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# **The Rise and Decline (?) of Agricultural Economics.**

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**Agricultural Economics and Transition:**

**„What was expected, what we observed,  
the lessons learned.“**

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## **1. Some History.**

The discipline of agricultural economics (AE) emerged in the early 20<sup>th</sup> Century in the Land Grant universities in the USA. With the emphasis on research and extension, agricultural economics was primarily concerned with farm management and the assessment of production technologies. The American Association of Agricultural Economics was formed in 1910 and its first journal, the precursor to the current American Journal of Agricultural Economics, the Journal of Farm Economics had its first volume in 1919. Initially the Journal was, unsurprisingly, largely concerned with farm management as its title suggests. The USA led development of the discipline, particularly in the application of econometric methods to analyse market behaviour by USDA agricultural economists from the mid-1950s onwards (Karl Fox, Richard Foote, Mordecai Ezekiel), and in the late 1970s with the applied welfare analysis (led by Tim Josling). The USA, through Earl Heady and colleagues also led the way in linear and later non-linear programming.

Agricultural economics elsewhere lagged behind the USA. The first volume of the Journal of Agricultural Economics in the UK was published in 1926, two years after the founding of the Agricultural Economics Society and three years before the creation of the International Association of Agricultural Economists. In Australia the Australian Journal of Agricultural Economics first appeared in 1957, marking the formation of the Australian AE Society. It merged in 1988/9 with the Review of Marketing and Agricultural Economics produced by the New South Wales Department of Agriculture to become the Australian Journal of Agricultural and Resource Economics. Again all the early focus was on farm management.

Higher education in agricultural economics lagged a long way behind the USA. In the UK there was no taught M.Sc. programme in 1963; there was a taught diploma at Oxford. It would appear to have been much the same in Germany, France and the Netherlands, with many of the leading agricultural economists of the 1970s and 80s having received their Masters and Ph.D degrees in the USA, with its advanced taught postgraduate programs. The European Review of Agricultural Economics was only first published in 1973, shortly after creation of the European Association of Agricultural Economics. Presumably there was an even greater lag in the discipline's development in CEEC countries. But what all this emphasizes is that AE is a young discipline, as indeed is Economics itself.

The Second World War certainly gave a boost to agricultural economics, as the new price support policies (started before the war) took hold in the USA and UK and elsewhere in Europe in the 1950s. In the USA these policies were part of the New Deal. In Western Europe they were a reaction to vulnerability of food supplies during and after the war. As a result of these policies the political economy of trade later assumed much greater importance with the start of the Uruguay GATT Round in 1986.

The mid-1980s probably mark the high point of agricultural economics in OECD countries when measured in terms of training specifically labeled agricultural economics, and in terms of membership of the main agricultural economics association. Since then numbers identifying themselves as agricultural economists has declined, despite the addition of rural and environmental economics as major areas of study for the profession. As noted below, this has precipitated a great deal of attention in Presidential addresses on how to counter this decline.

It is very interesting to note the definition of agricultural economics as defined on the American Association of Agricultural Economics website in relation to what is included and what is excluded. This is:

Agricultural economics is the study of the economic forces that affect the food and fiber industry. Specific areas of study in agricultural economics include:

- Community and rural development
- Food safety and nutrition
- International trade
- Natural resource and environmental economics
- Production economics
- Risk and uncertainty
- Consumer behavior and household economics
- Analysis of markets and competition
- Agribusiness economics and management

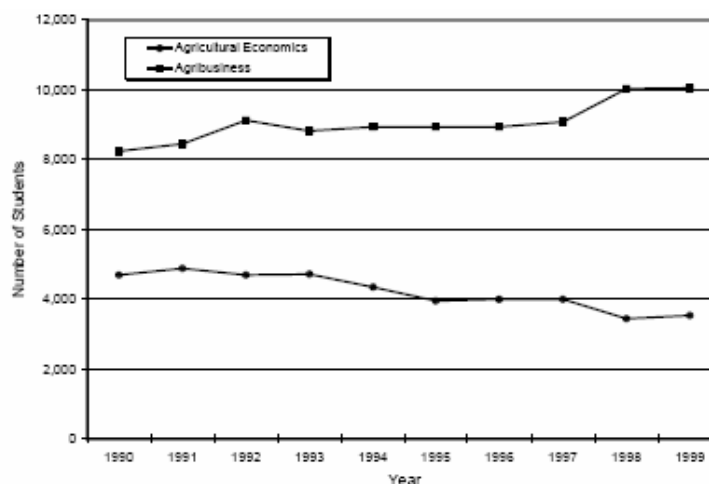
One thing one might have expected to see here is agricultural and food marketing. That is clearly not the same as analysis of markets and competition. It also excludes agricultural development analysis, which as Figure 2 shows below accounts for around 20% in leading US AE departments.

