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CREATING THE RIGHT BLEND OF ECONOMISTS

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Economists play many different roles in society, and each requires different complex blends of skills and knowledge. For example, an economist doing theoretical research pushing the edge of abstract theory or econometrics requires a different skill set and background knowledge than does an economist doing applied research. Many further breakdowns are possible. For example, applied research can be what I call “hands off” (designed to be read primarily by other economists) or “hands on” (designed to be read by non-economist policy makers). Applied research can involve different degrees of integration with other disciplines and different degrees of quantifiable data. Generally, the more hands on the research, the less quantifiable the available data. Applied research can also differ by deadlines. Hands-off research tends to have indefinite deadlines, and often ends with a “more research is needed” conclusion. Hands-on research generally does not have that option; it often has to come to definite conclusions on the available data at a predetermined time. A “better” answer five minutes late can be worthless.

There is, of course, overlap in the needed skills and knowledge, and it seems reasonable that the common core training of graduate economics—the material taught in the first year of graduate study—should provide a combination of skill sets and knowledge that meets the needs of an appropriately weighted composite student where the weights reflect the likely activities of the students after graduation. Currently, graduate economics training doesn’t do that. Instead, the current training of economists is designed to bring all students to the frontiers of theoretical and empirical techniques as quickly as possible so that that can do theoretical or hands-off applied research that has quantifiable data and no specific deadlines.

In deciding on the content and skills to teach, economic graduate programs don’t ask questions such as “What content would be most useful to teach future teachers of undergraduates?” or “What skills would someone doing hands-on applied research need?” Instead, they ask, “How can we best train economists to do theoretical and hands-off applied policy research?” It is as if all roles that economists play—other than hands-off academic researcher with quantifiable data and no deadlines—receive zero weight in the consideration of what is taught.

The Problem with the Core, and the Success of Field Courses

The problem is most severe in the graduate macroeconomics core course where students primarily learn variations of the DSGE model. Monetary and fiscal policy, macro institutions, and how macroeconomic thinking has evolved over time are hardly discussed. Let me provide just one example. In a departmentally determined core exam at a top school, a well-known economist inserted a question into the core exam about the Fed Funds rate. Most students could not answer it; some didn’t know what the Fed Funds rate was. The result: the question was thrown out, and the structure of the core exam was changed so that only professors teaching in the core could determine the questions.

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(Similar, but less severe, problems exist in the micro and econometrics core courses.) Since many students don't take another macro course after the core, this means that they have had no introduction to macroeconomic policy thinking in their entire graduate education.

The justification given for the technical focus in the core is that it is necessary to bring students up to the research frontier as quickly as possible so that they can start their research. Unfortunately, even for students who will be focusing on hands-off applied research, the core courses don't do that. The core courses are too short to bring students, who are not already well versed in the core techniques, up to speed in those techniques. While students are introduced to a subset of technical skills and knowledge in the core courses, they are not really brought to the creative frontier. By that I mean that if the core exam were constituted in a way that required students to use the models and technical skills taught in the core in creative ways, demonstrating a deep understanding of the underlying techniques, most students would not pass.

The exams are not so constituted. Instead, the core exams have become what students described to me as "problem set lite" by which they mean that the core exams had questions with similar, but simpler, structure to the problems set questions they did. These core exams can be passed by any reasonably mathematically sophisticated student who has familiarized himself or herself with the structure of the problem set answers for the exam. Given their current structure, the core exams are best thought of as a useful hurdle for students to demonstrate sufficient familiarity with a subset of technical modeling skills so that they can reproduce these technical model skills in a carefully scripted situation.

This approach works because the core exams are graded by the same professors who taught them the material, allowing the exam to be closely tied to the techniques presented in the class. In fact, currently, if the core professor changes, the core exam changes. This means that students who took the core course the year before, but for some reason missed the exam, generally feel that they have to take the entire core course (or the section that the new professor is teaching) all over again if they are to pass the new "core" exam. This is prima facie evidence that the core exam is not testing what I, and I think most people, would consider the core—the knowledge and skills that all graduating economists should know.

