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Elegy, ode or panegyric? Practising agricultural economics in Australia, 1975–99†

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Changes are investigated in the Australian agricultural economics profession, 1975–99, using a conventional microeconomics framework of supply and demand for agricultural economists. Aggregate exogenous factors such as changes in the agricultural and tertiary education sectors, and changes in beliefs about the proper role of government, have changed both supply and demand conditions for agricultural economists. The profession has responded by shifting its focus away from narrowly agricultural policy, especially marketing policy, towards areas of market failure such as environmental and natural resource issues.

> William Faulkner: 'The past is not dead and gone; it isn't even past.'
>
> William Deane: 'The past is never fully gone. It is absorbed into the present and the future. It stays to shape what we are and what we do.'
>
> (Both quoted in Tony Stephens (1999), 'Waiting for the dinosaurs to die', *Sydney Morning Herald*, 24 July, p. 47)

1. Introduction

The first Australian agricultural economists were employed in the early 1940s and the Australian Agricultural Economics Society was founded in 1957. The Australian agricultural economics profession has therefore roughly completed its second quarter century. During its first half century, the farm sector shrank from about 14 per cent of GDP in 1955–56 to about

† I wanted this article to be more than simply my own reminiscences of Australian agricultural economics and therefore depended on obtaining information from many colleagues who have generously provided the information on which this article is based. If individuals' contributions have not been referenced, it may have been because several made similar comments, or that I simply absorbed others' thoughts; if the latter, my apologies. Not all suggestions or comments were taken up; herein lie opportunities for further contributions. The research assistance of Alexandra Lobb is gratefully acknowledged, as are comments by Al Watson, Bill Malcolm, John Longworth, John Dillon, and four referees.

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3 per cent in the mid-1990s. From its own intellectual resources, and borrowing freely from overseas, the profession has explained the reasons for these changes in agriculture to farmers, policy-makers and successive cohorts of students. Agricultural economists have increasingly favoured a deregulated economy, arguing against (excessive) regulation in domestic agricultural marketing and for reduced government intervention in international agricultural trade; they have also generally favoured freer markets beyond agriculture, and particularly freer labour markets. The profession has been sceptical of other forms of government intervention, whether investment in infrastructure such as irrigation schemes or management of professions such as via competency standards.

Despite the profession's undoubted successes — whether through skill or serendipity — there are warning signs that its future decades may not be as felicitous as their predecessors. The profession is challenged by old disciplines seeking new horizons (e.g. geography), new disciplines (e.g. ecological economics, social science,[1] social ecology) and professionals in areas such as farm management and agribusiness who might formerly have called themselves agricultural economists. Continuing pressures on its traditional homes — the universities educating its neophytes and the government departments and quangos employing many of its graduates — are changing the supply and demand conditions for agricultural economists.

The aim of this article is to document and account for changes in the Australian agricultural economics profession, 1975–99. This appraisal is conducted as a standard economic analysis of a typical microeconomic problem. It does so by considering who/what constitutes the profession; previous writings on the development of agricultural economics in Australia; the key economic and political forces shaping agriculture and its economy; key institutions for the practice of Australian agricultural economics; the labour market for Australian agricultural economists; the profession's written output; and the profession's philosophical approach. An overall appraisal of the profession is undertaken in the final section.

The agricultural sector has changed markedly over the past 25 years. Agricultural economists have both explained the economic reasons for these changes, and championed some. Changes in agriculture have induced changes in the profession, ranging from the types of work practising agri-

[1] See Bureau of Rural Sciences: 'The social sciences explore individual and group behaviour and interactions. They cover a range of disciplines including psychology, sociology, public policy, demography, geography, political science, anthropology and history.' The footnote is 'Economics is a social science but is outside the scope of the work of the Social Sciences Centre although we do work with economic research agencies where a multidisciplinary approach is required.' [http://www.brs.gov.au/social_sciences/index.html; accessed 12 January 2000]

cultural economists do, to the ways that agricultural economists are taught. Despite contributing to the debate about the nature and implications of these changes, parts of the profession have failed to keep pace with these innovations, and themselves face major restructuring. The profession has not kept abreast with some changes in intellectual fashions, although the degree to which this failure is disadvantageous is not yet clear.

2. Australian agricultural economics: a fuzzy set

Defining a profession appears deceptively simple; it simply requires identifying the practitioners. In professions which require registration for a practice certificate, e.g. law, medicine, nursing, veterinary practice, teaching, or where there are dominant trade unions, defining the profession simply requires a list of members. Since agricultural economics has deliberately adopted a *laissez-faire* attitude to membership as well as its economics, defining the profession cannot be simply based on AAES/AARES membership.

Who is counted as an *Australian* agricultural economist requires accounting for immigrants and emigrants, both temporary and permanent, in an increasingly mobile world. Who is counted as an Australian *agricultural* economist is also problematic, requiring specification of the extent of necessary agricultural content in either undergraduate or postgraduate study, or the extent to which a generally-trained economist needs to work in 'agriculture' to earn the appellation. Finally, an Australian agricultural *economist* may have had much or little economics training, at undergraduate or postgraduate level. Australian agricultural economists therefore comprise a fuzzy set. Australian agricultural economics may be defined as the output of this fuzzy set, including the journal articles, conference papers and books its members write, the enquiries in which they participate, the teaching they do and the students they supervise, and the public debates in which they engage.

Alternatively, the scope of agricultural and resource economics might be defined with reference to the economic relationships within the farming industries, and their economic relationships with other industries — natural resources; factor and produced input and service input markets; downstream industries of assembly, storage, handling, transport, processing, export, wholesale and retail; and the interactions of these industries with the rest of the economy. The increasing focus on natural resources and environmental issues, independent of their impact on agriculture, has been an expanded dimension of agricultural economists' activities. The agricultural economics profession may be defined as that loose collection of individuals interested in analysing the economic relationships of the above activities.

The Australian agricultural economics profession is, however, more than simply that collection of individuals interested in economic processes relating to agriculture and resource industries. Australian agricultural economists analyse these processes in a particular way. The Australian agricultural economics profession is, occasional dissenters notwithstanding, a predominantly *neoclassical* economics profession. The key tenets of this neoclassicism are that individuals are (expected) utility maximisers, firms are (expected) profit maximisers, utility and production functions are sufficiently well behaved to be either estimatable or to give rise to demand and supply relationships that are estimatable, and that these relationships determine the optimal allocation of society's resources. Australian agricultural economics, like its overseas counterparts, especially focuses on *quantitative* neoclassical economics. Australian agricultural economics is also ostensibly strongly in the Popperian tradition of epistemology: that nothing can be known for certain, and that intellectual endeavour comprises hypothesis testing against available empirical evidence.

3. Previous reflections on the profession

Agricultural economists have regularly ruminated on their profession and its future. Anderson (1985), Campbell (1985), Freebairn (1985), Gellatly (1985), Miller (1985) and Standen (1985) reflected on the development of agricultural economics in Australia. Many of their insights remain relevant today; even their criticisms of the current state of the profession, despite most of them being in significant positions to influence its development in the last quarter of the twentieth century. Gruen (1986, 1998) reminisced on his involvement in Australian agricultural economics, 1947–72, as did McFarlane (1993). McColl *et al.* (1990) provided a snapshot of Australian agricultural education, including agricultural economics, in the second half of the 1980s. Presidents of the Society have frequently used their presidential addresses to make ex cathedra pronouncements about the state of the profession. Ahmadi-Esfahani and Brakey (1996) examined the Society itself using an industrial organisation framework, partly based on surveys of members and past presidents, and examination of the Society's files. Both ABARE (anon. 1999) and South Australia (Cook 1992) have documented (part of) their histories of agricultural economics. Few of the papers (Anderson 1985 and Ahmadi and Brakey 1996 excepted) use a structured economic framework to evaluate the development of profession;[2] despite the

[2] Using tongue-in-cheek econometrics, Anderson (1985, p. 93) linked the size of the profession to an index of real farm income and the share of agriculture in GDP.

impeccable neoclassical credentials of the commentators, most use a combination of institutional analysis and reminiscence.

