

The Economics Major and a Liberal Education

Draft Teagle Foundation Report

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The goal of this report is to consider the relationship between the goals and objectives of the economics major and goals and objectives of a liberal education. Is the economics major playing its part in meeting those objectives? Should it be changed? And if it should be changed, how should change be brought about?

The report is structured as follows. We first discuss the goals of a liberal education and the complaints that have been developed about the major's role in general (and the economics major's role in specific) in meeting those broader goals. Second, we discuss the goals of the economics major—what it is meant to do, and what it isn't, and how those goals relate to a liberal education. Third, we discuss the reasons for differences in goals, and whether those differences should be of concern. Fourth, we discuss some structural changes that might lead to a better fit between the two. Finally, we discuss the role of pedagogy in a liberal education, and some changes that might better promote goals of the economics major within this broader context.

The Goals of a Liberal Education

According to the AAC&U, a liberal education should involve more breadth and less depth than it currently does. They see a liberal education as one that empowers students with broad knowledge and transferable skills.¹ They see it as an education that instills in students a strong sense of values, ethics, and civic engagement. Accordingly, they see a liberal education as more a way of learning than as learning specific content. In their LEAP Report, the National Leadership Council suggests “narrow preparation in a single area—whether that field is chemistry or information technology or history—is exactly the opposite of what graduates need from college.” (pg. 17)² They argue that this is true both from a vocational standpoint and from a broader liberal education standpoint. We agree.

We do not intend for this report to address the question of what is meant by a liberal education, or whether the LEAP report’s interpretation of a liberal education is the correct one. However, because the issue is so central, a few comments are necessary to frame the narrative in our report. Education is a never-ending process, and a student’s learning in the major, or even in college, is only a small part of that education. Total classroom contact of students with faculty at college involves less than 1% of the students’ first 21 years of life, with the major being only about one third of that. This suggests to us that the success or failure of a liberal education, or of the major, depends far more on how the educational process influences a student’s passion for learning than

¹ For a detailed description of each of these skills, see Appendix A: Liberal Education and America’s Promise (LEAP), AAC&U, forthcoming, January 2007: Aims and Outcomes of a Contemporary Liberal Education.

² See http://www.aacu.org/advocacy/leap/documents/GlobalCentury_final.pdf for a report from the National Leadership Council that spells out the vision behind the Teagle initiative on liberal education.

it does on the specifics of what they learn in their major. In our view, classroom education is best thought of as a *catalyst for education* as much as it is thought of as *the education*. The implication of this view is that colleges will succeed in providing a liberal education almost independently of what they teach if they *instill a passion for learning in the students*.

Conveying a passion for learning is best done by bright, passionate teachers who care about their subject, and care about teaching their subject, whatever that subject may be. The catalyst function of education can work almost regardless of content because the inquisitiveness and passion for learning that a successful liberal education creates in students carries over to other fields and areas. A successful liberal education creates a lifelong learner, who then picks up knowledge in other areas on his or her own. So, while the major is important to study as part of a liberal education, the catalyst role of the major, not the specific content of the major, should be seen as key.

The Role of the Major in a Liberal Education

According to Derek Bok³, the major enters into the discussion of a liberal education because the student's major is an important part of their education, accounting for a third to a half of the total course load. Further, he finds that the major needs to be reconsidered in relationship to liberal education goals because majors “rarely attract serious scrutiny from the faculty as a whole.” (p. 46) Bok quotes the AAC&U arguing that “the major in most colleges is little more than a gathering of courses taken in the department, lacking structure and depth, as is often the case in the humanities, or emphasizing content to the neglect of the essential style of inquiry on which the content is based, as is too frequently true in the natural and physical sciences.” (p. 46) He further writes that majors “often become so focused on covering their field of knowledge that they neglect or even undermine the teaching of good writing, critical thinking, and important goals.” (p.47)

We agree with both Bok and with the National Leadership Council that looking specifically at the major is warranted.⁴ However, we also believe that there is a more fundamental way in which the major affects education that Bok and the AAC&U do not discuss, and which will not be raised by reports done from a major departmental perspective. Departments, where the majority of majors are housed, are likely to focus on the need for depth in their field, and the need for specialized training as a component of a liberal education, whereas from the National Leadership Council perspective, there is need for a much stronger focus on breadth.

We believe that the push for depth over breadth by disciplinary scholars is to be expected; it comes from a passion for their field; to push too much breath on a major

³ Bok, Derek. 2005. *Our Underachieving Colleges: A Candid Look at How Much Students Learn and Why They Should be Learning More*. Princeton University Press.

⁴ The discussion in this section is not specific to economics. In writing it we considered ourselves as economic consultants to the National Leadership Council, not as representatives of the economics major. What that means is that in this section we provide the economic approach to the issue of liberal education; namely, we attempt to describe the opposing foci using our tools as economists rather than as faculty participants in the major. Thus, the arguments we make in this section are not specific to the economics major, but are for all majors, and our use of economics is simply as a case study.

within a disciplinary field will likely dampen the passion. For example, a Shakespeare scholar will likely find it hard to be passionate about teaching freshman composition, and a classical game theory scholar will likely find it hard to be passionate about teaching principles of economics as a broad-reaching interdisciplinary consideration of broad themes.⁵ We also argue that because breadth is not usually associated with research passion by disciplinary specialists, and because the college is a collection of disciplinary specialists, breadth gets shortchanged; it is interpreted as “superficial.” Who is going to support superficial learning?

We believe that equating “breadth” with “superficial” is incorrect. Breadth to us involves the nature of questions asked. Breadth involves asking questions that likely have no answers—it involves asking what might be called “big think” questions that often question the foundation of the disciplinary analysis and that transcend disciplines. Depth involves asking smaller questions that possibly can be answered—it involves what might be called “little think” questions.

Disciplinary researchers often don’t deal with big-think questions, not because these questions are not important, but rather because, given current tools, there is small likelihood that additional research on these questions will add to society’s understanding of them. Put simply, questions and areas of study have two dimensions—a research dimension and teaching dimension. Research questions are ones where there is a reasonable hope of adding to our understanding by studying the question. Teaching questions that instill a passion for learning are often questions for which there is little likelihood of adding to our understanding, but which provide a base of understanding of past thinking. The disciplinary nature of graduate education, and of undergraduate college faculties, leads to an emphasis on “research questions”, which tend to be narrow and in-depth, and a de-emphasis on “teaching questions” which tend to involve more breadth.

In his recent book *Education’s End*, Andrew Kronman⁶ captured our interpretation of breadth when he argued that what has been lost in college education is that part of it that directed students toward addressing unanswerable questions. Kronman suggests, for example, that questions involving the meaning of life are unanswerable. The “meaning of life” is, in our view, a teaching question. As economists, questions that contemplate the meaning of life are far beyond our expertise, but economics has its own set of teaching questions. These include questions such as whether capitalism or socialism is preferred, what the appropriate structure of the economy is, whether the market alienates individuals from their true selves, should one accept consumer sovereignty, and do statistical significance tests appropriately measure significance. These “big think” questions are ones that are worthwhile teaching, but are generally no longer included in the economics major because they don’t fit the disciplinary research focus of the profession. In our view, that is a loss since struggling with these “big think” questions helps provoke a passion for learning in students, and hence can be a catalyst for

⁵ There are of course exceptions; we agree, some scholars have a passion for all aspects of learning and teaching. But they tend to be exceptions, not the rule.

⁶ Kronman, Andrew. 2007. *Education’s End: Why Our Colleges and Universities Have Given Up on the Meaning of Life*. Princeton: Yale University Press.

the student to go more deeply into those areas. Teaching “little-think” questions too often involves uncritical acceptance of assumptions upon which the research is built.

In our view, what has been too-often been removed from the economics major, and from much of modern college education, is the consideration of such “big think” or teaching questions. Removing such questions has reduced the catalyst aspect of college education, and thus has hurt the provision of a liberal education. It is the loss of that catalyst aspect of breadth questions that, in our view, explains the employer’s somewhat paradoxical support of liberal education with more breadth and less depth. Employers are looking for inquisitive students who have a passion for learning, not ones who have learned specific skills. They prefer general skills such as critical thinking, quantitative, and communication skills. In other words they want a liberally educated student.

Graduate Education and an Undergraduate Liberal Education

A primary reason why a focus on breadth has receded within the undergraduate college curriculum is the nature of graduate education and the graduate degrees required of undergraduate professors that create narrowly based researchers. Modern graduate education (in economics at least) focuses on producing researchers, not teachers. It succeeds in what it sets out to do; it produces passionate researchers. These researchers can also be teachers, but generally the teaching passion is not for addressing broad unanswerable or big think questions; instead it is a passion to answer smaller research questions to fit the particular disciplinary nature of their study. Given the admitting process to graduate school, which selects individuals with the greatest potential to develop into future researchers, not future teachers, graduates of the typical US graduate programs are not likely to see the teaching of issues of breadth as appropriate, nor have they been trained to teach such issues, even if they did see them as important.

