

ECONOMICS AT COLUMBIA

VOL 1/ISSUE 1

FALL 2006

Edmund Phelps Wins Nobel Prize



President Lee Bollinger and Professor Edmund Phelps at an October 9 press conference. (Photo: Diane Bondareff)

Edmund S. Phelps, McVickar Professor of Political Economy and Director of the Center on Capitalism and Society at the Earth Institute, was awarded the Nobel Prize in Economics on Monday, October 9, by the Royal Swedish Academy of Sciences “for his analysis of intertemporal tradeoffs in macroeconomics policy.” The Academy described his work as having “deepened our understanding of the relation between short-run and long-run effects of economic policy.”

Phelps’s contribution to macroeconomics has been profound. His groundbreaking hypothesis of the expectations-augmented Phillips curve was initiated in the 1960s when he challenged the orthodox view of a stable tradeoff between inflation and unemployment, known as the Phillips curve. It described the relationship between the two as stable and negative. But Phelps countered that incomplete information would affect wages and prices since agents based decisions on their expectations. Since then career has been devoted to expanding the horizons of the field by employing methods from microeconomic theory. He has shown that the possibilities of stabilization policy in the future depend on today’s policy decisions: low inflation today leads to expectations of low inflation also in the future, thereby facilitating future policy making.



Professor Edmund Phelps celebrates with Ph.D. candidates Anton Korinek and Muhammad Asali.

Edmund S. Phelps joined the Department of Economics at Columbia in 1971 after several years at Pennsylvania and earlier Yale. He was named McVickar Professor of Political Economy in 1982 and director of the Earth Institute’s Center on Capitalism and Society in 2001. Phelps was elected to membership in the National Academy of Sciences in 1981 at age 47. He is also a fellow of the American Academy of Arts and Sciences and of the Econometric Society. In 2000 he was named a Distinguished Fellow of the American Economic Association.

Besides his B.A. from Amherst College in 1955 and his Ph.D. from Yale in 1959 he has six honorary doctorates: Amherst College (1985), University of Rome ‘Tor Vergata’ (2001), University of Mannheim (2001), Universidade Nova Lisbon (2003), University of Paris-Dauphine (2004) and, in October, the University of Iceland (2004). In May 2004 he was named an honorary professor at Renmin University, Beijing, and in June 2005 he was named an honorary professor at Beijing Technological and Business University and Beijing’s Mundell University of Entrepreneurship.

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Nobel Laureates and the Economics Department

Phelps continues Columbia’s distinguished tradition in economics, which includes thirteen Nobel Laureates among its affiliates since the Economics Prize was established in 1968—a record surpassed only by the University of Chicago.

Edmund S. Phelps	2006	Current Faculty
Joseph Stiglitz	2001	Current Faculty
James Heckman	2000	Faculty
Robert Mundell	1999	Current Faculty
Robert C. Merton	1997	Former Student '66
William S. Vickrey	1996	Faculty, Ph.D. '48
Robert W. Fogel	1993	M.A. 1960
Gary S. Becker	1992	Faculty
Robert Solow	1987	Fellow
George J. Stigler	1982	Faculty
Milton Friedman	1976	Faculty, Ph.D. '46
Kenneth J. Arrow	1972	Ph.D. 1951
Simon S. Kuznets	1971	Ph.D. 1926

Welcome From the Chair

The most exciting news this fall is Edmund Phelps's winning of the Nobel Prize. This caps a very successful decade for the Economics Department in which we have seen the awarding of four Nobel Prizes in Economics. Over the past five years, under the dynamic leadership of Don Davis, the Department has become an exciting and vibrant place with 17 new and distinguished faculty, a remarkable accomplishment in a department of 35 full-time equivalent faculty members. This success is important to the teaching mission of Columbia, given that Economics now teaches 20 percent of the undergraduate student body as either majors or concentrators (about 1400 students). It is also essential to Columbia's research mission, given the central place of Economics in social science research and the links between Economics and other disciplines.

The spectacular success of Phase 1 of what has come to be known as the "Economics Initiative" has put top five status within reach. But we are not there yet, and the challenge for me as the new chair is to move us toward that goal as we enter Phase 2. Our plans envisage further hiring in order to reach 40 FTE and support for this hiring through the endowment of chaired positions; the creation of a visitors' program that would allow us to attract up to five world-class visitors per year to support our research and teaching missions; the endowment of the Program in Economic Research which supports lectures, short-term visitors, and faculty research in the department; and a plan to roughly double our space in the International Affairs Building and to greatly improve its quality. In turn, these improvements in our human and other resources will allow us to make improvements in our undergraduate and graduate teaching programs. And since even 40 faculty are too few, relative both to the demand for Economics and to the size of other top Economics departments, we will ultimately need to plan for a third phase. In the meantime, however, it is worth reflecting on what we have become.

The study of contracts and organizations has emerged as an area of tremendous strength, and we have a strong claim to being the best in the world. Joseph Stiglitz won the Nobel Prize in part because of his pioneering work in the theory of contracts. The addition of Pierre-André Chiappori and Bernard Salanié adds expertise in the study of contracts pertaining to risk and insurance. The additions of Patrick Bolton and Bentley MacLeod bring expertise in the study of contracts pertaining to organizations and law. This group studying contracts is naturally linked to our outstanding group in the theory of Industrial Organization (IO), which had consisted of Kyle Bagwell and Michael Riordan, and now also includes Yeon-koo Che. At the junior level, we have hired Katherine Ho in applied IO.