4. Economic and political context

The evolution of the Australian agricultural economics profession in its second quarter century was partly a function of its environment. This rapidly changing world — global, Australian, professional and local — played an important part in the profession's evolution. Agriculture was the original object of the profession's analysis, and it contributed to change in this sector by identifying preferred economic structures.

The 1975–99 period opened in a period of global instability: the end of the Vietnam War, oil price shocks, inflation and stagflation, the first enlargement of the European Economic Community, rapid industrialisation and economic growth in East Asia beyond Japan, and the passing of China's revolutionary leadership. The global economic and political upheavals of the 1970s were preceded domestically by the election of an Australian Labor Government in 1972, the least propitious time in at least a decade for the achievement of its ambitious social and political programme. That government sought to be more independently assertive abroad and to re-orient domestic society and economy. Its legitimacy was never accepted by the defeated Coalition, especially by the then Country Party; and the inability of the new government to control the Senate led to a double dissolution election in 1974. The Labor Party's lack of government experience and thus political management expertise, its inability to manage a hostile Senate, and its inability to comprehend the deteriorating global economy or manage the domestic consequences, led inexorably to its overthrow. After Labor's dramatic 25 per cent tariff cut in July 1973 in an attempt to seize control of the political and economic agenda, the subsequent Coalition Government reverted to the economic dogmas, such as protection all round, of its predecessors; there was little change in the average rate of manufacturing industry assistance 1974–84 (e.g. Godden 1997, figure 13.4).

The global economic turmoil of the 1970s provided the opportunity for a successful challenge to the Keynesian orthodoxy of the post-war years. Consequently or coincidentally, the Western economies entered a long economic boom in the 1980s. Although the boom was punctuated by the stock market crash of 1987, enough had been learned from 1929 that the prevailing market economics orthodoxy did not preclude the publicly managed and/or financed bailouts that were necessary to maintain financial confidence. In agricultural markets, the determination of the US government to challenge agricultural protection in the European Community intensified competition in global markets.

Partly by coincidence[3] and partly from conviction, the Federal Labor Government, 1983–96, substantially deregulated the financial sector and commenced labour market deregulation in key industries such as the waterfront. In the early 1990s, the Commonwealth and States agreed to a review of national competition policy (Hilmer *et al.* 1993), and subsequently to the implementation of a National Competition Policy (cf. National Competition Council: http://www.ncc.gov.au/nationalcompet/agreements/index.htm; accessed 3 April 2000).

Deregulation of the financial sector, particularly of foreign exchange rate markets, had major implications for agriculture. Floating exchange rates accelerated the impact of macroeconomic conditions and policy on the agricultural sector, and directly exposed exporting firms — and, indirectly, farmers — to greater financial risks. Further, once the National Farmers' Federation had accepted the philosophy of deregulation (NFF 1981), agriculture became a soft target for a Federal Labor Government keen to demonstrate progress in microeconomic reform. Regular Industries Assistance Commission enquiries into wheat marketing, and the Commonwealth States' Royal Commission into Grain Storage, Handling and Transport, provided impetus towards partial wheat industry deregulation which was continued into the 1990s. The collapse of the Wool Reserve Price Scheme in 1990 led painfully to the full privatisation of the wool stockpile in 1999. The Australian Wheat Board was privatised on 1 July 1999 with a National Competition Policy enquiry into continuation of the wheat export monopoly in 2000. Dairy industry marketing was substantially deregulated on 1 July 2000. National Competition Policy was convicted by rural and regional Australia as a major cause of economic and social disruption in non-metropolitan Australia. However, the Productivity Commission (1999) argued that, far from having a negative impact, there was an overall beneficial impact of competition policy reforms on non-metropolitan Australia. The High Court's *Mabo* and *Wik* decisions generated substantial political excitement, but have had little practical impact on land ownership; land rights decisions or legislation at the state (e.g. South Australia) and territory (Northern Territory) level have had greater impact on indigenous land ownership.

The rise to dominance of the free market/small government ideology typified politically by Reagan and Thatcher — and, much later in Australia, Howard — had little impact on agricultural economics and economists since this ideology broadly accorded with the public stance of many, if not most,

[3] The exchange rate crisis of 1983, and the Campbell enquiry into financial markets commissioned by the preceding Coalition Government.

of the profession's influential opinion-makers. However, the accompanying emphasis by deregulationist governments on 'entrepreneurial' activity — and not just in agricultural markets but in institutions of governments such as agriculture departments and quangos such as universities — jolted agricultural economists in their own backyard, and in ways discomfiting to them. Thus, for example, there was increasing demand for agricultural R&D funds from 'non-traditional' research providers, and in areas such as marketing where agricultural economists did not necessarily have a comparative advantage, and perhaps not even the necessary skills. Reductions in the size of government were difficult to resist; especially since farming itself was in relative decline, agriculture departments were unable to resist the trend — indeed, in some cases, they seem to have been especially singled out for downsizing. The merging of government departments, nationally in 1988 and subsequently at the state level, also muted the importance of agriculture since, at both political and bureaucratic levels, the interests of agriculture were more directly competing for attention with those of other natural resource industries.

Demands for social intervention to protect the environment after 1980 contrasted with the 'small government' agenda, but was often consistent with the contemporary perspective of 'market failure' being a necessary condition for government intervention. Until 1970, environmental concerns had been largely local or regional issues (e.g. development of national parks, soil erosion, the Little Desert controversy in Victoria) and were generally subservient to 'development' interests. But the campaign to prevent flooding of Tasmania's Lake Pedder around 1970 galvanised a national environmental movement which, while losing this first major battle, became increasingly successful. Ultimately, agriculture was a partial beneficiary of these changes, as the national government in particular became increasingly willing to fund natural resource conservation such as soil conservation, managing dryland and irrigation salinity, and revegetation. Like other professions, agricultural economists found lodes of analysis and funding in environmental issues.

5. Institutions

In this section, consideration is given to the educational sector, employers, professional organisations and intellectual influences.

5.1 Educational sector

Following election of the Federal Labor Government in 1972, there was a rapid expansion of national government expenditure on education, building

on previous growth in the 1960s. Expansion of the university sector was augmented by development of the colleges of advanced education (CAEs). The rapid expenditure growth came under pressure with 1970s stagflation. The 'binary' system of universities and CAEs came under ideological pressure from the national Labor Government of the 1980s, leading to the Dawkins 'reforms' of 1988 and the unified national system which either created new universities out of CAEs, or led to (parts of) former CAEs being amalgamated into existing universities.[4] The introduction of HECS (Higher Education Contribution Scheme) in the early 1990s, the subsequent introduction of three HECS 'bands', and rapid escalation of fee levels, reversed the abolition of university fees by the Whitlam Labor Government (although the TAFE sector remains essentially fee-less). There was considerable emphasis on improving the efficiency of both teaching and research, especially through attempts to introduce performance indicators for both activities. There were unsuccessful attempts to establish a quasi market in university undergraduate places via a voucher system by the Howard Coalition Government. Ironically, irrespective of the political persuasion of the Federal Government, bureaucratisation in universities intensified throughout the 1990s.[5] There was increased emphasis on entrepreneurial behaviour by universities which some institutions and individuals adopted with alacrity while others clung to the remnants of a gentler university society uncorrupted by such sordid influences.