The current situation is stable because the core that is currently taught is not the true core of economics—it does not provide students with the knowledge and skills that all graduating economists should have. In fact, for most students many of the general techniques and knowledge that they learn in the core courses will never actually be used directly, or even indirectly, in their job or in their research. The core has become more of a hurdle that students must jump, than a way of teaching knowledge and skills that should be common to all graduating economists.

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Whether the current approach is the best way to train producers of hands-off academic economic research is debatable, but I will not debate it here.¹ Here, I want to focus on whether it is a reasonable approach to train the combination of economists that make up the economics profession. My argument in this paper is the current structure of the core is highly inefficient and inappropriate. It needs to be changed.

For academic economists going on to concentrate on doing hands-off research, with little concern for undergraduate teaching, the problems with the core are ameliorated in the field courses, which, based on interviews with students, (Colander, 2009, 2010) do a good job in conveying those skills and knowledge that are most appropriate to hands-off researchers. It is in these field courses where students learn the true core techniques of modern hands-off applied economics—the applied econometrics, the rough and ready use of theory, and the models and methods that guide them in their hands-off research. The field courses are succeeding in creating “efficient academic journal article writers” and preparing students to go into academic research careers.

The Poor Stepchildren: Hands-off researchers and Undergraduate Teachers

Many of these hands-off research techniques learned in the field course are useful to “hands-on” researchers, but they are by no means sufficient. When one has to arrive at a policy conclusion by a certain time, one doesn’t have the luxury of shopping around for a topic that has an appropriate data set, as one does with hands-off research; one has to use the information available. Similarly, in hands-on research one often doesn’t have time to carefully explore a formal model; one has to use one off-the-shelf formal model, or an informal model. Similarly, one doesn’t have time to run hundreds of specifications of an empirical relationship, and choose the most appropriate one; one often has to do quick and dirty back of the envelope empirical calculations. Moreover, when a hands-on researcher has to prepare a report for a non-economist, he or she cannot use many of the shorthand notation and structure that he or she can when writing for other economists; instead, he or she must develop a convincing argument with simple analogies, tables, and graphs. Even simple econometrics would be considered inappropriate.

Graduate programs don’t think of teaching such hands-on skills in deciding on appropriate content and skills to teach; they give essentially zero weight to those graduates who will be doing primarily undergraduate teaching and to those graduates who will be doing what I call hands-on policy research. I make that argument at this meeting of the Society of Government Economists because one of government economists’ most important roles is to provide the “hands-on” research with deadlines, non-quantifiable data, written for non-economist audiences.

The reality is that future hands-on researchers and teachers of undergraduates are treated as poor stepchildren by most graduate schools, even though they include over half of the economists getting jobs each year, and the work they do is an important reason why society funds economists. In fact, as students told me in interviews (Colander, 2009) if a student lists either as his or her career goal, he or she will likely not be accepted into

¹ In Colander, (2011) I have argued that it isn’t the best way to do it.

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a top graduate school, and if he or she lets faculty know that is their goal, he or she will likely get far less of the professor's time.

Why Graduate Schools Don't Change

Graduate schools have little incentive to change the current situation because graduate economic education, on the surface, is institutionally successful. By that I mean that the graduate programs can place their students, and the groups who hire economists are not complaining about the current situation. The process become self-reinforcing; new hires reflect the training currently given and, when an economist who has been trained to do only hands-off applied research, he or she naturally starts judging his or her "output" by "hands-off" research standards. Doing hands-on research becomes a chore that takes her away from her true research. To get an economist trained primarily to do hands-off research to do hands-on research, agency heads have to offer her tradeoffs which divide her time into doing "real research" (interpret—do research publishable in an economics journal) and hands-on research that the agency needs done. In some cases, government economics departments become essentially little academic departments without students other than interns and post-docs.² In some ways this blending is good; it infuses hands-off research with real world relevance, and hands-on research with new techniques and ways of looking at things. But in other ways, it is bad in that it increases the cost of hands-on research, and crowds out research methods most appropriate to hands-on research. It leads to too many models, and too little educated common sense.

While government economists often do question the relevance of the core training in economics among themselves, they often don't make their concerns known, because it would likely signal that they are unrigorous and that they fail to understand the importance of theory and applied hands-off research. The self-image of economists has become so built into an academic research model, that many hands-on researchers accept that the hands-on research they are doing is less important than the research hands-off academic researchers are doing.

