assets: The Case of Offshore Petroleum Leases" by Paddock, Siegel and Smith, *The Quarterly Journal of Economics*, August 1988.)
- Helfat makes the additional assumption of a fixed supply of tracts available to be bid on. This is not justified because the supply of tracts, *per se*, is not the actual asset (the author's model does not incorporate market-clearing price determination in any event); expected oil reserves in the sub-sea reservoirs, including their easy substitutability from other production sources, is the actual asset and its supply is not seen as "fixed" at the firm level.

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*Energy Pricing in India: Perspective, Issues and Options* by Hiren Sarkar and Gopal K. Kadekodi. Geneva, Switzerland: International Labour Office, 1988, 118 pages.

This short monograph discusses energy pricing policies and energy-economy linkages in the Indian economy. It starts by presenting statistics for energy consumption from 1973-74 to 1984-85. As late as 1984-85, most of the energy used in India came from non-commercial sources (fuel wood, agricultural waste and dung cake), although commercial energy has been catching up rapidly, mainly in the form of petroleum products and electricity. Unfortunately, the authors' attempts to explain this development econometrically yield ambiguous results, apparently in part because of data problems.

The second part of the book is devoted to the presentation and simulation of a computable general-equilibrium model of the Indian economy. The model's ten-sector input-output structure uses fixed coefficients except for interfuel substitution and choice of transportation modes. Final demands are determined by a Keynesian savings function, a linear expenditure system, an accelerator model, and exogenous government and external sectors. Prices are determined by demand-sensitive markups and wages that are rigid except for indexation. Since

the commercial energy sectors are owned by the government, their prices are exogenous and double as tax instruments.

The simulation scenarios represent administered changes in energy prices, an external oil price decline, wage changes in energy production, and a comparison of energy taxes to other indirect tax instruments. As expected, administered as well as external energy price increases reduce real GNP and raise the price level, while the effects on the government budget and the trade balance depend on the source of the change.

The simulations of external oil price shocks are interesting. If the domestic price follows the world price, the effects are stagflationary as expected. In contrast, if (by policy) the domestic price is constrained to remain at its pre-shock level, domestic real output and inflation are unaffected, while the entire effect is borne by the government deficit and the foreign trade deficit. The implied tradeoff suggests that an adverse shock can be paid for now (by recession) or later (as foreign debt).

This book raises two important policy issues. The first is the tradeoff just referred to; the other is the choice of tax policy in an economy with price and wage rigidities. Unfortunately, however, the authors seem to stop short of analyzing these issues with any depth. Scarcity of data may be the reason why virtually no empirical tests of the model are presented. However, some remarks about this issue would have been in order, as would a critical discussion of the validity of this modeling approach as well as the significance of the assumptions used. The authors do very little beyond a barebone presentation of the model and the results, leaving the important task of interpretation to the reader.

This shortcoming extends to the entire book. An introduction motivating the study, stating its objectives, and providing some background material would have been very helpful, as would a concluding chapter summarizing the results and the message the authors wanted to convey. The presentation of the data leaves several gaps between the tables and the text; the relatively simple model is hard to understand without a good deal of detective work; and the presentation of the simulation results is long on numbers and short on explanation. Finally, the services of an English language consultant could have improved the writing style and made the book a little easier to read.

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