The subsequent changes in agricultural economics and farm management occurred exogenously within the university system generally, and with reduction in demand for agriculturally-specific education as the agricultural sector continued its relative decline within the economy. The emphasis on 'agribusiness' arose partly from a continued reduction in the number of farms, especially a reduction in the number of profitable farms, and a consequent increase in the management complexity of larger, generally more profitable farms. The increasing recognition of the importance of

[4] This ideological pressure for the end to the binary system was not exclusive to 'social democratic' parties. For example, in the UK, a similar change occurred under a Conservative government with conversion of the polytechnics into universities.

[5] This occurred through emphasis on nationally monitored performance indicators in research and teaching, and competency standards for professionals. If experience at the University of Sydney is typical, performance indicators for teaching primarily emphasise pass (and thus progression) rates. An uncritical emphasis on *maximising* these indicators creates difficult-to-resist pressures for secularly declining educational standards, especially when funding is linked to performance measurement. The Federal Government appears to have recently abandoned efforts to link research funding to research output via publications, and proposes to link public research funding to externally obtained research income. See also Clarke (1998).

input supply and supply chain management also identified a role for 'agribusiness' training beyond traditional farm management. Heightened community awareness of environmental degradation and natural resource management increased demand for professionals with technical, economic, and multi-disciplinary skills in analysing and managing natural resource systems.

The McColl *et al.* (1990) report on agricultural education emphasised consolidation of agricultural education in Australia, which subsequently occurred in states other than NSW and, following the more general post-secondary philosophy, stressed the articulation of tertiary education from TAFE to PhD.[6] Largely resulting from the end of the binary system but consistent with the McColl recommendations, CAEs offering agricultural education amalgamated with traditional universities or federations of former CAEs:

- Gatton Agricultural College merged with the University of Queensland.[7]
- Orange Agricultural College merged initially with the University of New England along with the Northern Rivers CAE; following the divorce of that federation, OAC joined the University of Sydney and became the Faculty of Rural Management in 2000.
- Riverina and Bathurst CAEs federated to form the new Charles Sturt University.
- Hawkesbury Agricultural College federated with CAEs at Penrith and Campbelltown to form the new University of Western Sydney.
- Agricultural colleges in Victoria (Burnley, Dookie, Glenormiston, Longerenong, McMillan) merged with the University of Melbourne.[8]
- Roseworthy Agricultural College joined the University of Adelaide.
- Muresk Agricultural College joined the new Curtin University of Technology as the Muresk Institute of Agriculture.

Other changes affecting agricultural economics educational institutions included:

[6] Notions of articulation vary from recognising that former study should provide a means of entry into 'higher' education even if formal entry requirements are not met, through to insistence that previous study in a subject area must be *credited* at a 'higher' level (see McColl *et al.* 1990, pp. 48, 74).

[7] Restructuring of agricultural economics in 1998 based on Gatton was reported to have severed its previously strong links with both agricultural science and economics.

[8] The first Dean of the Institute appears to have wished to develop a land grant institution in the US tradition (see Falvey 1996).

- The demise of the School of Agriculture at La Trobe University, and absorption of its vestigial functions into business and science faculties;[9] and amalgamation of the Department of Agricultural and Resource Economics at UNE with economics, economic history and econometrics to form the School of Economic Studies.[10]
- Increasing re-orientation of former CAEs to teaching 'agribusiness'[11] in place of 'farm management'[12] (although some agribusiness is also taught in 'traditional' universities[13]), and increasing emphasis in the 'traditional' universities on teaching resource economics together with agricultural economics, e.g. La Trobe, Queensland and Sydney,[14] with resource economics units as optional courses in agricultural economics (e.g. New England, Sydney) or taught in agricultural or natural resource science or

[9] A somewhat odd history of the School may be found on the Web, including this gem: 'In 1998, to reflect the inclusion of these new courses, the School was re-named the Department of Agricultural Sciences.' [http://www.latrobe.edu.au/www/agriculture/history/history.htm; accessed 12 January 2000]

[10] 'The Department of Agricultural and Resource Economics was founded in 1957. It is now the premier academic centre for training and research in agricultural and resource economics in Australia . . . ' [http://www.une.edu.au/febl/EconStud/DARE/#hist; accessed 12 January 2000]. UNE is not the only claimant of this distinction.

[11] For example, Bachelor of Business (Agribusiness), School of Natural Rural Systems Management, University of Queensland — Gatton College; Bachelor of Agribusiness, School of Business, Southern Cross University; Bachelor of Business (Agricultural Commerce), University of Sydney — Orange Agricultural College (now Faculty of Rural Management); Bachelor of Agribusiness (Farm Management) and Bachelor of Agribusiness (Marketing), Muresk Institute of Agriculture, Curtin University of Technology; Bachelor of Applied Science (Agribusiness), Department of Food Science and Agribusiness, Dookie College, Institute of Land and Food Resources, University of Melbourne; Bachelor of Systems Agriculture (Agribusiness), Faculty of Environmental Management and Agriculture, University of Western Sydney Hawkesbury. A discontinued Bachelor of Business (Agribusiness) with specialist agribusiness courses remaining in the Bachelor of Business (Marketing), Caulfield campus, Monash University. (Internet search 1999.)

[12] For example, Bachelor of Agribusiness (Farm Management), Muresk Institute of Agriculture, Curtin University of Technology; Roseworthy (farm management within Bachelor of Agriculture), Muresk, Gatton, Melbourne Colleges, UWA, Orange. (Internet search 1999.)

[13] For example, at New England, 'agribusiness' is still taught within the Agricultural and Resource Economics discipline in the School of Economic Studies despite creation of a separate School of Marketing and Management. (Internet search 1999.)

[14] Bachelor of Agricultural and Resource Economics (no intake since 1997), La Trobe University; Bachelor of Natural Resource Economics, Faculty of Natural Resources, Agriculture and Veterinary Science, University of Queensland; Bachelor of Resource Economics (commencing 2000), Faculty of Agriculture, University of Sydney.

studies, or engineering or science degrees (e.g. Western Australia, Queensland, New England, Melbourne, Sydney, Monash).

- From the late 1970s, increasing emphasis in the 'traditional' universities towards providing postgraduate training for students from developing countries in both agricultural and resource economics.
- Attenuation of agricultural economics' previously close links with related disciplines, and the emergence of alternative disciplines.[15] For example, rural sociology seems to have largely disappeared, especially in close intellectual proximity to agricultural economics,[16] but has been replaced by human/social ecology.[17] Regional development is also a developing focus.[18]

5.2 Employers

The traditional public sector employers of agricultural economics graduates were the specifically agricultural agencies in the States and the Commonwealth. By 1975, all the States had followed the lead of NSW in both establishing a core policy group of economists in a metropolitan head office, and most had established agricultural economists in regional centres, either as 'farm management' extension economists, or as analysts of regional issues such as evaluation of research findings, or analysts of more general regional problems. With the termination of the Commonwealth (later Australian) Extension Service Grant scheme in the early 1970s, state departments became less able or willing to support as strong a farm management extension focus. Increasing pressure on government budgets with the economic slowdown of the late 1970s contributed to the slow attrition of economists in agriculture departments. State governments discovered the virtues of decentralising the head offices of rural-based departments to support employment in regional centres. NSW had flirted with this option in the late 1970s with its relocation of the mapping agency, and followed with

[15] In responding to a request for comments for this article, current and former staff at UNE lamented the loss of the interaction with these disciplines.

