It is obviously beyond my mandate in reviewing this book to discuss what constitutes an optimal methodology in making policy prescriptions for sectors of the economy that are inherently uncompetitive. But what I have already said should provide the reader with additional insight about why I have some misgivings about Richardson's policy recommendations in respect to laboratory and private hospital services. On the other hand, I can well understand his dilemma in adopting the approach he did: I personally have found myself using the same methodology many times when it has not been apparent that a better approach was available. As far as the reader is concerned, my comments are designed only to warn that Richardson's policy prescriptions are not a final word on the subject, and not to deter the reading of a book which has many useful insights and much information about the Australian health delivery system.

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Electronics and Industrial Policy: The Case of Computer Controlled Lathes
by Staffan Jacobsson.
(Allen & Unwin, London, 1986) pp. XX + 252, $87, ISBN 0-04-338138-3.

This book is essentially a doctoral thesis, which was presented at the University of Sussex in 1985. While the doctorate was granted in economics, the thrust of the investigation is directed at technology and its implications for national development, in a fairly narrow compass, as one might expect of a contemporary doctorate. Dr Jacobsson has focussed on an interesting theme: the extension of technology, via computerised control to a traditional and important capital product, the lathe; and he has explored the implications as they affect a number of countries. It is an ambitious agenda, in which he seeks to contribute to two debates: one about the industrial impact of the electronic revolution, and the other about the industrialisation of the developing world. It is also his express claim to develop a theoretical framework at the level of the firm, relevant to an analysis of industrial policy where product differentiation applies.

Following the introduction, his second chapter provides a succinct history of the evolution of computer numerical control (CNC) lathes, and the singular growth of Japanese production. CNC lathes have made enormous inroads into the market of traditional lathes not least because Japanese manufacturers produced at the low-cost, low-power end of the spectrum, doing for the CNC lathe what Henry Ford did for the automobile, at the expense of both traditional lathes and the automatic lathe, which is less flexible than CNC. There is a useful section setting out the economics of choice between the competing designs.

The third chapter, on growth and market structure in the international industry, is much the longest in the book. It shows how Japan ousted the United States as the leading producer of CNC lathes, by volume and value, and cut down the European producers' share of world markets. To an industrial economist or microeconomist, however, his section on theoretical framework is unimpressive. Ansoff is quoted to attack the restricted focus of microeconomics, and many practitioners would agree that one needs a wider angle than some of its more

traditional adherents perceive, but there is scant evidence that Jocobsson really knows his microeconomics. In particular, the trade-off between price and product characteristics is not developed. Lancaster, and Nelson and Winter, among others, go unnoticed. These omissions are serious and persist throughout the book, leaving it open to the charge that price competition is wholly ignored. Narrow minded economists may rightly be ridiculed for concentrating exclusively on price, and neglecting functional differences between differentiated products: but an engineering bias that never examines prices, nominal or quality-adjusted, is equally naïve. Thus we get weights of lathes, and their kW power, but no prices or averages values!

Jacobsson adopts Porter's concepts of overall cost leadership, focus and differentiation as corporate strategies. Respectively, these imply standardised products at low cost for price elastic markets: medium-high priced near-standard machines of high performance: and costly customised designs for very discriminating customers. The United States CNC lathe manufacturers followed the last-named strategy, focussed on the esoteric requirements of the aerospace companies, while the Japanese swept the field with their overall cost leadership strategy.

Chapter Four, on barriers to entry, examines the role of research and development, components as a factor cost, marketing costs and economies of scale to arrive at a minimum economic scale approaching 1,000 CNC units a year. This is well beyond the *national* levels of output of the three newly industrialising countries (NICs) he selects as case studies, namely Argentina, Taiwan and South Korea. Each country is the subject of a chapter. Generally the treatment of market structure (of which barriers to entry form a part) is not comprehensive, with the fullest coverage given to Japan, but much less to the United States.

Half the book is devoted to the experience, problems and policies of the three NICs mentioned above. The work here is original and interesting, particularly to Australian readers who will be well aware of the difficulties of competing with bigger countries. Argentina has been particularly unsuccessful, as it runs a poor third to the other two, despite being ahead of them in machine tools at the beginning of the 1970s. Tariff protection shielded the domestic industry, and shorn of incentives to international competitiveness it languished and only managed meagre exports to Latin America. Political and exchange rate instability exacerbated matters, and accounts elsewhere detail the disappointments of other Argentinian manufacturing industries, as in Jenkins' analysis of the motor industry[1]. Indeed, a general point could be made that it would help to know how the three CNC lathe industries fared relative to the national performance of their manufacturing industry as a whole. The Taiwanese industry is judged most successful, benefitting from government loans, export credits and a conscious drive to improve quality in the industry, but shunning the import restrictions which represented a hidden tax on users in Korea.

I agree that policy should be targetted as closely as possible to the point of application, and Jacobsson takes issue with Balassa and Corden for limiting themselves to blanket prescriptions; but there are hazardous elements in identifying one firm and then backing it exclusively, and we are not told what sanctions might be used to remedy poor performance.

The closing chapters of the book summarise the earlier analysis of individual government policy and extend it to offer some provocative conclusions for the Swedish and British industries.

I find it difficult to deliver a simple judgement on the book. It contains quite a lot of useful empirical work, and gives helpful summaries of the technology and growth of the CNC lathe industry, and the author has collected evidence from a wide range of sources. Yet as an economic analysis, it leaves a number of questions unanswered. How far did Taiwanese and South Korean exports compete, on characteristics and adjusted price? How did CNC lathe manufacture in each of those countries measure up to general economic performance indicators? How did different industries in those countries fare in respect of government support? In the transition from thesis to book, I think some of these questions should have been addressed; and some of the repetitious summaries could have been excised, to avoid the old armed services practice of 'tell 'em what you're going to tell 'em: tell 'em: and tell 'em you've told 'em'. Perhaps a broader question can be asked of Ingo Walter, the editor of the World Industry Studies series, of which this is a fifth volume. Does the series have a cogent framework, or is it just a vehicle for manuscripts that pop up? If, as I judge, it is the latter, then a useful opportunity is being missed.

REFERENCES

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International Industry and Business: Structured Change, Industrial Policy and Industry Strategies *by R.H. Ballance*
(Allen & Unwin, London, 1987) pp. xxi + 357, Paper $45, ISBN 0-04-339038-2.

Ballance has written a book which claims to explain how international, domestic, economic and political factors have moulded the modern manufacturing sectors of the world's nations in the post-World War II era. Paraphrasing the book itself, two themes are stessed throughout: first, industrial developments, in the broadest sense, have become truly international, if not global; and second, most manufacturing occurs under oligopolistic conditions. In fact there is really a third theme that is stressed, and that is the role of the nation state, operating in an international arena to set up dynamic industrial bases and, as a concomitant of this, to attract capital.

In this context it is difficult to understand why the terms 'multinational' and 'transnational' never appear in the text. Apart from the perjorative manner in which these terms are sometimes used, and the possible sensitivity of Ballance's position as an officer of UNIDO, particularly with respect to the Third World, it is difficult to find any reason for this strange omission. There are important repercussions flowing from the omission. First, it denies Ballance the use of a large body of literature concerned with multinationals and transnationals. Second, and more importantly, it leaves Ballance without a platform for the discussion of a wide variety of relevant topics related to the role of such corporations in determining global manufacturing patterns. This is significant