

think his publication has spurred the leading journal editors to reexamine their product. What he thinks is that his journal's very existence and continued financial and intellectual support is testament to the willingness of the economics discipline to embrace new and improved ideas. And while the field of economics in 2008 may not have its own Milton Friedman, Klein thinks it's a good sign that more people are at least talking about the absence of such a figure.

He says: "Clearly today there is more empirical work going on, and I think model building has come down a notch; so-called theory is continuing to come down in prestige and that's a good thing ... so I think that I'm ready to believe that things are getting better. I sure hope so."

If economics is itself a market, then the best models should rise to the top. Today, there are more ways to percolate new ideas than ever — from a widening array of journals, to blogs, to curricula in college classrooms, and to a surprising run of *New York Times* best-selling economics books. Then again, the process of rising can take some time. In 1970, it would have been difficult to find an economist

who believed the Keynesian paradigm would be dead 10 years later. As for today's paradigm? Perhaps we'll know in 10 more years. **RF**

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$$\begin{aligned} \frac{1}{h} \int_{-\infty}^{\infty} \hat{f}(x) dx &= \frac{1}{nh} \sum_{i=1}^n \int_{-\infty}^{\infty} \mathbf{I}(|\frac{x-x_i}{h}| < \frac{1}{2}) dx \\ &= \frac{1}{n} \sum_{i=1}^n \int_{-\infty}^{\infty} \mathbf{I}(|\frac{x-x_i}{h}| < \frac{1}{2}) d\psi \\ &= 1. \end{aligned}$$

$$\begin{aligned} &\theta(1-r(\theta)) - a(\theta) \\ &\geq (1-\pi) [\theta(1-r(\theta')) - a(\theta')] \\ &\quad + \pi [\theta(1-r(\theta)) - a(\theta) - \hat{P}], \quad \forall \theta, \theta'. \end{aligned}$$

$$\begin{aligned} \hat{f}(x) &= \frac{1}{n} \sum_{i=1}^n \mathbf{I}(x - \frac{h}{2} < x_i < x + \frac{h}{2}) \\ &= \frac{1}{n} \sum_{i=1}^n \mathbf{I}(|\frac{x-x_i}{h}| < \frac{1}{2}) \\ &= \frac{1}{n} \sum_{i=1}^n \mathbf{I}(|\psi(x_i)| < \frac{1}{2}) \end{aligned}$$

Economist, Study Thyself

The way economists are trained has come a long way in the past 20 years. Has it come far enough?

BY DOUG CAMPBELL

A major in economics, once as popular as an 8 a.m. lecture, lately finds itself in high demand. Universities across the nation report a growing number of undergraduates entering their programs in economics. At the graduate level, competition for admission to the top schools is just plain brutal.

Let's turn to the empirical evidence: According to the Digest of Education Statistics, the number of economics majors at U.S. universities jumped 22.5 percent between 2001 and 2006; the number of master's students was up 37.5, while the number of doctorates grew by a much tamer but still strong 9.3 percent. To be sure, an economics degree is by no means dominant on most campuses — it still represents only about 1.6 percent of all bachelor degrees conferred in the United States. On the other hand, growth in an economics degree is almost 4 percentage points higher than total degrees. And the popularity of economics appears to have come at the expense of some other traditionally popular

degrees — the number of sociology bachelors, for example, actually dropped 5.7 percent between 2001 and 2006.

And now, in the parlance of the discipline, some stylized facts from the Fifth Federal Reserve District, which reaches from South Carolina to Maryland: At Duke University, one in four undergraduates majors in economics. At George Mason University, applications skyrocketed after faculty member Vernon Smith won the Nobel Prize in economics. Clemson's pool of economics majors has increased 65 percent in the past four years alone; Wake Forest University's doubled in just the past year.

But don't get carried away. For while it's true that economics is enjoying a period of perhaps unsurpassed popularity on college campuses, there is no shortage of questions about its direction. Chiefly, some faculty members worry that the core curriculum — particularly at the graduate level — is becoming too technical, too theoretical, and fails to address relevant policy questions. A Ph.D. program

can teach students how to build an impressively complicated mathematical model — so is it really just training people how to be good at math and theory, and ignoring practical applications that might help end poverty, grow employment, and improve the general welfare? After all, if an economist can't address those questions, what's the point of being an economist?