[16] One-semester course available at UNE in Discipline of Sociology in School of Social Science, Centre for Rural Social Research, Charles Sturt University (Wagga). (Internet search 1999.)

[17] Bachelor of Applied Science (Social Ecology) or the Bachelor of Arts (Social Ecology), Faculty of Environmental Management and Agriculture, University of Western Sydney Hawkesbury; Faculty of Architecture and Planning, University of Melbourne. (Internet search 1999.)

[18] For example, Rural Social and Economic Research Centre, Central Queensland University; undergraduate courses in Geography and Planning, School of Human and Environmental Studies, UNE. (Internet search 1999.)

agriculture, rural adjustment and western lands administration at the end of the 1980s. Victoria followed suit with an on-again off-again relocation of the Department of Agriculture and Rural Affairs. Ultimately, the Commonwealth also 'decentralised', with part of the Industry Commission moving to Melbourne.[19]

The principal traditional national employers of agricultural economists were ABARE and the Department of Primary Industry. The Industries Assistance Commission (and its successors), with emphasis in its work on quantitative economic analysis, became another potential employer. (Agricultural) economists were occasionally employed by statutory marketing authorities, and even less occasionally by RIRFs/RDCs. With the major reorganisation of Federal Government departments after the 1987 election, the amalgamation of primary industries and energy, and the corresponding amalgamation of the BAE and the Bureau of Resource Economics, forced a reassessment of resource economics. Because of quantitative expertise, agricultural economists moved into mineral and resources areas of the new ABARE, and it increasingly recruited outside agricultural economics (cf. anon. 1999). Similarly, state government departments in natural resource management also recruited 'agricultural' economists.

In the expectation that increasing commercial pressure would be imposed on utilities, some began to employ economists, including agricultural economists. For example, the New South Wales Electricity Commission (later Pacific Power) employed agricultural economists in the 1980s to evaluate the efficient allocation of resources within the utility. In the 1990s, Sydney Water (formerly the Metropolitan Water Board) employed (agricultural) economists.

The ideological movement towards smaller government in the 1980s resulted in continuing assessment of the 'proper' functions of government. This movement was especially accelerated during the terms of Coalition governments in NSW (Greiner-Fahey, 1988–96), Victoria (Kennett, 1992–99) and national (Howard, 1996–date). Some public sector (agricultural) economists took advantage of these opportunities by establishing consultancies (including sole proprietorships) focusing on a range of clients, including contracting their services back to government.[20]

[19] Australian governments were less perspicacious than British governments, who had relocated *non-rural* agencies to the regions (e.g. social security to Newcastle; tax to Lancaster; and vehicle registration to Swansea). Regional location of non-rural agencies broadened the suite of employment options available to rural dwellers, rather than narrowly confining their options to rural-related agencies.

[20] One (younger) consultant respondent commented 'A great number of small consulting businesses are emerging, particularly elderly ex-government employees.'

The movement of agricultural economists into consulting strengthened and re-focused the agricultural consulting industry. This industry had originally provided farm management services, and had slowly evolved to offering consulting services to related industries, to natural resource industries, and ultimately beyond. Agricultural economists were also employed in agriculturally-related, especially post-farm-gate, industries. There are also a large number of agricultural economics-trained graduates who are not members of the Society and about whom little could be discovered, although it is presumed they work in the private sector.[21]

The international agricultural research system grew substantially during the quarter century, employing agricultural economists including Australians especially at CIMMYT, IRRI, ICRISAT and IFPRI. A small number were also employed in related institutions such as the World Bank. Domestically, the Australian Centre for International Agricultural Research both employed agricultural economists (particularly important in research evaluation) and funded agricultural development research focused on East Asia and the Pacific.

5.3 Professional organisations

The AAES/AARES is the only professional society with 'agricultural economics' in its name and it particularly attracts public sector economists, especially to its Conferences. The Society has several competitors. In the close-to-agriculture field, the Agribusiness Association of Australia and New Zealand, established in 1989, had in the mid-1990s 'a membership close to 400, a majority of whom are non-academic agribusiness people' although '[w]hether the AAANZ has gained membership at the expense of the AAES is unclear' (Ahmadi-Esfahani and Brakey 1996, pp. 202, 203). The AAANZ produces the *Australasian Agribusiness Review* which publishes some of the material previously appearing in the *Review of Marketing and Agricultural Economics* (taken over from the NSW Department of Agriculture by the AAES/AARES, and subsequently merged into the new *Australian Journal of Agricultural and Resource Economics*). The Australian Farm Management Society, established in the early 1970s, went into receivership in the mid-1990s. While the Australian Institute of Agricultural Science and Technology is primarily an agricultural science organisation,

[21] An interesting question, not able to be answered in this article, is 'where have all the agricultural economists gone?' Perhaps 2,000 bachelors graduates in agricultural economics (including agricultural science graduates specialising in agricultural economics) could have graduated from the universities of New England and Sydney alone in the period 1950–2000. Even allowing for mortality, this number is approximately treble the Society's current membership.

its mission statement clearly encompasses agricultural economics and related areas and, through its promotion of competency standards in agriculture, has rubbed up against the AAES/AARES (Sturgess 1993; and cf. http://www.farmwide.com.au/nff/aiast/AIAST.htm#promo).

The growth of resource and environmental economics has been accompanied by the establishment and growth of related societies. In Australia, probably the most important is ANZSEE (Australia New Zealand Society for Ecological Economics), the local affiliate of the International Society for Ecological Economics, publisher of *Ecological Economics*. Arising from its 'transdisciplinary' nature,[22] ANZSEE tends to encompass a diverse range of individuals including influential economists. Ecological economics is reminiscent of early agricultural economics which arose from a combination of agricultural science and economics. There is considerable mutual interest between agricultural and resource economics, and ecological economics. A principal ostensible difference is that AARES views itself as a conduit facilitating the analysis of agricultural and resource economics issues (e.g. by providing conferences and a journal), while ANZSEE takes an activist stance in promoting 'sustainability'. Viewed from outside the agricultural economics profession, where economics is viewed as proselytising for free market capitalism, the difference is more apparent than real.

General economics societies, like the Economics Society of Australia, also cater for environmental and resource economists, especially those not affiliated with or not trained in an agricultural economics department.

5.4 Intellectual influences

Two interactions of major importance to the Australian agricultural economics profession are those between economics and agricultural economics within Australia, and between agricultural economics in Australia and North America (principally the United States). In the former, the principal direction of personnel movement has been from agricultural economics to economics. These individuals' degrees of retained interest in agricultural economics vary considerably, but there is generally a significant reduction in their involvement with agriculture. The direction of intellectual influence during the period was strongly in the opposite direction. This influence is well illustrated by the impact of Gregory's (1976) partial equilibrium explanation

[22] 'Ecological Economics is a transdisciplinary field of study that addresses the relationship between economic and ecological systems in the broadest possible sense. Ecological Economics goes beyond conventional conceptions of scientific disciplines and attempts to integrate and synthesise many different disciplinary perspectives in order to achieve an ecologically and economically sustainable world.' [http://cres.anu.edu.au/anzsee/ANZSEE.html]

of the effect of the development of the Australian mining sector on Australian agriculture via the exchange rate; subsequent extension of the analysis into a (computable) general equilibrium framework; and application of these methods to analyse international agricultural protection and the enhanced greenhouse effect.