It is not only their training that drives professors away from big-think questions; it is also the incentives they face. Specifically, because the department is the intellectual home of professors—it determines the training he or she has received, motivates the nature of his or her research, and plays a key role in his or her advancement. The department provides the incentive structures that drive professor’s behaviors. It is that incentive structure that is central to how education works and plays out. A professor’s department home determines the way in which he or she frames what is meant by a liberal education both within the major and at the institution.

Appointments that are truly transdisciplinary, rather than department based, provide quite different incentives for research and for teaching. For example, if one had a social science department that housed all social scientists, and which made recommendations on promotion and tenure, rather than individual social science disciplines making such recommendations, the undergraduate social science major would likely have quite different characteristics than do the combination of the individual social sciences majors now. What this means is that the department and major structure of higher education go far beyond whether the specific majors are contributing their fair share of courses or training to liberal education; that structure determines the way in which professors frame what is meant by a liberal education.

From our perspective, many of the problems pointed out by Bok and the AAC&U about colleges failing to provide a liberal education are inherent in the current departmental structure of colleges and universities. *Without changing those structures, there is little hope of significantly changing the current situation, and in fact, it is not even clear whether one would want to do so.* While the departments may recognize a need for breadth at one level of the student's education, faculty who see themselves primarily as belonging to a specific discipline or department will naturally give greater weight to their own contributions to that education, and emphasize arguments for depth as a necessary part of a liberal education.

Simply adding "breadth" courses within the major, or even outside of the major, will not, in our view, solve the problem. Because of the catalyst nature of education, when one tries to have "breadth" courses taught by individuals whose disciplinary training is in depth, the attempt often falls short, unless one is lucky enough to find professors whose interests transcend their disciplinary training. The passion for the course is not there. Thus, the attempts to create courses of breadth, such as freshmen seminars, and the introductory courses in fields, do not solve the problem because they are taught by faculty whose incentives are to structure the introductory courses for their majors, and who often have not been specifically trained in the broad-based skills that freshmen seminars are designed to convey. In reality, introductory and interdisciplinary courses taught by disciplinary-trained researchers are too often seen by professors as obligations that they must teach, rather than as the courses they want to teach, and hence the courses are not taught with the same passion as the upper level courses. When the passion and excitement isn't there, the course does not provide the catalyst to further learning that is the key to a liberal education.

What we are arguing is that the current institutional structure of graduate and undergraduate education channels the passion of professors toward upper level courses and to students planning to go on in their discipline, and away from courses that involve breadth. Ironically, education in the major becomes a type of vocational education, where the vocation being taught is the "research college/university professor" vocation. The focus and the teaching passion of professors are on preparing students to be future researchers and specialists in their field, not on teaching courses that introduce students, who do not want to become specialists in the field but rather want simply to understand the field, to excitement associated with research discovery within the field. When the disciplinary major is the center of tenure and promotion decision, the incentives facing the professors are to provide the best training from the disciplinary major's perspective, not the best training from a liberal education perspective.

General Education and Disciplines

Discussions of college education were once framed in terms of the educational process being divided into two components: general education and majors, with general education being provided in the first two years, and the major being the focus of the last two years. That may have been the structure of college education at one point in time, but it no longer is. At most colleges, majors have increased in importance, and many require students to start their major in their first year or at the latest in their sophomore year.

There are few if any general education courses taught by professors devoted to teaching general education. General education courses are now provided by departments and are often seen as a draw on the teaching resources of the major, not as the foundation for a liberal education. The point is that the major's structure embedded within current college and university structures not only influences the major; it also significantly influences the actual provision of general education. The current structure of colleges leads to what is often called a tragedy of the commons, in which the large majority of the faculty is not directly concerned with achieving the overall goals of a liberal education, as those goals are a tangential element of the disciplinary major.

The issue is the following—people follow their incentives—and if one's primary home is in a department discipline—that is where one's energy is going to be focused. The department discipline determines research, it determines goals; it determines what one wants to teach, and what one is allowed to teach. At research-oriented liberal arts schools and research universities this is especially important since research tends to be discipline-specific, and discipline-specific research has a strong tendency to become more and more specialized. Faculty within disciplines judge themselves by disciplinary standards and feel enormous pressure to prepare students to succeed in their discipline, not to succeed in a broader environment. People are best at training students to do what they themselves do.

Because of discipline-specific incentives, all too often, instead of the major serving to strengthen liberal education by providing depth in one area, the undergraduate major training has a tendency to become vocational—to prepare students for graduate school. It channels the passion for learning to a small group of future researchers and professors. Providing a liberal education, and instilling a passion for learning in undergraduate students who do not want to go on to graduate school becomes a secondary goal of teaching, and is incorporated only to the degree it fits the needs of the departmental major. Thus, in our view, the structure of universities with disciplinary majors being the center of the intellectual life influences the way in which colleges meet the goals of a liberal education well beyond the actual courses offered in the major.

The disconnect between the major and liberal arts goals has become greater over time because the department within which disciplinary majors are housed has become more and more central to professors' research focus and interests. Disciplinary majors become increasingly entrenched, as the power bases for individual disciplines are reinforced by faculty training and institutional structure, and the power base for general education shrinks. In a setting where all faculty homes are within individual disciplines, the general education aspect of the college curriculum shrinks, as it has already done, and students with generalist interests are not provided with the catalyst for further learning and engagement, despite continual attempts by colleges and universities to achieve that end.

An example of what we mean is in Freshman Seminars, which were instituted to achieve a greater focus on communication and integrative skills, as well as providing students with more intimate contact with faculty early on in their education. While some professors do quite well in these courses, their success generally is not due to their

graduate training, because their training often does not match the training they are providing students. For example, math, science, and economics professors have little training in general writing and communication skills, but in their Freshman Seminars they are expected to teach these skills. Individuals becoming economists are not selected for their ability to write (students entering into economics PhD programs have a mean 772 Quantitative GRE score, and a mean 562 English score).⁷ If economics professors succeed in instilling a passion for learning during the Freshman Seminar, it is due to their high level of intelligence, commitment to the ideals of such courses, and the fact that they can draw on training beyond that that they get in graduate school. It is not due to the training they received in graduate school.

Now all this does not mean that undergraduate programs are devoid of professors committed to liberal education ideals; the top liberal arts schools and other highly ranked institutions are able to find professors who have broader interests. Just as the college major is only a part of an undergraduate's education, so too is graduate training only a part of a graduate student's education. Individuals with broad interests make it into graduate school and some make it through; others develop those broad interests afterwards. But those with the most passion for undergraduate teaching are unlikely to make it into a top graduate program in economics. In part this is because the training that top graduate programs offer is not attractive to these potential graduate students, but even more so it is because that is not the type of student that graduate programs are looking for; training students to be good teachers is not what graduate programs in economics see as their goal. In economics, if a student puts on his or her graduate school application to a top school that he or she wants to pursue teaching economics, he or she is unlikely to get accepted. At most top graduate schools students who want to become teachers know that they should keep that desire quiet. (Colander, 2006) At lower ranked graduate schools, the focus on training researchers as opposed to teachers is less pronounced, but it still exists, in part because these programs are staffed by graduates of the top programs. A culture of research dominates and there is little differentiation across programs. (Krueger et al., 1991⁸)

Another example of the difficulties that the departmental structure of majors presents for furthering liberal education can be seen in the "Great Books" approach that a number of schools used in the 1950s and 1960s. These "contemporary civilization" and "general humanities" courses were seen as forming the core of the freshman experience for students. But these programs faded away in part because of the difficulty in staffing them, in part because there was no political support for them as the majors gained importance and strength, and in part from a failure of administrators to truly support the program. For most disciplined-based faculty, accepting a position teaching in these programs significantly reduced his or her research productivity since teaching the wide range of literature pulled him or her away from their discipline. Yet it is individuals in

⁷ Siegfried, J. And W. Stock. 2007. The Undergraduate Origins of PhD. Economists. *Journal of Economic Education*. 38(4): 474.

⁸ Krueger, A. et al 1991. Report of the Commission on Graduate Education in Economics. *Journal of Economic Literature*, 29(3): 1035-53

their discipline who have the greatest influence on decisions associated with tenure and promotion.

The idealized conception of these “Great Ideas” courses was that their content would cover a broad range of topics while the approach to the course would be grounded in the skills instructors were trained to master in their PhD program; the reality was that the material was taught more and more superficially, as the content of these “great books” no longer were part of graduate training in the specific disciplines. Today, an economist teaching in such a program would not, most likely, have any exposure to these texts in graduate school. This is true even for texts representing his or her own field, since the writings of economists such as Adam Smith, John Stuart Mill and J.M. Keynes, or any past economist, are rarely taught in graduate economics programs. When faculty teaching core integrative courses such as Contemporary Civilization come from specific disciplines that do not emphasize or reward generalist research or thinking, it is highly unlikely that they have relevant training. PhD economists today get little training in the development of economic ideas, and thus, while they may be able to teach such a course, their ability to advance core goals of the course is not one based on what they learned in graduate school. That leads to little focus on literature in undergraduate training of economics. In the survey of undergraduate economics majors, only 38% said that they learned about economic literature in the major, by far the lowest percentage of any of the alternatives presented to them. (Jones et al, 2008)

What we are saying is that the current structure of graduate school works at cross-purposes with the goals of a liberal education. Put bluntly, *if one wants to achieve a liberal education, one needs some body of the professorate who have a substantial commitment to that liberal education, not to a specific discipline or major.* This would involve a substantial change not only in undergraduate education, but also in graduate education, and will not be an easy change to make.