I don't buy those arguments. In my view, the whole way of measuring economist's output—almost solely in terms of quality-weighted journal article output and citations—involves a serious mismeasurement since that measure only includes hands-off academic research. I suspect that if I were to compare any three randomly chosen academic economists with any three randomly chosen government economists, I would find that the academic economists' measured research output significantly exceeds government economists' measured research output. But I also suspect that if I were to use a more appropriate measure that compares the full value of economist's outputs, the result would be the opposite, and that any three randomly chosen government economists' output would have a significantly higher value than any three randomly chosen academic economists' output.³ My point is that the standard measurement of economist's output is only tangentially related to the actual usefulness of economist's

² This tendency has been especially pronounced in the research departments at some Federal Reserve banks, possibly because they can print money and have the loosest budget constraint.

³ Of course, that is unfair to academic economist's output, since much of their value is contributed in teaching, but that teaching also receives zero weight in economist's standard measure of their output.

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output because it makes no effort to include the output of government economist's hands-on research output or economist's teaching output. Thus, economist's standard measure of output seriously overestimates academic economist's research output, and seriously underestimates government economist's hands-on research output and academic economists' teaching output.

I would further argue that, a priori, hands-on research output done for businesses and government reflects a more meaningful market test of its value than does the hands-off economic research that is not fully funded by grants. By that I mean that there is a revealed demand for hands-on research from someone other than the researcher. Someone has been willing to pay for government and business economists' output, by including that research in their budget. Thus, there was likely an expectation that research done in a government agency was worth it, although having briefly worked in government, I recognize that that hope often does not materialize. It is not a great revealed preference test, but it is a partial one.

That revealed preference test is much more indirect for non-grant funded hands-off academic research because the costs of the research are hidden. There is no revealed demand for much academic research at what it costs to produce unless it is funded by a research grant. Most academic research isn't funded by a research grant; rather it is implicitly funded by the university or college as part of the general pay of the academic economist. (The standard rule of thumb at many universities is that 90% of a professor's promotion and tenure decision depends on research, so it is reasonable to assign 90% of their pay as pay for research.)

Undertaking that academic research is costly, but academics don't charge for it. Instead, they try to give their research away for free. It is not only the cost of doing the research that is heavily subsidized. So too are the publishing and distribution costs, which are implicitly subsidized by the unpaid reviewing time, the lower-than-market-pay for editorial work provided by most journal editors, and the outrageously high prices paid by university libraries for the "for profit" academic journals that publish the academic research. Since there is nothing close to a market test of the value of academic research, it is hard to say what academic research society would be willing to pay for.

Don't get me wrong. I fully agree that there is some academic research that is worth far more than it costs to produce; and that some is worth the entire budget put into economic research. I am not making an argument against doing pure or hands-off applied research. Society may well want to subsidize such research. I am simply arguing that currently, society doesn't make that choice directly. Most of the subsidization or academic research is hidden.

There are reasons to believe that, because of academic research's central role in tenure, much of the academic research is done to achieve tenure and promotion, not to further understanding. In our current academic institutional environment the publication of the research becomes an end in itself. If, before it were done, one were to give an opt-

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out option to the ultimate funders of most academic research—governments and students paying tuition—I suspect many of the current “implicit funders” would opt-out.⁴

Government Economists of the World Unite: How to Change the Existing Situation

Fun as it is to pick on academics, that isn't my goal here. Instead, my goal is to offer some suggestions through which government economists could help bring about change, if they choose to do so. I am here to call government economists to action. My argument is that government and international agencies have the power to change the situation. My hope is that government economists will take the lead in getting their output measured, and seeing to it that the needs of training students to become government economists are taken seriously by graduate programs.

What is the power that government economists have? It is the power of the job. Government and international agencies are important demanders of economists, and as demanders, they best know the skills and knowledge new hires should have. If government economists hire those who are trained in, and have the skills and content knowledge that they want, and don't hire those who don't, and let it be known that that is what they are doing, then graduate schools who want to place their students in such jobs will be forced to respond and will teach those skills.⁵ Essentially, what I am arguing is that demanders of economists have to lose their passivity and to use their market power, by taking a more active role in making clear the skills they need to do their job. It is passivity on the part of government and business economists, and other institutions that need hands-on economists, which has allowed the current situation in graduate economics education to develop.

