

Unsteady State

The ongoing evolution of mainstream economics

BY DOUG CAMPBELL

In the spring of 2003, a dozen economists quietly gathered in a hotel conference room in downtown St. Louis to talk about the state of their profession. They shared a general malaise. In their view, academic economics had become too narrow and too rigid, and scholarly articles too abstract, technical, and disconnected from the real world.

“We had a sense that economists were failing in an important sense to bring economic insight to bear on public understanding and public policy,” recalls Dan Klein, a professor at George Mason University in Fairfax, Va., who organized the gathering.

Out of this meeting was born a new economics journal — *Econ Journal Watch*, with its premiere issue in 2004. Published three times a year and edited by Klein, the journal consists mainly of refereed “Comments” essays that critique articles in other economics journals, sometimes questioning their data, other times their premises or their logic. The stated mission is to watch “the journals for inappropriate assumptions, weak chains of argument, phony claims of relevance, and omissions of pertinent truths.”

To be clear, Klein and his fellow journal organizers belong to a specific ideological strain. (And there are plenty in the profession who do not share their malaise. After all, the mainstream is still, well, “the mainstream.”) Klein calls them the “Smith-Hayek-Friedmans,” after Adam Smith, author of *The Wealth of Nations* and generally regarded as the founding father of economics; Friedrich Hayek, a Nobel Prize winner known for his defense of free markets and contributions to what became known as the “Austrian School” of economics; and Milton Friedman, another Nobel Prize winner whose work became synonymous with the neoclassical “Chicago School” and whose essays galvanized public interest in economic principles.

Those who follow in this tradition are pretty close to being mainstream economists, though perhaps even more free-market tilting and not as technically oriented as those who preside over the field’s top journals. It is not surprising that their journal is at heart a critique of the economic orthodoxy. But it is only one of many critiques, some from the far end of the ideological spectrum and others rather close to the middle.

Klein and his cohorts want to know why more economists aren’t addressing the Big Questions. Where are the plain-spoken economists of yore who helped guide public opinion? As Klein puts it: “There’s this lingering question of people of my ilk — why isn’t there a Milton Friedman today?”

Questions from other camps also abound. As is natural during turbulent times such as these, many questions focus on macroeconomics — the study of economy-wide phenomena. Income inequality is widening and more domestic jobs are being lost to free trade. The recent credit market turmoil provides numerous examples of borrowers and lenders making poor choices. Is economics too set in its ways to consider alternative explanations for how individuals and firms make decisions?

It’s a fair question. But it would be unfair to suggest that it is going unanswered. As it is, many view the supposed failings of high-level economics as greatly exaggerated. Is macroeconomics too theoretical? Perhaps in some cases, but it’s unlikely you can devise workable policy proposals without first establishing a solid theory about how people will react to those new policies. Too much math? Well, the fact is that economics is a quantitative field. Especially for the purposes of conducting macroeconomic policy, quantitative judgments are essential. Helen Tauchen, associate chair of the economics department at the University of North Carolina, Chapel Hill, says: “The inherently dynamic nature of economic decisions, the statistical difficulties in using nonlaboratory data, and the complication of handling interactions among strategic agents all require nontrivial mathematical approaches.”

In this issue of *Region Focus*, we describe how economics is trying to get at the Big Questions — the way the field is embarking on a reorganization, how its members are communicating with each other and nonspecialists, and how their research focuses are shifting.

By no means is this an exhaustive exploration of the state of economics, and the following historical summary is just that — a heavily abridged and simplified review to help place these articles in historical context. We aim instead to capture the uniqueness and — most of all — the enthusiasm

that permeate the economics discipline today. In fact, debate among economists is in some ways livelier than ever, with universities experiencing a heyday in applications and enrollment; blogs providing informal venues for discourse; and exciting new research frontiers beginning to produce real results.

A Brief History of Economic Thought

In the beginning, there was Adam Smith. The “classical model” of the economy that is attributed to Smith — as well as David Ricardo and John Stuart Mill — assumed that markets exhibited perfect competition; that people make decisions based on real, not nominal, values; and that these people are basically the same in their preferences and economic behavior. Obviously, this was an oversimplification that limited the model’s reach. For instance, in the classical model there are no business cycles — the historical boom-bust sequence of economic fluctuations. Output is determined by changes in aggregate supply, which in turn is often adversely influenced by government interference. Hence, classical economists were advocates of a “laissez-faire,” or hands-off, approach.

While the next 200 years were eventful, the classical model maintained its dominance. But with the Great Depression came great change in the prevailing economic paradigm. In 1936, John Maynard Keynes published *The General Theory of Employment, Interest, and Money*. Few works have so shaken up their disciplines. Among the differences between Keynes and his predecessors was that he provided a model which encompassed both the macroeconomy — an aggregate description of how the economy works — and the microeconomy. He also put short-term conditions at the forefront, famously remarking, “In the long run we are all dead.”

The key to what became known as the Keynesian model was aggregate demand. (Over the years, you see some clear differences in beliefs between Keynes and the practitioners who call themselves Keynesians.) Keynesians relied on the so-called IS-LM model, which showed how demand was impacted by changes in investment and savings (IS) and changes in liquidity and money (LM). In this model, shifts in consumption levels as well as investment can have an effect on demand.

