



The Economics Major: Can and Should We Do Better than a B-?

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Yes, and yes.

The two questions asked in the title of this paper were prompted by an invitation to the American Economic Association's Committee on Economic Education to participate with eleven other disciplines in a national review of arts and sciences majors initiated by the Association of American Colleges (AAC). The goal of this "Project on Study-in-Depth" was to evaluate the economics major within the liberal arts curriculum, highlighting connections and interactions among disciplines. In the process we examined the economics major in considerable detail. The result was a lengthy report,¹ from which the present paper abstracts key findings, focusing on the purpose of the major, recommendations for improvement, and methods for effecting change.

In compiling the AAC report we became painfully aware that while our collective experience in the field of "economics education" provides us with considerable background, the representativeness of our

judgments required checking. To this end, seminars were given at several colleges and universities and over 100 copies of the report were circulated to other economists, including leading economic educators; feedback was incorporated in subsequent versions. In addition, in May 1990 a survey of economics faculty at 127 colleges and universities was undertaken with the goal of vetting and evaluating our main conclusions and recommendations.

As a part of that survey, respondents were invited to complete a "report card" (A, . . . , F) based on twelve criteria evaluating the effectiveness of the economics major at their institutions.² Tabulated on a 4.0 grading scale, the economics major earned an overall grade of B-. An analysis of the detailed statistical tabulations and open-ended responses to some thirty-seven questions suggested how it might be improved.

In this paper we argue that the quality of the major is suboptimal, a situation probably resulting from two decades of expanding enrollments and the relative popularity of the major, which occurred just when demands on faculty for research and other responsibilities greatly increased, and when college administrations tightened con-

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¹"The Economics Major in American Higher Education," *Journal of Economic Education*, No. 3, Summer 1991, 22. The present paper defers to that article for all literature references.

²The criteria included aspects of course content, the institutional environment (for example, manageability of class size, effectiveness of instructional methods, adaptation to student learning styles, connections with other courses in economics), and skills developed (analytical, mathematical, empirical, critical judgment, applications, oral/written communication, ability to think like an economist). A copy of the questionnaire, list of participating schools, and survey results is available from the Joint Council on Economic Education, 432 Park Avenue South, New York, 10016.

straints on faculty size in preparation for expected declines in enrollments in the 1980's. This stocktaking indicates that the economics major merits improvement. Here we provide specific suggestions to accomplish that objective.

I. The Goal of the Major

Enabling students to develop a capacity to "think like an economist" is the overarching goal of the major. All other virtues follow. Thinking like an economist involves using chains of deductive reasoning in conjunction with simplified models (such as supply and demand, benefit-cost analysis, and comparative advantage) to illuminate economic phenomena. To some, economists tend to abstract too much from the richness of human behavior and reality; to many economists, the strength of our analysis is the provision of focus and clarity of thought; parsimonious models are a virtue, not a vice.

Thinking like an economist also involves identifying and evaluating tradeoffs in the context of constraints, distinguishing positive from normative analysis, and tracing behavioral implications of change while abstracting from aspects of reality. It, moreover, involves describing redistributive implications of change, amassing data to evaluate economic events, and testing hypotheses about how consumers and producers make choices and how the economy works. Finally, thinking like an economist involves examining many problems through a filter of efficiency—coping with limited resources.

Thinking like an economist requires creative skills, too. Identifying economic issues and problems, framing them in ways other people do not see, devising novel policy proposals for dealing with problems, analyzing both the intended and unintended effects of policies, and devising innovative methods to estimate the magnitude of these effects—all are as central to the discipline as is the development of logically coherent theories.

This statement of purpose appeals to the vast majority of economics faculty in American colleges and universities. But how can

we be assured that our undergraduate students really meet this objective by the time they walk across the graduation platform? Here we present a blueprint for reform of the economics curriculum which we believe will help students better understand how to think like an economist.

II. Recommendations for Improving the Major

An ideal program for the major includes *foundation requirements* (introductory macro and micro, intermediate macro and micro theory, and quantitative methods), a *breadth requirement* (elective courses), a *depth dimension* which probes more deeply the structure of knowledge in elective courses, and a *capstone experience*, whereby students apply their knowledge and skills in creative and systematic ways through research and writing.

We believe substantial opportunity exists for improving each component of the curriculum. In this section we identify areas of deficiency and make recommendations for change.

A. Foundations I: The Introductory Courses

Introductory courses expose students to economic theory, principles, and concepts, and instruct them how to apply the economists' tools to analyze problems and unfamiliar situations. These courses typically serve both economics and business majors and students attempting to satisfy the institution's general education requirements.

Deficiencies. Introductory courses tend to be encyclopedic, and all too often oriented toward formalism of theory at the expense of application.

Recommendation.

1) Emphasize the *application* of a limited number of important concepts and theoretical tools to a variety of problems, at the expense of some of the existing formal and detailed elaboration of theoretical constructs or the extent of coverage of the vast array of topics contained in most textbooks.

Our survey indicates that this orientation and recommendation commands considerable support. In fact, it represents the dominant approach of most existing intro-

ductory economics courses. Fortunately, these courses constitute a relatively sound component of the major at most colleges and universities.