This group has strong ties to other groups both inside and outside the department. Both Patrick Bolton and Kyle Bagwell have joint appointments with the Graduate School of Business and have strong ties with Columbia Law School. Bentley MacLeod, whose appointment is joint with SIPA and who is an affiliated faculty member at the Law School, has, with Patrick Bolton, started a seminar on Law, Finance and Economic Organization that is joint with the Business School, Economics, SIPA and the Law School. Michael Riordan has a joint appointment with the Business School and was the chief economist at the FCC in 1997-98. Kyle Bagwell is also teaching this year at the law school, as a leading expert on international trade negotiations conducted under the auspices of the World Trade Organization.

Columbia Economics is maintaining its tremendous influence in the area of International Economics. We have many distinguished faculty in this area, including Robert Mundell, winner of the Nobel Prize as the "father" of the Euro; Jagdish Bhagwati, one of the most distinguished trade theorists of his generation and a noted champion of free trade and likely future Nobel winner; and Ronald Findlay, a leading and early scholar of economic integration and globalization. David Weinstein is the leading U.S. expert on the Japanese economy and is the Associate Director of Research at the Center for Japanese Economy and Business at Columbia and Director of the Japan Project at the National Bureau of Economic Research. Padma Desai is a leading expert on the economy of the former Soviet Union. Donald Davis has maintained his research productivity despite a very demanding administrative load as chair of the department over the past five years. Most recently, he has studied the effect of trade on inequality. Richard Clarida is a distinguished scholar of international macroeconomics, and has served as the Assistant Secretary of the Treasury for Economic Policy and as Chief Economist for the Treasury Department, advising the administration on global economic prospects, international capital flows, corporate governance, and the maturity structure of U.S. debt.

Development Economics is an area of strength for the department and for the university as a whole, as evidenced by Jeffrey Sachs's leadership of the Earth Institute. Xavier Sala-i-Martin has published extensively on international poverty and inequality from a macroeconomic perspective. We also have an impressive group of junior faculty taking a microeconomic approach to Development Economics. Douglas Almond's research on the health effects of pollution in China is discussed further in this issue; Cristian Pop-Eleches has worked on the economics of transition in eastern Europe and on AIDS in Africa; Leigh Linden is involved in experiments designed to test ways to improve the delivery of public services in India; and Miguel Urquiola and Eric Verhoogen are studying ways to improve education in Latin America (through, for example, voucher programs). Wolfram Schlenker is an environmental economist, focusing on the impact

of climate change, and models of non-renewable resources. These junior faculty are joint with SIPA and are key to the strong program of economics education in that unit.

Labor Economics has been a historical strength of Columbia Economics. At Columbia, Jacob Mincer and Gary Becker (who received the Nobel Prize for work he did while at Columbia) developed the theory of human capital, the idea that we invest in people just as we invest in machinery or in financial markets. Jacob's legacy will be remembered at a memorial service to be held Oct. 21. Ned Phelps has continued to consider the relationship between the macroeconomy and the labor market with, for example, his most recent edited volume *Designing Inclusion: Tools to Raise Low-end Pay and Employment in Private Enterprise* (Cambridge University Press, 2003). The last two years have seen my own recruitment—I work primarily on the analysis of public programs affecting child health and well-being and have recently published a book on the subject with Princeton University Press—and that of David Lee, an expert on the study of inequality, and social forces that lead to inequality, who is also a winner of the 2006 Sloan Foundation Fellowship. And Till von Wachter studies entry and exit from labor markets, especially the effect of job loss on workers and their motivations for retirement.

In macroeconomics, hiring Michael Woodford from Princeton was a coup for Columbia and also marked the start of a successful run of hiring. Michael's primary research interests are in macroeconomic theory and monetary policy. He is the author of *Interest and Prices: Foundations of a Theory of Monetary Policy* (Princeton University Press, 2003), recipient of the 2003 Association of American Publishers Award for Best Professional/Scholarly Book in Economics, and he consults for central banks around the world. We are also fortunate to have two excellent junior people, Stefania Albanesi and Bruce Preston. Stefania's recent work uses the tools of macroeconomic modeling to examine the determinants of gender roles. Bruce Preston has worked on savings and asset pricing, in addition to other topics in macroeconomics.

The core field of Econometrics (the study of statistics and measurement as applied to economics) is key to all the applied fields at Columbia. In 2005, we were fortunately able to hire Edward Vytacil, who works on the empirical evaluation of social programs as well as on dummy endogenous variables in nonlinear models, representation results for latent index models, and random coefficient models. Together with Phoebus Dhrymes, several junior professors in Econometrics including Alexei Onatski, Marc Henry, and Dennis Kristensen (who joins us this

year) and with the additional input of David Lee, Bernard Salanié, and Till von Wachter, we have an active group.

In Public Finance, Brendan O'Flaherty is an expert on local public finance and has been working with the Cory Booker administration to reform the finances of Newark, N.J. Wojciech Kopczuk is an expert on the theory of "optimal taxation" and is another recent Sloan Fellowship winner. Glenn Hubbard serves as the Dean of the Business School. Prajit Dutta, Max Amarante, Eiichi Miyagawa and Graciela Chichilnisky carry the torch in "pure" theory, including game theory and general equilibrium theory. Alessandra Casella has done important work on political economy over the past several years with eminent political scientists including Andrew Gelman (Columbia) and Thomas Palfrey (Cal Tech). This year, she has been honored with a

Guggenheim fellowship.

