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Most agricultural economists spend much of their time speculating about the future. Some of this work is branded "forecasting" (e.g. Freebairn 1976, 1978; Jones (or was it Standen?) 1983), although not always to universal acclaim (Stent 1976, Anon. 1983). Such work is usually best rooted in the reality of recent observation, and the present speculations will follow this tradition.



To the extent that concrete data are referred to, this essay is unapologetically UNE-centric, as I hope befits the occasion. My rationale is that whatever is valid for UNE will probably apply fairly well to others. At UNE I am close to our "data" and I feel that, even if it may seem parochial, we should avail ourselves of this Silver Opportunity to consider where, to what, and how we are headed. Accordingly, my first digression is to explore the representativeness of UNE experiences so that I can unashamedly pursue my "local" case-study material.

UNE and the Australian Profession

Reliable data on the "profession" of agricultural economics in Australia are not readily to hand. The most natural starting point is the *Directory* of members of the Australian Agricultural Economics Society, painstakingly (albeit incompletely) assembled by Quilkey (1980). Data are more or less available for 706 members. Of these, 33 were foreign residents (I count New Zealanders as foreign for the

present purpose) and 21 were foreigners temporarily resident in Australia. Another 17 (including 7 UNE postgraduates) were Australians working "permanently" overseas. The Society also then included 54 non-graduate members who are also excluded from the core "professional" domestic members on whom attention is presently concentrated.

This group consists of 581 members, of whom 173 (30 per cent) have some qualifications from the UNE Department. Of these, 82 (47 per cent) have some postgraduate qualification (i.e., a diploma, or master's or Ph.D. degree). Unsurprisingly, if professional commitment is judged by financial membership of the Society, the retention rate has been much higher for our graduate students (82 of 225 or 36 per cent to 1980) compared with Bachelors of Agricultural Economics (91 of 429 or 21 per cent to 1980). Many of the latter 91 "goodies" have undertaken graduate work at other institutions, so there is a very heavy loss to the "profession" of "ordinary" graduates in the field, an observation that may not surprise some of my colleagues who occasionally get upset about the "ordinariness" of a few of our students.

Such quibbles aside, UNE clearly has had a role in educating a significant, hopefully representative, part of the profession, and my first speculation is that it will continue to do so, probably at something like the recent modest rate. The history of graduate production in several categories is summarised in Figure 1.

Recent Trends

Several trends are evident from the UNE experience, and these are probably reflected in most Australian universities. After the nursery phase at the University of Sydney in the fifties (which Keith Campbell has reflected on today) and the "glasshouse phase" nurtured by the N.S.W. Department of Agriculture Division of Marketing and Agricultural Economics (see, e.g., Dillon 1965), the other universities got into serious production in the early sixties (as Jack Lewis has described today). By the late sixties, throughput of undergraduates had virtually stabilised (with the exception of the early seventies blip) at contemporary levels.

Graduate studies took rather longer to gain momentum - too long, as I recall some of us seeming to take forever to finish! The production of postgraduate qualifications reached

significant levels in the early seventies and, since the mid-seventies, they have generally exceeded the numbers of bachelor degrees granted.

As is shown by the dark shaded areas in Figure 1, overseas candidates represent a very significant portion of the recent growth in graduate students, a point to which I will return later. In contrast, there have been relatively few foreign students in the bachelors' classes.

From human capital theory, one would expect the flux in numbers of students to reflect changing expectations of earnings in the profession. Unfortunately, I could not locate data on the expected earnings differentials for agricultural economists *vis-a-vis* say, other economists, other agricultural scientists or the professions in general. The U.S. experience is that there has been a premium earned by members of our profession (Hathaway 1969) and my intuition is that we too have enjoyed such benefit, although probably to a lesser extent. In some limited data dredging, I found that our enrolment and graduation patterns were remarkably unresponsive to economic conditions, so I presume that any such economic effects have been swamped by demographic characteristics that I've been unable to identify.