"This is a concern I've had as long as I've been in the profession: As we get more math, we get less interesting," says Doug Pearce, economics chair at North Carolina State University.

But for every academic economist who feels that way, there almost certainly is a counterpart who is less discouraged. Peter Murrell, economics chair at the University of Maryland, agrees that first- and second-year graduate courses tend to lay the math on thick, but "beyond that, and especially at the dissertation stage, we are producing students who are studying some unbelievable topics." Indeed, graduates from the most technical economics programs in the United States who can also devise answers to practical questions are in high demand at research institutions.

In their influential 1987 paper, "The Making of an Economist," David Colander and Arjo Klamer rebuked graduate education in economics at the top schools for a perceived overemphasis on technique and an avoidance of practical applications. Recently, Colander revisited this topic with the idea of evaluating whether any change had happened. As his surveys show — and our interviews with department chairs across the Mid-Atlantic confirm — much has changed in academic economics over the past 20 years. There is still plenty of math and theory, of course, but there are more practical applications than ever.

Big Major On Campus

When people talk about the on-campus popularity of economics, they are usually referring to the undergraduate level. Among academic observers, the consensus is that students who formerly saw value in a variety of other social science degrees now view economics as more worthwhile.

Some attribute the growing cachet of an economics major to the "Freakonomics" phenomena. Stephen Dubner and Steven Levitt's popular 2005 book turned on a new generation to the fun and virtues of economic analysis. But department chairs interviewed for this article discounted the Freakonomics effect, arguing that growth in the discipline began at least a decade earlier, and that it's still a rare 18-year-old who has read the book.

Granted, economics is sometimes looked at as the poor man's business degree. To the question: "What can I do with an economics major?" an economics blogger joked: "Anything you could do with a business degree only for less money." But the money isn't bad for recent graduates. According to the National Association of Colleges and Employers, economics graduates got average starting salary offers in 2007 of \$47,782, compared with \$35,092 for history graduates.

The benefits of an education in economics are fairly clear. At the introductory level, the math is basic and the lessons practical. It's a useful background when it comes to landing a job. "Businesses increasingly realized that people studying economics have two valuable skills," says Raymond Sauer, economics chair at Clemson University. "They develop their analytical skills and skills for working with data. If you can think about data, analyze it, and communicate your findings to management, that's a valuable set of skills that are relatively scarce among other degrees."

The popularity varies by school, of course. At Duke, economics chair Thomas Nechyba attributes the growth and appeal of economics in part to the school's lack of a business degree. Meanwhile, West Virginia University has only 100 economics majors; director William Trumbull believes that the existence of a strong business program lures away many would-be economics majors.

Doctoral Doubts

Graduate economics is likewise experiencing a heyday in terms of enrollment. Bolstered in large part by a surge of international students — for whom the value of a U.S. economics degree is huge — department chairs say that admission standards are extremely high right now. But whereas there is little debate about the real-world value of an undergraduate economics degree, the same thing can't be said at the graduate level.

The overarching concerns are twofold and related: First, there is worry that the high-level math that graduate students endure during their first two years is unnecessarily grueling and, sometimes, unconnected to the curriculum that follows. Second, there is unease that economics risks losing its connection to real-world problems because of its focus on theory and complex models. This second concern is most acute in the subfield of macroeconomics, which studies forces that affect the entire economy, such as inflation and growth. (By contrast, microeconomics is chiefly interested in individual decisions and markets within the wider economy.)

These are long-standing perceptions, well articulated 20 years ago by economics journalist Robert Kuttner who complained that economics departments were "graduating a generation of idiot savants, brilliant at esoteric mathematics yet innocent of actual economic life."

The math that graduate economics students take in their first two years is not to be trifled with. Andrew Foerster, who begins his third year at Duke University's graduate program this fall (and who worked two years as a research associate with the Richmond Fed), sees good and bad in the system. It may have the effect of unnecessarily warding off some otherwise perfectly capable would-be economists, he says, and the disconnect between undergraduate and graduate curriculum is conspicuous. "It's certainly grueling, but perhaps not always unnecessary," Foerster says. "It's a lot more mathematical and less graphical ... it's certainly a transition, and one that I think a lot of people who are good students

have a difficult time making.” But with math, Foerster says, students are better prepared to engage in economic discourse at the highest levels.