There are, of course, structural changes in institutions that will generate changes in incentives. For example if professors are hired into majors that include multiple disciplines rather than into a single disciplinary major, they will be forced to balance the competing forces of the various disciplines. Alternatively, if tenure and promotion decisions were made by broader committees reflecting diverse approaches to research, rather than the current situation at many schools where such broader committees simply ratify department decisions, then multidisciplinary research, which is more consistent with generalist research and “big think” questions that transcend a single discipline would get more focus. In reality such changes are difficult to make, and often, even when institutions hire into multidisciplinary majors, represented disciplines simply bargain for rights over individual positions, with one discipline getting one hire in exchange for another discipline getting another. Only if institutional changes occur leading to changes in incentives which become part of the underlying culture of the institutions, so that we have individuals committed to teaching liberal education courses, and committed to doing research that directly fits with liberal education goals, will these interdisciplinary courses be sustainable, because only then will the goals of liberal education mesh with the incentives facing the professorate teaching them.

As should be apparent, our view is that the problem of the relationship of the major to liberal education goes far beyond the structure of the major and the specific courses included as part of that structure. It goes to the specialized discipline structure of graduate education in the US, and its emphasis on turning out cutting edge researchers and not undergraduate professors. Disciplinary research of the professorate tends to focus on increasingly specialized knowledge, which in turn drives the teaching desires of the professorate. As the individual disciplines, and hence majors based in those disciplines, become more and more specialized, the professorship becomes increasingly made up of a collection of specialists who are trained to do cutting edge research, but who are tasked with teaching students who are far from the cutting-edge of research.

In graduate training one wants, and needs, to develop these specialists, both because such students are very bright and can advance the field, and because they are the ones who can most appropriately teach future specialist researchers. But it takes a certain type of specialist—one whose interests go far beyond their specialty and who is committed to maintaining and conveying a broader vision of their field than specialist researchers generally have—to be simultaneously able to excel at teaching undergraduates and other non-specialists in addition to graduate students. As graduate school study becomes more and more specialized and more and more focused on preparing researchers, not teachers, and as research outlets become more and more specialized, the research focus and the teaching focus of the professorate pull harder and harder in different directions.

We will see these problems in microcosm in our discussion of the economics major, but in our view the problems that we discuss within economics are simply part of this larger problem. Graduate education is not designed to create future professors of undergraduates; it is designed to create cutting edge researchers who teach undergraduates as a sidelight. The process becomes self-reinforcing. Individuals who have the background, proclivity, and skills most appropriate to research are selected into graduate programs, and, when there, learn skills that are appropriate to researchers. They then become professors, and are most passionate about teaching students interested in, and courses related to their research. Focus on broader goals of a liberal education is given lower priority. The research-question oriented professors encourage those students with the most interest in and ability for specializing to continue on to graduate school, resulting in the subsequent generations of professors even more highly focused on specialized disciplinary research and less trained or interested in the broader liberal educational goals.

This leads us to the proposition that if one wants the goals of a liberal education to be the focus of undergraduate education, one needs a set of professors whose research goals and who teaching interests are in line with the broader questions that liberal arts programs focus on, and less on the specialized research that characterizes most disciplinary research. This means that their home base at the university (the one which has most power in determining tenure and promotion) must be larger than a specific discipline, or be a department that highly values generalist and interdisciplinary work. It also means that their primary research and teaching will not be cutting edge disciplinary

work, but instead be more integrative research that cuts disciplinary boundaries and asks bigger, and probably unanswerable, questions than can be asked in cutting edge research.

The ACC&U states that general education is 50% of the importance of a college education. If this is indeed the case, then in order to create a faculty whose incentives for teaching and research match those values, 50% of the professorate needs to have their training, and their disciplinary home, in a department or interdisciplinary program that highly values such integrative work and teaching. In economics that is far from the case.

One implication of the above analysis is that for some portion of the professorship, the research focus of undergraduate professors needs to differ from the research focus of graduate professors if the teaching incentives are to match the liberal education focus that Bok calls for. Undergraduate professors' research agenda cannot be just "graduate school lite" research, as it often is. Rather, their research is likely to employ different methods and tools, considering more speculative issues that cannot be considered in cutting edge research, and be more easily transferable to the classroom. This is not to say that the ideal undergraduate professor is a polymath who can do it all. It is simply to say that, in reality, there are tradeoffs that must be made and currently the structure of universities and research liberal arts colleges lean more toward a graduate research focus than to an undergraduate research focus.

Consider the following example from economics. Marx considered alienation created by the market as a central problem of western societies; Hayek argued that the market was necessary to preserve individual freedom; and Alfred Marshall argued that activities determined wants and thus wants could not be considered as primitives in economic analysis. Such issues are all highly relevant for students to consider as they are studying economics in a liberal arts setting, but they are not questions that are actively part of cutting-edge research, which instead generally focuses on narrower questions resolvable with statistical analysis, or on highly theoretical questions that go beyond the level at which undergraduate students are.

While the above discussion has presented these issues in terms of research-focused institutions, they are equally relevant for non-research focused colleges. Given that the graduate school training professors currently receive is reflective of promoting cutting edge, graduate relevant, research, even if the hiring colleges do not have a strong research focus they face a pool of applicants that reflects this focus. Hence, the graduate school training focus drives what *all* future faculty are most interested in because that focus reflects the training they have received.

Were we not viewing ourselves as consultants, but rather as representatives of the economics major, we would not be advocating major changes in the structure of both graduate and undergraduate education as suggested above. Professors who define themselves and their research within a department, as the large majority do, will not support, and indeed will argue vigorously against, such changes. Our reason for raising these issues is simply to point out that the issues of the major's relation to a liberal education goes far beyond the structure and content of the major. They are intricately

connected to the disciplinary structure of colleges and universities, and with the research focus and nature of modern graduate education.

The Goal of the Economics Major

Let us now turn to the economics major and its goals. The economics major is one of the most important majors in the liberal arts curriculum, at many liberal arts schools accounting for 20% or more of graduating seniors. (The economics major is much smaller at schools with a business program.) The major encompasses both technical aspects drawn from mathematics and natural sciences, and humanistic aspects related to history, philosophy, literature, political science, and public policy. Thus, in some ways, the problems in the economics major relating to a liberal education are a microcosm of the problems of the undergraduate program and a liberal education.

In terms of the goals that Bok sets out, economics neglects the development of certain skills of a liberal education that it could, and once did, include. Specifically, moral reasoning, while it was a part of economics education in earlier times, is no longer a focus of economics today. Similarly, teaching students about “living with diversity” and, depending on how it is interpreted, providing “breadth of interest” are not specific goals of the economics major. But as we stated above, all aspects of a liberal education need not be integrated into any specific major, although aspects of economics can be seen as fitting into those goals.

The same holds true for “skills” training. Economists are not especially known for their communication skills, and receive little training in writing or communication in graduate school, so it is unlikely that the economics major will be effective in achieving these goals. A survey of undergraduate economics majors⁹ found that only 28% of economics students said that economics was highly successful in teaching communication skills. Similarly, economist’s critical thinking training takes a specialized mode and tends to be more focused on technical issues and analytics than on an understanding of how to arrive at a reasoned judgment including all aspects of a problem.¹⁰ For example, in a recent book, Duncan Foley¹¹ (2006) has criticized economists for essentially teaching economic theology rather than reasoned economics. In the Jones et al survey only 21% of economics majors saw economics as highly successful at teaching moral reasoning.

Probably the clearest statement of the goals of the economics major can be found in Siegfried et al (1991), who reviewed both the purpose and structure of the undergraduate major. The central phrase and goal that emerged from this report, “thinking like an economist,” was recognized then as encompassing many of the goals of liberal education, including deductive reasoning skills, decision-making techniques, understanding complex relationships, creativity, and acquiring and using knowledge that cuts across disciplinary boundaries. That report helped to establish, or at least codify, the

⁹ Jones, Steven, Eric Hoest, Richie Fuld, Mahesh Dahal, and David Colander., 2008, Middlebury College Working Paper

¹⁰ J.N. Keynes in a famous book on economic method (Keynes, 1890) distinguished the two by calling one the science of economics and the other the art of economics.

