AGRICULTURAL ECONOMICS IN AN EVOLVING LAND GRANT SYSTEM*

by

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Abstract: Projections regarding public, political, and fiscal support for agriculture, and centralization of agricultural economics research decisionmaking suggest downsizing and consolidation of traditional agricultural economics research institutions. The profession can survive and thrive under these circumstances only by demonstrating its uniqueness and utilizing existing comparative advantage to broaden its constituent base.

Over the last few years, an increasing number of keen observers have provided provocative opinions, interesting diagnoses, or thoughtful prescriptions regarding the status of the USDA-State Land Grant system and its agricultural economics component (eg: Beattie, 1991; Bonnen; Johnson et al.; Just and Rausser; McDowell; Schuh). Challenges to the continued viability of current institutions, as identified by these and other constructive critics include: (a) the increasing number and complexity of modern research issues coupled with low rates of growth in research funding; (b) questionable relevance and/or audience targeting of agricultural economics research output; and (c) declining intrainstitutional and broader support for current agricultural economic research agendas. Proposed solutions to these problems include: (a) increased investment in agricultural/agricultural economics research; (b) reemphasis or new emphasis by agricultural economists on heuristic and/or empirical analysis; (c) change in the research reward system to provide incentives for multidisciplinary and more applied research; and (d) change in the typical College of Agriculture administrative structure to foster improved institutional decision making.

This paper builds upon previous work by examining macro-level forces affecting the feasibility of alternative solutions to identified problems. I then propose some strategic options for increasing the probability that agricultural economic endeavors thrive rather than wilt as the Land Grant system undergoes substantial, anticipated, near-term change. First, it is useful to review the nature and implications of major forces apt to affect agricultural and agricultural economic research enterprises over the next few years.

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Major Forces Influencing the Research Enterprise

A preeminent group of scholars, academic and government administrators, and industry executives called the Research Roundtable recently described systematically the range of fates for the future of the American academic research enterprise (figure 1), and the institutional, economic, and political forces associated with each alternative scenario. They submit that a growing national economy, a moderate real annual growth rate in research funding, and abandonment of "the political push for wider geographic and institutional distribution of resources and talent" are all necessary just to maintain the status quo in terms of size and configuration of the current enterprise (Government-University-Industry Research Roundtable). Downsizing scenarios are associated with a weak national economy and, independent of economic conditions, the political decision to shift national resources away from research to other national needs (Government-University-Industry Research Roundtable). The Research Roundtable further suggests that whether a downsized enterprise is more concentrated or more diversified 1/ depends upon whether research funding decision making becomes more or less decentralized, and on the form that some redistribution of resources among institutions or among disciplines takes.

The Research Roundtable's findings are generalized across research institutions and disciplines, though it may be assumed readily that various institutions and colleges or departments therein will be affected differentially by the forces predicating change in size, degree of consolidation, or viability. Thus, working within the Research Roundtable framework, I begin by examining what recent trends and projections suggest with respect to where agriculture and agricultural economics are most likely to fall in the continuum of possible future scenarios.

Sources and distribution of agricultural research funding

State and local funding is decreasing as a percent of total funding available to Colleges of Agriculture. Table 1 shows some historical data on Agricultural Experiment Station funding, which were compiled to support an earlier "proposal to strengthen the agricultural, food, and environmental system" (National Research Council). If figures were available for the last 5 years, we would see signs of a far more precipitous decline in States' contributions to agricultural research. Furthermore, the figures shown in table 1 do not include State and local funding for Extension activities, losses in which are granted to be greater over the last decade then losses in research fund contributions.

At least through 1987, it appears that the decline in State government support was offset by increasing funds from

foundations, corporations, and other private sources (table 1). The important difference here is that, while State government funds typically support the institution, private-source funds often support individuals.

The Federal government's proportionate share of funds to the Agricultural Experiment Stations has, until very recently, remained relatively constant. However, the *distribution* of Federal funds is changing substantially. The share of formula funds is declining as the share of competitive grants and special Federal funding arrangements is increasing. This trend is even more apparent in agricultural economics funding (table 2).

These very limited data on Experiment Station and agricultural economics funding only hint at what has become even more apparent since the late 1980's. There is the more rapid, recent decline in State funding for agricultural research, extension and education. Plus, the Federal contribution has grown since 1990 with the initiation of the National Research Initiative (NRI) for agricultural research. The NRI has acted not only to increase the Federal share, but also to further the tendency for redistribution of funding through competitive grants. Each of these recent phenomena suggests increasing centralization of research decision making which, in the Research Roundtable synthesis, in turn implies growing specialization of agricultural research enterprises. Further reinforcing this trend (up to now, anyway) is an apparent proclivity for agricultural research institutions to seek, and often receive, line-item appropriations directly from the Agriculture Committees of the Congress.