Keynes himself thought people formed their expectations based on “animal spirits” and not economic fundamentals. As a result, aggregate demand tended to move erratically along with the mood of the marketplace.

Keynesians also believed policymakers had several key tools with which to bring about changes in consumption and, by extension, aggregate demand. Fiscal policy — raising or cutting taxes — is one way that Keynesians believed the economy could be fine-tuned.

Keynes also provided an answer to why the Great Depression occurred: High expectations about the future occurred in the midst of a stock market bubble and the economy’s general overproduction of goods. This in turn

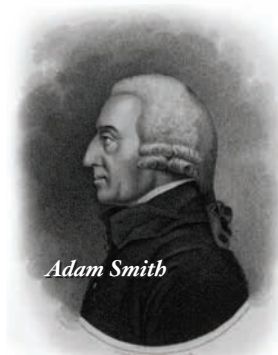
reduced investment and popped the stock market bubble. Wall Street’s crash lowered wealth and spurred low expectations about the future of the economy, both of which had the effect of further reducing investment and consumption. In sum, aggregate demand collapsed. To reverse the situation, Keynesians advocated stimulating demand via government spending.

Keynesians ruled the policy world for at least two decades after World War II. But then the monetarists, led by Milton Friedman, entered the picture. The monetarists from the University of Chicago held that changes in the money supply were the real driver of business cycles because of their ability to change aggregate demand.

Where Keynesians believed that prices and wages were somewhat “sticky” because markets were not perfectly competitive, monetarists believed that expectations about the future were stickier. These “sticky expectations” were the main culprit in upsetting the process of getting supply and demand back into equilibrium. It was this backward-looking nature of expectations that allowed a loosening of monetary policy to have (temporary) stimulative effects on real production and consumption in the economy. But that effect would wear off as expectations eventually caught up with increases in realized inflation. Thus, the central bank’s main job should be to avoid causing inflation by tightly controlling the money supply. From monetarists came the maxim: “Inflation is always and everywhere a monetary phenomenon.”

In the mid-1970s Robert Lucas articulated his “rational expectations” hypothesis, which has endured as arguably the most influential contribution to macroeconomic theory ever since then. Lucas tended to agree with monetarists, but he added the notion that people form their expectations of the future by using all available information — they are forward-looking more often than they are backward-looking. He also suggested that they are unlikely to make predictable, systematic errors. While a monetarist would have assumed people would react to inflation only upon experiencing it, a disciple of rational expectations believes people will see that expansionary monetary policy could lead to higher inflation, and thus immediately incorporate that information into their financial behavior.

The famous example is a football game — data show that throwing passes leads to more touchdowns than simply running the



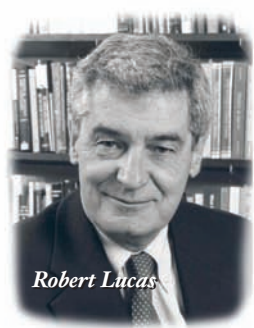
Adam Smith



John Maynard Keynes



Milton Friedman



Robert Lucas

ball. So should a team simply throw the ball all the time? Of course not, because the defense would respond with new formations to quash a pass-only offense. The Lucas critique at heart pointed out what should have been obvious: People's behavior will change as policy changes.

From the perspective that markets contain much imperfect information or firms and people face constraints on their borrowing, for example, the rational expectations theory provides a useful framework for understanding the economy. More to the point, it remedies the main problem with previous economic theories.

Closely associated with the rational expectations approach is "real business cycle" theory, developed by eventual Nobel Prize winners Finn Kydland and Edward C. Prescott, and which held much sway during the 1980s. So-called RBC models emphasized the importance of the supply side of the economy in determining output. They also drew heavily from microeconomic principles — the rational individual responding to incentives who tries to maximize the "utility" of his marginal decisions over time as well as the tendency of markets to move toward equilibrium. In RBC models, prices and wages change rapidly.

The New Keynesians arrived in force by the late 1980s to build upon the neoclassical/rational expectations/RBC approaches. New Keynesians come in several forms, but in general they believe that sticky (or slow-changing) prices and wages are the key to understanding the effects of monetary policy, which in turn is central to economic output. New Keynesian models also take into account the possibility of both demand- and supply-driven recessions.

Where Are We Now?

For macroeconomists, a leading notion is that they have achieved a "new neoclassical synthesis," a term coined in a 1997 paper by former Richmond Fed economist Marvin Goodfriend and Robert King, a Richmond Fed visiting scholar. In the 1960s, Goodfriend and King argued, the original synthesis included the acceptance of the common optimization tools of microeconomics, a belief in the power of sticky prices, and the need to provide useful macroeconomic policy advice.

The new synthesis marries Keynesian short-run demand policies with classical let-the-market-decide microeconomic policies. It combines the most compelling parts of Keynesian and classical models with rational expectations, monetarist, RBC, and New Keynesian theories. "There are new dynamic microeconomic foundations for macroeconomics," Goodfriend and King wrote. "These common methodological ideas are implemented in models that range from the flexible, small models of academic research to the new rational-expectations policy model of the Federal Reserve Board."

One thing that should be clear at this point is that the dominant economic paradigm has shifted significantly over the years, sometimes abruptly, and that at any given time many economists disagree with the prevailing economic paradigm.