¹¹ Foley, Duncan. 2006. *Adam’s Fallacy: A Guide to Economic Theology*. Harvard University Press, Cambridge MA.

general structure for the undergraduate economics major that almost all economics departments currently follow.

Thinking like an Economist vs. Thinking like a Liberally Educated Person

Economists have come to specify the goal of the major as teaching students to think like an economist. This is a relatively non-controversial goal in that it allows each professor to think of the training that they provide as essentially getting the student to think like him or herself. The goal has been pushed further by some who favor teaching a set of proficiencies. Hansen (2006)¹² argues that the goal of the economics major should be to teach students to “act like an economist” which suggests that “instructors want students to be able to demonstrate at various levels their ability to perform the various proficiencies, culminating at graduation with their ability to demonstrate mastery of every one of the proficiencies.” (p. 7) Almost everyone would agree that proficiencies should ground what is taught; where the disagreement tends to be is in how broadly or narrowly these proficiencies are to be defined. Should they be reflective of liberal arts goals such as being able to read, critically analyze, and write effectively, or should they be reflective of more narrow economics major skills such as understanding opportunity cost, being able to run regressions and interpret “t” statistics, and explain the connection between money supply and inflation?

Precisely what thinking like an economist means changes over time, mirroring changes in an economist’s training. Through the 1960s both graduate and undergraduate economics training was focused on broad-based skills that integrated critical thinking, historical knowledge and statistical skills. Since then, graduate economics training has become more technical, more and more reliant on mathematics and statistics. Initially, there were debates within the economics field about this change, but those debates have died out and technical mathematics and statistical training won out. Today the reality is that graduate training in economics is a highly technical field, and anyone who is not comfortable in higher-level mathematics and statistics is not advised to continue on in graduate work in economics. The focus on general economic problem solving in a broad setting—a focus that characterized economics training through the 1960s—is much less than it was before, and thus the professorate has more training in making important technical inputs into policy analysis, than it has at developing a policy question within a broader framework. Graduate training is designed to develop skills of technical expertise, not to focus on policy design or the moral philosophy aspect of policy. In graduate economic programs, students learn to translate problems into formal models, and to empirically study those problems using high-level statistical techniques. They get little training in non-formal policy analysis or in synthesizing a broad range of literatures and approaches.

To the degree that thinking like an economist is now associated with the narrower, more technical proficiencies of the modern approach rather than the broader proficiencies of the earlier approach does not mean that the economics major does not contribute to a liberal education; it simply means that the economics major fulfills a slightly different

¹² Hansen, 2006. Proficiency-Based Economics Course Examinations. Paper presented at the Midwest Economics Association meetings, March, 2006.

aspect of the liberal education than it previously did. This is apparent in the economics major's role in contributing to the goal of providing training in moral reasoning. The typical economics professor receives little training in guiding students through moral reasoning or civic engagement activities, and his or her interests have been highly narrowed into those sets of problems that are susceptible to formal modeling and statistical testing, and less so to questions of policy that involve complicated ethical or moral issues or what might be called tragic questions. (Martha Nussbaum, 2000) So, today, as a result of their increased technical training and reduced broad-based training, the economics professorate contributes more to the quantitative literacy goal of a liberal education, and less to the moral reasoning goal.

This suggests that what it means to "think like an economist" has evolved from what it was 10 or 20 years ago. The training that undergraduates get within the economics major in "thinking like an economist" is more specialized than it previously was, and that specialization is likely to increase in the next decade. In our view "thinking like an economist" is no longer sufficient to provide what Bok has in mind when he argues for a liberal education. As part of a broader liberal education, the economics major can play an important role, but that role is changing to be more like the role that the sciences and math currently play, leaving students to round out their skill development through other components of their education.

The argument that the economics major is becoming more technical and specialized needs to be kept in perspective. Relative to history, English, or the other social sciences, economics is indeed technical and specialized, although the same pressures for specialization are at work in those other fields as well. Relative to the undergraduate science majors the economics major is nontechnical and general. These differences across majors are revealed through student perceptions of their associated level of difficulty. For example, in Jones et al. survey 37% of economics majors considered economics hard; less than 3% considered sociology hard, and 80% considered chemistry and physics hard. The economics major also typically has far fewer required courses than the science majors, and, unlike most natural science majors, is still designed to be taken by students who do not intend to continue their education in economics beyond graduation.

The reason why economics has found this balance of difficulty and course requirements, we suspect, is that, because of its connections to business, the *undergraduate economics major has to satisfy two constituencies*: a very small group who will go on in their formal study of economics (for which the economics professorate is trained to teach), and a much larger (generalist) group who view the economics major either as a stepping-stone to business and public policy, or simply as a foundation for a strong liberal arts education. Integrating the needs of these two groups is a major problem for undergraduate economics faculty, and the decisions they make on how to meet the needs of these two groups will significantly influence the nature of the economics major in the future.

In terms of numbers, it seems clear that the second group—those perceiving economics as a stepping stone, not planning to go on for further study—is the largest. In

the Jones et al. survey while 10% of the majors reported considering going on to graduate school less than 2% of all economics majors actually do go on to do a graduate PhD in economics, and an even smaller percentage complete it. But the professor's interest and focus often tends toward this much smaller group. Current graduate training in economics is focused on preparing researchers who have a narrow research focus, and who avoid asking big-think questions and so the graduates who will constitute the future of the economics profession will naturally want to train majors in the manner in which they have been trained. This leads them to design the major and focus their passion on the courses that prepare undergraduates to go on to graduate school, as the natural sciences have already done, and to devote less time and passion to "generalist" courses.

Some programs deal with the dual constituency by creating two separate tracks in the major. The mathematical or economic science track is appropriate for those going on to graduate school in economics and those interested in using economics to get quantitative liberal arts foundation. That group probably makes up about 20-40% of the current economics majors. The other track is a more general economics track that is more relevant to applied policy and provides a combined humanistic/quantitative liberal arts foundation.¹³ Other programs leave the two constituencies integrated, and attempt to design a single approach to the major that caters to both groups. Regardless of the program format, however, economics majors are being populated with more and more technical course offerings as younger, more technically trained, economists replace older, more generalist trained, economists. This means that the economics major is becoming less and less appropriate for the students interested in business and public policy, or for those interested in a combined humanistic/quantitative liberal arts foundation, and more appropriate to students going into graduate economics and interested in a quantitative liberal arts foundation.

Economics faculty are teaching students to think like an economist, but it is not clear that "thinking like an economist" is the appropriate final educational goal for these generalist students. The goal for them is not so much to be able to think and act like an economist, since a large majority of them are not becoming economists, but instead to be *familiar with* the reasoning tools that are consistent with the economic way of thinking, and to use those tools when appropriate. , the goal of a liberal arts education is to teach students to think like a "liberally educated person." Ideally, when students finish their major, they would know the broad outlines of the economic method, and have some knowledge of the technical tools that economists use, and when it is appropriate to use them. They would understand how the economic way of thinking, when combined with other ways of thinking, can lead to a reasoned solution to a problem. They would not think that the economic way of thinking is the only right way of thinking and they would be knowledgeable about what a "scientific" way of thinking is and what a "humanist" way of thinking is.

Graduate work in economics and non-technical undergraduate programs designed for the generalist students who want to use economics, not to become an economist, come

¹³ The size of these groups differ with different institutional settings. For example, schools with undergraduate business programs have more students directly interested in economics than schools without such programs.

close to existing in “different worlds.” Undergraduate education in economics features fairly simple graphical models, and relatively simple data analysis, while graduate work features high-level math and statistics. In a self-study of graduate schools commissioned by the AEA, Hansen (1991)¹⁴ found that “academic economics and graduate training have become increasingly preoccupied with formalism and technique, to the exclusion of studying real-world problems and issues...” (p.1086)

We find it telling that the ACC&U criticisms of the major mentioned earlier, “the major in most colleges is little more than a gathering of courses taken in the department, lacking structure and depth, as is often the case in the humanities, or emphasizing content to the neglect of the essential style of inquiry on which the content is based, as is too frequently true in the natural and physical sciences,” (p. 46) did not refer to the social sciences. We think that they are quite right in not referring to economics, because economics suffers from neither of the problems they mention. In fact, the undergraduate economics major as a whole has found a better balance between the depth and breadth than majors in the sciences or in the humanities. That balance is, however, precarious because there is a strong push for the economics major to become more technical and better preparation for graduate school. Professors naturally have a proclivity to structure their curriculum so that it creates students in the professor's image.

Changes to Consider

As should be clear from the above discussion our view is that the type of changes necessary to make the economics major significantly more liberal education friendly go far beyond the structure and content of the undergraduate major. If one is truly serious about providing a liberal education to undergraduates, one must address both the institutional structure of graduate schools and the disciplinary structure of undergraduate institutions. The chances of such sweeping changes being made are similar to the chances of pigs flying. Nonetheless, we discuss some changes that have potential to increase the desire of those who teach undergraduates to better reflect a liberal education perspective and provide them appropriate skills to achieve this goal.