To stimulate thought and discussion within the government and international agency economics community about these issues, let me list a number of actions that I believe government economists might take, through a group like the Society of Government Economists, perhaps in conjunction with some other groups, that might improve the situation.

- **Include in your job application a request for the applicant to submit copies of the applicant's core exams and any papers or other work that demonstrate**

⁴ These arguments are developed in more detail in Colander, (2009). In that book, I develop a proposal that would redesign the funding of academic research so that all academic research would have to be fully funded by grants from an expanded NSF, new government and foundation funding agencies, and universities. In such a system, before any research is done, it would be vetted by the grant process as to whether society thinks it is worth it, and thus would meet a type of market test. In that book, I calculated the time that goes into producing the “output” in a typical issue of a mid level economics journal, (Colander, 2009, 163). The cost I came up with \$320,000 an issue. The question society should be addressing is that if one had to sell the typical journal's output at full cost, would society choose to pay it? My argument was that, for a large percentage of academic research, it would not. I argued that when faced with the true cost of academic research, society would choose to fund much more hands-on research done by academics, and in the book, I develop a mechanism that would allow that to happen.

⁵ This could result in more specialization of training, which different schools focusing on different types of training; that, in my mind, and in the mind of the AEA's Commission on Graduate Economic Education, (Krueger et. al.1991) would be a good thing.

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- ability to do hands-on applied research.** The request for the core exams is simply for transparency, and to see if you believe how the student did on that exam has any relevance for whether he or she would be good in the jobs you need done. The request for hands-on research papers that demonstrate the ability to do hands-on applied research is designed to serve as a signal to graduate programs. I suspect that initially, there will be little such research to submit, and the job applicant will have to write you and say that he doesn't have any such papers to submit. But it will have an effect, since the candidate will likely put pressure on the programs to assign such papers in the future.
- **Design a required exam for all job applicants for government economics positions, and use the results of that exam to select whom you interview for jobs.** This exam could reflect the core knowledge and abilities that government economists believe is common to government economists. There would be much overlap here with what is taught in the field courses, since many of those techniques and methods are as central to government economists as they are for applied-micro economists. But there would be other skills tested as well. Can the candidate communicate ideas effectively to non economists? Can the candidate integrate an understanding of institutions with models and data? Can the candidate deal creatively with a problem under time pressure? Does the candidate know the literature that would be important in the job?
 - **Design measures of research output of government economists and integrate them into any measure of economist's "output."** Currently there is a bias against hands-on research since it is not measured or counted as output. A common measure of government economist hands-on research needs to be developed and used in measuring economists' output. If hands-on research is what a third of economists do, then it should get a third of the weight in economist's "output" or it should be made clear that the output measure is measuring only a portion of economists' output. For example, in measuring output, standard measures for hands-on applied research could be developed giving a "research output" equal to the hands-on research output of an average academic economist, for each year of service. The "output" could be adjusted by the amount of time the economist is expected to spend on hands-off vs. hands-on research. This output measure could then be adjusted upward or downward by some criteria developed in the agency, with an upward adjustment in one economist's output coming from a downward adjustment in another's.
 - **Create a Ranking of Graduate Programs based on faculty's broader "government relevant" research output.** Currently, the only rankings of schools are based on their quality weighted journal article research output. Thus, if a school hires a former government economist, their measured ranking would probably decline, even though programs training students for government policy positions could benefit enormously from having individuals teaching who have done policy. To offset the current quantitative bias against practical research, one needs to devise a ranking of graduate programs that some weight for policy experience.