It is clear that Federal forces are exerting increased influence on the research agenda and the fate of research institutions. This fact is a potentially ominous introduction to a second set of factors--the political dynamics currently at play in predicting the future of the agricultural research system.

Federal sector political support of agriculture

Changes in the U.S. House of Representatives as a result of redistricting in 1990 (figure 2) support the growing urbanization of nationally represented concerns. Many of the States losing representation are what one might previously have called "farm states." Some observers have remarked, only half in jest, that it will soon be difficult to populate a House Agriculture Committee with representatives who have any familiarity with or strong constituent bases from the agricultural sector. As we contemplate in the Fall of 1992 a large turnover in Agriculture Committee members, many of whom have opted not run for re-election, we could see substantial change in the Congressional attitude towards the magnitude and direction of agricultural support, including agricultural research support. As Nipp (p. 190) puts it, "With no collective memory of why our current

agricultural system was developed, the pressure to dismember the machine will steadily increase."

The new crops of representatives wielding influence over the agricultural research system will increasingly represent the population cohort which now has majority political power--the baby boomers.

A large portion of baby boomers grew up in suburbia, a place unknown by their predecessors. They are distanced temporally as well as geographically from their agrarian relatives. Concerns about food availability and food costs are foreign to this group. Along with other Americans experiencing comfortable per capita income, a decreasing proportion of the devotion of disposable income to food consumption, and rising leisure time, this majority focuses concern, instead, on things like food quality, convenience, food safety, the environmental consequences of farming and food processing, and the social implications of the structure of agriculture. These are relatively luxurious concerns. They reflect an increasingly urban perspective, and for agricultural economics, they can be called nontraditional research issues, having, as they do, only peripheral relation to agricultural producers, production, or trade.

The upshot is that public, political, and thus fiscal support for traditional agricultural research is declining relative to nontraditional areas of *agriculturally-related* research.

Fiscal support for agriculture and research

Absolute levels of fiscal support for agriculture and for research appear highly likely to decline in the near future.

Even as many in the research community express the need for large increases in research funding to tackle new, nontraditional and complex problems, the country is in a recession, the deficit is large and increasing, and agriculture represents a decreasing proportion of GDP. As a consequence, there is a growing disjunction between the view of researchers and that of the Federal government in the allocation of public funds to research in general, or to agricultural research specifically. Signs of limited flexibility and changing priorities are already evident in House action to cut the budgets of all USDA agencies in fiscal year 1993.

Fiscal flexibility is likely to decrease even more in the future due simply to demographics. By the year 2010, the U.S. population distribution will lose its pyramidal shape. There will be a big bulge in retirement-age cohorts, suggesting that health care and social security costs will grow in stature as among the most critical of domestic policy issues. Without major changes in current policy, the Federal and State governments may

experience budget crises of unprecedented proportions as they seek to provide the services demanded by a graying population. The prospects for agricultural research support under these conditions are highly uncertain.

Summing up to this point, trends in and projections of macro-level factors suggest:

- Less fiscal support for agriculture and for research;
- A shift in political preference for the direction of agricultural research; and
- Greater centralization of research decision making.

In the Research Roundtable framework, this combination of trends suggests movement from the status quo towards a smaller, more consolidated, and less integrated agricultural research enterprise.

Where Agricultural Economics Fits in the Future

The expected evolutionary direction for the USDA and Land Grant universities in general will likely not manifest itself equivalently across all academic departments or government agencies. The extent to which agricultural economics departments, agencies, and programs reflect the general trends is to some degree up to today's agricultural economists.

If we in agricultural economics do *nothing* to change the way we go about our professional business, I submit that agricultural economics will *precede* most other agricultural disciplines in becoming down-sized and more diversified. Some agricultural economics departments will be abolished and others merged to become components of general economics departments. Those that remain will rely on the entrepreneurial skills of faculty members to distinguish them in specialty areas, but, being smaller in size, will no longer teach and do research and extension in all subtopical areas. ERS will become smaller and in the process of its down-sizing fail to play its roles as a major policy analytical body and a significant employer of new graduates of the university departments.