We want to make it clear that we are not arguing that these changes need to be mandated for the economics major to be a successful program. We believe that the current structure of the economics major is providing important skills to its graduates and any changes imposed from the top down are likely to make the economics major worse, not better. In our view, the economics major is doing a better job providing a balanced major than most of the natural sciences, which too often become vocational majors directed at preparing students for graduate school and use their gateway courses and hurdles that only true pre-professional students choose to make their way through. Similarly, they do a better job and integrating the quantitative and statistical tools that are more and more becoming foundational liberal arts tools, than most of the other social sciences. Be we also believe that the major is not providing the context for the ideas it

¹⁴ Hansen, W.L. 1991. The Education and Training of Economics Doctorates: Major Findings of the Executive Secretary of the American Economic Association's Commission on Graduate Education in Economics. *American Economic Review*, 29(3): 1054-1087.

presents, and the discussion of big think issues that are necessary for a true liberal education.

Given the current structure of graduate economics education, we are not sure that it can. As we stated above, in our view instructor passion is more important than course content. It is for that reason that we believe that change in the major, if it is to occur in a positive manner, must occur from the *bottom up* reflecting faculty and student characteristics of the particular institution, with individual departments choosing the direction they want to go. For example, a liberal arts program without a business program may well want to offer a quite differently structured major than what a liberal arts program with a business program offers. Similarly, a program heavily endowed with historians of economic thought might want to offer a rather different program than one with primarily game theorists or econometricians. There is room for much positive variation within the economics major; there is no one size fits all. Our hope in this report is not to say that there is a single set of “best practices.” We believe there are a variety of best practices and that the economics major can take many different forms within current institutional structures. We put the following proposals forward with that multitude of best practices view—our hope is to stimulate discussion that may lead to bottom-up change, not to impose any top-down change.

Before we list some suggested changes, let us add one final caveat. Any restructuring of incentives of the professorate needs to be institution and discipline specific. Each specific institution and discipline has different problems, issues, and goals they need to balance. But there are some similarities among types; for example, graduate institutions have the problem of integrating the content associated with graduate teaching with undergraduate teaching, and integrating the members of the department devoted to undergraduate teaching with those devoted to graduate teaching. The problems of research liberal arts schools, where research plays an increasingly important role in the evaluation and promotion of professors, and when faculty have reduced teaching loads that reflect that focus, differs from those of other colleges, at which research plays a smaller component in evaluation of faculty, and from programs within large universities. Similarly, the problems in different disciplines, such as Math or English, are likely to differ from those in economics. Our focus here is on the economics discipline within research liberal arts colleges. We hope that some of the ideas carry over to other institutional settings and disciplines, but we do not claim that they do.

Potential Structural Changes

- *Increase the number of professors whose training is designed to promote good teaching of undergraduates, not to promote research.*

Graduate school training in disciplines is, by design, specialized, and primarily designed to provide professors with the tools they need to do research. Post graduation teaching at a liberal arts school as a goal is not encouraged, and is not supported by the training offered. (Colander, 2006) While a professor teaching undergraduates would gain by receiving training in the broad outlines of the debates that led to modern economics, such training has been almost

eliminated throughout all top-ranked graduate programs. It is simply not what they are designed to do. The implication is that future professors currently are not trained to participate more fully in the development of a liberal education. PhD programs create specialists not well versed in broader ideas within their field, or in the philosophies of other related disciplines and in how economics might relate to those disciplines.

This is not to say that such professors do not exist in economics; they do, but they have acquired that training on their own, exploring interests which may actually have been seeded during their own undergraduate training, not at graduate school. Once obtaining a position at the research liberal arts school, the incentives continue to work against such training. The disciplinary research of those teaching in undergraduate institutions mirrors that faced by graduate school researchers, and is almost inevitably highly specialized.

Changing the training provided by graduate schools is unlikely, since the research pull in graduate departments runs totally counter to providing a more liberal-education focused training. However, research liberal arts colleges can impact the incentives associated with training at graduate schools by instituting specific requirements for faculty teaching general education courses such as Freshman Seminars, or broad overview courses. For example, college administrations could require any faculty member hired with the expectation of teaching in general education courses to have covered specific areas in their graduate training. Alternatively, liberal arts schools could agree to provide interview preferences to those graduating from institutions who have invested in more liberal-education focused training. The hope is that such hiring requirements would feed back to graduate schools, and some of these graduate schools would choose to add such courses or even to specialize in training students for that undergraduate teaching niche.

Schools might also consider creating a dedicated departmental home for those who teach liberal education courses. An example of what we mean might be the Social Studies department at Harvard. The motivation for this type of structure is that the departmental home of a professor significantly influences his or her interests, both in research and teaching. Currently, we have very few professors at research liberal arts colleges whose primary interest is in more general liberal education, rather than in a specific field. By creating a broad-based “liberal arts or social studies” department whose focus is on liberal studies and which staffs the general education freshman seminars and possibly the general capstone courses at the end of a student’s college experience, one would significantly change the nature of education at research liberal arts colleges. Faculty commitment to the liberal education ideals would be enhanced by the incentives associated with positions in a general liberal education department. The existence of these dedicated positions would encourage faculty to focus their energies on integration, breadth of ideas, and specific skills such as critical thinking and communication. Initially, the professors for these liberal education departments could come from existing faculty, who have on their own developed such broad interests, and from

newly set up programs, but ultimately it would likely be staffed by those earning degrees from dedicated graduate programs.

- *Require all undergraduate teachers to have had specific courses before they are allowed to teach at the undergraduate level.*

The push for research specialization throughout graduate training is especially apparent in economics. Integrative aspects of education that almost all would agree are good preparation for teaching in an undergraduate liberal arts environment have been pushed out of graduate training to make room for more technical training. This is evidenced by the reduced emphasis on economic history, history of economic thought, and institutions throughout graduate economic training. Were these courses required, or strongly suggested, as appropriate training for professors seeking employment at liberal arts colleges we suspect that some graduate programs would reinstitute them.

A corollary to this proposal is to allow anyone who has successfully completed a set of graduate level courses deemed necessary for teaching the associated undergraduate course within the major to be permitted to teach that course. Developing a course by course specification of appropriate background courses necessary for teaching general education core courses in economics (and analogously in other fields as well) would encourage a new cohort of faculty to enter the professorate. Since graduate school is preparing researchers, not teachers, course specific training, rather than the PhD degree, could be a much more efficient way of organizing the teaching qualifications for particular introductory courses. Since these courses make up a large portion of the enrollment in economics courses, having alternative qualifications for these courses that would created a cadre of instructors who were trained in, and who were excited by “big think” issues would be a more efficient method than the current PhD qualification.

- *Require certification for undergraduate teaching separate from a research-oriented PhD training.*

Graduate economics programs are dedicated to exposing students to cutting edge research and developing their research skills. Success is measured by the number articles published and the prestige of the journals in which they appear. No similar measure of success currently exists for teaching.

In order to ensure that faculty are prepared to participate in the education of young minds, a certification of teaching could be required. Faculty entering the profession and having undergraduate teaching responsibilities would be required to submit a teaching portfolio that includes a statement of teaching philosophy, examples of classroom practices and student work, and course evaluations.

More and more institutions are creating non tenure track lecturer or clinical professor positions with heavy teaching responsibilities including course work, advising of TAs, and conducting regional teaching conferences. Little traditional

research is expected. Much of the drive for these positions comes from increasing pressure to cover a greater number of courses and to demonstrate to the administration a commitment to teaching. Institutions hiring for such positions might be expected to require certification reflecting appropriate training for these positions.

- *Create a program developed by liberal arts schools that provides training relevant to undergraduate teaching.*

A consortium of liberal arts schools could establish a post-doc program that would have an intensive one-month training followed by a one-year placement at a liberal arts school where the graduate student would be mentored in teaching methods and assigned directed readings, or take part in consortium workshops, as well as co-teach a course each semester. The program could be designed as a post-doc or a separate Masters Program, and could include a combination of discipline-specific and cross-disciplinary studies that provide opportunities to participate in the integration of knowledge and skill development. It could also provide some focus on alternative teaching methods.

- *Create opportunities for reeducation of faculty further along in their careers in preparation for participating in liberal education.*

This program would allow faculty who have primarily focused on highly specific research, to obtain further education (or demonstrate such self-acquired skills through testing) that certifies them in content most appropriate to a liberal education. One would expect that faculty interested in this program would shift their activities from a specialized to a more general research focus complementing associated changes in teaching responsibilities.

- *Create opportunities for successful professionals to return to the classroom and share their skills with undergraduates.*

Programs designed to prepare professionals to teach specific undergraduate courses would tap into an underutilized educational resource which is a natural complement to enhancing the liberal education skills of undergraduates. Such a program would allow practitioners who are further along in their careers to achieve a certification demonstrating their qualification to teach specific general education courses at the undergraduate level. This program could be developed in conjunction with an Executive in Residence Program where the former executives both teach and learn at the same time.