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- **Create Internships for Graduate Students to work in hands-on applied policy jobs.** To accomplish this, the various agencies of government, policy institutes, intergovernmental agencies, and non-governmental agencies could create a pool of internships and make agreements with graduate programs that will allow students to do a one-year internship as part of their training. Their “hands-on papers” that I argued government agencies should ask for from incoming candidates could be written during this internship. For those going on to government work, this internship could become an integral part of their field course training.
- **Create hands-on dissertation topics that graduate students can do.** Currently, the primary type dissertation that students can do involves writing three hands-off research essays. This “three essay” format evolved from book length dissertations to better lead to publication of the essays in journal articles. There is no reason why one (or even all) of the essays in the dissertation could not involve “hands-on” research. Students choosing to go on to hands-on applied research positions would find doing hands-on dissertations excellent training, with far more relevance than many of their current essays.
- **Create mechanisms by which government economists and other hands-on researchers grade parts of core exams.** Much of my above discussion concerned what is taught in the core. The reality is that what is taught in the core is far less important than what is tested for in the core exam, and in who grades the core exam. If someone totally different than the professor grades the core exam, the study strategy for students changes substantially, and the core exam will also change considerable.

I have considered the core at many schools, and of all the schools I have studied, Oxford was an outlier in terms of what it taught and how the students approached studying for the core exams. A primary reason why it was different was because it had outside graders for its comprehensive exams. If students knew that one-third of the core exam would be graded by a hands-on researcher, who might also write the question for that part of the exam, they would focus more on learning hands-on research skills.
- **Create partnerships with graduate programs in which government economists provide questions to go into in the core exam.** This is closely related to the previous suggestion. Given the nature of the current exams, grading the current core questions would not serve much purpose. Most government economists couldn't answer the questions. This inability to answer the "core" questions shouldn't upset them, because most academic economists couldn't answer them either. Thus, changing who grades the core exam will only work if there is a change in who makes up the exam. If government economists are included in making up and grading the core exam then the core will more likely reflect a true core of the subject, by which I mean a core consisting of what every economists graduating today should know.

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- **Increase the number of hands-on researchers who teach in graduate programs.** Once involved in the core exam, it is only a short step to graduate schools recognizing that if they want their students to demonstrate skills necessary to do hands-on applied research, then they would do well to offer some courses taught by economists who have done and are doing hands-on research. Thus, I see cooperation on the core exam leading to a much closer connection between government and academic economists.

It would also likely lead to more differentiation among graduate programs, with some focusing on preparing students for hands-on applied policy research, some focusing on preparing students for hands-off applied policy research, some on preparing students for hands-off research, and some focusing on preparing students for teaching.⁶

- **Create an exchange program between government and academia, in which government economists exchange positions with academic economists for a period of time as short as a week, or as long as two years.** Another way to provide the interchange between academic economists and government researchers would be to develop numerous exchange programs. These programs could involve exchanges for various periods of time, or exchanges in which an economist works part time for government and part time for a university. For example, the research staff of Federal Reserve banks could have joint appointments with universities, and could both teach and do research at the bank, spending part of their time in both places.
- **Organize as a group and support a candidate for the AEA Executive Committee who represents government economists.** The AEA is the most powerful economic organization in the world. While it ostensibly represents all economists, the executive committee is almost exclusively made up of economists representing a small group of top graduate economics programs. While this group is generally well-meaning, and concerned about the good of the profession, they tend to reflect a narrow worldview of economic research, and they seldom hear alternative views from economists they respect. This leads to reinforcement of the existing approach.

Underrepresented groups, such as government economists and undergraduate teaching economists, currently don't organize and use their voting power to claim appropriate representation. They should. Specifically, the Society of Government Economists should choose a representative candidate, write to the nominating committee with a petition signed by say 50 economists (or separately nominated by economists) asking that this person be nominated to run for the Executive Committee. Then there should be an active support of that person's candidacy. If, after receiving the nomination, the representative is not selected to run there should be a write-in campaign to get him or her elected.

⁶ Schools in the Washington area seem ideally placed to take the lead in focusing their training much more heavily on hands-on research, and thereby becoming the first choice of those graduate students interested in going on into government policy work. These programs will be able to tell their deans that their faculty rank Number 1 in applied policy output rankings of economics departments.

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Conclusion

Let me conclude by reiterating my main point. Government, business, and undergraduate teaching economists play an important role in the economics profession. The training of graduate students does not appropriately recognize that important role. It is time to change that. To bring about change government, business, and undergraduate teaching economists have to stand up for what they do, organize together, and let their needs be known. They have the power of the job; they should use it.

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