The effect of US agricultural economics on the Australian profession has been profound. Because of its sheer size, and the even larger size of the American economics profession, American agricultural economics has dominated Australian and international agricultural economics since the 1950s. A principal mechanism of this dominance has been the size and quality of output in the American agricultural economics journals. The written mechanism has been supplemented by a constant stream of Australian postgraduate students to the United States which began in the late 1940s. This traffic had a minor influence on the US profession, e.g. through the occasional lifting of the American Agricultural Economics Association's PhD prize, and employment of some Australian agricultural economists in US schools. Australian agricultural economists have also indirectly affected the US profession through the international research network, especially in research evaluation. Additional mechanisms have been Australian agricultural economists undertaking sabbaticals in the United States and employment of American agricultural economists in Australia. Despite the slightly greater plurality of the American economics profession, the American agricultural economics profession is dominantly neoclassical,[23] and this influence is reflected in the Australian profession.

By contrast, the influence of the European — principally British — agricultural economics profession has been small,[24] with a small number of Australians undertaking postgraduate training in the United Kingdom and small numbers of academics undertaking sabbaticals there, and even smaller numbers in Germany. In recent years, small numbers of British agricultural economists have been employed in Australian universities; there had been larger numbers recruited pre-1975.

[23] The impact of K.O. Campbell having undertaken postgraduate work at the University of Chicago in the 1940s, and his influence on training the first generation of Australian-educated agricultural economists should not be underestimated. Compare Gruen's (1986, pp. 8, 9) comments that 'Chicago in those days was not as monolithic as it has become since' and that he found Chicago politically stimulating because of 'its brand of conservative economics'.

[24] See Gruen (1986 fn. 19) 'In the decade after World War II . . . For would-be agricultural economists a choice of an English over a U.S. course of further training would have been bizarre — given the research work being done in the two countries.'

6. Agricultural economics labour market

An attempt was made to document the ways in which the agricultural and resource economics labour market has changed in the period 1975–99, using loosely structured questionnaires to providers of agricultural economics training, prospective employers and luminaries of the profession (reproduced in Godden 2000). To date, this endeavour has been largely unsuccessful as few organisations have collated the information in the form requested, and resources were not available to trawl through organisations' files even where access were granted.[25]

6.1 Supply

Undergraduate teaching

Undergraduate teaching in Australian agricultural economics, 1975–99, was characterised by both continuity and change. Continuity was manifested in the form of established degrees and programmes (e.g. agricultural economics at University of New England), and the delivery of agricultural economics service courses in agricultural science programs at most institutions. Change was manifested as new degrees in agricultural economics (Sydney, mid-1980s), an increased focus on agribusiness (especially in the pre-1988 CAEs), an increased focus on resource economics in agricultural economics programs (e.g. UNE), a combined agricultural and resource economics degree (La Trobe), agricultural and resource economics taught in new programs in new natural resource management and environmental science programs (most institutions teaching agricultural economics), and new resource economics degrees (Queensland, Sydney). A declining agricultural sector, and particularly the agricultural sector slump from the late 1980s, reduced the demand for undergraduate places in agricultural economics, pressuring the quality of student intakes.

A snapshot of agricultural, and agricultural economics, undergraduate teaching in Australia was provided by McColl *et al.* (1990). There were approximately 500 students enrolled in agricultural economics in 1990 (of whom the bulk were in 4-year undergraduate degrees), and approximately 1,500 agricultural commerce students (of whom approximately two-thirds were in associate diplomas and one-third in 3-year undergraduate degrees) (ibid., figure 3.1). Approximately one-quarter of both these categories were employed in the public sector, half in the private sector, and quarter in 'other' (ibid., figure 3.8).

[25] The marginal costs of providing detailed information about employment of agricultural economists far exceeded the marginal benefit to the providers.

Distinction may be drawn between the types of 'agricultural economics' teaching offered in Australia (see table 1). The degrees from New England — and, since the mid-1980s, Sydney — are applied economics degrees focusing on agriculture and, increasingly, resources; there is little if any compulsory agricultural science in these degrees. Prior to the mid-1980s, agricultural economics was a stream in the agricultural science degree at Sydney, and a fourth-year speciality in agricultural economics is still taught in this degree. Queensland taught an agricultural economics stream within agricultural science, and then offered an agricultural economics degree, 1991–98. Through most of the 1990s, La Trobe offered a degree in agricultural and resource economics, and Queensland now offers a similar degree. Melbourne and Western Australia offer agricultural/resource economics within agricultural/resource science/management degrees. Most of the pre-1988 CAEs offer a small amount of agricultural economics (including farm management) within agricultural science/management degrees and, increasingly, are developing new agribusiness degrees (or renaming old degrees 'agribusiness').

Advances in computing from the early 1980s enabled a quantitative discipline like agricultural economics to more easily teach established computer skills (e.g. econometrics and operations research) and to adapt new software (e.g. spreadsheets) to these purposes. Developments in information technology revolutionised teaching technology. Word processors (and reductions in photocopying costs) made production of lecture notes and handbooks easier and cheaper, including electronic production of drawings. (These changes similarly affected production of research papers.) Development of hardware and software to replace physical image overhead projection with electronic projection has begun to have a major impact, although reliability and flexibility of presentation for teaching remain problematic. Replacing hardcopy notes and handbooks with CD-ROM or Internet versions will shift the cost of physical copies from university to student.

Changes in information and communications technology, especially the Internet, have already affected distance education, and are likely to do so increasingly. These changes may allow the substitution of information technology capital for bricks and mortar capital, and replace face-to-face teaching labour and student contact with electronic contact, thus changing the relative values of distance education and face-to-face teaching modes. These changes will force a thorough reconsideration of the benefits and costs of face-to-face and distance education. Indeed, the possibility of global distance education will challenge both the existence of domestic institutions, and the types of programmes offered. In the case of the latter, there will be increasing questioning of specialist education (e.g. in agricultural economics) as occurs in Australia compared to more generalist undergraduate degrees

Table 1 Teaching Australian agricultural economics

(a) undergraduate

	Undergraduate teaching in agricultural economics		
Institutions Pre-1988 universities	1975	1985	1995
Queensland	within agricultural science	within agricultural science	BAgrEcon: first year entry terminated 1998 BAgribus: first offered 2000 BNatResEcon
New England	BAgEc	BAgEc	BAgEc
Sydney	within BScAgr	BAgrEc and within BScAgr	BAgrEc and within BScAgr
La Trobe	within BAgrSc	within BAgrSc	BAgrResEco
Melbourne	within agricultural science	within agricultural science	within agricultural science
Adelaide	no agricultural economics	no agricultural economics	acquired agribusiness from Roseworthy
Western Australia	within agricultural science	within agricultural science	within agricultural science and natural resource management

(b) postgraduate numbers

	Postgraduate research in agricultural economics: La Trobe		
Completed theses	1975–85	1986–95	1996–97
Masters	10	7	–
PhD	1	13	1

Table 2 Destinations of Bachelors graduates in agricultural economics, University of Sydney

	1995	1996	1997	1998
Finance (bank, insurance etc.)	8	5	7	4
Accounting				1
Stockbroking	1		2	
Non-agricultural service (nes), manufacturing, mining	11	1	2	5
Agribusiness	1	2	5	5
consulting	1			1
Lobby groups, political parties	1		1	1
Government				
Federal	2		1	1
State	3		4	
Further study	1		2	1
Temporary				2
Travelling	3	3	1	2
Unknown	18	45	11	11
Total	50	56	36	34

Source: These data were collected from graduates by staff of the Department from ongoing contacts with students.

as in the United States, particularly given the technological dominance of the United States and its numerical dominance in most disciplines including agricultural economics. Commercial media interest in on-line education may also challenge the existence of Australia's essentially public tertiary education system.