- *Develop an alternative ranking system for research productivity that gives greater weight to liberal education research rather than “discipline-specific” research.*

Measurements of research output are becoming more and more predominant in the process of identifying and rewarding productive faculty in research-oriented

liberal arts colleges. Ranking systems currently in place were originally designed to aid in the ranking of graduate programs and therefore focus on technical research in the specific field, providing little weight to generalist or trans-disciplinary research. For example, in the standard economics rankings writing a popular book does not even count as a publication, since only journal articles are counted, and an article in *Science* receives no weight as it is outside the bounds of the discipline. Because reward systems are based on these ranking systems, the resultant incentives play a large role in guiding a professor's research. If the ranking system changes, so will the focus on and nature of research. Once such a ranking system for research expected from those teaching at undergraduate programs was developed, it could be used to rate graduate programs for their preparation of professors with such abilities. This rating system would be developed and implemented by the very institutions that it is intended to serve, Liberal Arts Colleges.

- *Divide the undergraduate economics major into an Economic Science major and an Economic Policy major.*

As described above, much of economics graduate training is highly specialized, devoted to creating economic scientists in the same way that natural science graduate programs are devoted to creating natural scientists. Neither is designed to train students in applying policy or the associated broader moral philosophy aspects, yet this is where a majority of the students' interests reside. The natural sciences solve some of this disconnect by having a separate engineering component; those students going into applied work participate in the engineering branch rather than natural science branch. The teachers are different and the curriculum is different for each branch. As a result, the natural sciences tend to have a very small undergraduate major which is devoted to preparing students for graduate school. One obviously missing component from the current design of the science major is the policy branch, where the training would be geared to understanding and evaluating science policy.

The economics major has no engineering branch, nor does it have a separate policy branch. It typically combines everything together into a single major. However there are some schools (Claremont, Princeton) which separate the major into an economic science technical branch, and an economic policy branch, and create distinct departments providing different training for their students and potentially requiring different qualifications of their professors.¹⁵ Providing two distinct majors provides better training opportunities for those who are interested in continuing on to graduate school and those who are better suited to applied, policy oriented or teaching oriented training.

¹⁵ The natural science "solution" to this problem has left a void in liberal arts education. Far too few students major in science in liberal arts than would be desirable because the programs are designed for those going on to graduate school, not for individuals interested in science as a background or avocation. Thus, they do a great job for a small number of students. As training in economics becomes more like training in the natural sciences, it will likely follow the same route.

- *Create a pre-professional major for students whose interests are only tangentially linked to economics.*

Because science and math majors at liberal arts programs are geared to prepare students to enter graduate schools, they tend to have fewer majors who have multiple career path options. Furthermore, few liberal art institutions have public policy or business schools, leading many students at liberal arts schools to gravitate toward economics as the closest viable major. While economics reasoning is certainly an important part of the training that a student needs for business or public policy, it clearly is only a part. A preferable training for these students is a curriculum consistent with broad liberal education goals.

Having students choose the economics major as a path to business creates problems both for economics departments (which has students taking economics who are not directly interested in economics) and for students (because they are not getting the business and public policy background they desire and need). One possibility is for liberal arts schools to create pre-public policy and a pre-business tracks, the curriculum of which would be designed in collaboration with business and public policy leaders. The goal of this proposal is to provide students with a better alternative, a curriculum that includes depth in business related courses, such as accounting, finance, and management, and the liberal arts breadth they need, including more computer science, ethics, humanities, math, and philosophy courses. Students who complete this program will be awarded a pre-professional certificate at graduation, which they can put on their resume. Ideally, this program would be taken as an alternative to a major.

While the proposal is called a pre-professional program in that it meets the needs of the students going on in professions in business and public policy, it is not a vocational program in the sense that an undergraduate business or public policy program would be. Businesses don't want that; they want liberally educated students. Thus, the program takes advantage of the emerging consensus that the vocational needs of business and public policy are best achieved by providing students with a traditional liberal education. (See discussion in LEAP Report.¹⁶)

Pedagogy and a Liberal Education

We now turn to a set of complementary issues—those related to pedagogical practices, and discuss how improvements in pedagogy can improve the fit between the economics major and a liberal education. For all the same reasons that the *content* of graduate economics education is not designed for future undergraduate professors, *pedagogical* considerations receive little focus. Teaching receives little respect. Graduate students are rarely provided

¹⁶ See http://www.aacu.org/advocacy/leap/documents/GlobalCentury_final.pdf for a report from the National Leadership Council In that report the National Leadership Council points out that “employers are urging more—and better—liberal education, not less.” They quote Robert T. Jones’s (President, Education Workforce Policy) “Employers do not want, and have not advocated for, students prepared for narrow workforce specialties.”

sufficient preparation for teaching during their graduate school training. This lack of preparation has been documented by Stock and Hansen (2004)¹⁷ who surveyed two cohorts of graduate students (1996, 2001) to determine the degree of (mis)match between proficiencies and skills emphasized in graduate school and those needed for academic careers. They found that a disconnect exists between what students learn and the skills they need on the job, especially with respect to proficiencies of applying economic theory to real world problems, understanding economic institutions and history, and on understanding the history of economic ideas. (p. 270) The lack of training professors that have in these areas is also apparent to undergraduate students. In the survey we conducted, 63% identified the change in the major they would like most is to “add more discussion of real world issues” to their courses. This was far and away the largest percentage associated any suggested change. Additional shortcomings of graduate teacher training identified by Stock and Hansen include the fact that over one third of students they surveyed (44 percent in 1996 and 33 percent in 2001 cohorts) reported too little emphasis on developing teaching skills in their graduate program and that skills such as application, communication and instruction are undervalued at the graduate school level as compared to their jobs. (p. 270) About 70 percent of students they surveyed listed instruction as the least important skill for success in their graduate program, whereas only 29-39 percent made the same statement about this skill in their current job.

Walstad and Becker (2003)¹⁸ surveyed chairs of economic departments to investigate preparation for teaching that students received. They found that about 60 percent of graduate students are involved in some form of teaching activities: about 12 percent of graduate students teach their own courses; about 28 percent lead their own recitation sections; and about 20 percent assist professors with their own courses. (p. 450) Preparation for these activities varies widely, ranging from taking preparation courses with graduate credit (25 percent), participating in non credit programs (50 percent), providing assistance for faculty with courses (50 percent), passing comprehensive exams (25 percent), or passing an English-language proficiency exam in the case of international students (80 percent). (p. 451) Over 60 percent of responding department chairs believed that the preparation for teaching that they provided their graduate students was good or very good. (p. 453)

That view was less likely of adequate preparation was less likely to be shared by students. In a survey of graduate students in the U.S., Colander, Hoyt and McGoldrick found that 40 percent of those teaching their own courses claim to have received no preparation for doing so.

The picture that these studies provide is consistent with the anecdotal evidence that abounds. When asked about the importance of teaching versus research in promotion decisions at major universities, one hears that practice dictates 90 to 95% of the decision based on research output. The perception is that as long as you are not a truly horrendous teacher, research is what counts. In economics departments at research liberal arts schools, which many of the top liberal arts schools now consider themselves, research is

¹⁷ Stock, Wendy A. and W. Lee Hansen. 2004. PH.D. Program Learning and Job Demands: How Close is the Match? *American Economic Review Papers and Proceedings*, vol. 94(2): 266-271.

¹⁸ Walstad, William B. and William E. Becker. 2003. “The Instructional Use and Teaching Preparation of Graduate Students in U.S. Ph.D.-Granting Economics Departments. *American Economic Review Papers and Proceedings*, vol. 93 (2), pp. 449-454.

considered to be at least as important as teaching in tenure and promotion decisions. Even at less ranked undergraduate liberal arts programs, research is gaining in importance. The reality is that we have a professorate who enters academia in economics with far less preparation for the teaching component of their job as for the research component, and with the content of what they learn determined not by what they will be teaching, but by what content would best prepare them to be a researcher. This means that as long as graduate programs maintain their current practices, new PhDs in economics need additional support in teaching after they join established departments, and they also need to learn the content relevant to undergraduates on their own.¹⁹ For example, a macroeconomics teacher coming in to teach undergraduate macro theory will likely be asked to teach the IS/LM model that he has no training in, and convey an understanding of monetary and fiscal institutions that were only mentioned tangentially in his graduate courses.

The problem of preparation for teaching has been recognized, and some of the most prestigious institutions in the country are now making a vocal commitment to the importance of teaching. For example, in a recently released report from the Harvard Task Force on Undergraduate Teaching, the problem was seriously considered. They found that the problem regarding the role of teaching did not reside with individual faculty, but rather in the incentives of the institution. Rather than rewarding good teaching, “cutting-edge academic research is what Harvard Faculty of Arts and Sciences celebrates and most consistently rewards.” (p. 6)²⁰ In our view, even this courageous report underestimates the difficulties caused by the almost single-minded focus on training researchers, not teachers in economics. Graduate content is determined by its relevance for research, not its relevance for teaching. The lack of training in content relevant for teaching undergraduates is not considered a problem by most economics graduate programs, which see their job solely as training researchers, not teachers.

