

followed by specific analysis of some of the key elements of it. There are useful introductory pieces then on the context of the reformed laws, drafting issues and the origins of the Act. This is followed by sections looking at the formation of private networks and network services, their regulation and that of the associated equipment and cabling markets. There are also three 'stand alone' pieces examining joint venturing in telecoms, international regulation and electronic data interchange.

The second half of the contributions is very much dominated by the issue of competition law and its impact on the structure and functioning of the industry and the market place. The analysis is prefaced by background information on how the market was originally controlled, prior to the arrival of the independent regulator AUSTEL. Subsequent sections then deal with the role of competition law in telecommunications, the Trade Practices Act exemptions for anti-competitive conduct, pricing regulation and rules governing the exclusion of competitive carriers from the market. This is a very interesting section with the contributor, Warren Pengilly, lamenting the slow pace of change. In his view the chief problem is the failure to take a bold decision on the most fundamental aspect of telecommunications, namely to abolish the telecom carrier monopoly. He argues that in a rapidly developing industry such as telecommunications "we cannot afford not to have a competitor or at the least the credible threat of a competitor to telecom" (p.293). He concludes that AUSTEL will be a regulation oriented entity and that much of the bureaucracy, court cases, conflicts and pressures could be avoided if the telecom monopoly were abolished "and AUSTEL primarily looked at the price of access to a competitive carrier and the rural subsidy which might be payable by such a carrier" (p.306). It is a pity that this and one or two other sections were not given more primacy within the text, as the ideas expressed in the latter did tend to shape discussion elsewhere. The remaining sections again dealt with specific topics such as the impact of telecom reorganisation on other government business enterprises, the role of the Ombudsman in dealing with consumer complaints and three separate essays examining the case for and against the policy of providing a universal telephone service throughout Australia.

To sum up, this book gives life to the debate that continues apace regarding development of telecommunication services in Australia. Contributors appear informed and appropriately opinionated offering an overview of where developments have reached, what problems lie ahead and what further developments might be required in the future as a result of technological advance, international activity and the inexorable pressure to extend the reforms that are clearly underway but not yet complete.

Stephen Saxby.
University of Southampton

Growth Policy in the Age of High Technology edited by *Jurgen Schmandt and Robert Wilson*. (Unwin Hyman, Boston, 1990) pp. xx + 470, \$145.00, ISBN 0-04-445621-2.

This is an important book compiled at a time of major structural change. It endeavours to convey both the flavours of technological change and the spatial

dimensions of that change regarding policy-making; it succeeds with the former but falls understandably short of the mark with the latter.

Schmandt and Wilson have drawn the work of 18 well-known American academics and policy-makers into a coherent structure that examines, in three parts, the changing role of the states, the theory and evidence of technological change and policy in the US and emerging strategies for state development. They provide an introductory overview of the material and Richard Barke bravely attempts to pull the work together in a difficult and somewhat confusing conclusion.

The editors lay the rules and groundwork in their introduction in Part I, 'The States as Actors'. They begin by defining a region as the American state within the federation. They are able to do this on the grounds that the book is to deal with public policy and that the states are the vehicles for policy formulation and implementation. This legitimate, albeit pragmatic, approach sets the tone for the writing that follows but avoids the awkward proposition that the communication and information technologies that thread a common theme throughout the work are likely to generate a fundamental shift in our future understanding of region and what constitutes the appropriate unit of study. Having avoided this complication Schmandt and Wilson observe that the States have played a role of growing significance during the 1980s and that the initial 'high-tech' policy approach has now broadened noticeably as the technologies permeate traditional manufacturing processes. They then pose several questions regarding the efficacy of the state, its instruments and its institutions in delivering policy for regional development. In other words, what role will regions and regional policy-makers play in the future growth of nations? In the remainder of this Part Schmandt and Wilson make individual contributions that place the state in an historical context and which explain the types of policy-making instruments used and the degree to which they have been effective. Thus the scene is set to begin an examination of how and why changing regional initiatives have affected growth and development.

Part II consists of three chapters by Amy Glasmeier, Edward Malecki and Edward Bergman. It addresses both theory and evidence of the recent emergence, or re-emergence of the role of the states and is perhaps and most interesting section of the book for readers outside the United States. Glasmeier, in her usual thorough way, peels away the spatial myth of 'hi-tech' salvation for underdeveloped regions and demonstrates that "(n)ot only is hi-tech industry growth more prevalent in states with histories of manufacturing, high technology is also basically a big-city phenomenon" (p.68). The restatement of this important observation that 'hi-tech' policy has generally failed to produce a shift to rural areas implies the need for broader based policy formulation for these regions. Malecki takes up this theme in the context of the more recent assimilation of the new technologies into traditional manufacturing. He then observes that the most likely path to regional development lies in capturing the technological spin-off at a local level. This requires entrepreneurial initiative that leads the author to conclude that "(t)he process of entrepreneurship may be a much more important one to regional and local economies than the process of technological change" (p.119). This view is shared by a growing number of analysts and is perhaps the focal point of this volume. Bergman continues this

theme in a more applied fashion examining factors such as transport and education that provide the necessary infrastructure to harness entrepreneurial activity and thus enable technological transfer to occur.

What follows in Part III of the book is a vertiable smorgasbord of data and evidence on state development strategies in America. A dozen authors have researched and analysed state strategies regarding science and technology, business assistance, evaluation, elementary and secondary education, vocational training, labour force and technology transfer between universities, government and industry. The writings naturally vary in quality but the garnering of such a diverse range of analyses into one volume most certainly fills a gap in the literature and provides a handy source of reference to researcher and student alike. Documenting the findings and quality of the work would perhaps be unfair and unnecessary in this review but it is not an exaggeration to say that education, in all its dimensions, plays a very large part in the minds of many contributors. This theme provides a very neat link to Bergman's intimation that education policy is likely to provide the essential foundations for entrepreneurial turbulence and the creation of the innovative milieu.

Richard Barke, in the concluding Part, sets out to draw this diverse material together. He acknowledges the growing role of the states in the 1980s but questions whether this is a quantitative or qualitative change. Despite severe measurement difficulties he anticipates a long-lived and gradual transition to the states due to "the capture of policy fields from the federal government, the seizure of leadership roles in continuing intergovernmental programs, and policy innovation" (p.436). With the possible exception of policy innovation these are not convincing long term arguments. The more fruitful explanation of a shifting emphasis might lie with the nature of the new technologies themselves, but Barke chooses not to pursue this possibility. Instead he launches into a somewhat confusing narrative on jobs and job creation and then finds confusion himself with the emergence of new city and region types, the potential creation of a "confused disarray of state economic development policies", the politicization of the development process, the danger of zero-sum outcomes and other structural problems. This leads to the improbable conclusions that more research is needed, better technology indicators require development and researchers might benefit from personal involvement in the policy process. His conclusion that the states should "continue the experiments in the politics and economics of progress" suggests that the answer to the questions about future regional roles posed by Schmandt and Wilson is a resounding Don't Know (p.456).

If some of the above seems harshly critical then it is unintended. Bringing together collected work from an established and predictable field of study is one thing but doing the same in a contemporary dynamic and uncertain field that straddles discipline areas is quite another. The editors and authors of this book must be complimented for harvesting debate in such a rich area of economic and social change. The private and public involvement in this change is fascinating and we should be grateful for, not resentful of, the fact that the authors raise more questions than they answer.

Ray Bantow
Deakin University.