Our department has emerging strengths in several areas that cut across traditional "field" designations. One is in the area of health economics—a tremendously important topic given that health care now consumes 15 percent of U.S. GDP. Kate Ho, David Lee, Douglas Almond, Cristian Pop-Eleches and I have all published important work in this area. A second strength is in the area of gender, where Pierre-André

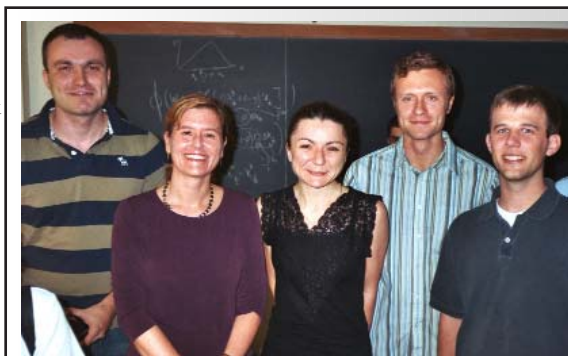
Chiappori, Lena Edlund, Stefania Albanesi, and Graciela Chichilnisky are all making important contributions to studies of the economics of gender.

The presence of this diverse set of distinguished faculty is revitalizing our teaching mission. I am often asked whether our faculty teach undergraduates students. The fact is that most of our regular faculty do, with the exception of those who have joint teaching obligations with the Graduate School of Business and SIPA. Of course, we need to give special recognition to a really stellar set of faculty who between them handle many of our larger undergraduate courses and routinely achieve superb teaching evaluations. These include Padma Desai, Susan Elmes, Sunil Gulati, Xavier Sala-i-Martin, and Brendan O'Flaherty. Faculty committees are meeting regularly this year to discuss improvements to our already strong undergraduate and graduate programs.

There are sure to be many challenges going forward, but clearly we should be thankful that we have such a strong foundation on which to build.

Sincerely,

Janet Currie



From left to right: Simeon Tsonev, Economics Department Chair and Professor, Janet Currie, Emilia Simeonova, Sergei Koulayev, and Justin Svec at the new Chair's Welcoming Party. (Photo: Ivan Khotulev)

In Memoriam: Jacob Mincer 1922-2006



Jacob Mincer, the Joseph L. Bottenwieser Professor of Economics and Social Relations, Emeritus, at Columbia University, died at his Manhattan home on Sunday, August 21. Mincer was 84. The cause was due to complications from Parkinson's disease, according to his wife, Dr. Flora Kaplan Mincer.

During World War II, Mincer survived prison camps in Czechoslovakia and Germany as a teenager, to rise to become one of the world's greatest pioneering economists of the 20th century.

Although Mincer was never awarded a Nobel Prize, he was nominated numerous times by admiring colleagues. He was considered by many to be a father of modern labor economics.

As a leading member of a group of economists at Columbia and the University of Chicago, known as the Columbia-Chicago School of Economics, Mincer and Nobel Laureate Gary Becker helped to develop the empirical foundations of human capital theory, consequently revolutionizing the field of labor economics. Mincer's ground-breaking work: "Schooling, Experience and Earnings," published in 1974, continues to have profound impact on the field of labor economics.

In 1991, Mincer received an honorary Doctor of Laws degree from the University of Chicago which recognized his seminal work in the economic analysis of earnings and inequality, the labor force decisions of women and of job mobility. The citation for the degree also recognized Mincer's work in this area that has helped guide a generation of economists who study these important social questions.

In recognition of his lifetime achievements in economics, Mincer was awarded the first IZA (Institute for the Study of Labor, based in Bonn, Germany) Prize in Labor Economics. The \$50,000 prize was presented to Mincer by more than 100 of his former students at a conference at Columbia University in 2002. In 2004 Mincer received a Career Achievement Award from the Society of Labor Economists; the annual award has subsequently become known as the Mincer Award.

Mincer joined Columbia's faculty in 1959 following teaching stints at City College of New York, Hebrew University, Stockholm School of Economics and the University of Chicago. He was a member of the National Bureau of Economic Research, Inc. from 1960 through his death.

Mincer received his Ph.D. from Columbia University in 1957 and retired from the university in 1991. During his academic career, Mincer authored four books and hundreds of journal articles, papers and essays. Mincer's accomplishments and

preeminent stature in the field of labor economics leaves a legacy to the world and reaffirms the excellence of Columbia University.

(This article recently appeared in *The Record*, a Columbia University publication on September 1, 2006.)

Recent Faculty Honors

Alessandra Casella has been awarded a [John Simon Guggenheim Fellowship](#) for 2006.

Jagdish Bhagwati received the [Order of the Rising Sun: Gold and Silver Stars](#) and also the [Medal of the Italian Chamber of Deputies](#) in 2006.

Kyle Bagwell and Bentley MacLeod have been elected as new [Fellows of the Econometrics Society](#).

David Lee has won an [Alfred P. Sloan Fellowship](#) in 2006.

Janet Currie was elected a [Fellow of the Society of Labor Economists](#) in May 2006.

Recent Faculty Publications

"Is the 1918 Influenza Pandemic Over? Long-Term Effects of In Utero Influenza Exposure in the Post-1940 U.S. Population" by Douglas Almond, [Journal of Political Economy](#), August 2006

"The Impact of an Abortion Ban on Socioeconomic Outcomes of Children: Evidence from Romania" by Cristian Pop-Eleches, [Journal of Political Economy](#), August 2006.

"Robustly Collusion-Proof Implementation" by Yeon-Koo Che, [Econometrica](#), July 2006

"Will International Rules on Subsidies Disrupt the World Trading System?" by Kyle Bagwell, [American Economic Review](#), September 2006

"Putting Firms into Optimal Tax Theory" by Wojciech Kopczuk, [American Economic Review](#), May 2006

"Helping Infant Economies Grow: Foundations of Trade Policies for Developing Countries" by Joseph Stiglitz, [American Economic Review](#), May 2006

"Why Personal Ties Cannot Be Bought" by Alessandra Casella, [American Economic Review](#), May 2006

"Individual versus Parental Consent in Marriage: Implications for Intra-Household Resource Allocation and Growth" by Lena Edlund, [American Economic Review](#), May 2006

"Why Is Russian GDP Growth Slowing?" by Padma Desai, [American Economic Review](#), May 2006

Health Effects of Air Pollution in Beijing

In 2005-06, the Fulbright Foundation sponsored Douglas Almond's research on the health effects of air pollution in China and the Great Famine of 1959-61.