Although seemingly always the case, large numbers of agricultural economics graduates are not employed in or close to 'agriculture'. As an example, the Department of Agricultural Economics at the University of Sydney has recently attempted to record the destinations of graduates in the first year after graduation (table 2). Even if not all — or, in some cases, not even a majority — of agricultural economics graduates end up with a career closely related to agriculture, this should not be a cause for concern. Agricultural economics graduates who have taken units of study in resource economics are generally equipped to work in those areas. More generally, there is now a range of 'specialist' degrees where graduates are never likely to work as specialists in the field (e.g. in the case of law, as solicitors or barristers). Similarly, it should not be a concern that agricultural economics graduates gain employment in fields unrelated to agriculture. If agricultural economics training exposes more, especially urban, students to Australian agriculture and other resource industries, it will benefit these industries if students carry an understanding of them into their work and private lives.

Postgraduate training

Gruen (1986) raised the question as to *where* to do postgraduate training in agricultural economics, North America or elsewhere. A logically prior question is *why* do postgraduate training in agricultural economics, or any field? Postgraduate training is a prerequisite for academic staff, and often required by other public and private sector organisations that undertake research. McColl *et al.* (1990, p. 32) reported: 'Public sector employers are increasingly seeking experienced graduates, preferably with postgraduate training, rather than taking on graduates and training them in-house.' This trend was probably occurring as a consequence of the restrictions on government spending previously noted; it just preceded the decade when HECS was introduced, and then substantially increased, for undergraduate study, and subsequently introduced for coursework postgraduate study. The trend was presumably exacerbated by increased employment under short-term contract in the public (and also the private) sector where employers would rationally wish for well-trained employees who are immediately productive.

There is a considerable element of self-interest in universities urging students with bachelors degrees to undertake postgraduate training. Conversely, the kinds of changes that have been, and are continuing to be, imposed on universities in the past decade, especially to the extent that they contribute to the general lowering of standards of bachelors graduates (cf. Clarke 1998), will increasingly require students to undertake postgraduate study to become adequately trained. Any tendency of Australian universities to move towards the US model of a generalist undergraduate degree will also increase the demand for specialist postgraduate coursework teaching. The benefits and costs of different modes of undergraduate education — or, indeed, of postgraduate education — appear insufficiently discussed as does the manifest desire of employers to demand too much of undergraduate training, presumably to limit in-house training costs. There is little evidence in the Australian context that employers are willing to pay a sufficient premium for postgraduate-trained agricultural economists to offset the private costs of this training.

Postgraduate training, particularly of the coursework variety, is desirable for other reasons. Even without a switch to generalist undergraduate degrees, it may not be possible for agricultural economics students to acquire all the training, or at the level, they (or their future employers) desire in an undergraduate degree. Students who mistake their initial degree, for example, choosing a three-year economics degree rather than a generally more quantitative agricultural economics degree, may remedy this deficiency by postgraduate coursework. Agricultural science students may wish for

more agricultural economics than is possible within a science-oriented degree. Students who, through financial or geographical limitations, cannot undertake a specialist undergraduate agricultural economics degree may seek to augment their initial degree by postgraduate study.

Of course, it should not be assumed that agricultural economics bachelors graduates will necessarily undertake postgraduate training in agricultural economics. Some may proceed to postgraduate training in economics (especially for advanced econometrics, or for accounting, marketing, finance) or for related training in management, insurance, law, and planning.

Overseas students have become an increasingly important component of postgraduate training in agricultural economics, as in other disciplines. This importance has arisen because of a generally low domestic demand for postgraduate training, especially research training, in agricultural economics; because of the availability of overseas or Australian government-funded postgraduate places; and because universities have been able to charge full fees for many overseas students.

Finally, there has been some change in the scope of postgraduate training which, in the short term, may prove problematic but may (although not necessarily will) strengthen surviving agricultural economics in the longer term. If Australia is undertaking a slow transition away from specialist undergraduate degrees in the British tradition and is moving towards the US model of liberal arts undergraduate degrees then — to the extent that there remains a demand for agricultural economics training — this will create an increasing demand for postgraduate coursework. To date, the size of each postgraduate pool in agricultural economics at individual Australian universities has proved generally too small to offer the strength of postgraduate coursework provided in US schools. Despite several attempts, no co-ordinated national approach has been successful in combining the strengths of individual Australian schools to offer a formal national postgraduate training in agricultural economics by some form of distance education. A greater demand for postgraduate agricultural economics training will strengthen the remaining institutions.

Increasingly, an undergraduate degree cannot provide training in all the skills that a research economist requires, and research degrees in the British tradition, where the emphasis was on a thesis project, may be usefully augmented by formal coursework. (Even in the UK PhD, additional skills training including postgraduate coursework could be undertaken by the student voluntarily or demanded by the institution.) There is often little consideration of the optimal combination of postgraduate coursework and research training by apprenticeship but, rather, an assumption by particular individuals that their own training was optimal, and therefore postgraduate training should perpetuate this form. Difficulties potentially arise in both

forms: there appears to be greater emphasis on the research project in US PhD training, leading to a longer average time to completion; and poorly considered inclusion of coursework in UK-style PhD training without recognition of the consequent impact on progress in the thesis which remains the sole assessment vehicle.

6.2 Demand

Unfortunately the Course Experience Questionnaire and Graduate Destination Survey of the Graduate Careers Council of Australia do not report publicly at a sufficiently fine level to identify agricultural economics students' experiences of university and their first employment destination. Anecdotal evidence suggests that these students find employment readily, although the means for finding employment has changed radically over the past 25 years. Students no longer rely on employment vacancy advertisements in the press and are much more proactive in job search, e.g. distributing résumés to prospective employers. Anecdotal evidence from Sydney suggests that students actively use the later years of the professional experience programme to search for suitable employers and to demonstrate their competence to these employers.

Agricultural economics graduates continue to find employment in the 'traditional' areas of government: at the Commonwealth level, from BAE/ABARE and the Department of Primary Industry (and its successors). Small numbers of agricultural economics graduates enter other departments such as Treasury, Trade (and its successors), and even Prime Minister and Cabinet; and the statutory marketing authorities, research funding corporations, and the Productivity Commission (and its IAC/IC forerunners). At the state level, there is still a demand from agriculture departments, and an apparently increasing demand from departments dealing with natural resources (see table 3). At least for graduates from Sydney, in recent years most appear to be obtaining employment in the private sector (table 2); similarly detailed breakdowns were not available for other universities.