The economy is, at this writing, experiencing a downturn of, as yet, an undetermined length and magnitude. Macroeconomic models may do very well at theoretically evaluating the effects of various policies, but how confident is anyone, including the people who build the most widely used models, that they can really help forecast or understand the economy?

At a more fundamental level, today's questions have centered on the perceived rigidity of the economic orthodoxy. Last year, the *New York Times* looked at how some economists felt like outcasts after raising doubts about the uniform virtues of free markets. Alan Blinder, a former Federal Reserve Board governor, was quoted as saying that "there is too much ideology" and that economics was too often "a triumph of theory over fact." Economics blogs spent weeks debating an article in *The Nation* that spotlighted the "heterodox" wing of economics and described the mainstream as smug and inflexible to new, possibly better ideas. In an April op-ed piece in the *Boston Globe*, economist Richard Thaler and legal scholar Cass Sunstein used the mortgage crisis as an example of the failure of economic orthodoxy. After the fact, it's clear that credit was extended to all sorts of people who shouldn't have received any. In response, Thaler and Sunstein favor the emerging field of "behavioral economics," in which "the robot-like creatures who populate standard economic theories are replaced with real human beings."

Some of the criticism is to be expected, both in terms of its timing (accompanying the downturn) and from its sources. For example, John Willoughby, chairman of the economics department at American University in Washington, D.C., wonders why so many economists seem to ignore growing bodies of research. "The rational expectations, dynamic programming models seem to me to bear very little connection to what economists actually do when trying to stabilize the economy," Willoughby says. "There are a lot of interesting things being done in behavioral and experimental and game theory that challenge the notion that there's one sort of steady state to which the economy is heading — not that most economists strictly believed that but even as a theoretical framework I think that's breaking down."

On the other hand, someone like Alan Blinder is hardly out of the mainstream. Nor is Thomas Nechyba, chairman of Duke University's economics department, who worries that macroeconomics in particular has become too theoretical. "There is a new paradigm in the more micro-based way we are doing macro. But if it can't succeed in explaining actual data, the stylized facts that are out there, and do it in more than a calibrated model with replicated facts — I think it's going to be in trouble."

Tom Humphrey, who retired from the Richmond Fed in 2004, is a historian of economics who remains engaged in the profession. Humphrey says he takes a relatively optimistic view. By no means is economics in crisis, he says, and one should not be overly restrictive in defining what a "main-

stream” economist thinks. Even a diehard neoclassical economist might agree that in the short run people can behave irrationally and make mistakes.

Watchdogs

One of the traditional mechanisms that defines the intellectual currents in economics are the journals. As in other academic disciplines, article submissions are vetted by other economists before acceptance. The big journals — *American*

Economic Review, *Journal of Political Economy*, *Quarterly Journal of Economics*, and *Econometrica* to name a few — naturally tend to accept papers that agree with the worldview of the referees. That’s not an easy thing to change so it may take awhile for generally accepted paradigms to shift as well.

But what can accelerate the shift is an open, intellectual exchange of the ideas, theories, and methods that appear in the leading economics journals. At least that is what Klein and his cohorts at *Econ Journal Watch* hope. Klein does not

Q&A: General Equilibrium Models

General equilibrium models are the preferred tool of many macroeconomists today. To get a better understanding of these models, we asked Richmond Fed economist Kartik Athreya to explain.

What’s a standard general equilibrium model?

General equilibrium refers to situations in which the desires of consumers and producers for all commodities under study are simultaneously reconciled. A standard general equilibrium model is the “competitive” one, where consumers and producers meet in markets in which both parties assume that the prices of goods are beyond their control. A competitive general equilibrium occurs when we’ve found a set of prices that leads households to demand precisely the amount that firms wish to produce at those prices.

At its heart, a general equilibrium model is a collection of two objects: One is a set of assumptions about the behaviors of households and firms, and the other is an “equilibrating” institution, which is how the actions of individual actors restrict each other. The behavior assumed for households is that they are utility maximizing — they make themselves as well-off as possible given their constraints. For firms, it’s profit maximization. All general equilibrium models are going to have these two ingredients. The big achievement of competitive equilibrium theory was to show that “usually” — if households and firms took prices as given when optimizing and paid no attention to anything but these prices — supply would equal demand in all markets.

What’s a dynamic stochastic general equilibrium (DSGE) model?

It’s any general equilibrium model in which the actors must make decisions over time in an uncertain environment. Firms look forward to the future and households think about retirement — that’s the dynamic part of the model. “Stochastic” refers to the fact that economic actors in the model face uncertainty. And equilibrium in this case refers to the presumption that supply equals demand in markets for goods traded both in the present as well as in the future. In models where prices equilibrate competing interests, people’s expectations of the future values of prices must be specified. In standard DSGE models, these expectations are

assumed to be correct — not always, but on average.

In the context of monetary policy, people have started employing these models because they think expectations of future inflation are something important to guide the behavior of actors. These models take a big step toward escaping the Lucas critique (which states that relying on historical data is misleading because people will change their behavior based on changes in policy) because the actors are modeled as always reacting optimally to policy changes.

What do you feed into these models?

