

Training Professional Economists: The Australian Experience

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My first acquaintance with Ray Petridis occurred more than twenty years ago. I had just finished an Honours degree at the University of Sydney and was embarking on a Masters degree at the University of New England. Ray came and gave a staff seminar on 'Economists in a Federal System'. He was on the lecture circuit with this paper that was part of an international study of 'Economists in Government' coordinated by A.W. Coats and later published as a book by Duke University Press and as a special issue of the *History of Political Economy* (Petridis 1981). Little did I then realise that I would be replicating Ray's professional training by doing a PhD at the same institution (Duke University), having the same supervisor (Craufurd Goodwin) and later also working on economists in government (in my case, Arthur Okun). Indeed, one of my first tasks as editorial assistant for *HOPE* was to help with the publication of the Coats volume that included the Petridis paper.

Petridis (1981) examined, in a considered and scholarly way, the role and impact of the large number of graduates in economics employed by Australian governments. This work predated by a decade the publication by Michael Pusey on *Economic Rationalism in Canberra* that was to generate so much controversy and ill-feeling. The ensuing debate on economic rationalism 'at best led to some misconceptions about economics and economic policies. At its worst, the argument has degenerated into diatribe' (King and Lloyd 1993, p. vii). Petridis concluded that his research led to a basically positive view of the contribution of economics graduates. However, there was some disquiet about the overuse of economic analysis for essentially social problems and a lack of pragmatism on the part of graduates. Moreover, it was felt that a 'multidisciplinary approach should be cultivated which would help to counter the tendency to perceive particular problems through the narrow lens of a single specialism' (Petridis 1981, p. 432).

In this chapter I take up some of these themes but from the perspective of the nature of postgraduate training in economics. I examine the purposes of postgraduate education and the role of economics in preparing students for academic and other employment options. The scope for cross-disciplinary collaboration, and the international dimension reshaping postgraduate education, lead to proposals for improving the learning process at the postgraduate level.

Australian Postgraduate Training in Economics: Descriptive Statistics

Only in the 1960s did Australian production of economics PhD's begin seriously. Total enrolment of PhD students in economics at Australian universities was 193 in 1990 but this figure excluded economic history, econometric theory and agricultural economics enrolments. At about the same time, Philip Maxwell estimated that four or five departments provided about half of the total PhD enrolments. The remaining programs generated an average of less than one doctorate per annum (Colander and Brenner 1992, pp. 178, 183). A survey of 81 Australian economics professors in 1992 listed the Australian National University

and the universities of Melbourne, New South Wales and Monash as the four major institutions for economics training. Ten years later, postgraduate economics teaching is still relatively small, and apart from the Australian National University there are no major postgraduate schools in economics. Masters degrees by coursework have largely replaced the masters by research degree. Coursework is increasingly being introduced into PhD programs, with a number of universities now having a structured program of courses for the first year of postgraduate enrolment.

In 1999 Actual Student Load (EFTSU) statistics revealed that there were 115 commencing PhD students in economics and 30 Masters by Research students. There were 967 commencing Masters by coursework economics students and 304 students pursuing other postgraduate qualifications in economics, such as diplomas and certificates. Less than a third of the PhD and Masters by Research students were overseas students, whereas more than 70 per cent of coursework masters students were from overseas. In terms of the stock of postgraduate students in economics, in 1999 there were 419 students undertaking a PhD, and 74 Masters by Research students. Less than a third of these economics students are from overseas. While it is difficult to obtain enrolment data for all 32 Australian departments of economics, Monash has 20 PhDs in progress, UNSW 26, the University of Queensland 34 and the University of Melbourne 34. It appears that a small number of universities account for a disproportionate number of research students in economics.

Another data source on postgraduate study in economics comes from the annual PhD Conference in Economics and Business, which was initiated in 1987. The conference is designed to provide a forum for PhD students to present their work and receive constructive criticism from the cream of the profession's academics and students. To date, more than 280 students have participated from more than 28 universities.