## **2. A Steady Process of Decline Since the mid-1980s.**

### ***2.1 Decline in Association Membership and in Student Numbers.***

There has been a steady decline in membership of Agricultural Associations and Societies. Heiman et al (2002) argue that the growth in farm size in the USA caused a fall in the derived demand for agricultural economists and a rise in demand for business courses, and that the growth of interest in environmental economics and international development failed to compensate for this. Consequently as shown in Figure 1 (sourced from Heiman et al, throughout the 1990s there has been a steady growth in the number of agribusiness majors in US universities, and a decline in the number studying agricultural economics.

In many ways this switch, is quite understandable. Larger farming businesses are increasingly perceived as being businesses in a general sense, and operate with a different perception of themselves than the traditional one in which farming was seen as falling in a different category. This applies not only in the USA, but in the UK, Australia and other EU-15 countries. Also as the contribution of agriculture has progressively fallen as proportion of GDP the student demand for agricultural economics courses has steadily declined within the overall penumbra of economic studies, demand for which is also in decline.



Source: USDA, Food and Agricultural Education Information System (FAEIS) database, Texas A&M University, 2001.

**Figure 1. Enrollment in undergraduate agribusiness and agricultural economics majors**

As the figures published by the same source show in Table 1, there has been a steady decline in student numbers enrolling for agricultural economics applied at all levels, undergraduate, Masters and Ph.D. since 1991 in the USA. In the UK, for which no data are available, the decline in enrollments began at an earlier date, reflecting the very low share of agriculture in GDP.

**Table 1. Enrollment in Agribusiness and Agricultural Economics Majors 1990-1999**

Description	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
Ag Economics / Bachelor's	4,693	4,882	4,692	4,719	4,340	3,936	3,982	3,990	3,442	3,518
Agribusiness / Bachelor's	8,238	8,457	9,116	8,823	8,942	8,935	8,945	9,074	10,017	10,053
Ag Economics / Master's	1,058	1,044	1,110	1,106	996	951	893	802	790	711
Agribusiness / Master's	196	291	265	221	225	209	241	196	232	293
Ag Economics / Doctoral	791	837	867	1,035	864	859	746	770	652	697
Agribusiness / Doctoral	67	76	58	82	75	80	71	74	76	71

Source: USDA, FAEIS database, Texas A&M University, 2001.

At Rutgers University in New Jersey this tendency has been particularly extreme. Out of 125 students enrolled in an agricultural department offering three alternative specializations, agricultural, environmental and business economics, not one student had chosen agricultural economics as reported by Adeloja (1997).

Membership of Agricultural Economics Associations/Societies is also declining, something which must reflect a decline in the number of jobs specifically defined with agricultural economics in their title. This decline was the Focus of the Presidential Address of Steven Buccola (2006). He also argues that many of the benefits of membership of large Associations/Societies have been diminished by the internet and by the costs of the organizations, which have increasingly had to finance the substitution of paid officers for volunteers. One impact of this has been to push up registration fees for conference attendance, something of particular concern of the International Association of agricultural Economists, which primarily operates for members through its organization of a conference every three years. As members in universities, government and international organizations can now obtain access to its journals electronically through the licences of their employers, there is a tendency to join only for the three-year

period of a conference they particularly wish to attend. Consequently, now there is a greater turnover of membership, with many joining for only three years. For those in institutions with major libraries, journal access can now be obtained via institutional subscriptions as electronic products, something which militates against personal access paid for through subscriptions to Associations Societies

### ***2.2. Closure of University and College Departments.***

A number of countries have seen a retreat of agricultural economics departments. That has certainly been true of the UK. The first wave of cuts there was in 1968, when the well-established AE Department at the University of Leeds closed. Since then there have been closures at Oxford which played a central role in the UK profession from the very start and at Manchester, where there was a merger in 1994 into the Department of Economic Studies and a subsequent elimination of chairs in Agricultural Economics. Agricultural economics has also vanished from Glasgow University, and from Seale Hayne Agricultural College in Devon, with the closure of a whole campus.