At the University of South Carolina, economics chairman Randolph Martin says he is impressed with the depth of knowledge displayed by today’s young economists. But he wonders whether some programs go overboard in their preparations. “Sometimes I wonder if a question is worth all this firepower they’re throwing at it?” Martin says. “I don’t want to underplay the tools that they’re taught ... but even with the young turks in the applied kinds of areas, I wonder whether their work has some relevance to the world and not just pure theory or at such a high-level of analytics that you don’t know what you get out of it.”

Robert Whaples is economics chair at Wake Forest University, which doesn’t have a graduate program. But Whaples is an economic historian who pays attention to the economic zeitgeist and he is concerned about the direction of graduate education, particularly as it applies to macroeconomics. In a review of *The Making of an Economist, Redux*, Colander’s follow-up to his 1987 work, Whaples laments that the very principles of economic thought tend to be forgotten at the graduate level. “You thought that economics was all about Milton Friedman vs. John Maynard Keynes? Think

again. Mundane issues like monetary and fiscal policy aren’t abstract enough,” Whaples writes. “The payoff in economics is for novelty and cleverness. ... The incentives are to show that you are ‘smart,’ not necessarily that you are wise or learned.” (Though, to be fair, there is still a large amount of work being done at top graduate programs on monetary and fiscal policy that is helping economists to illuminate and reconcile the views of Keynes, Friedman, and others.)

The Ivory Tower Problem

Beyond technique and methodology, there is the second related problem: ensuring that what gets taught at the graduate level has at least some application to the real world. For example: At Georgetown University, former economics chair Matt Canzoneri notices a general trend in academia away from cultivating economists who want to make policy. What they want is to publish, which — no coincidence — is the way to tenure and general peer recognition. “Here and in other institutions over the last 10 years, there’s been more emphasis on theory and math and econometric modeling, and we’re losing all the applied policy type people,” Canzoneri says. “The ‘Brookings’ style person is disappearing from academia and the rewards are going to those who publish in refereed journals ... that’s a trend that

Ph.D.-Granting Economics Programs in the Fifth District

American University Washington, D.C.

Chairman: John Willoughby
Graduate Students: About 100 Ph.D. in residence
Full-time Faculty: 21 professors
Departmental Paradigm: A split between heterodox and mainstream

George Washington University Washington, D.C.

Chairman: Robert Phillips
Graduate Students: 18 M.A., 97 Ph.D.
Full-time Faculty: 29 professors

Georgetown University Washington, D.C.

Chairman: James Albrecht
Graduate Students: About 65 Ph.D. in residence
Full-time Faculty: 28 professors

Johns Hopkins University Baltimore, Md.

Chairman: Joseph Harrington
Graduate Students: 54 in residence
Full-time Faculty: 14 professors

University of Maryland College Park, Md.

Chairman: Peter Murrell
Graduate Students: 130 in residence
Full-time Faculty: 37 professors

North Carolina State University Raleigh, N.C.

Chairman: Doug Pearce
Graduate Students: About 140
Full-time Faculty: 21 professors

Duke University Durham, N.C.

Chairman: Thomas Nechyba
Graduate Students: 81 Ph.D. in residence
Full-time Faculty: 38 professors
Departmental Paradigm: An emphasis on crossing interdisciplinary boundaries in the social sciences

University of North Carolina, Chapel Hill

Chairman: John Akin
Graduate Students: 95 in residence
Full-time Faculty: 23 professors

University of North Carolina, Greensboro

Chairman: Stuart Allen
Graduate Students: 13 in residence
Full-time Faculty: 14 professors

I'm not too happy with."

The issue is not so pressing with microeconomics, which has blossomed in recent decades. But in macroeconomics, there is a large disconnect between what undergraduates and graduate students learn about economics. The problem, however, may not be because macro has become less rooted in reality while micro has not. The problem could be that economists have yet to find a better way to present the insights of necessarily dynamic macro models to undergrads.

At the undergraduate level, students learn basic Keynesian economics — about aggregate supply and aggregate demand, and the famed IS-LM model, which shows how changes in investment-savings and liquidity-money supply affect national income. These are useful lessons that teach students about models and how to use them in studying policy questions. But they are somewhat outdated.

In graduate school, Keynes is quite literally dead, and suddenly students are transported to the world of Robert Lucas and rational expectations, paving the way to the main tool of macroeconomists: dynamic stochastic general equilibrium models (see page 15). The result is a double whammy — the jarring intellectual transition that students endure as they move to the graduate level, and then the ensuing observation that dynamic stochastic general equilibrium models

have their own problems. For while these models strive to more accurately portray how the economy really works, they sometimes tend to fall short and the complexity can frustrate students.