Ye and Clements (1999) have assembled detailed statistics relating to 227 of these students. The top five universities in terms of their student attendance were ANU (44 students), Monash (25), Sydney (17), UNSW (17) and UWA (16). An earlier survey (Chenhall and Clements 1995) of 73 students who attended between 1987 and 1991 revealed that the average completion time was 46 months for the PhD. The minimum completion time was 24 months and the maximum was 85 months. On average, students writing on theoretical topics complete eight months sooner, those who are above-average age complete six months later, and full-time study reduces the completion time by eight months. Sixteen per cent of students were female, 80 per cent were enrolled full-time, 73 per cent were doing an applied topic and the average age for commencing a PhD was 29 years. Between a quarter and a half of students presenting were foreign students. Ninety-eight per cent of these students attending the conferences thought the PhD was intellectually worthwhile, 59 per cent said it was financially worthwhile and 84 per cent said it was worthwhile in establishing professional contacts. Eighty-four per cent of students thought that the PhD program should include a coursework component, and 75 per cent were happy with their choice of university. Two-thirds of the papers presented by the early 1990s were on international, labour, econometrics or development topics. Now the most popular areas are microeconomics and finance.

Fox and Milbourne (1999) is another useful data source. Their data relate not to PhD students but to the academic staff who teach them. They surveyed 150 academic economists. This sample represents about one-third of the population of

academic economists in Australia. The survey results revealed that 22 per cent of staff were without a PhD, but 74 per cent of those who did have a PhD had finished it within four years. Eighty-three per cent of those without a PhD had zero published output, compared with 26 per cent for PhD holders. Sixty four per cent of staff who had a PhD had not had any coursework component, while 68 per cent of the top research achievers in the profession had completed some course work (p. 261).

We are fortunate to have very detailed information on postgraduate economics training in the U.S. (cf. Krueger 1991, Hansen 1991, Kasper 1991 and updated figures in Ehrenberg 1999, Freeman 1999, Hansen 1999 and Siegfried and Stock 1999) to compare with the Australian situation. Every year about 1500 students start the PhD program, and American universities award a thousand doctorates in economics annually. Seventy percent of these were produced by the top 40 institutions. The other 50 institutions with PhD programs turn out three or four PhDs every year. The viability of these programs is due to the fact that they save the university money because they allow substitution of postgraduate students for staff in the teaching of undergraduate subjects. The proportion of those awarded the degree who are U.S. citizens has fallen from 67 per cent in 1977 to 43 per cent in 1996. There has been a marked decline in American students studying for the PhD in economics. The proportion of females over this period has risen from nine per cent to over 22 per cent. The median length of registered time to complete a PhD has increased from 5.7 years in 1977 to 6.8 years in 1996. The median age at completion is 32 years.

The Americanisation of Australian Economics?

The centre of gravity in the world's scholarly community of economists in the last 50 years has (as in the case of so many other disciplines) been located in United States – more than two out of three Nobel prize winners in Economics are located in the United States. A number of commentators have noticed the increased Americanisation of Australian economics in the post-war period. However, the Australian PhD still follows the U.K model in having a minimum of coursework.

There are certain common characteristics of American-style professional economics. Students learn substantially the same theory as their counterparts in other countries, often using the same American texts; postgraduate coursework is regarded as necessary preparation for research; university staff are expected to have doctorates; frequent publication in international journals is essential for professional advancement; and there is an emphasis on mathematical modelling and econometric techniques. While the situation is changing, the British model is a more specialised first degree, a PhD involving submission of a thesis that amounts to a substantial monograph, and having a PhD is not necessarily a prerequisite for obtaining a teaching position. Postgraduate coursework was seen as only necessary for slow learners and people with unfortunate histories. The broader European experience also shows academics to be far more involved in undergraduate teaching and more policy-oriented than their American counterparts.

The American model continues to gain adherents in Australia. However, we should not lose sight of the implications for Australian economics of the post-1976 British experience. British universities had to cope with reduced government funding and greater reliance on non-government sources of finance. Universities were forced to become more market-driven institutions where supplementary

government funding was strictly related to research output and PhD completion rates. The upgrading of the status of existing polytechnics to universities was another feature. How the British system responded to these challenges may provide useful lessons for Australian departments.

