World Economics Association
Conferences, 2013
The economics curriculum: towards a radical reformation
2013, n. 2: 3d March – 31st March

Title of paper: The State of Economics and the Education of Economists

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Abstract

The financial crisis has reinforced a prior debate already taking place among economists about whether the mainstream of their subject was unduly narrow. The additional question now is the extent to which the character of mainstream economics itself bears responsibility for the present crisis. Most economists—whether in the academic, business, finance or policy worlds—reject the wholesale criticisms made by non-economists and 'heterodox' economists, but nevertheless do question what aspects of the conventional approach to modelling might have contributed to the profession's pre-crisis blinkers. While exciting research has long been under way in behavioural economics, in institutional and development economics and in the well-being agenda, this had not gained much traction in the core curriculum. The gap between the interesting questions or real-world problems and the workhorse economics being taught to students at all levels has become a chasm, and a broadening of the undergraduate curriculum is urgently needed.

Keywords

Curriculum, education, financial crisis

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The financial crisis that started in 2007 and still continues has led to some healthy introspection by the economics profession. Most economists were not giving loud and effective warnings ahead of time of an impending crisis.
Even though many economists had been sceptical about the euro before it was launched, and many warned of bubbles in the housing and stock markets, the profession is evidently unable to propose any solution now that can command a consensus. Different schools of thought about how to manage the economy battle for attention in political circles and in the headlines (see Wren-Lewis 2012). It is not surprising that events have led many economists, as well as many people outside the profession, to question the failure of economics either to send an adequate early warning ahead of the crisis or to resolve it quickly.

This has reinforced a prior debate already taking place among economists about whether the mainstream of their subject was unduly narrow. The additional question now is the extent to which the character of mainstream economics itself bears responsibility for the present crisis. Most economists—whether in the academic, business, finance or policy worlds—reject the wholesale criticisms made by non-economists and 'heterodox' economists, but nevertheless do question what aspects of the conventional approach to modelling might have contributed to the profession's pre-crisis blinkers. (See Krugman 2006, Cochrane 2009, Coyle 2012a) And while exciting research has long been under way in behavioural economics, in institutional and development economics and in the well-being agenda, this had not gained much traction in the core curriculum. The gap between the interesting questions or real-world problems and the workhorse economics being taught to students at all levels has become a chasm since the start of the crisis. There is in fact a paradox: economics, particularly macroeconomics, is in a state of turmoil because of the crisis in the economy; but research in applied microeconomics is in an extraordinarily fruitful period of scientific discovery thanks to new data sources and methodological innovations. (See Coyle 2007, 2012b).

Neither the failures of macroeconomics nor the successes of microeconomics are yet features of the undergraduate curriculum. It is only a slight exaggeration to say that students are taught as if nothing had changed in the past five years. This fact has crystallized growing employer discontent with the knowledge and skills of the new recruits they hire.
As one employer said to me: 'Of course there has to be a lot of on-the-job training and experience of work. We are not so naive as to expect new graduates to be oven-ready. But we don't really expect to get them this farm-fresh either.' Following a series of conversations between employers of economics graduates in the United Kingdom—including the Government Economic Service (GES) and the Bank of England, investment banks and consultancies—a conference hosted by the GES and the Bank in February 2012 brought employers and academics together to discuss the state of economics and the state of economics education. The conference papers were collected in a book (Coyle 2012c) and the event was followed up by a working group on curriculum reform, due to report with specific recommendations and suggestions in Spring 2013.

This essay is a summary of the themes of the conference – more detail can be found in the book.

There are three themes that emerged from the conference discussions: the narrow range of knowledge and skills demonstrated by economics graduates; the questions raised by the crisis about the content of the economics they are taught; and the barriers to curriculum and teaching reform in universities.

What Do Employers of Economists Want?

Taking the first of these, employers uniformly said that they find new economics graduates to be too narrow in their approach to the applied work they will be doing in their job, whether this is in the public sector, in business or in finance. Employers are aware of the risk of having unrealistic expectations of new graduates, and there are of course some especially able graduates, but on the whole they find that their new employees need more significant on-the-job training and experience than they would expect. The missing ingredients listed here are

- practical knowledge of data handling,
- the ability to communicate technical results to non-economists,
- understanding of the limitations of modelling or of economic methodology,
- a more pluralistic approach to teaching the subject, and
- a combination of inductive and deductive reasoning.