In 1999, prime minister Zhu Rongji reportedly told Beijing city officials "If I work in your Beijing, I would shorten my life at least five years" ("A Great Wall of Wealth," *The Economist*, August 19, 2004). In anticipation of the Olympic Games, Beijing has made tremendous efforts (and some say "strides") in improving its notoriously poor air quality. Previous research has been hampered by the lack of data on health outcomes, as well as research designs that have not addressed the existence of omitted factors that are likely to bias estimates of pollution effects.

The project underway evaluates the health effects of recent air pollution changes in Beijing using discharge records drawn from 400 hospitals in and around greater Beijing, with information on 300,000 patients per year. These records provide the exact date of admission and the precise reason for admission (e.g. there were 3,385 admissions in 2002 for acute upper respiratory infections in Beijing*). These hospital data are being matched to the daily pollution index readings, which happen to vary tremendously from day to day. To assess the impact of information on behaviour, we are looking at the pollution forecasts, which have been published in Beijing newspapers since May 2001. We can therefore evaluate what happens to hospital admissions when a clear day is forecast, but a high-pollution day nevertheless occurs. In addition, discontinuities in the pollution alert system are being analyzed. For example, what happens to admissions when a "Grade II" pollution day is forecast, and how does this compare to a day when a "Grade I" was forecast, but with nearly the same expected index?

Fetal Origins and the China Famine

Originally known as "Three Years of Natural Calamities," a conservative estimate of starvation deaths between 1959-61 is 20 million. The death toll approximates that of the worldwide 1918-19 influenza pandemic, a comparison all the more astounding as the Famine was confined to a single country. Recent years have seen increased acknowledgement of the scale of the disaster, as well as a

consensus that the Famine was not primarily a natural phenomenon. Rather, the implementation of calamitous agricultural policies as part of the Great Leap Forward, including the collectivization of agricultural production, have been faulted. This research project uses the China Famine as a test of the fetal origins hypothesis [Barker (1992)]. This hypothesis traces chronic health conditions of adulthood (e.g. heart disease and diabetes) to environmental conditions during fetal development. While controversial, the hypothesis has recently achieved "textbook" status in medicine, and has drawn increasing attention from economists, who have tested whether adult economic outcomes might also be especially responsive to fetal health.

An immediate concern when evaluating famine episodes is the selective effect of famine-induced mortality on subsequent outcomes. In particular, if the relatively weak perish in famines, then subsequent outcomes will appear improved as a result. Loosely speaking, this corresponds to the adage: What doesn't kill you makes you stronger. The fetal origins hypothesis, by contrast, posits the opposite. Even if one does survive, are they permanently damaged by the experience, especially if exposed to privation in utero? For the fetal origins effect to be observed, it must dominate the selective effect of mortality in improving outcomes.

And indeed, it appears that the fetal origins effect "wins." Data from the mainland China Census reveal inferior outcomes for the 1960 birth cohort. At age 40, they are more likely to be out of work, more likely to be

divorced or remarried, and tend to live in smaller houses than those born just a year or two earlier or later. Moreover, this pattern of damage also corresponds to regional variation in the Famine within China. For example, certain rural areas of northern China experienced the worst of the Famine; people born in these areas seems to have the greatest damage in adulthood.

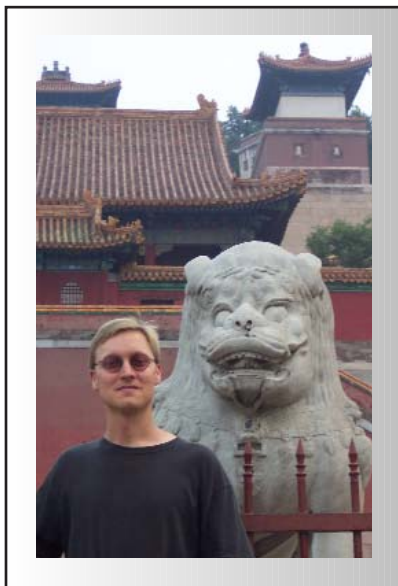
— Douglas Almond

(Professor Almond would like to thank the Department of Economics and the Fulbright program for supporting this research.)

*ICD-10 codes, J00-J06, and so excluding influenza and pneumonia.

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Barker, D.J.P., *Fetal and Infant Origins of Infant Disease* (London: British Medical Journal, 1992).



PER-Sponsored Faculty and Student Projects

The Program for Economic Research (PER) provides seed grants and financial support to faculty and students to advance their research and publish papers. PER sponsored the following research projects over the past year.

Vertical Integration and Endogenous Bargaining

– Sergei Koulayev and Michael Riordan

We study vertical integration as a way to improve the bargaining position of a firm vis-à-vis non-integrated parties. In our model, a principal bargains sequentially with two agents over productive agreements. We assume that bargaining sequence arises endogenously as a result of the principal's equilibrium strategy. We find that if the principal is located upstream, and agents are substitutes, integrating with one of the agents allows the principal to extract more rents from the non-integrated agent. Further, if we allow mergers to be endogenous, the pattern of integration is determined solely by the curvature of production function. On the other hand, if the principal is located downstream, we obtain a striking result that his expected profits are unaffected by vertical integration.

With this paper, we aim to fill the gap in the large literature on vertical foreclosure that studies possible anti-competitive effects of vertical integration. With the few exceptions of Bolton and Whinston (1991) and de Fontenay and Gans (2004), this literature has assumed the integrated upstream monopolist is able to make: a) simultaneous; b) take-it-or-leave-it (TIOLI) offers to downstream firms. To find equilibrium payoffs, a Nash solution has been normally assumed. In this model, we relax these assumptions and study vertical integration in a fully specified bargaining model. Also, our formulation of vertical integration allows us to study it as a continuous variable rather than a binary decision.