Here is how one student who Colander surveyed put it: "The macro courses are pretty worthless, and we don't see why we have to do it, because we don't see what is taught as a plausible description of the economy."

Meanwhile, an interesting side effect of the waning interest in graduate macroeconomics is the relative dearth of Ph.D. macroeconomists in the job market. At West Virginia University, chairman Trumbull says that he has constant difficulty finding suitable candidates for macro slots. "You've got to be doing numerical analysis, computable general equilibrium stuff, and we don't have that [among faculty members]," Trumbull says.

Forward Thinking

All of this seems to point to a discipline in trouble. But if you take a step back, it's easy to see that the debates going on inside economics are no more heated than in other fields. And they are useful debates. A survey of economics departments in the Mid-Atlantic shows that, on these campuses at least, academic economists are constantly reevaluating their

Clemson University Clemson, S.C.

Chairman: Raymond Sauer
Graduate Students: 56 Ph.D. in residence
Full-time Faculty: 25 professors
(with new slots being added)
Departmental Paradigm: A blend of the
Chicago and Virginia school traditions

University of South Carolina Columbia, S.C.

Chairman: Randolph Martin
Graduate Students: 12 Ph.D. in residence
Full-time Faculty: 15 professors

University of Virginia Charlottesville, Va.

Chairman: William Johnson
Graduate Students: 100 in residence
Full-time Faculty: 32 professors

George Mason University Fairfax, Va.

Chairman: Don Boudreaux
Graduate Students: 160 Ph.D. in residence
Full-time Faculty: 35 professors
Departmental Paradigm: You name it — from Austrian
to Public Choice to Experimental

Virginia Tech Blacksburg, Va.

Chairman: Hans Haller
Graduate Students: 22
Full-time Faculty: 15 professors

West Virginia University Morgantown, W.Va.

Chairman: William Trumbull
Graduate Students: 50 in residence,
with up to 12 graduating each year
Full-time Faculty: 19 professors
Departmental Paradigm: Tends toward
free-market orthodoxy

NOTE: Figures are estimates or based on information accurate as of June 2008 and may depend on a department's affiliation with other departments. Except as specified, graduate student figures include both Ph.D. and master's programs.

approaches to training the next generation of economists.

American University's John Willoughby likes to describe his program as one that aims to present the vast array of economic perspectives. American's is one of a handful of departments that does not scorn "heterodox" economists — those who tend to break from mainstream thought on everything from the virtues of free trade to the rationality of individuals. At the graduate level, students can choose between the mainstream theory track or the heterodox theory track, and every doctoral student must take at least one class in the other track.

"There is a disconnect at the highest levels," he says. "So many graduate students who go into economics have received a monolithic view of what economics is, and they are less prepared for the real variety that exists."

Willoughby's definition of monolithic might differ from some other department chairs. American is unique in its employment of many radical economists. But other economics programs in the Mid-Atlantic can hardly be characterized as monolithic. Georgetown's Canzoneri is proud of the saltwater/freshwater diversity of his faculty, referring to the historical split between the coastal (more steeped in Keynesian economics) and the inland (monetarism and New Classical) schools. At Clemson, the emphasis is squarely on applied policy economics, with "almost no effort to train people as economic theorists," chairman Sauer says. George Mason is the "most methodologically diverse Ph.D.-granting institution in the English-speaking world," says chairman Don Boudreaux. "We have armchair theorists, Austrians, and even experimental economists who aren't sure the demand curve slopes downward unless they test it in a lab, and public choice people who produce multiple regressions."

As for the core curriculum, it is arguably true that the first year or two of graduate economics education is loaded with skull-cracking math. But after that, it is important to note, there is a shift to encouraging creativity. In their first years, students are equipped with the tools necessary to conduct high-level economics. Then, they can be unleashed to grapple with the ultimate goal: to generate new knowledge, as Joseph Harrington, economics chair at Johns Hopkins University, put it. To do that, students need to be able to not only answer questions, but to also ask the right questions. "It can be a considerable challenge to get students accustomed to posing a question, when almost all of their educational experience has involved being given a question and then told to answer it," Harrington says. "The intent is to reach a balance between the teaching of mathematical methods essential to economic analysis and the development of a mind for independent inquiry."