In Australia , where AE departments tended to be small there have also been major changes, leaving only the University of Western Australia with a department with AE in the title. The AE Department at La Trobe University was closed and around half its staff been absorbed into the Economics Department, The AE Department at Melbourne has shrunk to a very small size, and the Agricultural and Resource Economics Department at the University of New England has merged into Economics. That is not to say that the profession is in particularly bad health, as there is a significant group at Sydney, a dispersed group at the University of Queensland, with farm management a d agribusiness in several of the new universities. Nevertheless, in terms of the core disciplines Australian AE does not have quite the international clout it had in the 1970s, when it was extremely strong. Godden (2001) provides a detailed account of department changes, employment of agricultural economists, research focus, and teaching changes in Australian AE.

### ***2.3. Changing departmental and journal names.***

A seemingly persistent debate by AE departments, Ministries and journals, is whether to change their name or from simply agricultural economics or to add something to add to it to reflect what has been a broadening agenda or the growth of new areas such environmental and resource economics. One of the motivation for the debate in the UK is to draw the attention of would be student applicants away from the word agriculture, which in the UK is often seen as having a poor image, towards greener areas of research such as rural and environmental studies. There has been quite a resistance for such a move be members of AE associations and societies. The members of the American, UK, and European Associations/Society when balloted have rejected any change and clung to the simple AE label. The newly formed African Association has stuck with only AE to become AAAE. However, the Australian/New Zealand association AARES has added Resource Economics to its title.

It is intriguing that in US universities 18 out of 58 around the year 2000, had retained only AE in their title. Thirteen had added Resource Economics, and 9 had added Agribusiness/Food. Six had dropped AE entirely, and 15 had added Agribusiness, one of which had adopted only that in its title.

Table 2. Names of USA Departments offering Agricultural and Agri-business Programs.

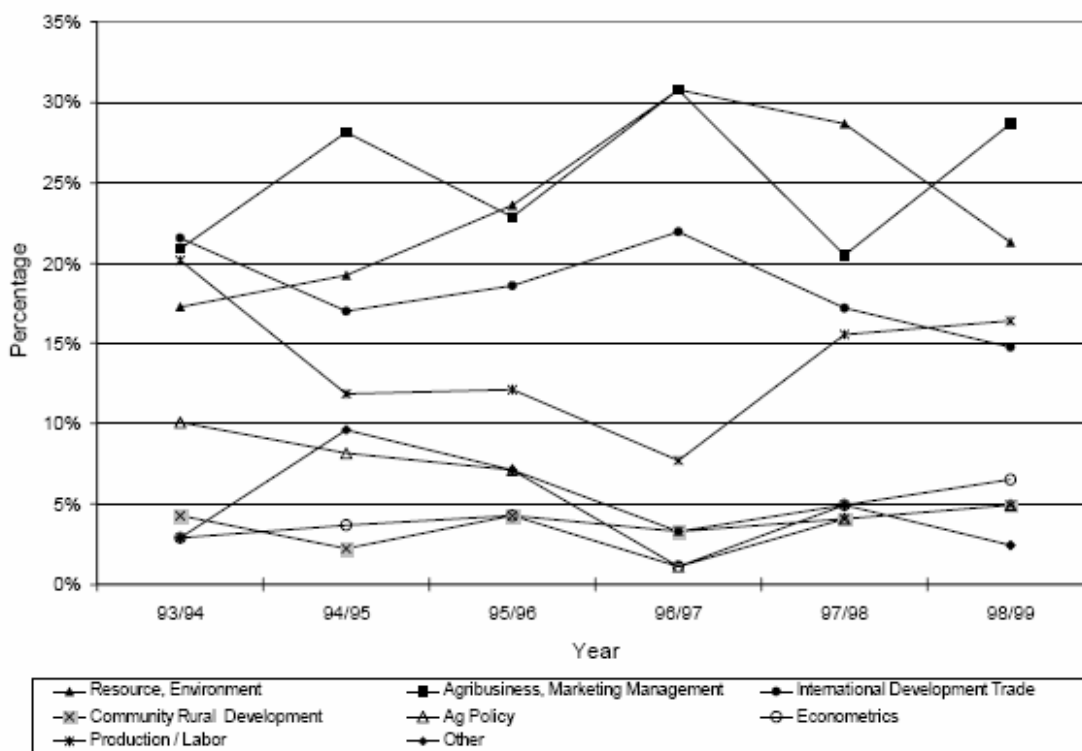
Department Name	Frequency	Percent
Agricultural Economics	18	31
Resource and Agricultural Economics	13	22
Applied Economics	3	5
Agricultural and Applied Economics	6	10
Agricultural Economics and Agribusiness/Food	9	16
Resource Economics and Agribusiness/Food	4	7
Agribusiness	1	2
Agribusiness and Applied Economics	1	2
Economics ■ Economics and Statistics ■ Agricultural Economics and Management	3	5
<b>Total:</b>	<b>58</b>	<b>100</b>

Source: Heiman et al (2002)

A similar problem of title choice had affected ministries, although in the UK the issue has gone as far as re-badging a ministry as a department. The old Ministry of Agriculture, Food and Fisheries, has become the Department for Environment, Food, and Rural Affairs, signifying a major shift of attention away from Agriculture and primary attention on a new agenda.