Some observers lament the increasing Americanisation of Australian economics. This view is very forcefully presented in Groenewegen and McFarlane (1990). The last three chapters of the book examine the postwar period and the growing professionalisation of economics in Australia. The authors examine contributions by Heinz Arndt, Trevor Swan, Murray Kemp, Max Corden, Wilfred Salter, Geoffrey Harcourt and Stephen Turnovsky. They argue that after the 1960s the Americanisation of the subject occurred with an increased flow of Australian students to North American postgraduate schools rather than to England. This they lament, for the 'potentially fatal embrace of its growing Americanisation' leaves little room for a continued distinctive Australian contribution (pp. 228, 232-40). Australian economics has been transformed into 'a minor sub-branch of the American Economic Association' (p. 237).

The Commission on Postgraduate Education in Economics

A surprising source of critical examination of postgraduate training is the American Economic Association's *Commission on Graduate Education in Economics* (Krueger 1991, Hansen 1991, Kasper 1991). Members of the commission included Anne Krueger, Ken Arrow, Alan Blinder, Edward Leamer, Robert Lucas, Joseph Stiglitz and other leading economists.

The Commission was set up to examine the flood of complaints about the nature of PhD training. Concern related to the overemphasis on mathematical tools and techniques, the apparent lack of policy relevance and insight and awareness of social issues, and the failure to be explicit about underlying premises and the range of application of particular models. It was alleged that training had become too divorced from real-world questions. There was also a perceived lack of creativity on the part of students and a demonstration of poor writing abilities and communication skills.

Non-academic employers, who hire roughly 40 per cent of PhDs in the U.S., revealed deep dissatisfaction with the training of PhD economists (Krueger 1991, p. 1038). While employers acknowledged that postgraduates were better trained in technical areas such as theory and quantitative methods, they were less well trained in carrying out empirical and policy-relevant research and unable to communicate effectively the results of their research. Employers expressed dismay that new PhDs possessed so little institutional knowledge of the economy and such weak knowledge of economic data, their quality and their interpretation (Hansen 1991, p. 1085).

Implications for Australian Postgraduate Training in Economics

A number of these American concerns are applicable to the Australian situation, but the departments of economics in this country have never had the student numbers and hence the resources to mount an extensive postgraduate sequence of coursework at any one university. Australian PhD enrolments in economics can not realistically justify the resources required to set up the ten or more extensive courses specifically required for doctoral student training under the American system. It is this sequence of core and field subjects that has aroused so much

concern about the narrowness of training. At best, the leading departments can put on a year's worth of courses in microeconomic and macroeconomic theory and econometrics that can approximate the American offerings. Informal proposals have been floated for departmental cooperation and sharing of resources to mimic the American programs. For example, one proposal involved several universities putting together a combined PhD program where each separate entity would offer a core set of theory and econometric subjects but that students could then select field courses from any of the universities involved. They could then write their dissertations, and obtain their degrees, from any of the universities involved, presumably in areas that the staff of that department had a special expertise in, and transfer course credit for any subjects completed at the other participating universities. This proposal did not proceed, and we might expect that logistically it could only work with universities in close geographical proximity or if concentrated short courses were available outside the normal teaching periods. However, future improvements in communications technology and the Web may change all this. In Scotland, for over a decade now, eight universities have combined to offer a common PhD programme. There is also a European Doctoral Programme.

Proponents of the above proposal see the creation of an American-style PhD programme on Australian soil as highly desirable. Others have argued for greater cooperation between Australian departments of economics more on the basis of sharing scarce skilled supervision resources and to improve the quality of the training. Maxwell has made a case for having just two major postgraduate schools of economics in this country. Furthermore, he argues that they should differentiate their output. One could emphasise writing, interpretation, communication and policy skills. The other might specialise in technical skills. Alternatively, there could be formal cooperation between postgraduate programs in each of Australia's major cities. Collaborative coursework programs have already been explored in Adelaide and Perth. We might then end up with six doctoral programs – the Australian National University and five combined city programs (Colander and Brenner 1992, p. 185).