In the model, the attitudes of households and the capabilities of firms will be given mathematical representations that are summarized in a set of numbers that we call “parameters.” For example, the way that people value future consumption relative to current consumption, or how averse to risk households are. In assigning numerical values to parameters, we let agents operate under current policies and then ask, “What numbers must be chosen for the parameters such that the equilibrium behavior of the model matches what we see in the real world?” This strategy is called calibration.

What do you get out of these models?

You predict outcomes for all the objects that the actors in the model care about. For households, the goal of the model is to deliver predictions of how much people will consume and work at different dates and under different circumstances, and what prices they will face. For firms, it’s often how much they will produce and invest.

How big is a typical DSGE model?

They’re small in the sense that I can describe a model to you in five or six equations. For most models, a single page would summarize them, and their solutions can be obtained in minutes, if not seconds, on many computers. They’re big in the sense that they presume that individual actors are acting as if they perform fantastically complicated computations. The old “non-equilibrium” models were actually much bigger. The internal consistency required of the current models makes their computation grow rapidly more demanding as they get “larger” and has so far prevented most of them from getting too big.

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**

READINGS

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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."

Find and Link

Over the past decade, Web logs have evolved from mere collections of links into vehicles of expression that use graphics, audio, and even video. Many bloggers — authors of Web logs — invite readers to post comments, and that creates a forum for worldwide public conversations.

“Now, thanks to the Web and blogs, the public can participate easily,” Schiff says. In the two-way exchange, both sides learn. Comments, however, can be occasionally inappropriate and also take time to monitor. That’s why economist Greg Mankiw disabled the comments feature on his blog in 2007.

Rodrik’s blog attracted immediate attention, most likely because he’s a well-known academic. The blog attracted a post from Harvard colleague Mankiw, an early and widely read blogger and also a high-profile academic. The new blog went from about five hits a day to roughly 6,000.

Blogs can form bridges across disciplines and connect readers from disparate backgrounds. Rodrik records thoughts on his blog at least five days a week, and sometimes links to empirical research, often inspiring swift commentary of high quality.

“I’m also struck by how I get pushback,” he says. “I’m known for a certain kind of views. I hear from certain readers who are critics of those views, which is great — it shows me that I’m not just preaching to the converted.”

As bloggers post comments and link to academic papers, readers can shortcut to the expanding body of economic research. Blogs’ historical antecedents lie in letters, conferences, pamphlets, journals, seminars, informal lunches, and watercooler chats.

But the immediacy and range of this particular channel is unprecedented. “In the past I think it was very hard for specialists in a field to communicate with nonspecialists,” Schiff says. “This has changed dramatically in the past 10 years or so, and I think it’s a great thing.”

Explanatory Economics

Blogs may offer the best way to follow unfolding economic events, says Tyler Cowen. He co-authors the blog *Marginal Revolution* with his George Mason University colleague Alex Tabarrok. *Marginal Revolution* was one of the first of its ilk in 2003 because “we saw there was a scarcity of excellent economics blogs and thought we could make our mark,” Cowen says.

And they have: It often ranks first or second among economics blogs on Schiff’s Web site, along with *Freakonomics*. Economics blogs can penetrate complicated news stories about the economy because economists just “understand it better than most journalists,” Cowen says.

While the prose in economics papers can be obscure and hard to follow, economics bloggers explain difficult concepts and place research in context.

Economics research in particular lends itself to blogging because there’s a bottom line. “With economics, you state the main empirical result in a paragraph, link to the paper, to

some definite claim,” Cowen notes. “It’s a dialogue, people link back and forth, add to each other’s points. So there’s this open window into the world of economics that you don’t get in other fields.” Most of his readers are not economists, he says, yet they offer important insights. And Cowen ranges widely on the blog — from food to country music, for instance — complete with revenue-producing links to Amazon.com.

“I find [the blog] keeps me very sharp especially because you have open comments. If you say something wrong, you get zapped immediately.”

Even a cursory review demonstrates that blog posts can touch nerves, yet remain civil — even friendly. Some veer toward ideology, and that defines a certain readership, from free-market blogs to liberal Paul Krugman’s blog at the *New York Times*.

“Blogs need to distinguish themselves from one another, and one way to do that is by ideology,” Schiff notes. “I would say that *Freakonomics* and *Marginal Revolution* are pretty neutral,” he observes. “On the other hand, Paul Krugman is very political and Greg Mankiw somewhat less so.”

This dissemination of economic thought and the accompanying controversy seem positive. Economist John Whitehead says he catches heat on the blog *Environmental Economics* that he writes with co-author Tim Haab. While his “geeky” research ideas don’t spike traffic, his posts about global warming economic policies do. Take the debate about whether carbon taxes will reduce greenhouse gas emissions more effectively than cap-and-trade policies. “The party line [in economics] is that carbon taxes are superior for dealing with climate change,” he says, adding that he supports a cap on carbon emissions and the trading of those allowances.

“I get ripped pretty hard from economists about that,” he says. “Every time I mention cap and trade I get a flood of comments.”

Policy economists, of course, find the blog an essential tool. On Mother’s Day, Diane Rogers started the *Economist Mom* blog, “where analytical rigor meets a mother’s intuition.” She wanted to go beyond conventional research papers, conferences, and issue briefs to bring discussions about fiscal responsibility to a wider audience. “It’s such a big and important issue for the future of our economy, the economy our children will inherit.” Rogers works for a nonprofit advocacy group in Washington, D.C.

