Columbia’s Undergraduate Fed Challenge Program

Every year in the fall, a group of Columbia’s undergraduates participate in the Fed Challenge, a competition organized for undergraduate college students based on the workings of the Federal Open Market Committee. Students analyze economic and financial conditions, make forecasts, identify risks and make policy recommendations accordingly. At Columbia, the Fed Challenge program is run by faculty member Sally Davidson, who has been the official faculty advisor for the program for the past two years. The program provides a unique opportunity for students to not just participate in the competition but to educate themselves in important aspects of monetary policy and to gain experience that will help them work further in the field after graduation.

Photo by: Sally Davidson

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From the Director of the Program for Economic Research

BY RICARDO REIS

The last year has been busy for PER, with many events and new activities as well as some significant institutional changes. At the beginning of the academic year, PER became an autonomous unit within Columbia University’s Institute for Social and Economic Research (ISERP). PER still independently hosts public events and supports research by economists at Columbia, but now the management of faculty grants will be handled by ISERP with significantly lower costs. More importantly, by becoming an ISERP member, PER can move the economics department towards more collaborative work with other disciplines. This will benefit both the education of our students and the quality of our research. For example, PER and ISERP organized an academic con-
In this academic year the department continues to grow its intellectually strong and diverse community. Through our various programs, we’re inviting scholars who study a wide array of topics in economics. We’re also expanding our research support for many different projects.

As I mentioned in the previous newsletter, the department welcomed four new faculty members: François Grard, Jennifer La’O, Pietro Ortoleva, and José Scheinkman. As soon as they arrived this fall, all of them became heavily involved in the department. They are teaching both graduate and undergraduate classes, including José Scheinkman’s new course on financial economics. They’re also coordinating colloquia and workshops, using these as forums to expose the Department to a wider range of subject areas and scholars than ever before.

This year the Department also has two Wesley Clair Mitchell Visiting Research Professors, who are also contributing substantially to our community. Debraj Ray visited during the fall from New York University, and he focuses on microeconomic theory, game theory, and development economics. Mark Gertler, who is here during the spring, is also from New York University and his interests lie in macroeconomics.

Additionally, this fall we welcomed a new cohort of graduate students, all of whom have impressive qualifications. We look forward to their contributions to the field of economics especially because of their diverse backgrounds. More than three-fourths of the students are from 12 countries outside of the United States, including China, India, New Zealand, Peru, Poland, and South Korea. Our newly minted PhDs also continue to reflect the success of our ever-growing and expanding community. They accepted offers in many prominent economics departments, including Stanford, Bocconi, Brown, USC, and UC Santa Barbara.

In order to expand its support of research for both faculty and graduate students, PER has been increasing its efforts. PER has joined forces with the Institute for Social and Economic Research Policy (ISERP) here at Columbia, and is collaborating with departments across the social sciences. I envision that this new partnership will lead to even more collaboration, increasing the breadth of people and knowledge connected to our department.

The department also welcomed new support staff. Grégory Gochtovt is the new Academic Affairs Coordinator, providing extensive support to the faculty, including recruitment. Carmen Krol is my assistant, helping with juggling all of my various commitments within the Department and university. She also administers several of our workshops. Carmen and Grégory are great assets to the department, and we all look forward to working with them.

In this newsletter, you’ll read about recent research by our faculty and students, events sponsored by PER and Columbia’s Fed Challenge team. I encourage you to visit the Department website at http://econ.columbia.edu/ for news updates and announcements of upcoming public events sponsored by PER. We look forward to maintaining our excellent relationship with our alumni and friends, and invite you to become involved in the many talks, workshops, and colloquia that are hosted throughout the year.

David E. Weinstein is the Chair of the Department of Economics and the Carl S. Shoup Professor of the Japanese Economy.
Perspectives: Columbia Economics
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News from the Graduate Program

Katherine Meckel presented at three conferences this year: APPAM (Association for Public Policy Analysis and Mangement), NBER (National Bureau of Economic Research), and the American Economics Association Meetings. She presented a co-authored paper with Ilyana Kuziemko and Maya Rossin-Slater "Do Insurers Risk-select Against Each Other? Evidence from Medicaid and Implications for Health Reform" at the NBER Public Economics Fall Workshop.

Ilton Soares is the 2013 recipient of the Vickrey Prize, which is awarded annually in the spring by the Economics Department for the best third year paper. The prize is named after Professor William S. Vickrey, who received his Ph.D. from Columbia University in 1947 and taught at Columbia for more than forty years. Author of over 400 papers and several books, he received the Nobel Memorial Prize in 1996.

In his paper, “Delayed Purchases in Differ-entiated-Networks”, Ilton studies the effects of delayed purchases in markets with network effects. He considers the case of firms that produce differentiated goods and compete in two periods. In each period, a fraction of the consumers decide which network to join in a coordination problem. This problem is modeled by assuming that consumers’ valuations are private and correlated and that there is learning from the previous actions of the other consumers. Uniqueness conditions for equilibria are derived for the model with delayed purchases. Numerical results are then used to illustrate the richness of possible outcomes in the dynamic model and highlight the differences relative to the benchmark static model. He is currently working on some extensions of this model and adapting the environment to test the main predictions in lab experiments.

Paul Piveteau won the EIIT Graduate Student Award for his paper “A New Method for Quality Estimation Using Trade Data: An Application to French Firms”. This paper, co-written with Gabriel Smagghue, aims to measure the quality content of trade flows at a very disaggregated level. They create a new instrument for prices, based on import-weighted exchange rates, that allows them to consistently estimate the demand equations of French exporters. Therefore, they are able to recover a measure of quality at the firm-product-destination-year level.