#### 2.4 Changes in Subject Choice.

Figure 2. Ph.D. Dissertations by Category, 48 US Departments, 1993-1999.



Source: Based on data collected by Michele C. Marra, North Carolina State University.

Source Heiman et al (2002)

### 3. Possible Directions to Strengthen Agricultural Economics,

Many members of our profession have set out their views about how the discipline of agricultural economics should move and add to its armoury. All of them accept the strength of our contributions to addressing problems in farm, agricultural/international trade and environmental policy, as well as addressing agricultural development issues. However they also perceive the limitations of neo-classical and micro-economic theory, which need to be acknowledged and overcome. Harvey (2001, 2004) and Kirsten (2004) both call for greater multidisciplinary through interaction with sociologists, political scientists and anthropologists. In addressing many of the problems of agriculture and food systems our maximization and optimization theories often impose too tight a straightjacket on the data. It is no use assuming that farmers are profit maximisers, when their behaviour suggests that they often fall well short of that viewed in any length or run, and even behave in contrary ways in the short-run (Colman et al 2005). If the profession is to achieve the sort of practical relevance it needs to adopt a broader more empirically driven approach to analysis than our quest to demonstrate rigour *sometimes* allows.

Harvey (2001) considers this in his paper titled “*Academic Rigour or Policy Relevance: Towards a reconciliation*”. Later Harvey (2004) followed this up with a paper, *How does Economist fit the Social World*, which explores the state of economics and general, notes its decline in the USA and UK. His view is that “Mainstream economics is increasingly dismissed as being too quantitative and rigorous to be relevant or reasonable. Yet we are urged to be more rigorous and, therefore, less relevant in order get gold star funding and 5\* papers and publications. Economics is becoming marginalised.....” What Harvey is concerned about here is that he feels that many mainstream economists are no longer concerned with serious applied economics, but are engaged in highly abstract debates aimed only at a few select colleagues, and that the academic prizes attached to rather inward looking research. It is a cautionary warning aimed at agricultural economists, which I personally endorse, not to lose track of the applied mission of our discipline. This problem has of course been recognised to some degree by the creation of Choices in the USA, and later by the introduction of Eurochoices, both of which present short articles about major issues directed to an educated lay readership. This underlines recognition that the future health of our profession will rest critically upon our ability to communicate to government, the farming community and agri-business, as well as our ability to innovate and be rigorous.

Kirsten (2004) also identifies similar issues. As well as urging a more multidisciplinary approach, he urges wider application of the New Institutional Economics (NIE) built on the foundation of key works by Ronald Coase and Oliver Williamson. Kirsten argues strongly that a great deal of economic behaviour requires an understanding of the institutional structures binding producers into a system with higher level actors, and the way in which alternative structures influence transaction costs and the distribution of power and rents. (This is very well explained in a recent collection of papers on agricultural cooperatives edited by Karantininis and Nilsson (2007)). Kirsten argues that NIE is already a multidisciplinary endeavor engaging with history, political science, sociology, business economics and law. As Kirsten explains this it is more a case of some in these other disciplines adopting the ideas of NIE, than of economists co-opting collaborators from these other disciplines.

Offutt (2002) focuses on the potential for expanding household economics as a method for studying policy impacts. Hitherto it has been mainly used as an extension of farm management tools to pull together the consumption and production sides of farm household decision making, and to reflect individual roles within the household to some extent. She argues that the methodology could be expanded to the environmental aspects of land use choice by the house



hold and that would increase the boundaries of the policy analysis which could be performed with this class of models. Increasing the scope and use of household modeling would certainly move farm management analysis further away from the traditional emphasis of production functions alone.

One of the big innovations in AE is in the increasing use of panel data for econometric analysis. One of the bedeviling problems of time series analysis was always the length of series needed to generate statistically robust estimates, something that always compromised the contemporary estimates of the estimated parameters. All too often they were past history. Training in panel data analysis should certainly be on all postgraduate syllabi.