The popularity of these econblogs can only enhance economic education. Every day, Cowen receives 70-some blog-related e-mails. “This notion that you can wake up every day and read the top minds in the field talking to each other ... I think it’s phenomenal and it’s all free. People still underestimate what a breakthrough this is, for economists and the world of ideas in general.”

The Podium

Blogs enhance economics instruction, professors say, with timely examples that textbooks can’t provide. Try it. Sit down with an economist via blog for cyber conversations

about taxes or global warming or gas prices or strategies in wine gifting or ways to divide housework. Those two latter ideas come via Tim Harford, an economics columnist with the *Financial Times* who also writes a blog.

Readers can enjoy lively debates, sometimes accompanied by YouTube videos. Harford and behavioral economist Dan Ariely of the Massachusetts Institute of Technology conducted such an online exchange last spring about the assumptions of irrationality in economics. A subsequent video post showed Ariely debating a picture of Harford pasted above a sofa.

Blogs replace the office door for economist Craig Newmark of North Carolina State. He used to clip and post, but now does so virtually on his blog, appropriately titled Newmark's Door, started in 2002.

"One thing I've found recently is that I've had more than a few students tell me that they are learning from my blog," he says. (Students are often surprised that he blogs. Go figure.) It's no accident that many economics bloggers also teach. "People who teach feel they have something to communicate," Newmark says.

While Newmark blogs purely for pleasure, he says the blog earns him and his wife about \$10,000 a year. He gets some 400 hits a day, but that was bumped up in January and February to 650 for reasons that are unclear to him, he says.

On the downside, blogs can use up valuable research time. A successful blog takes effort to prepare and maintain because it requires more than an occasional post. Instead, blogs need regular updates. People "visit," if not every day, several times a week. For that reason, comments and responses take on a familiar, informal tone. "If you look at it as a snapshot, you miss a big part of what is going on," Cowen notes.

Blogging and Big Ideas

OK, so maybe this generation of blogging economists won't extract a deep enough insight to win the Nobel Prize in economics in 30 years, but you never know. The effects of blogs on traditional academic research are unquantifiable. But research can circulate via blogs, and the collegial nature of the virtual economics department inspires research.

Since we don't know how great minds detect the germ of an idea, a blog is as good a way as any to generate inspiration, says economist William Trumbull, who heads the economics department at West Virginia University. "Where, for example, did John Nash get his ideas for game theory?" Trumbull asks. "It could have been some chance thing, a snippet of a conversation he overheard. It could have been no more significant than something you'd read on a blog."

Academic currency, however, is measured by the number of publications in traditional refereed journals. Blogs seem unlikely to affect that content, says economist Daniel Hamermesh, "except to the extent that the time people spend writing the stuff reduces the quantity and quality of their research." Hamermesh guest blogs for Freakonomics.

Yet blogs popularize research, explain it, bring it to a

wider audience with a mere plug and a link, and can also broadcast ideas that may interest nonacademic publishers. Marginal Revolution has led Cowen to a book contract and a column in the *New York Times*.

And all this would be impossible without an audience, the readers who participate in this social and quasi-academic enterprise. "People tell you about new stuff," Cowen says, and that sets his mind in motion. Plus, he reads widely to keep Marginal Revolution fresh and lively; while he doesn't spend more than an hour or so actually writing a post, he's up late reading. But he'd be doing that regardless.

Posts and ensuing comments provide value and insights. It's more than just a new channel. It changes the way people think and track ideas, and could ultimately influence and affect scholarship, for better or worse.

"University professors spend a lot of time talking about ideas," Newmark says. "If you go to lunch, 50 percent of the talk is about ideas; now we can widen that conversation." While he doesn't want to exaggerate that impact, "it has more than zero effect."

But publication in academic journals remains the priority. "I think any exposure you might get through blogging is just an additional side benefit," Schiff notes.

Blogs could affect research choices and that's not necessarily negative. "Ultimately academics will care about getting published in journals and the opinion of other economists matters more than blogging," Schiff adds. To Cowen, blogs enhance research. "So many academics and economists work on little things that nobody cares about," he says. "If this brings a shift from that, then that's for the better." If a paper is unsound, experts instantly weigh in. That's an immediate and public check that differs from the mysterious referee process.

"It definitely gets people to work on more popular topics. For me that's a good thing," he continues. "It gets people to write more clearly, [for] more people than your 20 specialists."

Blogging also hones research instincts. Whitehead, now that he's blogging, reads more, including other blogs. "It used to be I'd have a geeky research paper and be at a loss at the end about how to sell it in terms of policy and practical applications," he says. "Now, I always seem to have a handle on what makes the paper halfway important or what policy it can be applied to."

Blog technology could also speed publishing. Professional organizations could sponsor blogs enabling real-time discussions on papers rather than formal comments years after publication. "Research could be a whole lot more efficient," Whitehead says. Already, journals publish online as soon as they're ready. But the Internet could speed the discussion and research part of it.

There is a trend toward open publishing, such as the online journal, *The Economists' Voice*, edited by Nobel Prize winner Joseph Stiglitz, along with co-editors Brad DeLong and Aaron Edlin. The journal's editors publish articles, often by prominent intellectuals, that are often

picked up by major newspapers.