B. *Foundations II: The Intermediate Theory Courses*

Intermediate theory courses accomplish three goals. First, they show how economists develop and use theory, and how rigorous thinking illuminates economic phenomena. Second, they provide prerequisite tools required to undertake economic analyses in elective courses. Third, they provide important information or signals to students: what the major is like, what content must be mastered, what skills must be developed, and what standards of performance must be met.

Deficiencies. While most intermediate macro and micro theory courses develop well the rigor and elegance of economic theory, they tend to slight a critically important issue: how theory and real world events interact to produce new knowledge, concepts and theories, and how such theories are evaluated. In particular, the "usefulness" of theoretical topics and paradigms, largely evaluated by confronting theory with data, applying models to various problems, and comparing the outcomes of alternative theoretical constructs, merits greater emphasis.

Recommendations.

- 1) Coordinate content so that these courses establish a foundation of knowledge and skills on which other courses and instructors can rely.
- 2) Establish explicit connections between theory and its empirical counterparts, to help students appraise the importance of theoretical constructs, to provide a basis for selecting assumptions, and to show that theory is relevant.

Again, students are reasonably well served by these courses, although our second recommendation merits emphasis. Use and appraisal of theory should in practice constitute the primary basis for establishing the course "standard"—the level of difficulty, as it were, for screening students interested

in the major. While facility with formal theoretical constructs should represent a necessary condition for passing these courses, it should not be sufficient. Students must, in addition, be able to *use and appraise* theory—a challenging, but arguably a central skill as a "gateway to the major."

C. *Foundations III: The Quantitative Methods Courses*

Quantitative methods courses expose students to the empirical dimensions of economics: the techniques for testing and evaluating our understanding of economic phenomena and economic behavior. These courses usually emphasize algebraic skills and statistical techniques.

Deficiencies. The dominant attention to the formal aspects of statistical analysis shortchanges students' exposure to how these methods are applied in the empirical work economists do, and to the criteria for and methods of selecting and appraising the data used in empirical analysis.

Recommendations.

- 1) Reorient the course from its almost singular statistical orientation to emphasize a wider range of quantitative methods pertinent to economic analysis.
- 2) Increase the allocation of time to the most widely used (but still accessible) methods employed by economists in their empirical research.
- 3) Devote more attention to limitations imposed by the absence of appropriate data, poor quality of existing data, and use of proxy variables; illustrate creative attempts to overcome these difficulties.

We propose a broader quantitative methods course, one that devotes more attention to research design and to the context within which quantitative methods are applied. The former requires giving students a better sense of what is involved in research—from formulating the underlying question to conceptualizing the study and organizing the process for completing it. The latter requires knowing something about measuring economic behavior and phenomena; selecting, organizing, appraising, and manipulating economic data; having the ability to test

hypotheses; and knowing how to interpret the results of various statistical procedures.

D. Breadth

Breadth is typically achieved by students self-selecting elective courses to explore subfields and topics within economics, which draw upon the foundation courses, and are often enriched by historical, institutional, and empirical detail. As few as three, and as many as six or seven courses are taken, and the choice is usually unconstrained.

Deficiencies. This format all too often results in students acquiring a narrow, parochial perspective, unable to come to grips with deviations from marginalist thinking, and incapable of dealing sensibly with problems that involve approaches different from atomistic models of individual choice.

Recommendations.

Require at least four or five elective courses.

Structure student choices to produce greater breadth: we recommend at least one course each in 1) contextual, 2) international, and 3) public sector economics.

Contextual inquiry includes courses in economic history (where connections between economics and history are explicit), history of economic thought (where different modes of thought are exposed), comparative economic systems (where social/political/cultural dimensions that influence distinctive economic systems are compared), and area studies (where synthetic analyses of countries and regions are explored). Such courses take the edge off narrow thinking about economics, and they illuminate the importance of context and structure (initial conditions and constraints) that shape the dominant "marginalist" orientation of economics.

International courses include not only traditional offerings in trade and finance, but also those in economic development, comparative systems, and traditional fields that may incorporate a notable international component (for example, the multinational corporation). Such courses expand students' perspective from the parochial to the global, placing them in a stronger posi-

tion to use their tools of economic inquiry in a world that is rapidly becoming more integrated.

Public sector economics courses include not only the usual ones in public finance and taxation, but also some offerings in theory (stressing public goods, externalities, collective decision making, and market failure), labor economics (stressing aspects of labor regulation), and the like. Such courses simultaneously illuminate and qualify the role of individual, free market choice, a dominant paradigm in economics. Students should gain considerable understanding of the applicability, methods, and limitations of collective choice, including nonmarket options for resource allocation. These dimensions of decision making account for one-third to almost all resource allocations in most countries, and they are too important to relegate to a few weeks of exploration in the foundation courses.

Feedback from our survey about the breadth recommendations was strongly positive, although some respondents expressed legitimate concern about the administrative feasibility of offering enough courses on an annual basis to provide such breadth. This concern can be addressed by defining the breadth options in ways that are consistent with the capacity of institutions to staff such courses.