I did, however, identify some associations between membership of the Society (M) and features of the agricultural macro-economy, namely the BAE's real-farm income index (Y 1970/1 to 1972/3 = 100) and the share (S) of agriculture in GDP (mean 8.7 per cent) over the twenty-three years to the present. This association is most easily glimpsed as a constant elasticity equation:

$$M = 815 Y^{0.18(0.08)} S^{-0.57(0.07)}$$

where the bracketed numbers after the elasticities are standard errors and the $R^2(\log) = 0.73$. Agricultural economists may have been "riding on the coat tails" of rural earnings (the positive Y effect) but they have been seemingly "hanging on by their teeth" as the relative importance of agriculture has declined. That is, for a further one per cent decline in the percentage of S from six per cent, there would on average be nearly an *additional* $(-0.57) \times (-1\%/6\%) 100 = 9.5$ per cent increase in the membership of the Society, presumably to grapple with the problems of structural adjustment, farmer welfare and policy challenges that might

be associated with such inevitable change! All this, of course, leads one to share the same concerns that Bishop (1967) and Hathaway (1969) expressed for our U.S. colleagues in their adjustment or otherwise to analogous changes in urbanisation and industrialisation of society and economy.

The U.S. Experience as a Guide to the Future

In looking to the future, whether it is in technological, "cultural" or educational matters, it usually is instructive to reflect on contemporary U.S. experience. There are, however, some considerable structural differences. Strauss and Tarr (1982) note that U.S. agricultural economists are predominantly Ph.D.s, and continue to be employed mainly at predominantly educational institutions. Their Australian counterparts are mostly holders of bachelor degrees and are employed mainly by government departments. Their extension functions, however, would be attached to educational institutions in the U.S., so the major difference relates to emphasis on graduate qualifications.

The numbers of people involved in such international comparisons are, of course, very different. It is natural to search for denominators that ease comparison. An obvious one is the ratio of "professionally active" agricultural economists (domestic members of the Association/Society) to farmers (i.e., rural establishments). At 0.33 per cent, Australia has about twice the "density" of the U.S. at 0.14 per cent. Using the alternative denominator of gross value of rural production, we are also seen to be relatively well supplied at 50 vs. 30, respectively, agricultural economists per billion (1980) Australian dollars of output. The picture emerging is thus one of quantity and quality (at least as measured by educational attainment) differentials across the Pacific. There are doubtless other differences, such as aspects of gender. Lee (1982) reports that 24 per cent of present U.S. Ph.D. students are female which, although low, is surely higher than the corresponding Australian proportion. The proportion of females among UNE Ph.D. students (and also graduate students generally) in 1983 is about 10 per cent.

In the light of such data, where are the Australian universities such as UNE going? Certainly there is growing emphasis on graduate studies, but there are several differences from the U.S. model. First, there are still relatively few Ph.D. students, 10 of 103 current UNE

postgraduate candidates. Second, we have a much greater representation of foreign students, 53 per cent, with 50 per cent of our graduate students coming from LDCs, compared with 30 per cent of U.S. graduate enrolments in agricultural economics from LDCs (Fienup and Riley 1981).

A Personal Thought on Australian Ph.D. Training

I cannot resist the temptation to intrude my feelings about what I would like to happen in this regard. I think it is unfortunate that the majority of Australian Ph.D.-seeking agricultural economists continue to choose to study for this qualification overseas, especially in the U.S.A. I regret especially that, while I was seconded to the BAE, I was obliged to be a party to assisting such aspirants to overseas study at public expense, to make a "case" that Ph.D. training in Australia was inadequate and that overseas study was essential.

One would have to agree that the Australian option is surely "different" and rather deficient perhaps in terms of structured coursework. One could also admit that there may be non-educational advantages in a period overseas. However, if Australia continues to subsidise U.S. and U.K. graduate schools at the expense of her own, our tertiary institutions will not make the progress that they could, not fulfil the roles intended for them, and definitely not undertake the Australian-oriented in-depth research which is presently so scarce in our universities.