A concentration of PhD programs in a smaller number of institutions, with the range of expertise in both core and applied fields to exploit the economies of scale and scope that exist in the provision of PhD courses, is seen as desirable by many observers. A similar argument for the concentration of resources has been made with respect to Honours programs in economics.

Intellectual Diversity

While there is an argument for the concentration of research resources, there are also grounds for believing that existing departments show excessive uniformity in course offerings and research supervision. There is little evidence of departmental specialisation in certain fields or attempts to differentiate themselves from other departments, despite economists' attachment to concepts such as specialisation, comparative advantage and economies of scale. Monash has a reputation for econometrics, the Australian National University for labour economics, but often that reputation is based on one very influential researcher. Yet the evidence seems to show that frontier research in any specific area tends to take place in a very limited number of highly-focused centres. There is a need for a critical mass of researchers around high quality research performers in each department. These

peer-group effects appear very important and create desirable spillover effects for PhD students working in this area, who in turn learn from each other.

A related concern is the breadth of coverage in economics. Economics as practised is diverse, and this is the basis for the discipline's vigor and richness. We need only mention developments in the literature relating to public choice, theories of organisations and hierarchies, evolutionary modelling, new institutionalist economics, experimental economics, and law and economics. Contributions in nonlinear dynamics, adaptive processes, and computational, evolutionary methods are increasingly being made. Much of the most interesting work done out of the mainstream extends across the boundaries of the traditional disciplines – witness the work in behavioural economics and decision theory that crosses the boundaries between psychology, political science and economics. It is not clear that course offerings and supervision have kept up with this diversity. Economics training rarely goes outside its narrow disciplinary focus; a broadening to other social sciences may well attract additional students to the subject

What Does the Future Hold?

There is considerable uneasiness about the training of PhD students if they go into government or the business sectors. The narrowing of economics training may mean that the training is not meeting a full range of desirable goals of a university education, nor allowing postgraduates to contribute in a broader sense to Australian society. This training fails to communicate the breadth of economics, its multifaceted character and linkages with other disciplines.

In the context of increased competition for students from business and management schools, and the increased tendency for other disciplines to provide in-house economics, the coming decade may prove decisive for Australian economics. We are delighted to hear that our students are accepted into PhD programs at MIT, Yale, Harvard, Oxford and similar places. A significant portion of a researcher's reputation is derived from the number and success of his or her students. Perhaps with recent changes in the government's funding formula for universities we can no longer encourage our best students to go overseas as we did in the past. Academics take great pride in their students' success, and there would be considerable regrets if the overseas exodus dried up. Australian economists would then lose those vital international connections and access to international journals which in the long run affects the country's international reputation for economic research. The future will be heavily shaped by funding criteria. It may be desirable to concentrate PhD students in a small number of institutions, but they are increasingly being used as a less expensive teaching resource. Departments will not give them up lightly. Research higher degree *completions* are to be given greater weight in funding formulas. This may lead to greater competition among departments for these students and indeed, the poaching of existing PhD students half-way through their degree by rival departments.

Two recent papers (Colander 2000, Thaler 2000) provide more optimistic scenarios of what economics postgraduate training might look like in fifty years or so. Colander suggests that as a result of internal tensions in the profession, some of which were highlighted in this chapter, and advances in information technology, both the structure and content of economics training will change fundamentally. Virtual universities, with collections of scholars from around the world who combine into an accredited program of study, will displace geographically-based

programs. The rise of virtual universities will mean a de-Americanisation of postgraduate training and there will be increased specialisation, with the boundaries between economics and law and medical schools, public policy and business schools, and engineering schools, disappearing. Training of students will concentrate more on those aspects of economics relevant to their proposed field, combined with practical experience in an institution in that area. Students will be trained to use tools, not to derive them, and be known as 'health economists' or 'public finance specialists' rather than just as 'economists'. Thaler (2000) believes that the future holds a closer union between economists and psychologists, sociologists and anthropologists. Economists will increasingly study human cognition and thereby gain a richer understanding of economic behaviour. These positive developments, if they do eventuate, will go a long way to addressing some of the concerns Petridis raised so many years ago.

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