E. Depth

Depth in elective courses is accomplished by going beyond the coverage of textbook-oriented field courses to how current knowledge evolved and how new knowledge is developed in the field.

Deficiencies. While students often leave elective courses with sound "state of the art" surveys of coverage, they often lack a feeling for the field's central research issues, how knowledge about them has developed over time, and how the ideas revealed in the courses are related to the fundamental theories of economics.

Recommendations.

1) Link the important ideas in elective courses to general principles introduced in the theory courses; at least some of the

elective courses should require an intermediate theory course as a prerequisite.

2) Examine how economic phenomena and behavior are observed and measured, pertinent empirical data are appraised and selected to illuminate these phenomena, and how these data can be effectively organized and analyzed.

3) Explore the process of expanding existing knowledge and developing new knowledge in the field.

F. Capstone Experience

A capstone experience can help complete the process of intellectual maturation. Such an experience is achieved by giving students opportunities to apply what they have learned to an economic question or problem—in effect, “doing economics.” In the process they acquire an increased capacity to “think like an economist.” Completion of such an experience is typically accomplished by writing a senior thesis, carrying out an honors research project, or enrolling in an independent study course. In some institutions, special senior seminars facilitate these opportunities.

Deficiency. Too few institutions offer these opportunities.

Recommendation.

1) Provide more opportunities for advanced students (seniors) to “do economics” by undertaking a substantial independent project that requires majors to formulate an underlying question or problem, to structure an analysis, to assemble the information necessary to carry out the analysis, to draw conclusions from the results, and to communicate the findings to others in both oral and written form.

While such a capstone experience is educationally sound for all majors, in practice departmental resources may be constrained. When constraints prevent extending this opportunity to all majors, such courses are most productively offered to more capable students, often in an honors program.

III. Getting It Done

A respectable economics major that teaches students how to think like an

economist requires considerable instructional resources, especially if, as we argue, students must obtain extensive practice at really *doing* economics. To be successful, this requires relatively small classes, 20–25 students in intermediate macro and micro and elective courses, and approximately 15 students in courses emphasizing writing, oral presentations and argumentation, and research projects.

Deans and chairs will immediately observe that such a major is expensive, and thus “compromises” must be made. Counterarguments are that economics carries more than its share of costs with its large introductory courses; indeed, its cost per credit hour is likely to be lower than those of many other departments and much lower than those of many science courses with their laboratory and discussion sections. More important, the low-cost technology of large classes, the lecture format, and multiple-choice examinations (so prevalent throughout the economics curriculum) have often resulted in majors simply being “exposed” to economics in varying degrees. Lamentably, in all too many instances, even the *minimum* mastery level of understanding how to think like an economist is sacrificed.

When the production of minimally acceptable output requires a much higher-cost technology, how is it possible to make the major work? The answer, it seems to us, is simple: either increase faculty or ration access to the major to fit the resources available while maintaining quality standards and fulfilling the responsibilities of each college or university. Placing a limit on the number of economics majors will conflict with the “philosophy” of many institutions. However, surely unconstrained access to the major without concomitant resources, resulting in diminished standards that compromise the intellectual integrity of the enterprise, is also at variance with prevailing educational philosophy. Responsible educational planning requires “living within one’s budget” of instructional resources. Thus, the question of *how* to ration access to the major becomes paramount.

The method of rationing may vary from school to school, depending on the institu-

tion's policies and procedures. Whatever method is used, however, it should be *educationally sound* with respect to the *goals* of the major. Our own preference is to offer intellectually challenging intermediate micro and macro and quantitative methods courses whose "reputation" ensures that the number of students intending to major does not exceed capacity.

What does and does not constitute "intellectual challenge" in such courses must be spelled out. It does *not* require the use of formal (and seemingly difficult or sophisticated) tools (mainly mathematics); and it does *not* involve the use of unfair or tough grading standards, unreasonable assignments, or "scare tactics" as techniques to discourage enrollments. It *does* require holding students to the standard of properly *applying* reasonably sophisticated economic ideas to a variety of unfamiliar problems. This standard is intellectually more demanding than facility with formal tools per se, and it is, in fact, the best early indicator of whether a student has the ability to come to grips with the major. (Parenthetically, introductory courses should *not* be used to ration access to the major since such courses should be widely

accessible to nonmajors and students of diverse backgrounds and goals.)

As a result, students should be in classes sufficiently small to permit them to interact effectively within their instructors. Professors should then be expected to employ evaluation methods that give students an opportunity to develop and use writing and oral skills. Learning should take a more active form, and therefore have longer lasting effects.

The undergraduate economics major has slipped in quality over the past two decades as large enrollments undermined standards. We see no reason why large *enrollments* in economics programs need pose a problem. Indeed, offering exceptionally high-quality introductory economics courses (even if taught in large classes) should be a primary goal of economics departments. A related goal is to ensure that economics is one of the most exciting and intellectually challenging majors. Having said all this, we believe the central task is to make certain that economics majors understand how to "think like an economist"—surely a highly demanding but attainable goal. To accomplish this, tough choices—the hallmark of economics—must be made.