This bleaker than average scenario suggests itself because of evidence of agricultural economics' current poor status in the changing political and institutional environment. In the centralized system of Federal research fund decision-making, agricultural economics is not faring well. Only 4 percent of NRI funds, the new infusion of agricultural resource funding, was earmarked in fiscal year 1992 for social sciences (CSRS). In the decentralized system of extension program revitalization, agricultural economics is playing a diminishing role. And despite many honest efforts and frequent contentions to the

contrary, agricultural economics research output continues to focus on traditional clients whose relative political clout is fading rapidly.

Is a change in course warranted?

At this juncture, we in the agricultural economics enterprise have several critical questions to address. First is whether there is a collective desire to change the course of possible events previously outlined herein. One argument for staying rather than altering the course is that the resultant lean, mean, and more diversified agricultural economics enterprise would be more efficient. And efficiency, of course, is a concept that is well appreciated in economics.

On the other hand, there are at least two reasons--one altruistic and one selfish--for attempting to alter the course towards down-sizing and diversification. The altruistic one is that agricultural economics would, by doing nothing, abrogate its role in the mission of the Land Grant system. That mission involves serving the populace; "to aid in acquiring and diffusing among the people of the United States useful and practical information on subjects connected with agriculture" (The Hatch Act of 1987). That the populace may have changed more over the last century than has the agricultural economics profession seems a poor reason to abandon the unique role of the Land Grant system.

The more selfish reason has to do with a typical side-effect of any enterprise's down-sizing--the development of excess resources; human resources in this case. While some agricultural economists may thrive in the general economics professional environment or in small, heavily entrepreneurial agricultural economics institutions, many could find themselves out of a job, or in a job for which their training and comparative advantages lend no competitive edge.

If either or both of these reasons are appealing, the next critical question for agricultural economists involves the nature of required change in the profession.

Strategies for Agricultural Economics

Beattie (1991) describes an "external war for the hearts, minds, and tax dollars of (those) that support" the Land Grant system, and an "internal war (having) to do with the perceived irrelevance and inferior scholarship" of agriculture within the broader academic structure. The following proposed strategies address potential roles of individual agricultural economists and the agricultural economics profession at large as soldiers in both of these "wars".

A first recommended strategic stance is for agricultural economics to embrace and capitalize upon, rather than downplay or ignore the agricultural focus which distinguishes it as a professional discipline. To shift research agendas and curricula away from agriculture means a loss of uniqueness and comparative advantage. The more agricultural economists look and act like general economists, the more likely it will be that they become subject to institutional consolidation with their economics counterparts. Failure to capitalize on agricultural focus and expertise also means a loss of political support from traditional clients of agricultural economics research 2/.

On the other hand, the profession's paying "customers"--taxpayers and students--are increasingly uninterested in traditional, particularly production-related research products and teaching. How then do we expand our clientele base, maintaining traditional clients but also generating broad public support and gaining back a share of student interest and enrollment?

Reorienting the basis of research to address broader audiences

A critical strategic option is to reorient individual, departmental and agency agendas to simultaneously meet both agricultural clientele and broader societal demands. That means looking *at agricultural* issues from the point of view of a hugely nonagricultural public, and shifting priorities accordingly. For example:

- The farm financial analyst might do research on the implications of environmental clean-up liabilities for farmers and propose new mechanisms for accommodating this growing need for change in enterprise planning.

This sample project would provide a big service to farmers (traditional clientele) while also recognizing explicitly societal preferences *in relation* to farming. Other similar examples might include:

- The resource economist who has busied herself with valuation of recreational amenities might extend her research to estimate how agricultural activities can or do enhance or constrain that nonmarket value; or

- The extension economist expert on swine production systems might refocus his efforts on investigation and extension of cost-effective waste management options which meet both producer needs and the demands of environmental interests.

The possibilities are endless.

In many respects this proposed strategy is similar to that recommended by Beattie (1992) with respect to agricultural economics' expansion of relevance into the realm of agribusiness. In both cases, the idea is for agricultural economists to do what they do best, but to do that within the context of nontraditional client groups' concerns.

Expansion and reorientation of this nature is difficult to confine to any one discipline. The issues of the day cannot easily be addressed, in the way an expanded clientele demands, by using only the theory and methods of economics, or of plant or animal science, for the matter. But as we layer additional requirements atop the strategy of agricultural economics work's reorientation, individuals rapidly can get nervous about the demands such a strategy places on them.

Maintaining scholarly credibility

We thus face the question of whether the strategies of research reorientation to *applied* problems of *mixed clientele* in an *interdisciplinary setting* can be followed by individuals without sacrificing opportunities for tenure, professional acclaim, and job mobility.