Bloggers see their Web sites as complements to scholarship rather than substitutes. “I can’t really see any negative effects from that,” Schiff says. “And the obvious positive effect is that it exposes people to things that otherwise might only get published in academic journals.”

Still, it’s not clear that blogging can enhance a career. Most, if not all, economics bloggers write from the lofty position of tenure. But not all bloggers in every academic discipline do. Rodrik probably wouldn’t blog if he were seeking tenure at a top academic institution. “I guess I’m sufficiently established that I don’t give a damn,” he says.

The blogging wave may have crested but there’s always

room for another voice, however difficult to discern among the cacophony. “For someone like me who is less well known [than Krugman or Rodrik],” Schiff says, “it takes a much longer time to build up a readership.”

As technology evolves, so will the blog, its authors, and dynamic audience. The whole enterprise may embody the ideal of the influential economist Friedrich Hayek, who believed in the power of decentralized, unplanned activity — “spontaneous order.” While there’s no coordination per se, it’s kind of a market where rules emerge, Craig Newmark says.

Perhaps it’s not surprising that some of the Austrian thinker’s devotees have a blog called Café Hayek. **RF**

Is Rational Man Extinct?

Searching for *Homo Economicus*

BY STEPHEN SLIVINSKI

The audience that gathered in the ornate concert hall for that night’s ceremony probably noticed the similarities of the two guests of honor standing next to each other on stage. Both wore tuxedos accented by white bowties and vests as was appropriate for the occasion. Both wore glasses and were about the same height.

But the audience probably noticed a difference too. The guest of honor standing on the right sported a ponytail that reached almost halfway down the back of his tuxedo jacket — a rare sight at a ceremony like this.

Delving into each man’s biography, the spectators might have noticed more differences. The man on the left was born in Tel Aviv and studied psychology as an undergraduate because it struck him as more practical than philosophy. The ponytailed man was an economist born in Wichita, Kan., who, before pursuing the study of economics, started out his academic life in electrical engineering because he wanted to avoid the harder math classes required of physics students.

Yet there was an overriding similarity that evening, and it was the reason for the tuxedos. Both men were about to be awarded the Nobel Prize in Economics.

The date was Dec. 10, 2002. The man on the left was Daniel Kahneman; the man on the right was Vernon Smith. Both are regarded as academic pioneers for their use of laboratory experiments as a way to test the basic premises of modern economics. Yet the conclusions that each came to over decades of their own research appear at odds with each other. At issue is a fundamental question that cuts to the root of economic methodology: Do people act rationally in a market setting and what does that mean for the study of economics?

Or, to put it another way: Did *Homo economicus* ever walk the earth and, if so, is he now extinct?

Homo economicus is a metaphorical species of human who is able to, as economists say, optimize. He exhibits rationality in the economic sense by making decisions, even in uncertain situations, based mainly on self-interest and a strong grasp of the alternatives at hand. The mathematic and analytical models that are the stock in trade of modern economics rely on the prevalence of this form of human for markets to reach equilibrium.

The group of researchers who call themselves “behavioral economists,” like Kahneman, believe people don’t often act that way in reality and have run multiple experiments to try to prove it. On the other side of the debate are Smith and his colleagues — the “experimental economists” — who have been able to show that markets can reach equilibrium when subjected to the right sort of tests in a laboratory. Yet, if people are indeed fundamentally irrational in the economic sense, would they really be able to make the kinds of decisions which help bring the market to equilibrium?

The debate about whether there ever was such a creature as *Homo economicus* has recently broken into the mainstream media discussion about how economists view the world. It’s a discussion that has been at least 50 years in the making and probably won’t end soon.

Efficient Markets and Irrational Men

Vernon Smith notes that his brand of experimental economics began with a bout of insomnia. He was teaching at Purdue in 1955, and in the middle of one particular night he began to think about an experience he had at Harvard as a graduate student.

Economist Edward Chamberlin had run a series of experiments with various groups of Harvard students when Smith was pursuing his Ph.D. Chamberlin would tell some students in this experiment that they were buyers and the rest sellers. He would then give them a card with a number on it. For the sellers, that value represented the minimum selling price for the unit of good they needed to sell; for the buyers, it stood for the maximum buying price. On paper, these values corresponded to places on a hypothetical supply or demand curve. Then Chamberlin let the students circle the room and negotiate whatever contract they wanted. Once a bargain had been struck between a buyer and a seller, the transaction was recorded on the classroom blackboard.

What Chamberlin had in mind was an experimental test of competitive equilibrium theory, which suggests a market will converge on a single price where supply and demand overlap. Instead, his experiments produced trades at substantially different prices, and the observed average price was actually lower than equilibrium theory would predict.

The paper Chamberlin published on the experiments went virtually unnoticed by the economics profession. But Vernon Smith had taken part in one of these experiments and thought there might be something more to them.

“So, there I was, wide awake at 3 a.m., thinking about Chamberlin’s silly experiment,” Smith recounted in a 1991 essay. “The thought occurred to me that the idea of doing an experiment was right, but what was wrong was that if you were going to show that competitive equilibrium was not realizable ... you should choose an institution of exchange that might be more favorable to yielding competitive equilibrium. Then when such an equilibrium failed to be approached, you would have a powerful result.”

