and context are revealed, a letter is surely missing from an appendix, and names are dropped on the apparent assumption that every reader must be on intimate terms with each individual. There is every indication — even the claim that the United Nations is a member of CoCom (p.56) — that the writing has been hurried, a journalistic requirement which ill serves an author.

If Cahill fails to prove much in *Trade Wars,* he most certainly raises some intriguing and important issues, and he does so with every bit as much determination as he claims the Americans apply to the enforcement of their export controls. The CIA may have met its match in Kevin Cahill. *Trade Wars* will entertain as much as any fictional tale of espionage, but it should also disturb. Just what are the Americans up to with their export controls?

And more mysteriously, just what are the Europeans up to with their compliance? The willingness of the British to prostrate themselves before even the most outlandish deities of American export control mythology has produced some of the most memorable of Cahill's reminiscences. He obviously despises the ignorance and spinelessness of civil servants working in this area; he is adamant in referring to their "treachery" (pp.58, 61), and in one glorious passage of pure spleen and frustration, he talks of: ". . .five years of dealing with the Civil Service, of watching ministers make fools of themselves in public because they have not been briefed properly, or of discovering what the media imagines is policy is very often the result of the Permanent Secretary's perusal of that morning's copy of *The Times*" (p.41).

Yes, that rings true. With the might of the American government and American multinationals ranged against such opponents as the British Civil Service provides in the matter of export controls, there is need for such as Kevin Cahill.

Stuart Macdonald
London

The Australian Aerospace Industry: Structure, Performance and Economic Issues, *by the Bureau of Industry Economics (BIE), Research Report 20.* (AGPS, Canberra, 1986) pp.xxvi + 425, ISBN 0-644-04816-6.

The contents of this research report were assembled and examined to ameliorate a deficiency in data on, and analyses of, the aerospace industry in Australia. This task was timely in light of the potential some hold for this industry, and as the Australian manufacturing sector desperately seeks to identify 'winners' which might provide the key to industrial and technological abundance. However, as the Bureau reports, assessment of both the prospects for aerospace development and of existing policy instruments has been stymied through a paucity of accurate data. This research report was thus initiated by the Minister for the (then) Department of Industry and Commerce in a policy announcement for the aerospace industry in mid-1984 to remedy these deficiencies.

The report is substantial (in excess of 400 pages) and extensive in its coverage. It tables, and incorporates within its many analyses, the results of a BIE survey of some 100 plus firms in the industry, conducted in 1985 and

which provided data on their activities in 1983-84. These data are supplemented by official statistics, other published data and informal interview responses elicited from firms and organisations active in aerospace activities. The survey questionnaire is attached and includes explanatory notes identifying the reasons for the survey and provides a summary of definitions appropriate to aerospace operations. An extensive bibliography of some 345 references is listed. This bibliography is similarly matched by a comprehensive assembly of data, while suitably detailed expositions of the many models used are relegated to appendices, for the consideration of the reader. The report proper presents a background to the industry, identifies its structural characteristics, assesses its performance, explores R & D, the space sector, international issues, both direct and indirect government involvement in aerospace and assistance provided. A summary of findings and implications concludes the report.

The report begins by acknowledging the widely held perceptions that aerospace capability not only provides a key to industrial and technological development and that the benefits deriving from aerospace technologies can be readily diffused to other sectors, i.e., aerospace is a reservoir of external benefits, but also that capability supports the more fundamental goal of defence preparedness. It is possibly the latter of these perceptions that has tilted the balance in favour of extensive government involvement in the industry as the Australian aerospace industry (and not uniquely an Australian phenomenon) has both been nurtured and supported by government while also this same involvement ". . .combined with other factors such as declining maintenance workloads, erratic demand patterns and barriers to entry to export markets, may have prejudiced the efficiency and future propects of the industry" (p.3). The report also acknowledges the current government's recognition of these issues and refers to policy statements sympathetic to the industry's problems and which were articulated by the then (1984) Ministers for Defence, Defence Support and Industry and Commerce. The industry's problems have not proceeded unnoticed by policy makers.

The Australian aerospace industry is characterised by extensive government intervention (government is a producer of aerospace goods and services, it is a substantial customer and it is active through various support programs). It is highly concentrated with a small-firm fringe and with the larger firms' aerospace operations having been established for several decades (it is not an infant industry) and its activities are directed to the manufacture of components, assembly and the service functions of repair and maintenance, rather than being concentrated in aerospace manufacturing. Since World War II, aerospace output and employment levels have declined markedly while in 1983-84 it accounted for 1.4 per cent of total manufacturing employment with a turnover of some 0.7 per cent of total manufacturing turnover. Capacity underutilisation is a feature, prompting government policy initiatives aimed at export markets. Domestic demand for aerospace goods is erratic with civil requirement outstripping defence needs.