We have several results. First, if a monopolist is downstream, his payoff is not affected by vertical integration—a novel result that runs counter discussions among antitrust practitioners who commonly do not distinguish between upstream and downstream cases (see Chipty and Snyder, 1999), in terms of likelihood of anticompetitive effects. Second, if the principal is upstream, more integration allows him to extract more rents from the non-integrated party. This result is not new. However, we found an additional bargaining effect of vertical integration: it may serve as a commitment device for a monopolist not to return to the non-integrated agent after a breakdown in negotiations, making his offers closer to TIOLI ones. Third, we show that as the interval between offers goes to zero—that is, as the game converges to a simultaneous offer game—payoffs of the integrated firm and of

non-integrated agent converge to a Nash solution. This provides a non-cooperative foundation for the use of Nash solution in such games, which is appealing due to its computational and intuitive simplicity.

Why Is VA Health Care So Good for Minorities?

– Emilia Simeonova

It is a well-known fact that African-Americans have lower health care utilization rates and higher mortality rates than the rest of Americans. There is, however, little evidence on the exact causes of these disparities. This project has two goals. First, it investigates whether African-Americans have inferior health outcomes in the particular case of the Veterans Health Administration. Second, it takes advantage of a specific reform in the system to assess whether a larger proportion of African-American patients served by a provider increases the quality of the care individual patients receive.

The Veterans Administration runs an equal-access comprehensive health care system, open to everyone who is a veteran. It served about six million individuals in 2004. The VHA is a government-sponsored organization which is budgeted at the federal level and has a pre-determined structure of physicians' salaries. Clinical guidelines for treatment are distributed to practitioners by research centers. Thus VA physicians have less discretion in prescribing therapy than private physicians. The VHA comes closest to an example of a government-run health care system in the United States. Previous studies have pointed out that the racial disparities in health care may be due to unequal access or physicians' financial incentives. This project exploits the specific features of the VHA to minimize potential bias arising from these effects.

The study's focus is on outpatient care, using a large-scale reform from inpatient to outpatient-based care, which the VHA implemented between 1996 and 2002. A number of outpatient clinics were set up, where patients can receive primary care and get referrals to medical centers. The variation in the patient mix and the difference in the clinic's set-up times are used to identify the differential effect of the overall representation of African-Americans on individual patient outcomes. The outcome measures considered are hospitalization rates and mortality rates. The main hypothesis is that more frequent interactions with minority patients reduce the clinical uncertainty during an encounter with an African-American patient and enhance the physician's ability to provide optimal treatment. The emphasis is on ambulatory-care sensitive conditions. We are particularly interested in congestive heart failure, which is cited in the medical literature as a condition which may warrant different treatments by race.

This study will make several contributions. First, it will contribute to the debate on whether racial disparities in health care

are exacerbated by the nature of the private health care system. Second, most of the existing studies which provide evidence on racial differences in outcomes use the management of an acute condition, such as a heart attack or a stroke, to derive their results. In contrast, this project focuses on a chronic illness, which is managed through repeated interactions between patient and provider. Third, while there exists a large literature on residential and school segregation, there is little evidence on the effects of segregation on health. The project tests the hypothesis that frequent interactions with minority patients decrease clinical uncertainty and therefore contribute to better outcomes. Hence the implications of the study can be extended to policy design.

The Wealth of Women

– Lena Edlund and Wojciech Kopczuk

This project documents the gender wealth distribution over the past century using a unique microdata set: estate tax returns from 1925-2000. Unlike survey data that have previously been analyzed, these data cover the very wealthy and attribute wealth to an individual rather than a household. To concentrate on the very rich is of particular importance for the study of the wealth distribution because of its considerable skewness. In the post WWII period, about one quarter of wealth was held by the top 1 percent and the top 0.01 percent held 4 percent of wealth (four hundred times their population share). Actual ownership at the individual level is obviously important for an understanding of how the gender wealth distribution has evolved.

We find that the fraction of women in the top 0.01 percentile exhibited an inverse U-shaped pattern over the last century. In 1925, the fraction stood at one quarter; it rose rapidly through WWII and then more slowly to peak in 1969 when women made up almost half. After that, however, there was a marked decline, and by the end of the century women only made up one third of those in the top 0.01 percent of the wealth distribution. The later decline is confirmed by the Forbes list of the richest 400 Americans (the top 1/50 of the top 0.01 percent), available for the period 1982-2003. These data show a decline of similar magnitude as that evidenced in the estate data, the fraction of women dropped from 18 percent in 1982 to 13 percent in 2003. The level difference (fewer women) may partly reflect how wealth is assigned. Forbes attributes wealth to the person mainly responsible for its generation and not legal ownership, and thus may introduce a male bias (only Bill Gates appears on the list, not his spouse).

The decline in the fraction of women took place against a backdrop of generally increased emphasis on gender equality and is therefore puzzling. We propose that for the very wealthy the gender gap may not be driven by labor market factors as much as by the importance of self-made wealth relative to inherited wealth in the economy. We posit a simple model where there are two types of wealth: self-made and inherited. Only men generate wealth.

Women, on the other hand, inherit, as widows, but more importantly, as daughters. Frequency of observing wealthy women depends also on a number of “confounding” factors other than rentier/entrepreneurship distinction, such as the share of wealth left by husbands to their wives and the likelihood that women die first. We use our model to analyze how changes in these factors should affect the marital/gender distribution of the wealthy and contrast these predictions with the data using a simple method of moments estimation strategy. After controlling for these potential confounding factors, we still find a significant role for changes in the rentier-entrepreneur composition of the wealthy group.