Smith’s experiment made two main changes to Chamberlin’s design. The first was in structure: Smith decided to use a “double auction” mechanism in which buyers and sellers called out their bids and the successful trades were recorded by the moderator, an arrangement that more closely mimicked a real-life commodity or stock exchange. He also tried the experiment with the same group of people for multiple rounds to allow them to learn from their previous experience.

A competitive equilibrium emerged from this more structured market environment. Smith initially didn’t believe the results so he tried it with another set of students. And then another. Over the following several years, he found himself producing experimental results that exhibited stunning consistency and robustness. Competitive equilibrium theory was being vindicated.

Meanwhile, a political scientist named Herbert Simon at Carnegie Mellon University published a 1955 *Quarterly Journal of Economics* article titled, “A Behavioral Model of Rational Choice.” With this essay, Simon opened up a line of inquiry that for years to come would challenge the foundation of classical economics.

“Traditional economic theory postulates an ‘economic man,’ who, in the course of being ‘economic’ is also ‘ration-

al,’” wrote Simon. “Rather, I shall assume that the concept of ‘economic man’ ... is in need of fairly drastic revision.” The means by which Simon did this was to bring into the analysis some insights from psychology. He posited that humans have natural limits on their cognitive ability. So instead of supposing a rational man who can instantly reason to the optimal solution to a problem, Simon thought economists should define the agents within their models as exhibiting “bounded rationality.” This uniquely human form of rationality is one in which a person arrives at a solution that may not be perfect in a computational sense but is simply good enough to satisfy them. “Because of the psychological limits of the organism ... actual human rationality-striving can at best be an extremely crude and simplified approximation to the kind of global rationality” that is often implied in economics models, Simon wrote.

Simon received a Nobel Prize in Economics for this approach in 1978, making him the first noneconomist to win that prize. But the research program that eventually became known as behavioral economics didn’t really come into its own until psychologist Daniel Kahneman and his co-author Amos Tversky (a cognitive psychologist based at Stanford University before his death in 1996), began to make their mark on the economics profession.

One of the first high-profile articles their collaboration produced appeared in the journal *Econometrica* in 1979 — a contribution that would turn out to be the most-cited article in that journal’s history. In it, the authors proposed a new way to look at how people make decisions. They too suggested that people do not weigh risky choices the way a computer (or *Homo economicus*) would.

They tested this insight with a series of experiments in which participants were asked if they would accept certain gambles. The result was that people’s answers tended to diverge from what they would be if the respondents were optimally assessing the true risks of each gamble. That’s because, Kahneman and Tversky posited, people don’t think in terms of traditional probability theory. People instead think in terms of the prospects for losing what they already have.

“If you think in terms of major losses, because losses loom much larger than gains — that’s a very well-established finding — you tend to be very risk-averse,” Kahneman told *Forbes* in 2002.

“I’ll give you an example: Suppose someone offered you a gamble on the toss of a coin. If you guess right, you win \$15,000; if you guess wrong, you lose \$10,000. Practically no one wants it. Then I ask people to think of their wealth, and now think of two states of the world. In one you own [your current assets] minus \$10,000 and in the other you own [your current assets] plus \$15,000. Which state of the world do you like better? Everybody likes the second one. So when you think in terms of wealth — the final state — you tend to be much closer to risk-neutral than when you think of gains and losses.”

Kahneman’s conclusions spawned a host of articles that

sought to displace the old assumptions about rationality in economics. The collection of observations were grouped loosely under the umbrella of what came to be known as “prospect theory.”

After the publication of the *Econometrica* article, Kahneman began collaborating with economist Richard Thaler, currently of the University of Chicago, on a few experiments that were meant to flesh out the boundaries of prospect theory. What they and their colleagues discovered would stand for about 20 years as one of the more enduring insights of behavioral economics. New research, however, has begun to call into question the robustness of some of these results.

The Endowment Effect

Imagine that you decide to participate in one of these behavioral economics experiments. When you show up at the lab, you are given either a ballpoint pen or a coffee mug. Which one you get is decided by purely random chance. Then you're asked if you'd like to trade what you've been “endowed” — that's economist-speak for what you've been given. In this case, say it's the mug. If you decide to give up the mug, you'll get the pen which, you are told, is of equal value.

Behavioralists predict, based on the many versions of this experiment they've conducted, that you probably won't trade the mug for the pen. But it's not because the mug is inherently nicer than the pen. In fact, when the option to take home the mug is given to those who have the pen, most of them decide not to trade either.

According to standard economic theory, that shouldn't happen. Since the goods were randomly distributed, there should be much more trading in these experiments than actually occurs.

Behavioral economists call this the “endowment effect.” It predicts that the subjects in the experiment would have an inherent aversion to losing what they already have. Parting with the endowed good is perceived by the mug holders as a loss greater than the potential gain from acquiring another good of equal value. If true, this could tarnish some of the classic notions about the efficiency of markets and the ability of people to trade rationally within them. A world in which some trades don't occur simply because too many people are scared of parting with their goods would be one with many suboptimal economic outcomes.

Economists Charles Plott of Caltech — a pioneer in experimental economics — and Kathryn Zeiler of the Georgetown University Law Center, were able to duplicate the results of these experiments (particularly one by Kahneman and Thaler, but also one by their occasional co-author, Jack Knetsch, currently of Simon Fraser University). But when they did so, they began to notice some interesting things.