Agricultural and other Economists in Australia

On both absolute and relative scales then, the market for agricultural economists in Australia seems fairly well supplied (c.f. Schotzko 1980) - perhaps rather too well. Several factors complicate assessment of the supply position. Agricultural economists are now being trained at several institutions, from the named degrees at UNE and the University of Sydney, through various degrees of specialisation within degrees in agricultural or rural science at the University of Queensland, UNE, the University of Melbourne, La Trobe University, the University of Adelaide and the University of Western Australia, or within economics degrees at the University of Sydney, Monash University and the University of Adelaide, to the diversity of degree and other training in farm management and agribusiness at the colleges of advanced education and

agricultural colleges. Added to these definitional problems on the supply side is the enthusiasm of some major employees, notably the BAE, for hiring general economics graduates to work on research and other problems in agriculture. This apparent high degree of substitutability mirrors the ease with which many agricultural economists have migrated to other segments of the economics profession, including industrial, labour, development, transport and urban economics, as well as econometrics and operations research, to name but a few.

These mobilities within the wider profession and the loss to the Australian profession by migration, retirement and general decrepitude suggest to me that the present rate of graduation is of about the right order of magnitude, even though the domestic throughput alone is too small to sustain the present ranks of teachers of agricultural economics.

Overseas Students and Academic Survival

The continued gainful employment of these teachers depends, at the margin and well within, on maintenance of the reasonably high (relatively speaking) throughput of foreign students.

Is the continued flow of foreign (especially LDC) graduate students (as illustrated in Figure 1) a pious hope for contemporary academe? At the most fundamental level, the LDCs are, in many instances, making substantial progress in building up their educational institutions generally and for graduate work in agricultural economics in particular. However, there is demonstrably a long way to go, so that at least a *potential* demand exists for several decades to come, although competition to service it will be strong throughout the First and Second Worlds.

For Australian institutions, translation of the potential into actual demand depends crucially on Commonwealth Government policies, executed in this regard primarily by the Australian Development Assistance Bureau (ADAB) and, not insignificantly if somewhat less directly, by the Agricultural Development Council of New York (ADC) and AUIDP. The signs are that Commonwealth sponsorship of graduate students will continue for as long as the needs are perceived as continuing. With the mentioned progress on national training (at least to master's level) capacity in LDCs in "our" region, it seems likely that the emphasis will gradually shift from

diploma and master's to doctoral training. Another related change that could be made at an early stage (see, e.g., MacAulay 1983) is to concentrate our foreign training on the "trainers" (i.e., present and future faculty members of the colleges and universities) rather than on public servants as is presently the case.

Conclusion

I would have liked to conclude by citing some notable contributions from the person that Russel Ward has identified as Australia's most successful agricultural economist, one Edward Kelly, but it seems that Ned did not leave many such gems. This 20th anniversary of Dr Martin Luther King's memorable march is, however, an appropriate year to quote from him, namely, his impassioned "I have a dream!!".

My dreams concerning the profession have many dimensions:- healthy, thick timely issues of our *Journal* and the *Review of Marketing and Agricultural Economics*; continued active publication by Australians in the leading overseas journals; a steady stream of bright and dedicated undergraduate and postgraduate (especially Ph.D.) students into our universities and the profession; improved quality in our curricula and teaching - see Anderson (1982) wherein I have identified a few pet areas of need; continued strong attention to agricultural development economics, but backed up by better support for teachers to undertake research in the Third World (perhaps ACIAR may help here); continued broadening of our perspectives towards *rural* economic and social problems in their widest context (see, e.g., Buchanan 1969); a strong and active Society; and, more parochially, a viable Department at UNE supported by an active Alumni Association with a network around the world that would make Henry Kissinger jealous: "I have a dream!".