The old dictum of “rubbish in rubbish out” of course still holds, and it is vital to pay due attention to this. One fears that too much data is still not up to standard, and a loss of intuition, (which I would argue has followed the growth away from our agricultural roots) means that often there is insufficient challenge to both the data and the results produced. It is not sufficient that the parameters are statistically significant or that the solution has converged.

One area where this argument applies particularly is in the area of large simulation modeling of actual and potential policy change. This is one of the most important areas of AE analysis, where efforts are made to project (never forecast) outcomes of policy change. However, there are still many problems with demand and, more particularly, supply elasticities, the dynamic behaviour and the price relationships, just to name some of the more obvious issues. If a model is making, say, ten year comparative static projections (a) what is a ten year supply elasticity?, and (b) does not the dynamic path before reaching the ten year projected outcome matter. The fact is that we really pay enough attention to the first of these issues, which is made even more important by the difficulty of even arriving at acceptable estimates of even short-run supply elasticities. All too often the elasticities plucked from the literature are old history, as it is often (usually?) infeasible with very big models to re-estimate all of them before launching the model, and they certainly are not specifically tuned to a ten year response. As to the dynamic path issue, it is swept aside in comparative statics over intervals of some years. One way of addressing it that of the FAPRI model which runs on an annual recursive basis. What this all means is that the AE profession needs to tend its roots more assiduously, while also pressing on to new horizons.

That argument also extends to farm management, which seems increasingly to have become detached from AE, even though, as reported above, agribusiness has blossomed. For developing and transitional economies farm management skills are exceptionally relevant, but many students taking courses in the USA and UK, for instance, do not receive the sort of training they once did, something emphasized in a report I recently completed with John Mellor and Bernard Baashasha on AE research and training for Ethiopia. Bill Malcolm, in his Presidential address to AARES has been particularly scathing of the weaknesses he observes in farm management work in Australia, and he urges that there should be a return to recognizing economics as the core of farm management. It would appear that the main damage he identifies is confusion arising from the use of accounting rather than economic measures of performance, the use of enterprise rather than whole farm measures (which is arguable) and plain sloppy thinking.

The area of almost explosive growth for AE is in environmental and resource economics. According to Godden (2001) this has been the direction that the Australian profession has focused on for growth, following the research money as Government which has shifted its policy priorities away from agriculture to the environment. In the UK and the EU 15 also this has been a major growth area as exemplified by the name changing process for AE departments. Clearly that is set to continue for the time being, but it is an area in which we are

challenged by Geographers, Rural Sociologists and others. It is therefore an area where multidisciplinary research groups can flourish, and in which our profession has the role of providing sound economic analysis while avoiding some of the trivialisation which has accompanied the rush to assess willingness to pay for public goods and to avoid public bads.

#### **4. Concluding Comments.**

Agriculture has a larger share in GDP for the New Member States (NMS) of the EU than in the other countries from which the data in this paper has been drawn, with an important small farm sector in many of them. It is therefore reasonable to assume that the traditional discipline of farm management still has a major function in the public sector, and an employment future. There is a need to establish stronger links for these with a rapidly changing food-chain, and to make them more commercially competitive. There is a strong history of cooperatives, and the development of these and building on this history may well have key role for AE. This is an area where the New Institutional Economics has a useful role to play, as it provides a valuable way of addressing power and rent distribution systems between groups of actors in the food chain.

At the same time the NMS are having to adopt the CAP policy measures for controlling the environmental externalities of intensive farming, and the food retailers demands for traceability and measures to improve animal welfare and ethical farming. These are significant challenges.

Agricultural economics in the NMS also has the opportunity to seize a significant part of the agenda in agricultural marketing education, which in many other countries has migrated more to departments business and management.

Counting only those in academia and public service, who make up the vast bulk of the membership of our professional associations, the AE profession is small and tightly knit. It is very much like a club, and membership of it involves a network of friendship as well as of academic collaboration. Many of the personal linkages are to and from the USA, but many have membership of two or more of the International, American and European Associations, and the Canadian and UK Societies, and latterly the African membership of some of these has grown, particularly with IAAE, accompanying the creation of the AAAE in that continent. With, perhaps the exception of the European Association of AE, membership of these organizations by Central and Eastern European agricultural economists is rather thin, and their links to the rest of the club deserve strengthening. Strikingly the membership of IAAE from those in former Soviet Union countries has dropped to very low levels since the early 1990s, something that hopefully IAAE's support for this conference will hopefully do a little to redress, but it is the general process of networking generated which is the key part of the agenda.

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