The report finds the Australian industry to be characterised by dynamic economies of learning rather than the static economies of plant size, although small production runs have constrained realisaton of these learning economies. Typically, the existence of dynamic economies has resulted in a 15 to 20 per cent unit cost reduction for a doubling of output. The report

mentions the possibility of these marked learning curve effects mediating the shortcomings of small production runs with the prospects for a positive outcome on international competitiveness. However, the report describes as a 'surprising' feature of the Australian aerospace industry its operation as a 'virtual enclave', with weak inter-industry linkages. (A multiplier of 1.2 is estimated which pales against motor vehicles of 1.9 and structural metal products of 2.2.) This result is significant in light of the importance of aerospace to the offsets program, with some 60 per cent of total offsets completed over the period 1970-84 being aerospace activities. The weak inter-industry linkages do not augur well for the diffusion of technologies acquired through the offsets program, given the relative importance of aerospace to offsets and the current emphasis on the technology transfer objective of the revitalised offsets program. A partial explanation of these weak linkages rests with the nature of inputs into aerospace which, to a large extent, derive from the industry itself. It is reported that some 57 per cent of total intermediates and 19 per cent of total value of production derive from within the industry.

The Australian industry is further characterised by poor profitability, with average profit on sales (albeit for the one target year of 1983-84, the focus of the study) being negative, compared with the Bureau's best comparable figure for manufacturing as a whole of some 5.8 per cent. Further, as the report suggests, it is illuminating to relate profitability to productivity, and it is reported that firms incurring losses had productivity levels at about 30 per cent lower than the industry productivity average, while those few firms returning in excess of 20 per cent on income had commensurate productivity levels at least 90 per cent higher than the industry average. The involvement of government in the industry is mooted as contributing to this poor performance. Two suggested factors are the Maintenance of Production Capability payments and the personnel management practices governing employees of government-owned aerospace establishments.

The extensive involvement of government in aerospace is matched by the treatment given this topic by the Bureau. Two chapters on direct and indirect government support for aerospace are included, with (to the reviewer's knowledge) possibly the most thorough analytical treatment of offsets in Australia being reported. As others have found, scrutiny of the offsets and Australian Industry Participation programs is severely hampered by data inadequacies, although the Offsets Branch of the Department of Industry, Technology and Commerce has recently instituted systems to remedy this problem. While the Bureau introduces offsets as a form of countertrade, no futher discussion is presented of the broader international implications of expanded participation in countertrade. If it remains uncertain whether there are net benefits to be derived domestically from increased countertrade activities, possibly greater uncertainty surrounds this growing phenomenon in the global arena. The final chapter seeks to assess the overall level of assistance to the aerospace industry in Australia but is restricted in this attempt by the very nature of government involvement. Nevertheless, various scenarios are presented which demonstrate that while the manufacturing sector of the aerospace industry is assisted, it has not enjoyed the export and domestic success of the unassisted maintenance sector. Justifications for government intervention in high technology industries are outlined, but predictably the conclusion is reached that the potential remains to create further and more

severe misallocations ". . .than would assistance to other industries employing resources with lower opportunity costs" (p.374). The Bureau asserts that existing programs to alleviate risk should be sufficient to overcome market failures, but that strategic defence objective might remain as a justification for industry specific assistance.

While the aerospace industry might be ". . .the apotheosis of high technology" (p.246), this report is unlikely to be read by the laity. Nor was that its aim. It achieves its mandate of filling gaps in data and analysis of the Australian aerospace industry and it does provide essential material for those involved in research into policy issues in aerospace. While the report is specifically Australian-targeted, it should also prove useful to researchers overseas as many of the issues explored are not peculiarly Australian. Its use of modelling is pleasing and not daunting for those fearful of econometric wizardry. The data sets provided should lend themselves to further explorations.

Peter Liesch
Darling Downs Institute of Advanced Education.

Commercial Media in Australia: Economics, Ownership, Technology, and Regulation *by Allan Brown*
(University of Queensland Press, 1986) pp.xii + 240, $50, ISBN 0 7022 1839 1.

Allan Brown's book contains a large quantity of economic data on Australian newspapers, television and radio. The period covered is mainly 1971-1982, but there is some previous history; two concluding chapters discuss new technology plans (such as cable and satellite) and look at future policy options. Most of this material comes from the more obvious sources: there is, for example, little in the way of audience research or in-company consultants' reports. However these factual data are plentiful and well presented.

The author, as an economist, also attempts to use the Australian case to make a more general contribution to the economics of the media. Here he draws heavily on the well-known works of such economists as James Rosse, Roger Noll, Bruce Owen, Michael Spence, Peter Steiner and Harvey Levin. Most of these economists had in mind the media patterns of California and the north east region of the United States (US); such economists were widely quoted as prophets of the American media deregulatory surge of the late 1970s and early 1980s. As such they appear dated in US terms, and not too relevant to the very different circumstances of Australia. The author's use of these economists' writings may derive from the origins of his book as a 1981 doctoral thesis at the University of Queensland.

Allan Brown uses Rosse's 'umbrella' theory of newspaper levels — metropoliant, suburban and exurban dailies — which have core monopolies but compete at the fringes. This theory was developed for major US urban centres such as the San Francisco Bay Area. Its relevance even in the Bay Area is disputable. But it seems to fit Australia much less well, because Australia simply has no equivalent of the American pattern of up to 20 suburban dailies circling one huge urban area.