A number of reasons can be offered as explanations of why teaching is not valued as highly as research. Foremost is the fact that teaching tends to be a private activity, the assessment of which is often generated solely by the audience of students (through standard evaluations). Research, on the other hand, is an incrementally more public process beginning with collaboration of coauthors, continuing through the presentation at conferences, the review process upon submission to a journal, and finally the publication of a paper. Academic debates that occur via published comments or papers that build off of the original work are the basis for continued public dialog. The public nature extends to the issue of academic prestige, measured by the ranking of journals in which peer reviewed research appears. Finally, few external resources exist to support the development of pedagogical practices whereas prestigious granting agencies provide significant support for innovative research.

The Structure and Content of the Economics Major

¹⁹ Recall that the macro level recommendations address changes associated with teacher preparation in graduate schools.

²⁰ A Compact to Enhance Teaching and Learning at Harvard.

http://www.fas.harvard.edu/home/news_and_events/releases/taskforce_01242007.pdf Accessed 6/6/07.

At most schools, the undergraduate economics major almost always includes one or two introductory courses (usually called principles of microeconomics and macroeconomics), intermediate theory courses in both microeconomics and macroeconomics, one or two quantitative methods courses covering basic statistics and regression models and estimation techniques, a few elective upper-level “field” courses, and ideally a senior seminar or capstone course that includes an extensive research and writing component. Often, there is a calculus requirement, but that requirement is more designed as an analytic filter for who can major in economics than it is an actual needed requirement.

The introductory and intermediate microeconomics courses concentrate on presenting a constrained optimization model in either a geometric or calculus format. The introductory and intermediate macroeconomics courses concentrate on presenting a geometric AS/AD and IS/LM model that are useful for policy discussions, but which have little formal foundations. This coverage is quite different than what is covered in graduate schools, where the presentation is much more technical, concentrating on set theory and game theory in microeconomics, and dynamic stochastic optimal control theory in macro. Little of the training in the core micro or macro courses in graduate school relates to what is taught in undergraduate school. (In the statistics sequence, the concordance is better.) No training in where the ideas came from and how they evolved, which would be highly relevant for generalist students, is provided to students in graduate school, and that has filtered down to teaching in undergraduate programs.

The senior course requirements are more common at liberal arts schools, and in fact at some large public universities these courses are not offered, or are offered only for honors students. Most economics departments and faculty would agree that more extensive senior experience courses are desirable, and that a writing component in the earlier theory and field courses would enhance student skills. Class sizes are often very large even in upper division field courses in economics, however – especially at large, public universities, which means that achieving such goals would involve significant commitments of additional teaching resources for already pressured departments.

While the current structure of the undergraduate economics major remains appropriate for generalists, there is pressure for change, since new professors coming in have a natural tendency to want to teach what they have learned. Over time we expect undergraduate programs in economics to become increasingly technical and focused on preparing students for graduate school, as graduate training becomes more technical, and as newly minted PhD's advance into the majority at undergraduate programs. Eventually all undergraduate economics programs reflect the graduate economics programs that train the undergraduate teachers. People teach what they learn.

Pedagogical Practices in the Major

Given the interdependency of structure and content and the current disconnect between graduate and undergraduate content, economic educational reform at the undergraduate level has often focused on delivery. Research in economic education has also documented the way in which economics faculty interact with students in the

classroom, and how that differs from common practice in other fields. Economics teaching across all institution types makes little use of interactive pedagogy as economics instructors spend roughly 83 percent of available class time lecturing. (Becker and Watts, 2001, 2006) While innovative programs are underway to address underutilization of innovative teaching strategies (such as the NSF funded Teaching Innovations Program²¹), these programs are limited to pedagogical techniques and do not explore the connection to goals such as promoting critical thinking and greater engagement by students in their undergraduate coursework, and as adults after graduation, in line with many of the goals of a liberal education. But such programs help get professors focused on teaching, and thus serve a useful role.

Improving Pedagogical Practices

Because of the political difficulties of instituting any structural changes such as those discussed above, much of the pressure to improve teaching at the undergraduate level has focused on modifications of course structure and pedagogy. These are changes that individual professors, departments, and colleges can implement on their own. We strongly believe that these changes should continue, and be expanded. We briefly survey some of the changes that have been made, and offer additional suggestions. Again, we begin with a qualification. The details and implementation of each proposal put forth is entirely dependent on the context in which it is considered. For example, introductory and senior level courses are likely to differ across institutions because the expected outcomes and cognitive development of the target audiences differ.

Content and Skills

Almost all principles students do not continue with a major in economics. For this generalist group of students, if economics is to be meaningful it has to be highly ‘practical,’ focusing more on ‘big think’ questions as linked to broader liberal education goals. The economic skills we teach should reflect this practical need and courses should provide context for those skills. Furthermore, students who do choose to major in economics should be required to demonstrate their acquired skills, reflecting the highly practical way in which they will use economics, not in ways that they will never replicate once they leave the classroom. To achieve this end, departments should consider a number of possible changes in the major.

- *Revise introductory course content.*

Nowhere in the economics curriculum is the depth versus breadth issue more prevalent than in the principles courses. Principles textbooks, with few exceptions, are structured after the Samuelsonian texts of the 1950’s. Not only do they not incorporate the latest advances in economic theory and modeling, they often do not even mention them except in boxed features. It is as if introductory economics is being taught in a time warp. Thus, serious consideration needs to be given to

²¹ <http://www.vanderbilt.edu/AEA/AEACEE/TIP/TIP.htm>

the content of the principles course, how it ties into what is now taught in graduate school, and how it ties to a liberal education. Questions need to be answered such as: Is the principles course meant to give students a sense of the empirical nature of much of applied micro today? Or is it designed to teach students economic precepts—policy views that are based on a set of value judgments which are based on classical liberalism, or is it designed to teach economic science—focusing on understanding the functioning of the economy more so than policy? Or is it providing students with an overview of issues being debated in economics, such as how behavioral economics is changing the nature of economic theory, or how evolutionary game theory is changing the way in which economic issues are framed? Or is it designed to teach what used to be called political economy, in which it provides the broader reasoning for policies favored by most economists today?

Currently the texts seem to be attempting to do some of all of these, but often not making it clear what precisely they are doing. Specifically, they do not distinguish between scientific theorems with which no serious economist would disagree, and economic policy precepts, on which significant debate exists. The economic way of thinking incorporates both but the two foci are quite different and need to be distinguished.

What makes deciding what should be taught in the principles course even harder is that the economic way of thinking is changing. It is more inductive than previously; it uses laboratory, natural, and field experiments to test assumptions and models, and is based more on game theory and strategic reasoning than on deductive calculus subject to strict agent rationality assumptions.

We are not arguing that all these new approaches should be taught to students, but since all these approaches are part of the modern economic way of thinking, it would seem that the issues they raise should be presented if the “economic way of thinking” is actually the focus of the introductory courses. Today, the economic way of thinking has become much more the “scientific way of thinking” than it was in the past. How much of this can be presented to students is debatable, but it needs to be considered.

Some work has been done on this issue of what should be taught in the principles course. For example, Salemi and Siegfried (1999) reviewed the goals of the economics major and suggested a greater emphasis on economic education as general education through a redesign of introductory economics courses. Their work challenges instructors to reconsider the degree to which skill development is limited to preparation for the major and thus neglects the need for both breadth and depth of understanding and application skills consistent with the goals of general education curriculum. Additionally, they call for more emphasis on the general knowledge proficiencies identified by Hansen (1986), greater use of non-lecture teaching techniques, and more research on important economic education questions such as how students learn.

- *Enhance the use of context and application.*

Economic models presented at the undergraduate level are not meant to be an accurate portrayal of either the current state of the discipline or of reality. The complexity of the subject matter of economics and the limited training of undergraduate students in the increasingly complex disciplinary mathematical and statistical tools necessitates the presentation of highly simplified models. These models often lose the richness of modern economic analysis. The associated oversimplified abstract modeling can leave students questioning the practicality of the problem-solving skills these models help to develop. We believe principles students should be given some sense of what modern economic reasoning and analysis is, and training in how limited the models they are being taught are so that the models are understood contextually. Recent research into “How People Learn” provides important insights into the importance of context. (Bransford, Brown and Cocking, eds. 2000).²² Deep learners know when knowledge can be transferred and can transfer knowledge from one context to another. Deep learners “(a) have a deep foundation of factual knowledge, (b) understand facts and ideas in the context of a conceptual framework, and (c) organize knowledge in the ways that facilitate retrieval and application.” (p. 16) Reconnecting economic analysis to the lives that students currently lead and the issues they will face after college is one method of overcoming the abstract nature of the models taught in undergraduate courses. Enhanced use of context and application promote critical thinking, problem solving, and lifelong learning, all goals associated with liberal education.