For instance, in the original experiments, subjects were told to raise their hand when they wanted to trade their good for the other good. When Plott and Zeiler ran the

same experiment, they noticed that subjects were looking to others for cues. “When we asked them after the experiment how they made their decision, many of them said they looked around the room to see what other people were doing,” says Zeiler. So, Plott and Zeiler decided to rerun the experiment and introduce a secret ballot in which players mark their decision to trade or not on a note card.

They didn't take for granted any other element of the original experiments either. They even played around with the procedures by which the good was handed to the experiment's participants. In the original experiment, the subjects were told, “I'm giving you the mug. It is a gift. You own it. It is yours.” But Plott and Zeiler speculated that might have signaled a certain high level of value for the mug. Besides, the subjects might not know if the pen they might get as a result of the trade is really any good. So, Plott and Zeiler simply told the participants: “The mug is yours. You own it.”

They also adjusted for other possible factors that might have skewed the original results. The participants got to inspect the other good before they made their choice. None of these were options given to the participants in early endowment effect experiments of Kahneman and Knetsch.

“Once you control for these other things that might be causing the gaps — even if you leave in place all conditions necessary to trigger prospect theory — you don't see gaps anymore,” says Zeiler. “If endowment effect theory was correct, we should still see those exchange asymmetries.”

It's a good example of how rules and institutions can change an experiment's outcome. In fact, that's a crucial element in the debate between behavioralists and experimentalists. The experimentalist camp's main critique is that modern behavioralists are interested mostly in uncovering deviations from the textbook versions of rationality, not in discovering whether there is something unique about markets that help people reach socially beneficial outcomes. For instance, some behavioral experiments don't give the subjects an opportunity to learn from their mistakes in the context of a market mechanism or a trading situation that is repeated more than once. Yet markets in the real world provide no shortage of educational experiences and repeat encounters.

Rediscovering *Homo Economicus*

“In principle, as I see it, experimental market economics and behavioral economics are complementary,” writes Vernon Smith in his most recent book. The man who sought to make economics a more experimental enterprise in the first place instead suggests that the goal of experiments should be to more closely approximate real-world markets.

In many of Smith's own experiments, the markets in the laboratory reach a competitive equilibrium even though the traders don't consciously realize how optimal their behavior really was. As he wrote in 1991, “subjects are not aware that they are achieving maximum profits collectively and

individually, in equilibrium, and, in fact, deny this when asked.”

Humans do seem to optimize, in the aggregate, over a long time period. Experimental research provides solid evidence that a structured market environment is important to this process. In the real world, laws and trading procedures are essential for markets to function well. And experiments can give us critical insight about how best to structure those rules.

Progress needs market participants who can learn from

experience too. “People can make a lot of cognitive ‘errors’ on the way to creating a new market,” writes the once-ponytailed Smith. (Eyewitness accounts confirm he opted for shorter hair sometime in 2007.) “What are important about individual choices are the decisions that cause people across time and generations to change tasks, locations, and directions in an effort to better themselves in response to market prices.”

In other words, there is still a little *Homo economicus* in all of us. We just have to know how to lure him out of hiding. **RF**

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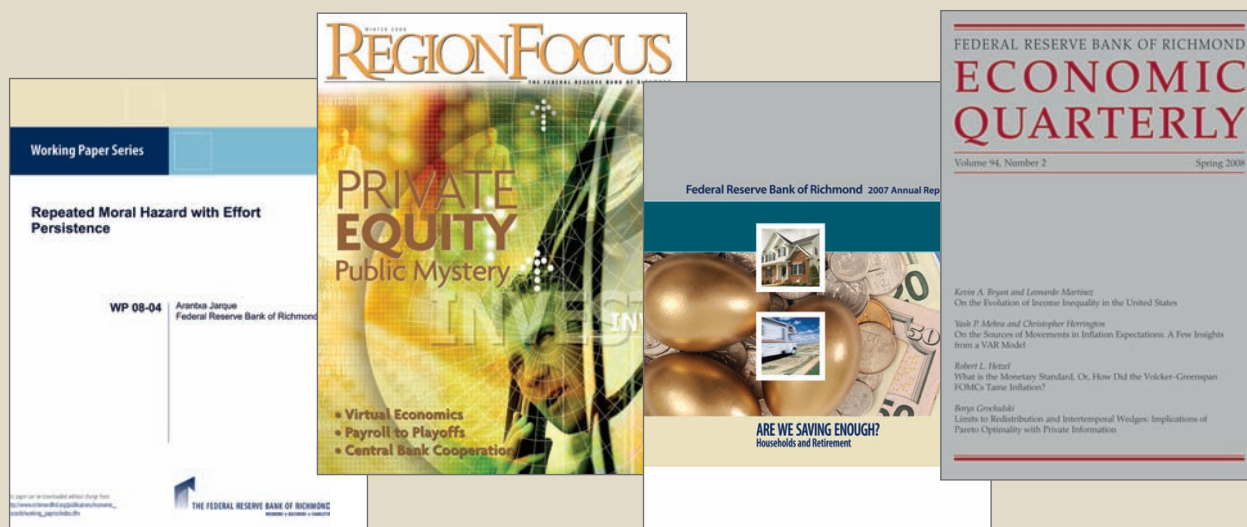
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