We tentatively conclude that the passing down of the wealth generated in the “Robber Baron” period of the late 19th century and the poor performance of the economy in the 1930s were factors in the sharp increase in the share of women through WWII. Conversely, the aging out (dissipation) of old wealth and the technology boom in the last decades may have raised the relative importance of self-made wealth, and with that a decline in women. This suggests that the major decline of inequality in the middle of the century reflected a disproportionate decline of the wealthy entrepreneur group with the recent inequality rise reflecting a recovery of that group. The first of these findings casts doubt on explanations suggesting that the decline of rentiers was the main channel driving reduction in inequality in the mid-20th century.

This is not to deny the rise in wealth generated by women. Still, for the very wealthy, there is little evidence that this has had an impact. However, at lower wealth categories (top 0.4 percent and above), women have held steady at around 45 percent since the late 1960s, possibly a testimony to the progress women have made in the labor market.



Columbia Professors Join IHT Blog

Columbia professors Jagdish Bhagwati, Joseph Stiglitz, and Jeffrey Sachs are contributing to the International Tribune blog entitled “Managing Globalization” in a new collaboration. For the next three months, they will address readers’ questions on a variety of issues, online at blogs.iht.com/globalization. The editor-in-chief of the Tribune, Michael Oreskes, said in a statement that this will “give its readers access to some of the world’s brightest economic minds. Messrs. Bhagwati and Stiglitz are among the world’s best-known commentators on globalization, and Stiglitz is the winner of the Nobel Prize in Economics.”

Recent Discussion Papers

The department sponsors a discussion paper series for faculty, co-authors, and visitors. Download the full text of these papers at <http://www.columbia.edu/cu/economics/>.

Economic Analysis of Advertising, 0506-01

– Kyle Bagwell

The major economists of the nineteenth century and before paid little attention to advertising. In the twentieth century, a substantial literature emerged. My purpose here is to survey this literature comprehensively. A first objective is to organize the literature in a manner that clarifies what is known. Second, I hope to clarify how this knowledge has been obtained. The economic implications of advertising are of undeniable importance; however, the true nature of these implications has yielded but slowly to economic analysis. Advertising offers a resilient set of issues against which to chart the progress gained as industrial organization methods have evolved. Why do consumers respond to advertising? This paper explains economic answers to that question, including that advertising is persuasive, that it is informative, or that it is complementary to the product. The paper also assesses empirical and theoretical models of advertising.

Minorities and Storable Votes, 0506-02

– Alessandra Casella, Thomas Palfrey, and Raymond Riezman

The paper studies a simple voting system that has the potential to increase the power of minorities without sacrificing aggregate efficiency. Storable votes grant each voter a stock of votes to spend as desired over a series of binary decisions. By accumulating votes on issues that it deems most important, the minority can win occasionally. But because the majority typically can outvote it, the minority wins only if its strength of preference is high and the majority's strength of preference is low. The result is that with storable votes, aggregate efficiency either falls little or in fact rises. The theoretical predictions of our model are confirmed by a series of experiments: the frequency of minority victories, the relative payoff of the minority versus the majority, and the aggregate payoffs all match the theory.

Optimal Inflation Targeting Under Alternative Fiscal Regimes, 0506-09

– Pierpaolo Benigno and Michael Woodford

Flexible inflation targeting has been advocated as a practical approach to the implementation of an optimal state-contingent monetary policy, but theoretical expositions reaching this conclusion have typically abstracted from the fiscal consequences of monetary policy. Here we extend the standard theory by

considering the character of optimal monetary policy under a variety of assumptions about the fiscal regime, with the standard analysis appearing only as a special case in which non-distorting sources of government revenue exist, and fiscal policy can be relied upon to adjust so as to ensure intertemporal government solvency. Alternative cases treated in this paper assume that there exist only distorting sources of government revenue; that it may not be possible for tax rates to adjust in response to economic disturbances, except with delay; or even that fiscal policy is purely exogenous, so that the central bank cannot rely upon fiscal policy to adjust in order to maintain intertemporal solvency (a case emphasized in the critique of inflation targeting by Sims, 2005). We find that the fiscal policy regime has important consequences for the optimal conduct of monetary policy, but that a suitably modified form of inflation targeting will still represent a useful approach to the implementation of optimal policy. We derive an optimal targeting rule for monetary policy that applies to all of the fiscal regimes considered in this paper, and show that it involves commitment to an explicit target for an output-gap adjusted price level.

Competitive Effects of Vertical Integration, 0506-11

– Michael H. Riordan

The paper surveys the economics literature on the competitive effects of vertical integration, assesses the relevance of the economics literature for several recent regulatory and antitrust cases, and defends a structured rule of reason approach to evaluating the competitive effects.

Strategic Judgment Proofing, 0506-14

– Yeon-Koo Che and Kathryn E. Spier

A liquidity-constrained entrepreneur needs to raise capital to finance a business activity that may cause injuries to third parties – the tort victims. Taking the level of borrowing as fixed, the entrepreneur finances the activity with senior (secured) debt in order to shield assets from the tort victims in bankruptcy. Interestingly, senior debt serves the interests of society more broadly: it creates better incentives for the entrepreneur to take precautions than either junior debt or outside equity. Unfortunately, the entrepreneur will raise a socially excessive amount of senior debt, reducing his incentives for care and generating wasteful spending. Giving tort victims priority over senior debtholders in bankruptcy prevents over-leveraging but leads to suboptimal incentives. Lender liability exacerbates the incentive problem even further. A Limited Seniority Rule, where the firm may issue senior debt up to an exogenous limit after which any further borrowing is treated as junior to the tort claim, dominates these alternatives. Shareholder liability, mandatory liability insurance and punitive damages are also discussed.