It is in fact something of a movement. At the University of North Carolina, Chapel Hill, there is no backing away from the emphasis on math in early graduate education, but there is a recognition that other talents need to be developed too. "Mathematical ability and training are very important for Ph.D. economists but other skills are as

important," says Helen Tauchen, director of graduate studies and associate chair at UNC. "In particular, the best economists are also creative, have excellent economic intuition, and can work independently." Toward that end, the Ph.D. program was recently revised so that students start writing research papers and thinking about dissertation research topics sooner.

Likewise at the University of Virginia, faculty members noticed that many students were having difficulty in transitioning to the research portion of their studies, maybe because they had spent the first part so immersed in learning methodological tools. "So we have recently changed our program to try to get students into the activity of writing, of doing research, of thinking about good research questions and how to attack them as early as the second year of the program," says William Johnson, economics chair at Virginia. "It's too early to tell whether this is working, but we are optimistic."

George Mason's Boudreaux says that some 20 years ago, his attitude about university economics was decidedly pessimistic. But today he holds the opposite view — he brims with enthusiasm that most academic economists have learned the lesson that, no matter how powerful their tools, they won't be able to predict the future. "At George Mason, we don't even try to do that, it's not even possible," Boudreaux says. Instead, his faculty tends toward empirical analysis and stays away from teaching abstract modeling.

A growing sentiment is that the "too technical/too theoretical" critique of graduate economics may be outdated. Peter Murrell, economics chair at the University of Maryland, acknowledges that as recently as 1990, he might have agreed with the detractors. But today, Murrell sees universities as unleashing highly skilled practitioners on highly practical topics. "This is a very good time to be in economics education," he says. "Not only is there powerful interest in the field, but I think economics is more interesting than ever before. The types of topics we attack, the way we can produce fundamental application lessons for public policy — it's a great time to be an economist."

Hearing of such approaches, David Colander finds himself pleased. Granted, macroeconomics remains a problem spot, he believes. By no means does he — or most academic educators in general — believe that macroeconomics has taken a wrong turn in the way it is taught. Instead, Colander recommends that the core macro curriculum be limited to courses on institutions and how they work, as well as introducing dynamic stochastic general equilibrium models — but leaving the use of such models to upper-level classes for students headed into macroeconomics.

Colander readily admits that his 1980s research on graduate economics education probably had little influence in changing how economists are made. But he believes that "The Making of an Economist" struck a chord, or expressed a near universal concern among academic economists. Today, the focus is on helping to equip economists with proper and

effective tools for attacking real problems. The math remains intense, Colander agrees, but because the admission process at top graduate schools is so rigorous, few students can't handle it.

"Economists are still economists. What they do is model, and that hasn't changed," Colander says. "But economics is reasonable and does change, and it's changed more toward what we need, with more empirical work and loosened up theory. That happened on its own, not because of a report."

At least, that's his theory. **RF**

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Friday, July 25, 2008

Economic Blogs

Hundreds of economic blogs have sprung up on the Internet, many written by academics. What gives? How did economics become so popular?

Posted by Econblogger at 12:40 PM

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BY BETTY JOYCE NASH

Dani Rodrik launched a blog in 2007 and now he's in too deep to quit. "I still get the thought that maybe I should stop," he says. "It does take time."

But the Harvard economist finds the blog — short for Web log — useful because it serves as a reference catalog for his ideas. "I now constantly Google my own blog for ideas that I knew I had at some point," he says. "Previously, the ideas would have come and gone. The first good thing is that I have them a little more developed, and, secondly, I can actually recover them."

Some 113 million blogs range from engineering to poetry to diapers to sunsets, you name it. Economists' blogs occupy an impressive niche in this new social media universe. The authors of the best-selling *Freakonomics*, for instance, write a blog hosted by the *New York Times* that bobs around in the

top 60 of all blogs, according to the authority of Web log traffic, Technorati. And the top 10 economics blogs appear in that list's top 5,000, according to economist Aaron Schiff, who uses Technorati data to rank economics blogs on his Web site. He chalks the popularity of the econblogs up to the zeitgeist into which books such as *Freakonomics*, Tim Harford's *The Undercover Economist*, and a raft of others have tapped. "The public is increasingly realizing that economics has a lot of useful things to say about their daily personal and business lives," Schiff notes. "And economists are becoming better at communicating in relatively plain language."