A proposal espoused by some to help assure the survival of the Land Grant system without penalizing individuals is that agriculture take a lead role in reforming the academic reward system, basing tenure, promotion and acclaim on some index of service and quality of work that does not rely as heavily as does the present reward system on *intra*disciplinary communication in refereed journals.

I part company with that group. Given the particular vulnerability of agriculturally specific research and education, it may be too risky for agriculture to perpetuate, as a leader in reforming the academic reward system, the "cow college" image it still retains on many campuses. Besides, the influence of the predominant reward system is probably granted too much power and miscredit.

Casual observation and personal experience suggest that applied work on critical social issues is imminently publishable in our so-called narrow, obtuse and stuffy disciplinary journals. Even the most pedestrian of research problems, if gussied up with citations of popular theorists and a few generalized equations, easily makes the grade. Certainly the kinds of complex issues suggested herein as strategically advisable are good fodder for refereed publication.

The need and perhaps the problem is that agricultural economists take the time also to communicate in a more relevant mode to the broader clientele the profession needs to capture. Perhaps reform can take place by redefining *how* we operate in the

current reward system--by placing a premium on a mixed portfolio of outlets for our work--rather than doing away with the system altogether.

The oft-heard contention that there is a lack of incentives for multidisciplinary work also needs to be reexamined. It may be that the way that agricultural economists tend to view and approach multidisciplinary work (as a burden; as not taking best advantage of skills) is a primary problem.

Agricultural economists need more frequently to approach other disciplines with research project possibilities that capitalize well on agricultural economists' comparative advantage and serve to illustrate better the true worth of agricultural economic thinking. For example, might it not serve both agricultural economics and society at large well for agricultural economist innovators to propose:

- to animal scientists a review of the political economy of animal welfare;
- to plant breeders a study of the contribution of varietal attributes to varietal value; or
- to biotechnologists, the development of a systematic methodology for judging *ex-ante* the economic and commercial feasibility of potential biotechnologies.

At a minimum, agricultural economics might get a larger share of multidisciplinary research funds. Ideally, agricultural economists would, by proposing and following through on such work, also change for the better the way our agricultural science colleagues view the potential contribution of agricultural economics.

Participating in the politics of agricultural research agenda setting

Increasing simultaneously the intradisciplinary and interdisciplinary value of multidisciplinary work should help to convince the largely noneconomist agricultural research establishment of agricultural economics' value. While that is a necessary step, it is not sufficient to assure a stable future for the profession within that establishment.

Agricultural economists have to become more active in the Land Grant system's politics of research agenda setting. The decisions about the focus and distribution of research funding which are made at the national level originate at the State and regional levels. Thus, active agricultural economist participation in Experiment Station and Extension committees, at local, university, State, and regional levels, can have high pay-offs.

Conclusion

Following the strategies proposed herein will require individual as well as collective action by agricultural economists in the public sector. Each agricultural economist, agricultural economics university department, and government agency needs to examine each of its current and potential programs and projects in light of whether it:

(1) addresses an issue of concern to a group or groups with rising influence on national resource allocation;

(2) capitalizes on agricultural expertise while maintaining broader professional credibility; and

(3) makes clear to recipients of output the unique value of agricultural economic logic, thought, and analytical approaches.

As such criteria become more commonly used, so too should agricultural economics become more secure in the future of the Land Grant enterprise.

Footnotes

1/ In the Research Roundtable lexicon, "diversification" refers to movement towards specialization by institutions with "narrowly focused research portfolios," whereas "integration" refers to maintenance or expansion of "broad research portfolios" within individual institutions.

2/ While it is true that the relative political strength of agricultural interests may be declining, those absolute levels of influence that remain will be crucial to maintain.

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Table 1. Sources of Funding for State Agricultural Experiment Stations, (Percents, FY 1972-1987)

Funding Source	1972	1977	1982	1987
		---- Percent ----		
Federal formula funds	18.8	16.4	16.1	12.3
Other federal funds	10.6	13.6	16.3	16.3
State appropriations	56.6	54.9	51.6	53.8
Private sector sources	14.0	15.1	16.0	17.6