States, Models, and Information: A Reconsideration of Ellsberg's Paradox, 0506-18

– *Massimiliano Amarante*

We show that a general process of decision making involves uncertainty about two different sets: the domain of the acts and another set, which we call the set of models for the decision maker. We study the effect of different information structures on the set of models, and prove the existence of a dichotomy: either the decision maker's ranking of the acts obeys Subjective Expected Utility theory or there are many events to which probabilities cannot be assigned. We use this result to formalize the idea of Knightian Uncertainty. The relevance of information structures associated to Knightian Uncertainty is shown by means of examples, one of which is a version of Ellsberg's experiments. Our findings show that a decision maker faces, generally speaking, uncertainties of two different types "uncertainty about which state obtains" and "uncertainty about how the world works"—and that Savage's theory considers only uncertainty of the first type. Finally, in situations of Knightian Uncertainty, we identify the class of events to which probabilities can be assigned, and study the relation with the class of unambiguous events.

Legal Default Rules: The Case of Wrongful Discharge Laws, 0506-19

– *W. Bentley MacLeod and Voraprapa Nakwachara*

One of the most vexing public policy issues is the extent to which governments should intervene into private contractual relationships. The purpose of this paper is to explore both theoretically and empirically the extent to which such interventions may enhance efficiency. In the case of employment law, economists have traditionally taken the view that intervention, such as protection against wrongful discharge, simply undoes the original intent of the parties to the agreement. We find that both the good faith and the implied contract exceptions to employment at will may enhance employment in occupations characterized by high levels of investment. These results suggest that under the appropriate conditions courts may enhance the operation of a competitive market by setting appropriate default remedies for breach of contract.

Effects of Technological Improvement in the ICT-Producing Sector on Business Activity, 0506-21

– *Edmund S. Phelps and Hian Teck Hoon*

It seems to be taken for granted by many commentators that the sharp decline in prices of computers, telecommunications equipment and software resulting from the technological improvements in the information and communications technology (ICT)-producing sector is good for jobs and is a major driving force behind the non-inflationary employment miracle and booming stock market in the latter half of the nineties in the U.S. and their

recurrence since 2004. We show that, in our model, a technical improvement in the ICT-producing sector by itself cannot explain a simultaneous increase in employment and a rise in firms' valuation (or Tobin's Q ratio). The key to generating a booming stock market alongside employment expansion is to hypothesize that when technical improvement in the ICT-producing sector occurs, the market forms an expectation of future productivity gains to be reaped in the ICT-using sector. Then we can explain not only the stock market boom and associated rise in investment spending and employment in the period 1995-2000 but also the subsequent decline in employment, in Tobin's Q and in investment spending in 2001, with consumption holding up well as productivity gains in the ICT-using sector were realized. An anticipation of a future TFP improvement in the ICT-using sector can once more play the role of raising the stock market.

Estimating the Impact of Climate Change on Crop Yields: The Importance of Non-Linear Temperature Effects, 0607-01

– *Wolfram Schlenker and Michael J. Roberts*

There has been an active debate whether global warming will result in a net gain or net loss for United States agriculture. With mounting evidence that climate is warming, we show that such warming will have substantial impacts on agricultural yields by the end of the century: yields of three major crops in the United States are predicted to decrease by 60 to 79% under the most rapid warming scenario. We use a 55-year panel of crop yields in the United States and pair it with a unique fine-scale weather data set that incorporates the whole distribution of temperatures between the minimum and maximum within each day and across all days in the growing season. The key contribution of our study is in identifying a highly non-linear and asymmetric relationship between temperature and yields. Yields increase in temperature until about 29°C for corn and soybeans and 33°C for cotton, but temperatures above these thresholds quickly become very harmful, and the slope of the decline above the optimum is significantly steeper than the incline below it. Previous studies average temperatures over a season, month, or day and thereby dilute this highly non-linear relationship. We use encompassing tests to compare our model with others in the literature and find its out-of-sample forecasts are significantly better. The stability of the estimated relationship across regions, crops, and time suggests it may be transferable to other crops and countries.

Undergraduate Students Become Teachers

A few exceptional undergraduates began leading recitation sections for introductory level economics classes last year. In an experimental program, the Economics Department enrolled about a dozen undergraduates as teaching assistants for their peers. Susan Elmes, the director of undergraduate studies, reports that students, T.A.s, and professors have embraced the undergraduate T.A. program. Student evaluations have been positive and the program will expand this year.

The undergraduate T.A.s teach in several introductory courses, among them Principles of Economics, Intermediate Macroeconomics, and Introduction to Accounting and Finance. One particularly experienced T.A. even taught in an upper level class, International Monetary Theory and Policy.

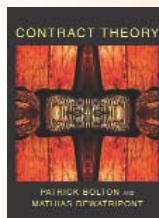
Since enough T.A.s are now available for the department's undergraduate course load, graduate students do not have to teach as many courses and are able to take more time for their own research and writing, spending their fifth year completing their research and dissertation work. There are fewer graduate students in the department since all of them are now admitted with full funding packages. This has created a need for teaching support which the undergraduate T.A.s fulfill.

T.A.s have completed the same courses they help teach, and often with the same professors they assist. Through the program, they develop a deeper knowledge of the material. They are paid \$1,500 per semester for their work which includes correcting homework, going over problem sets, holding office hours, and conducting weekly recitation sections. Graduate students and professors still grade all exams and assign final grades for the course. Hiring is based on a few criteria: T.A.s must have earned an A- or better in the class, have an impassioned attitude toward the material, and want to share their knowledge in a classroom setting. They are all seniors or juniors.