In his conference essay, Dave Ramsden, as head of the Government Economic Service (GES) and Chief Economic Adviser to HM Treasury, makes the fundamental point that life does not observe disciplinary boundaries, whereas too many economists lack interdisciplinary knowledge or even interest. What’s more, in policy-related economics jobs, the economist always needs to be aware of the democratic, political context: “GES practitioners are engaged in how to produce useful guidance for decision makers from the incomplete information available today, within a multitude of constraints and overlapping considerations, to address an uncertain tomorrow.” He argues that students need to be taught a deep understanding of fundamental concepts, including cost-benefit analysis, broad quantitative skills, and some grounding in economic history and the history of economics.
David Colander sets up the discussion by looking at the economics undergraduate curriculum, which he argues should be broader than it is now while not covering every possibility. There is no single ideal curriculum, he suggests, given that the question is: how can we best teach economics with the economists we have and the skills those economists possess? What we should teach needs to reflect both what we can most effectively teach and what students can learn on their own, not what we would teach in some hypothetical world. What we teach does not necessarily reflect all of what we believe students should know.

Given this starting note of realism, Paul Anand and Jonathan Leape draw from a survey of GES members to discuss what these economists say that their jobs consist of and what skills they need. The chapter makes what should be an obvious point: that few people who get economics undergraduate degrees will become academics, yet many undergraduate courses teach a curriculum ideally suited to delivering future PhDs regardless. The survey results flag up knowledge of history and institutional context, and communication skills, as key elements of the professional economist's toolkit.

Stephen King highlights the same skills, particularly, from his perspective in investment banking, some knowledge of and interest in the global economic context and the institutions of financial markets. He writes:

"I lament the fact that economists coming into the financial world struggle to relate what they have learnt at university to economic developments in the real world. I have asked recent university leavers how much time they had spent in lectures and seminars on the financial crisis. Most admitted that the subject had not even been raised. This is profoundly disappointing."

Bridget Rosewell adds that the gap between theory and practice extends to microeconomic analysis of the kind performed by many economic con sultancies as well. Importantly, the lacuna in practical knowledge extends to data, with many graduates believing that to understand the concept is to understand the statistics: they have no appreciation of the way statistics are gathered or of the possibilities for collecting and using other data. What's more, many graduates also fail to appreciate that dynamics and feedbacks can lead to radically different propositions about policy and economic management.

Finally, under this heading, Steven Schifferes focuses on the communication skills mentioned by every employer of economists. As he points out, communicating complicated ideas is a difficult challenge, given that there is little public understanding of economics to start with, and little public engagement by academic economists in the United Kingdom (or indeed in many countries apart from the United States). Yet the financial crisis has, among other things, highlighted both the public interest and the need for the profession to engage more effectively with the wider public. Retreat into the ivory tower is not an option.

Economic Methodology and Teaching Economics

The second theme is that the crisis has served to underline some serious questions about economic methodology. These can be divided into general issues concerning the use and status of models and the range of techniques or approaches that universities should be teaching economics students; and specific issues about macroeconomics. Part 2 of the book covers the former.

Andrew Lo warns against 'theory envy'. As he says:

"We economists wish to explain 99% of all observable phenomena using three simple laws, like the physicists do, but we have to settle, instead, for ninety-nine laws that explain only 3%, which is terribly frustrating!"

But the real lesson from physics is not that simple laws explain the universe, but rather that empirical verification of any theoretical prediction is what matters. Mathematical techniques gain meaning from solving actual empirical problems, and should be taught in that context.

John Kay argues that the academic economics taught to students has turned into the intellectual analogue of a computer game: an artificial and wholly deductive world. Students need to be taught inductive and empirical methods as well. This does not mean more of the statistical analysis of large data sets taught in university econometrics courses, but rather thinking about what evidence is needed to answer a specific question, and working out how to assemble it and collect data.