- *Integrate skills and content across courses.*

Although the major is structured as a set of building blocks that encourages greater sophistication of analysis as students progress, little explicit integration of skills or content is promoted. Opportunities for integration also extend beyond courses in the major, as interdisciplinary courses attest. Skills and content integration provide additional points at which student can be engaged with economic concepts, enhancing the liberal education component of the learning experience. Deep learning, or learning for understanding, necessitates critical thinking skills, integration of knowledge over time and subjects, theoretical application to practical situations and higher order skills of analysis and synthesis. (Biggs, 1999; Entwistle, 1981; Prosser and Trigwell, 1999; Ramsden, 1992)

- *Implement summative and formative assessment of skill acquisition.*

Current pressures on higher education suggest that demand for formal assessment processes within the major is likely in the not too distant future. While

²² Bradford, John D., Ann L. Brown, and Rodney R. Cockin (Eds.). 2000. *How People Learn: Brain, Mind, Experience, and School*, Expanded Edition. Committee on Developments in the Science of Learning, Commission on Behavioral and Social Sciences and Education, National Research Council, Washington, DC: National Academy Press.

the well defined hierachal structure provides scaffolding for building skills throughout the major, few departments have a formal mechanism in place to determine the degree to which they are successful in developing those skills. Departments need to explicitly identify skills that graduating majors should possess and link each course within the major to the development of those skills. Furthermore, departments should include assessment components that explicitly link the economics major to skills of a liberal education.

Because of the private nature of teaching, faculty are likely to resist formal assessment of individual courses. Developing assessment procedures at the end of the major would minimize this resistance. Designation of a senior level course (or series of courses) that explicitly incorporates exercises which assess the degree to which each student has acquired the skills of the major is one possible solution. Results from this assessment could then be used to revise the underlying curriculum.

Pedagogical Practices

It is not only content that determines how much passion for learning is generated through a course; it is also the utilized pedagogical practices. In economics few graduate students receive any training in pedagogy, or in the mechanics of teaching. This, we believe is a mistake, and all students who will become teachers should be given some introduction into the latest pedagogical research and practice. Even if they do not adopt them, the presentation of those ideas to graduate students will signal that teaching is important.

- *Improve classroom dynamics.*

The dominant pedagogical practice in economics remains the lecture method; in some cases for some people, this method can be highly effective; for others, it can be sterile. Whatever method one uses, studies in economics and higher education have shown that students learn and retain more when engaged throughout the learning process.²³ Except for superb lecturers, lectures seldom fully engage students, and thus most professors should consider teaching methods that lead to student participation in activities that use the information being taught rather than those that simply organize it.

- *Encourage pedagogical experimentation.*

Because most lectures do not fully engage students, faculty should be provided the appropriate incentives to expand their teaching techniques beyond the lecture. Ideally faculty should be pluralistic in their use of teaching strategies. Since incorporating new techniques is not without risk, and they have not been introduced to modern pedagogical insights in graduate school, faculty need an

²³ See for example, Johnston *et al.* (2002).

incentive to take pedagogical risks. We believe that summer support should be provided for faculty motivated to make significant revisions in their teaching methods. Decreasing the perceived cost could be achieved by allowing faculty to remove teaching evaluations from merit and promotion decisions for a semester in which they are experimenting with alternative approaches. Faculty should be encouraged to document their experiences and provide supplemental support materials that can be used to provide evidence of excellence in teaching in addition to the standard teaching evaluations.

- *Engage in the conversation of best practice.*

In order to encourage scholars to dedicate significant resources to enhancing their pedagogical practices, departmental funds should be allocated to encourage participation in the conversation of best teaching practices.

Engagement could be encouraged through the development of a seminar series that highlights pedagogical research on implementation processes and learning outcomes associated with alternative pedagogical practices. Minimal funds could be used to hold a once a month lunchtime forum on teaching, the leader of which would rotate through the department. Such forums would be used to keep faculty abreast of current pedagogical research and demonstrate particular pedagogical exercises (such as experiments, cooperative learning, etc). To launch the yearly seminar series, a prominent expert in economic education could be invited to give a “state of the field” address.

Alternatively, funds can be used to send faculty to workshops (economics and general education) with the requirement that faculty hold a seminar on campus summarizing what they have learned.

- *Develop and promote the teaching commons.*

Graduate school in a discipline develops and promotes a research commons that often defines a professor. If teaching is to be accorded the importance it deserves, then one needs a means to develop a similar “teaching commons.” A teaching commons is “a conceptual space in which communities of educators committed to inquiry and innovation come together to exchange ideas about teaching and learning and use them to meet the challenges of educating students.”²⁴ As such, the commons can act as a public clearinghouse of detailed examples of teaching techniques. Because the commons is intended to be an exchange of ideas, it does not require that shared pedagogical examples include a rigorous proof of learning as would journal publications; rather, documented examples need to provide, through an organized framework, detailed descriptions of learning objectives and instructional environment in addition to a description of the activity. The openness of the commons encourages others to join the

²⁴ Huber, M.T. and P. Hutchings. Building the Teaching Commons. The Carnegie Foundation for the Advancement of Teaching. <http://www.carnegiefoundation.org/perspectives/sub.asp?key=245&subkey=800>. Accessed May 1, 2007.

conversation through posting reflections on and adaptations of such exercises. Increasing the awareness of alternative pedagogical practices through detailed exercises in a common accessible location lowers the cost of adaptation and increases the probability of incorporating such methods.

Creating Institutional Value

- *Create more economic education positions at teaching-oriented colleges.*

Institutions serious about their commitment to undergraduate teaching should demonstrate this by creating a full faculty position dedicated to teaching. A professor who focuses on teaching is no less important to a university than a professor who focuses on research. Economics professors who focus on teaching can be expected to do research but that research is more likely to focus on economic education. Besides doing research on economic education, such professors would attend national workshops (economic specific and interdisciplinary), conduct seminars for their department and other departments on teaching, and help develop assessment of learning tools. Instituting similar positions across departments would provide a cohort capable of developing or enhancing existing teaching resource centers.

- *Institute a system for which excellence in teaching creates institutional value.*

Colleges and universities now almost totally base their comparative rank on research output. This is counterproductive. Colleges and universities who include excellence in teaching in their mission statements should be ranked on the degree to which they are successful in achieving that, and a ranking of colleges and universities on both should be provided. A consistent teaching ranking system needs to be developed, one that ranks teachers at schools, possibly based on portfolios and outside visitations. The development of such a system will not be easy and will be far from perfect, problems also faced with existing rankings based on research. But simply having such a system in existence, and publicizing it, will help make teaching a more prominent and, in practice as opposed to in theory, evaluated component of professor's jobs and across all institutions. If teaching is 50% of a professor's job, then 50% of the determination of whether that professor is successful should be based on teaching.

Conclusion

Let us conclude our discussion by reiterating the caveat that we have continually expressed. Education is a personal process, involving a connection between the professor and the student. That connection comes about best when the professor is teaching that which they are passionate about.

Thus, professors should retain their property rights over what is taught and how it is taught. Reports, or mandates from above telling professors to do something different than they want to do will remove the passion and thus undermine the catalyst role of education, which in our view is central to enhancing economic education in ways that are consistent with the liberal education perspective. We believe it is better to have the wrong content taught passionately than the ‘right’ content taught perfunctorily. It is this perspective that has driven so much of this report and its focus on broader questions of institutional structure rather than on specific disciplinary content. The content of what is taught will, and should, be determined by the individual professors and schools. Ideally, however, one would want the “right” content taught passionately, and if one’s goal is a liberally educated student, given the current structure of graduate schools and universities, that is not going to happen, because content taught with passion will be research driven, not teaching driven. Only major institutional change at both the graduate training level and the undergraduate institutional level will affect that.

In the absence of such major institutional change, marginal improvements can be made by modifying incentives and institutions to give more emphasis to pedagogy and teaching. While there is no one set of “best practices” in economics pedagogy that make it suitable for a liberal education, there are better practices and worse practices, and discussion of such practices should be an important part of the discussion at any college or university. University administrations that have not created an atmosphere that makes such discussions central have failed in an important part of their job.

The bottom line of this report is that much more discussion is needed about the focus of content taught in economics, and how that content is taught if the economics major is to make the best contribution it can to a liberal education. We don’t know what that “best contribution” is, and believe that there are many ways that departments can contribute, some of which may be seemingly contradictory. We strongly believe that positive change in any discipline does not come from the top down; it comes from the bottom up, and major change builds on initiatives of individual schools. That is why the goal of this report is to open up a conversation rather than come up with a set of specific recommendations. Our descriptions of structural and micro-oriented changes are offered simply as a starting place for these conversations. We recognize that there are many roles that the economics major can play in contributing to a liberal education, and thus there are many structures of the major that will promote this objective. But the best ones will not develop out of bottom up discussion unless departments are concerned about the major and have incentives to see that it is contributing in the best way possible. We hope this report helps generates that concern.