So why do the undergraduate T.A.s take on the task? "Most of them are doing it because they really loved the class," said Professor Elmes, giving the example of Emilio Rodriguez, an undergraduate in the Columbia School of General Studies who led recitation for Principles and Macro and received excellent student reviews. "He just loved to teach," she said. "He loved working with students."

Lily Wang was a teaching assistant for Principles of Economics with Professor Sunil Gulati, a class she had previously taken. She graduated last year and took a job as an investment banking analyst at Morgan Stanley. "I have always enjoyed teaching" she noted in an e-mail, adding that the experience gave her "a genuine sense of fulfillment, as well as a great review of material I learned a few years ago."

Recent Faculty Books



Contract Theory by Professor Patrick Bolton (MIT Press, January 2005)

"An extremely impressive synthesis of the ideas that make up modern contract theory. It will undoubtedly be the definitive text on the topic for many years to come."

—Oliver Hart, Harvard University



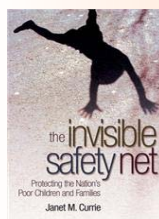
The Inflation-Targeting Debate edited by Professor Michael Woodford and Ben S. Bernanke (University of Chicago Press, February 2005)

A distinguished group of contributors explores the many underexamined dimensions of inflation targeting—its potential, its successes, and its limitations—from both a theoretical and an empirical standpoint, and for both developed and emerging economies.



In Defense of Globalization by Professor Jagdish Bhagwati (Oxford University Press, 2005)

"The new century's major economic issue is Globalization, Yes? or Globalization, No? Columbia University's Bhagwati, regarded as a master economist by all trade experts, has prepared for the intelligent public an even-handed analysis of the pros and cons. Read and ponder." —Paul A. Samuelson, M.I.T., Nobel Laureate in Economics



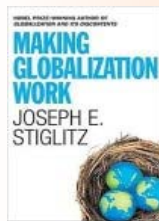
The Invisible Safety Net by Professor Janet Currie (Princeton University Press, March 2006)

"There is no one who can compare with Janet Currie in thinking about programs for the poor. Her views need to be taken very seriously." —David M. Cutler, Harvard University, author of *Your Money or Your Life: Strong Medicine for America's Health Care System*



Conversations On Russia by Professor Padma Desai (Oxford University Press, April 2006)

"Padma Desai uses her deep knowledge of Russia and her interviews with many of the most influential players to provide a characteristically balanced, lucid and insightful analysis of the successes and failures of the post-Soviet transition." —Martin Wolf, Chief Economics Commentator and Associate Editor, Financial Times



Making Globalization Work by Professor Joseph Stiglitz (W.W. Norton, September 2006)

"Stiglitz has written an excellent book that can act as a lodestar for those who want to achieve a different and better world." —Martin Jacques, The Guardian (UK), Visiting Research Fellow, Asia Research Centre, London School of Economics

Economics Graduate Reunion

The Economics Department hosted a reunion for its graduate alumni on the weekend of Friday April 21 and Saturday April 22, 2006. Alumni gathered with the department's faculty for two days of conversations, meals, and catching up with old friends. Faculty members presented talks on their research and on the state of the field today. Alumni participated in discussions on an inflation target for the Fed, tax policy, and the WTO's role in trade. Photos are available on the department website at <http://www.columbia.edu/cu/economics/>. Names are listed from left to right.



Guillermo Barnes-Garcia (M.Phil. 1981), Federico Rubli-Kaiser (M.Phil. 1981) and Vivette Ancona (Ph.D. 1984).



Bowen Garrett (Ph.D. 1996) and Douglas Smith (Ph.D. 1999).



Mary-Ann Fogarty-DiLiberto (Ph.D. 1984) and Ronnie Lowenstein (Ph.D. 1987).



Lea Carty (Ph.D. 1997), Carola Sandy (Ph.D. 2000), Waseem Noor (Ph.D. 1997), Atsuko Kamen (Ph.D. 1999), and Cushing Whitney (M.Phil. 1996).



Stephen Zuckerman (Ph.D. 1983), Professor Phoebus Dhrymes, and John Vila (Ph.D. 1990).



Eugene Lipkowitz (M.Phil. 1968), Professor Emeritus Lowell Harriss (Ph.D. 1940), and Professor Don Davis (Ph.D. 1992).



GSAS Dean Henry Pinkham chats with Professor Bernard Salanié.



Business School Dean R. Glenn Hubbard and Professor Stefania Albanesi debated tax policy.



Brenda Kahn (Ph.D. 1978), Komal Sri-Kumar (Ph.D. 1977), Allen Ross (Ph.D. 1978), Anthony Elson (Ph.D. 1973), and Bud Weinstein (Ph.D. 1973).



Professor Joseph Stiglitz gave a talk on insurance and risk.



Lois Radisch (M. Phil. 1978), Solidelle Wasser (M.A. 1959), and Maryann Fogarty-DiLiberto (Ph.D. 1984).



Alan Harper (M.A. 1978) and Debo Sarkar (Ph.D. 1995).



Professor Bentley MacLeod, Linda Moeller (Ph.D. 1995), and David Papell (Ph.D. 1981).



Komal Sri-Kumar (Ph.D. 1977), Professor David Weinstein, Bob Carow (Ph.D. 1994), and Assistant Director of Alumni Relations, Laura Brown.

News from the Economic Department

Economics at Columbia, the newsletter for the Economics Department, debuts with this issue. Our audience includes members of the Columbia community as well as alumni, friends, and fellow economists elsewhere.

Economics at Columbia will appear once per semester. Submissions from faculty, students and alumni are welcome; news or other items, including photographs or brief descriptions of current research, should be sent via email to econ-news@columbia.edu.

We welcome your feedback.

[HTTP://WWW.COLUMBIA.EDU/CU/ECONOMICS](http://www.columbia.edu/cu/economics)



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