In his chapter, Alan Kirman sets the abstraction of modern economics from the world of practical business and policy matters in its historical context, highlighting the peculiarity that it has not been considered ‘unscientific’ to make assumptions about preferences or behaviour, yet assumptions about institutions or interactions between individuals have been so labelled. He argues that a completely different approach to modeling is required, using tools such as network theory, or econophysics, as well as the experimental methods and behavioural approaches already adopted by a growing number of economists. Kirman, too, emphasizes practical data skills.

Ed Glaeser points out the tension between turning out well-rounded young economists with a broad understanding of history or the global economy, and teaching the specialisms that will enable a thorough understanding of an area of applied economics. While arguing that the core of the discipline is not ‘broken’, he advocates more experience for students in government departments or consultancies as the best way for them to learn about the skills they might eventually need in their careers, as experience cannot be short-circuited.

Paul Seabright highlights the prior numeracy skills and critical thinking students have, or have not, learned at school. When it comes to the undergraduate curriculum, he suggests that:

“The most powerful improvement in economics education might be to find a way of teaching the subject that does not present it as an evermore-successful approach to the truth about how economies work, but rather an investigation into a phenomenon that evolves as fast as we can keep up with it.”

A course structured around specific economic problems, setting out the best current theory and evidence but also the tale of how economics got to that point and what puzzles remain, might be the best way to do this. Harold James advocates reintroducing economic history to the curriculum in some form because history teaches three important insights: the existence of patterns, the importance of uncertainty, and the prevalence of multiple possible outcomes. There is a danger of being over-simplistic, he adds, but ‘the best way of thinking about history is as a way of testing conventional hypotheses—particularly when those hypotheses are being used to create market opportunities’.

Macroeconomics after the Crisis

Turning specifically to macroeconomics, this is the area in which contributors’ opinions diverge, rather than converging—a parallel, one might say, to the character of the current macroeconomic debate. Although all accept that the crisis has rightly prompted a re-evaluation of macroeconomics courses, two contributors suggest what could be described as evolutionary reform of the current curriculum.

Wendy Carlin sets out a way of integrating the lessons of economic history, the intellectual history of macroeconomic thinking, and the current workhorse macroeconomic model. This structure reflects the reality that macroeconomic theory has continually evolved in response to events: Keynesian aggregate demand management being a reaction to the Great Depression, the stagflation of the 1970s generating monetarism and the new classical synthesis. Now that the ‘Great Moderation’ has ended in the crisis, the policy prescriptions of the 1990s and 2000s—especially the strict separation of monetary and fiscal policy—are in their turn being replaced. Jagjit Chadha accepts that the standard macro model has been proven to be too simplistic, but in addition to increasing its sophistication (with the introduction of banking sectors, for example), he argues that it should be supplemented with other well-known macro models that had fallen into disuse before the crisis but can do much to explain its causes and consequences. In particular, the global payments imbalances and Eurozone tensions are easy to explain in a conventional international macro framework using well-known models.

Roger Farmer agrees that mainstream macro has not been a waste of time, and that the formalism of models and the rational expectations revolution has been important and useful. In fact, he argues that the insights of New Keynesian economics need formalizing more thoroughly, as none of them includes the possibility of unemployment in equilibrium. The formal approach needs to be taught alongside economic history, history of thought and the use of data to ensure that students are sufficiently pluralist. Benjamin Friedman, on the other hand, describes pre-crisis macro as ‘wrong-headed’. It has ignored the financial sector, whose expansion has been one of the defining features of the modern economy, and placed too much weight on the empirically incorrect assumption of rational expectations. It has forgotten that it is not money but credit that affects real economic outcomes, and that the institutional structure of financial intermediation matters too. Finally, macroeconomics has entirely ignored frictions and the impact of distribution. Macroeconomists need to research and teach the ‘features of the economy in which we live, as opposed to some simpler alternative that we can readily imagine and easily model’.

Andrew Haldane also identifies some of these failings in his chapter, particularly the absolute failure of the orthodoxy to take note of the explosion in commercial bank balance sheets. The past few years have retaught an old lesson: that credit cycles are as permanent a feature as business cycles. But understanding the role of credit in the modern economy, with its complex interconnections in the financial system, requires the use of network models, he argues:

“Conventional models, based on the representative agent and with expectations mimicking fundamentals, have no hope of capturing these system dynamics. They are fundamentally ill suited to capturing today’s networked world.”