7. The profession's published output

The profession's published output cannot be assessed independently of the rationale for producing publications. The 'public good' aspect of publication is dissemination of the research output of the individual economist. However, assessment of the 'worth' of an economist — both in the context of their status in the profession, and assessment for promotion — also occurs largely through publication performance. There is a large body of government literature, especially from ABARE, which similarly has both public

Table 3 Employers of agricultural economics graduates

	1975	1985	1995
Public sector			
NSW			
Agriculture	37 all but 3 ag sc or ag econ	18 Head Office only	18 Head Office only
	1975–85	1985–95	1995–99
South Australia			
Agriculture	max. 25 economists; 6 regional, 2 PhDs	6 economists, 1 PhD	4–6 economists, 2 PhDs
ABARE (approx. 2/3 researchers)	280	340	220
Private sector			
Consultant: staffing based on permanent staff and pool of transitory professionals for peaks	work: mainly farm management; clients: mainly farmers; staff: mainly agricultural scientists with some agricultural economics training	work: shift to overseas focus on agricultural development, began policy analysis; staff: began employing agricultural economists	work: shift to resource economics; main client State government agencies; staff: recruiting 1 graduate per year, using holiday employment to assess potential employees; sub-contract to specialist 1-person consultants; no agricultural economics with postgraduate qualifications, prefer short course training

good and private interest aspects. Clearly, there is a public good aspect for government to disseminate information it produces and/or funds. But there are also private interest aspects of government publications in agricultural economics. Since information is one way that government controls the public policy debate, what research occurs in the public sector, and what is permitted to be published, may be manipulated to suit short-term political or longer-term policy agendas — especially where this research is privately funded. Similarly, there are private interest considerations for the individual government researchers, who may use these publications as a means of establishing a reputation both within government and within the profession, although the value of government publications for the latter purpose probably comes at a discount to the 'professional' literature. Work by agricultural economists in the private sector may also be revealed, but this occurs mainly in the media, since information in the private sector has value to the individual or the firm. Interestingly, some of the consulting firms employing agricultural economists publish in both the professional and grey literature, presumably in order to maintain their reputation in the profession and as a form of publicity.

An attempt was made to undertake an analysis of publications by Australian agricultural economists similar to that of Phillips (1975), but resources were not available to do as detailed a study as Phillips'. The present study looked at literature in the profession's own journal (*Australian Journal of Agricultural* [latterly *and Resource*] *Economics*); its Australian sibling general economics journal (*Economic Record*) and two Australian applied economics journals (*Australian Economic Papers* and *Australian Economic Review*); the *American Journal of Agricultural Economics*; and the non-professional literature in Australia.[26]

The pattern of publishing in the *Australian Journal of Agricultural* (*and Resource*) *Economics* is shown in table 4. There was a slightly higher publishing rate in the second period (1986–98) compared to the earlier period (1975–85), but the major change was in the type of paper published. The percentage of papers on farm-production oriented issues halved, and there was an even greater fall in the percentage of papers on agricultural policy issues. These changes were offset by a trebling in the percentage of papers on environmental/natural resource issues, and smaller increases in

[26] Despite the large number of papers presented at the Society's conferences, little attention was paid to these papers as they have become, in universities and the public sector, passports to (at least partial) employer funding of conference attendance. Similarly, conference paper presentation may bolster a consultant's justification of conference attendance costs as a legitimate tax deduction.

Table 4 Categorising profession's research: agricultural and resource economics

			Agricultural								
	Theoretical	Macro/ Intersectoral	Production	Marketing	Research Evaluation	Policy	Environ-ment	Non-Australian topic	Non-Australian author	Total papers	Papers per year
1975–85	12	11	45	23	9	49	12	12	17	190	17.3
(%)	6.3	5.8	23.7	12.1	4.7	25.8	6.3	6.3	8.9		
1986–98	16	10	25	33	18	21	37	12	30	202	18.4
(%)	7.9	5.0	12.4	16.3	8.9	10.4	18.3	5.9	14.9		

Source: Papers in *Australian Journal of Agricultural (and Resource) Economics*

the percentage of papers on marketing and research evaluation, and by non-Australian authors.

In the *Economic Record*, a small number of agricultural economists wrote on agricultural topics (approximately 15) and a similar number of non-agricultural economists[27] wrote on agriculturally-related topics, although the agricultural content may have been peripheral (e.g. futures data). There was also a handful of papers by non-Australian agricultural economists. Approximately 15 domestic agricultural economists wrote on resources, among a larger number of papers in this area. There was also a small number of papers on non-agricultural topics by agricultural economists who had made, or were still making, the transition from agricultural to general economics. There was a similar pattern in both *Australian Economic Papers* and the *Australian Economic Review*, although the number of papers about agriculture and/or by agricultural economists was smaller than in the *Record*.

The *American Journal of Agricultural Economics* was assessed purely in terms of the number of Australian agricultural economics authors (multiply-authored articles were thus counted more than once; multiply-authored articles with at least one Australian author were counted as 'Australian'). From 1975 to early 1984, 47 Australian authors contributed to 59 papers or notes in the *Journal*, an average of 1.25 papers per author. From late 1984 to early 1998, 60 Australian authors contributed to 90 papers or notes, an average of 1.5 papers per author. The increase in average papers per author in the second period is almost entirely accounted for by one individual author (Alston). Expatriate Australian authors were the most consistent publishers from the Australian profession in the *Journal* (Alston, Byerlee, Pardey and Randall); consistent resident authors were Edwards, Fisher and Freebairn.

Using the APAIS electronic database, a search was made for publications of a wide range of Australian agricultural economists. This search was oriented towards assessing the non-professional journals in which Australian agricultural economists published. This search indicated the following:

- the dominance of the professional journals in information dissemination by the profession — *Australian Journal of Agricultural* [*and Resource*] *Economics* and the now-defunct *Review of Marketing and Agricultural Economics* — and the publications by the Australian Bureau of Agricultural and Resource Economics;

[27] Economists who appeared neither to have participated in the Society (e.g. through conferences) nor written in the *Journal*.

- older agricultural economists, especially those who have incorporated additional fields (e.g. resources) or moved beyond narrowly agricultural economics, tended to publish in a much wider range of outlets; conversely, younger economists tended to publish in the narrowly technical (agricultural) economics journals, no doubt a rational investment in professional reputation;
- beyond the technical literature, older economists tended to favour politically conservative outlets, e.g. *Quadrant*, *Policy*, *Agenda*, *IPA Review*, and other publications of conferences of organisations like the Centre for Independent Studies, Institute of Public Affairs, the H.R. Nicholls Society and the Samuel Griffiths Society;
- the more common of the non-technical literature included, within agriculture, the *Journal of the Australian Institute of Agricultural Science* and its successor *Agricultural Science*; in resources, the *Mining Review*; in science generally but mainly in the earlier period ANZAAS congresses and *Search*, and *Prometheus*; in politics and administration, *Australian Quarterly*, *Current Affairs Bulletin*, *Canberra Bulletin of Public Administration* and the *Australian Journal of Public Administration*; and publications of the Australia-Japan Research Centre, and the Australian Centre for International Agricultural Research.

The public output of the profession is dominated by traditional journals and ABARE publications. Except for the latter, the profession appears to be largely communicating with itself, rather than the wider public. The type of work undertaken by the profession has changed as agricultural, particularly marketing, policy questions have been resolved and replaced by a focus on natural resource issues.

8. Philosophical perspectives

Agricultural economics, including that in Australia, was an active rather than reflective profession in the period 1975–99. The profession rewards those who address — preferably solve — important empirical problems. The profession highly rates the selection of appropriate methods for solving these problems, but rates lowly investigation into the meaning of these methods and their implications. The profession has been faithfully and uncritically neoclassical; exceptions proving this rule include Stent (1976, 1995). At best, this faith has resulted in a coherent focus on research methods suitable for examining allocative efficiency problems relating to Australian agriculture. At worst, this dogma has resulted in an obsession with elegant answers to the wrong problem, such as the magnificent mania for computable general equilibrium analysis of the *costs* of greenhouse

mitigation strategies, when clearly the issue is a *benefit*-cost analysis having a game-theoretic structure in at least two dimensions, against other countries and against nature.