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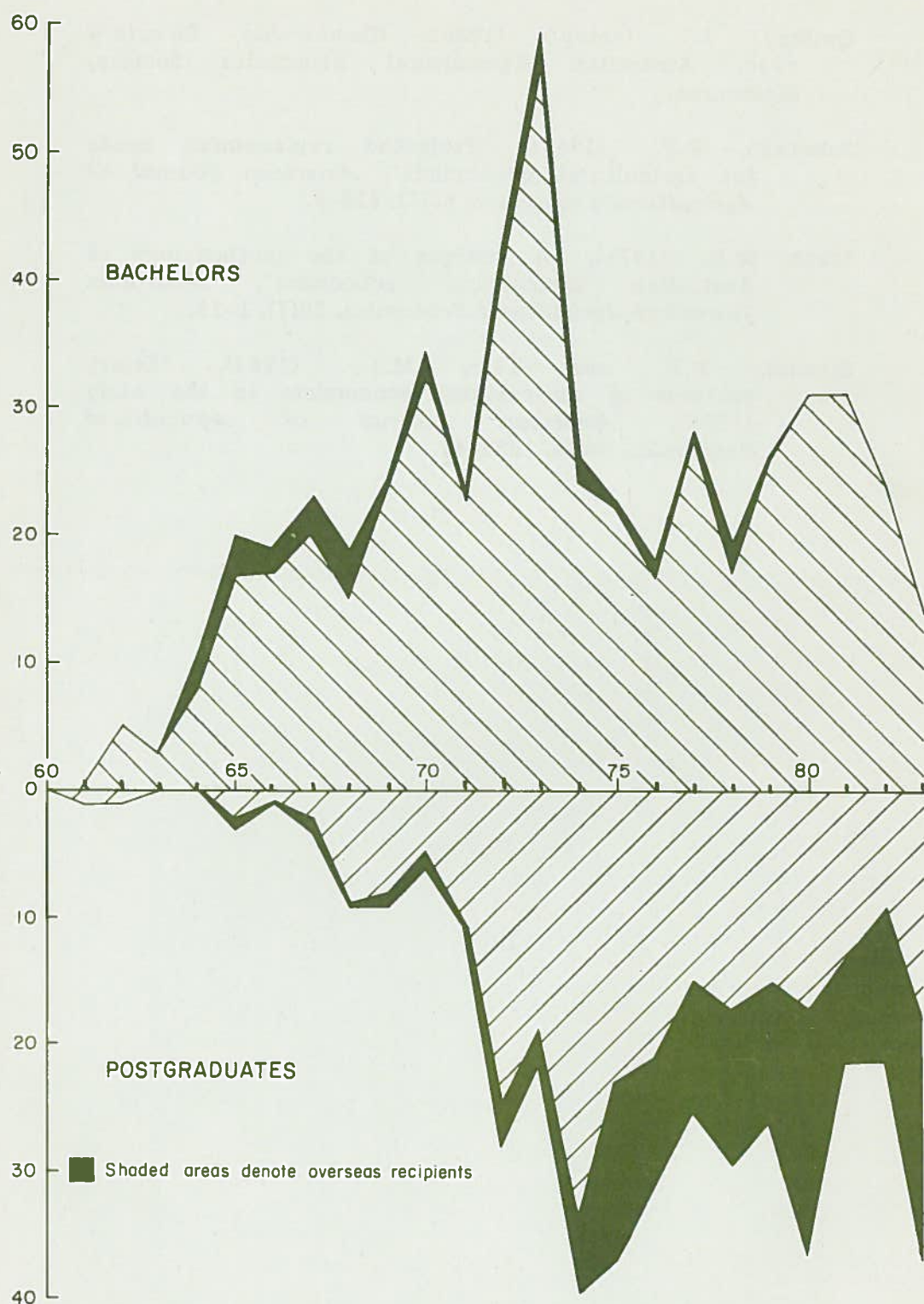


Figure 1 UNE agricultural economics bachelor and postgraduate qualifications awarded, Australia and overseas, by year 1960-83.