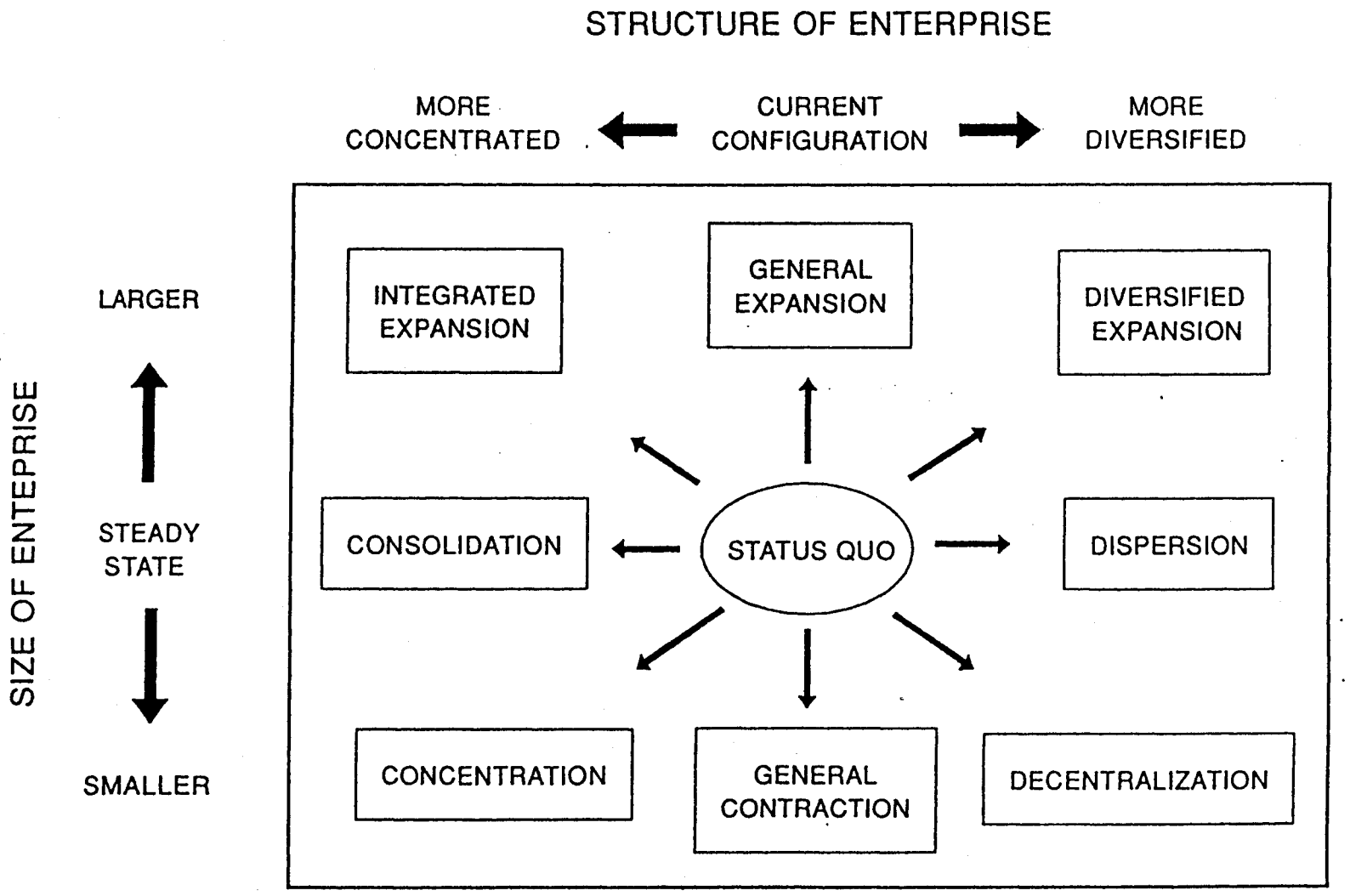
Source: Cooperative State Research Service

Table 2. Sources of Funding for Agricultural Economics Research (at all State Agr. Exp. Stations)

Funding Source	1985	1989
Federal formula funds		
Million dollars	14.8	15.0
Percent of total	21.2	14.8
Other Federal funds		
Million dollars	7.4	16.8
Percent of total	10.6	16.6
State appropriations		
Million dollars	40.7	55.8
Percent of total	58.1	55.3
Private sector sources		
Million dollars	7.1	13.3
Percent of total	10.1	13.2

Source: Clark Burbee, CSRS

Figure 1. Research Roundtable's Scenarios for the Academic Research Enterprise in the 21st Century



Source: Government-University-Industry Research Roundtable. Fateful Choices: The Future of the U.S. Academic Research Enterprise. Wash., D.C.: National Academy Press, 1992.

Figure 2:

Population Shifts and Their Political Effect

Estimated change in Congressional seats, based on the Census Bureau's preliminary population figures for 1990.