Paul Ormerod and Dirk Helbing go further still. They suggest it is ‘back to the drawing board’ for macroeconomics. Conventional dynamic stochastic general equilibrium models have no place in the curriculum, in their view, having proved entirely useless for policymakers. Echoing Haldane, they argue that:

“We live now in a densely networked, strongly coupled and largely interdependent world, which behaves completely differently from a system of independently optimizing decision makers.”

The representative agent approach must be replaced, and its replacement should set the research agenda in macroeconomics.

Reforming Undergraduate Teaching in UK Universities

This wide range of opinions about macro indicates that the undergraduate macroeconomics curriculum is unlikely to change radically in the near future, as the content of courses is bound to lag behind the professional consensus, and in this core curriculum area there is an absence of consensus. Nevertheless, the contributions emphasize the extent of the agreement that undergraduate courses in economics must change, and also the existence of some agreement on the specifics of the changes needed. The final section of the book turns to the third theme: the pedagodical challenge and the question of the incentives that academics face to either introduce change in their courses and teaching practice, or resist it.

This book looks at the UK context specifically, but similar issues apply to other countries, including the United States. Michael McMahon notes that students are dissatisfied about their contact with their lecturers, whose incentives in the UK university system direct their efforts towards research and publishing in a relatively narrow range of mainstream (mainly American) journals. He suggests that there are some simple changes that universities could make to save lecturers time, and some non-time-intensive changes that lecturers could make to their teaching techniques to bring their courses alive for students. He also points out that students themselves must appreciate that to benefit from university they need to read widely, think and discuss, and not just expect their lecturers to spoon feed them all they need to know to pass the exams.

John Sloman also discusses reform within the framework of the current set of institutional incentives, proposing mechanisms for sharing existing teaching innovations and best practice more widely. He notes the ‘pressure on lecturers to get good pass rates—a pressure that is increased by various quality assurance procedures, encourages making assessments predictable and “teaching to the exam” ’. Greater numbers of students, with strong expectations of success given the increased fees, are increasing this pressure. But he points out that there is a wide range of pedagogical innovations that universities and lecturers could adopt at reasonably low cost in time and money.

Jonathan Leape describes one particular innovation at the London School of Economics: the LSE100 course. Running for the past year, it is a requirement for all undergraduates, not just those studying economics. The course teaches several issues from the perspective of more than one of the social science disciplines. An example would be looking at climate change from the perspectives of economics, geography and political science, or at whether culture matters from the perspectives of economics and anthropology. The aim is to make an important point about the range of methodologies available for studying social science problems, and specifically for economics students to be taught inductive reasoning as well as the deductive reasoning that prevails in economics.

Finally, Alison Wride concludes the discussion with a fundamentally important point. There has been a substantial increase in the number of economics students at university, and unprecedented interest in the subject thanks to the crisis. She writes that ‘we will lose all credibility if we come out of the crisis without learning from it and changing what we do’. Students, entirely rationally given the fees they pay, expect to be employable, but they are being taught courses based narrowly on technical models, giving them skills that employers say are inadequate, as we saw in the earlier part of this book. Wride concludes:

“I do know that we have sent out graduates, many of whom have gone on to important roles in industry and the country, who have consistently undervalued risk and have not seen ‘right and wrong’ as anything to do with economics.”

This must change. Economics cannot possibly emerge from the crisis unreformed. What we teach the next generation of economists is absolutely the right place to start our re-evaluation of the subject. The degree of interest in economics now presents an opportunity to enthuse students about its strengths and insights, and to demonstrate how absolutely relevant the subject is to ‘real-world’ events. The discussion that started at the conference that was the origin of this book has continued, with a working group consisting of employers and academics looking at skill needs, student requirements, specific barriers to curriculum reform, and other aspects of the institutional framework that hinder change. Past attempts to reform the teaching of economics have foundered on the existence of system-wide obstacles and inertia, so a coordinated effort will be needed. One important early action will be a student conference to ensure that students are able to contribute to the development of the economics curriculum, and of the subject itself, in the light of the lessons we have all learned during the past few years. We can hope and expect that the enthusiasm of the students themselves will be an important source of momentum.

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