The Popperian view of epistemology in (Australian) (agricultural) economics is primarily an objectivist view about economics. That is, what economists should do is observe the world, and explain the forces which apparently govern economic phenomena, rejecting false null hypotheses about the state of the world. However, a great deal of Australian agricultural economics research and writing is about proselytising particular views of the world, cloaked in 'conditionally normative' language. For example, few studies of statutory marketing arrangements for Australian agricultural commodities conclude with 'objectivist' statements that costs exceed benefits (or vice versa) or, in a more modern vernacular, that observed market failures which prompted government intervention would result in costs exceeding benefits. Rather, these are generally interim conclusions which are then used to support arguments that, for example, statutory marketing arrangements — e.g. for wool, wheat, dairy products or dried vine fruits — ought to be terminated. There is, therefore, an enormous gulf between what is taught as 'appropriate' methodology to agricultural economics under- and post-graduate students, and the methodology that is widely practised in the profession (cf. Stent 1995, pp. 5–6 reporting Fox and Kavinda that few agricultural economists pursue the Popperian method).

Within Australian agricultural economics, Stent's (1976, 1995) criticisms have had little discernible impact. Debates outside Australian agricultural economics, e.g. Randall (1993) within agricultural/resource economics, McCloskey (1983) within neoclassical economics more generally, Hoksbergen (1994) within institutional economics, Tacconi (1998) within ecological economics, have left Australian agricultural economists unmoved. This lack of impact, or even interest, may reflect a lack of enthusiasm for methodological issues in a practice-focused profession, or a conclusion that such concerns are peripheral to or have no implications for the practice of agricultural economics.

This lack of reflectivity has left Australian agricultural economists ill-equipped to deal with the anti-economic rationalism crusade. While 'economic rationalism' retains the political ascendancy, failure to confront its opponents is of minor consequence. However, as the One Nation episode of the late 1990s showed, there is significant distrust of traditional political elites and the economic restructuring agenda, especially in the non-metropolitan heartlands which agricultural economists ought to understand well. There were, at best, limited attempts by agricultural economists to engage in these debates outside the 'elite' circles so distrusted by opponents of economic restructuring and 'globalisation'. This failure to confront critics

on their own turf contrasts with earlier agricultural economists who, in different and perhaps simpler times, did confront opponents.[28]

Outside (agricultural) economics, there has been a ferment of analysis into the meaning of analysis and meaning in the last quarter century. This debate about 'modernity' and 'postmodernism' has left (agricultural) economics largely unscathed (cf. Midmore 1996). However, postmodernism is important to the practice of Australian agricultural economics for at least two reasons. Contemporary agricultural economics graduates — especially those involved in policy-making — will increasingly interact with students trained in disciplines where an (uncritical) postmodernism has become rampant. These graduates will need to know how to protect themselves professionally and intellectually against this challenge. More importantly, to the extent that postmodernism highlights unsatisfactory aspects of the epistemology and practice of neoclassical agricultural and resource economics, teachers need to ensure that undergraduates are not over-enthusiastic in their application of the agricultural economics they have learned. The next generation of agricultural economists will need to understand postmodernism, even if only to critically and coherently reject it.

9. A curate's egg

Should the late twentieth-century Australian agricultural economics profession be celebrated by ode, elegy or panegyric? — or not at all? That agricultural economics has survived, albeit attenuated, the relative decline of agriculture might be seen as a success; or, alternatively, as a failure of resources to adjust. Agricultural economics' successful moves into resource economics might be seen as successful adjustment of human capital, or intellectual poaching of an area that might be well handled within economics generally. It is hard to judge whether the deregulation of agricultural marketing arrangements in the late 1980s and 1990s simply lagged far behind agricultural economists' earlier prescriptions, or whether deregulation would have occurred irrespective of this previous investment in research.

Set against such imponderables of the counterfactual, there have also been clear failures within the profession. There is a widely held view within the profession that (agricultural) economics is separable from society at large. If only there were free markets, there would be an efficient allocation of resources *and thus* a socially optimal outcome. But there is an infinite number of Pareto efficient outcomes, and thus distribution matters. Once distribution matters, other disciplines such as sociology, political science

[28] An honourable exception to this generalisation is the stand taken by Bob Richardson after the collapse of the wool Reserve Price Scheme, especially in Longreach.

and government administration are inseparable colleagues of agricultural economics. There has also been little analysis of the adjustment costs of social and institutional change in two decades of extremely rapid change, which is an egregious failure.

Where they perceived error, agricultural economists were previously assiduous in analysing that error, and resolute in denouncing its perpetrators: in marketing fundamentalism, irrigation fundamentalism, or any other political feeding frenzy. However, agricultural economists have been extraordinarily reluctant to engage in the current fundamentalist infatuation with the provision of services to 'rural' Australia. There has been little critical analysis of politicians' predilection for lumping all non-metropolitan Australia into a single 'rural' bundle — rather than distinguishing between regional, rural and remote Australia — and inferring that all non-metropolitan Australia has similarly poor levels of infrastructure and access to services. The locus of the public policy debate has simply shifted, not disappeared. Since both public service economists and consultants are beholden to government for future employment, the critical public role still falls upon university agricultural economists, at a time when some are disappearing from some universities, and the remainder are under increasing demands for teaching and research and where there is no positive appropriable return from participating in public debate.

The future of agricultural economics will partly depend on endogenous and partly on exogenous factors. On the exogenous side, the future evolution of the Australian agricultural sector will affect the demand for those agricultural economists of an 'agricultural' bent. The wide-scale dismantling of statutory marketing arrangements which, for decades, provided the bread and butter research and teaching of agricultural economists looks like ending — although the ingenuity of future politicians to recycle past policies should never be underestimated. The temporary interregnum of research and policy advising on 'national competition policy' is likely to be just that, although the previous caveat also applies. On the endogenous side, agricultural economists have realised that the gravy train could not continue forever, and have been assiduously reinventing themselves as various kinds of applied economists, especially in natural resources and trade. On the supply side, continuing changes to the funding and organisation of tertiary education, and global competition in distance education, may have a greater impact on the profession in the foreseeable future than changes to the demand for agricultural economics graduates.

The survival of agricultural economics as a profession depends on employers being convinced that what agricultural economists do is more valuable than what is done by alternative analysts. Ensuring that conviction partly depends on the good education of future cohorts of agricultural

economists. Success in this venture demands a realistic assessment of the profession's current state, and an evolution of the profession which builds on existing strengths and minimises current weaknesses. The quotations leading this article are optimistic, suggesting that there is a continuum from past to future. If agricultural economics continues as a separate profession, its future will also grow from the successes and failures of its past.

10. Postscript

Writing history (like doing economics) reveals as much about the writer as it does about the subject. While some of the limitations of the preceding story stem from the lack of readily available information, others stem from the limitations, perspectives and prejudices of the writer. Some, perhaps many, readers will disagree with part — or perhaps much — of the account. Unlike neoclassical economics, where the conclusions are mere logical consequences of the assumptions chosen, there is no unique historical narrative or analysis, especially within the confines of a single journal article.

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