They take advantage of this new measure of quality to test for the existence of a quality response of French firms facing increasing low-wage countries competition. Whereas this response has been documented in the literature with indirect or aggregate measures of quality, their estimates of quality allows them to directly test for within-firm quality upgrading. They find that an increase of low-wage countries competition does trigger a quality response, but only in the medium-run firms affected by increasing competition will display higher quality level, but only four or five years after the competition shock, which is consistent with a process of quality upgrading requiring technological investment.

Miguel Morin was awarded a data grant from the Economic Fluctuations Colloquium, which he used to collect and digitize data on concrete plants during the Great Depression from the National Archives in Washington DC. Using regional variation as an instrument for the price of electricity, he found that the decrease in this price caused a decrease in the labor share of income, indicating that firms substituted electric machinery for labor during the Depression. He also found that this pattern of capital-labor substitution during recessions is similar to the recent effect of computers on the cyclical behavior of the labor market. This finding suggests that “history doesn’t repeat itself but it does rhyme.”

Pablo Ottonello received a Hayek Fund award and a Humane Studies Fellowship for the 2013-2014 academic year. In addition, continued on page 5
Columbia’s Undergraduate Fed Challenge Program

About thirty students signed up for the Fed Challenge workshop in Fall 2013 after informational sessions were held by faculty in the Spring and reading assignments were sent to possible participants over the summer. Although the team that participates in the Challenge consists of only three to five students, others sign up because they are interested in learning about the subjects covered in the workshop, whose focus is not solely on preparing for the competition itself. In preparation for the Fed Challenge, students can focus on any area that the Fed is engaged with, and the structure of the workshop is kept loose to facilitate student interests and discussions. This strategy is especially effective in the preliminary presentations students give to be considered as members of the Columbia team, on topics such as the labor market as an indicator of the crisis. “A lot of students have never presented before and this is their chance to practice,” says Davidson. These presentations gauge the student’s understanding of the material and give them an opportunity to show faculty members what they know. But according to Davidson, “The most difficult part of the project isn’t the presentation, it’s the question and answer session” that follows. “They have to think quickly on their feet, they have to be good at working on a team. When you think of the real world, teamwork is so important, so it’s a good thing to focus on.” Once the Columbia team has been selected, the students begin strategizing their policy recommendations.

Competition preparations also allow the students to engage with faculty members. During mock presentations in preparation for the November competition, students answer questions posed by faculty members and have said in the past that they were much harder to answer than the questions they faced in Fed Challenge competition itself. They often consult with Columbia professors, such as Richard Clarida and Ricardo Reis, as they prepare, and they use faculty research to understand and make recommendations on monetary policy. Last year, students used Professor Michael Woodford’s highly influential paper, “Accommodations at the Zero Lower Bound” presented at Jackson Hole, which questioned the effectiveness of asset purchases when short-term interest rates were at zero, and suggested that the Fed declare its targets for interest rates to stimulate growth instead. Students based their evaluations and recommendations on the paper at the same time that the Fed itself was trying to determine its future actions. Ultimately, the paper had a significant influence on Fed policy and students were able to engage with policy considerations as they unfolded.

Unlike at other institutions, Columbia’s Fed Challenge workshop does not take place year-round but happens in a short time period before the competition and much of the work is intense. “Whoever on the team realizes that it’s a lot of hours and a lot of work,” says Professor Davidson. In the first round, which takes place among colleges in a local district, there are six brackets and six to eight teams per bracket. The competitions consist of a presentation, followed by a question and answer session. The judges consist of academic economists, private economists, and economists associated with the Fed. Six teams come out of that round and then go on to the semi-finals. Two groups then meet at the finals in which there is no presentation, only a question and answer session. The winner then goes to Washington D.C. for the National College Fed Challenge.

Columbia students who have graduated and who were on the Fed Challenge team have gone on to work in the financial sphere and are better informed as a result of their experiences with the program. Davidson says that the familiarity that students gain with monetary policy is valuable to many employers. Students have spoken about their experiences with the Fed Challenge to set themselves apart in interviews and employers have been impressed by their expertise. This familiarity also has helped students with other financial or corporate finance competitions that judge students on their ability to put together portfolios.

In addition, Davidson says, students involved in the Fed Challenge can also help educate others about the Fed. “After the crisis the public’s opinion of the Fed was very low and that was partly because the public doesn’t understand what the Fed and doesn’t do . . . Our students talk to each other, even if they’re not in the same class. We can have them not just talk to each other, but to their friends and families about what is going on with monetary policy and what is going on in the Fed, that makes them better citizens.”

In these ways, Columbia’s Fed Challenge workshop fulfills a number of important functions for students of Economics. Davidson stresses that the program is not about winning. “Students say that we learn all this stuff in our theory classes at Columbia. Now we can put it to work . . . Students do it because they’re really motivated and want to learn more.”
From the Director of the Program for Economic Research

Continued from page 1

ference in December on political economy, which brought together political scientists and economists from Columbia and other universities for an intense and productive day of discussions.

PER also hosted several public events since the last newsletter. In March, we had a lively debate between Nate Silver, a successful forecaster of election outcomes in the United States, Phil Tetlock, a professor of psychology who studies how experts make predictions, and Justin Wolfers, an economics professor who specializes in extracting information from prediction markets. This lively discussion on our ability and limitations in predicting the outcome of elections was moderated by our own Professor Navin Kartik. An exciting discussion followed with students, alumni, and other faculty, as you can see in the video of the event on our website.

In April, we held the 6th annual Kenneth J. Arrow lecture delivered by Professor Christian Gollier, who discussed the difficulties in calculating the trade-off between incurring costs in the present to control climate warming to reap large benefits but only in a distant uncertain future. I am also pleased to report that three of our previous Arrow lectures are in advanced stages of production and will be published as books by the Columbia University Press in 2014.

On November 21st, we hosted Stanley Fischer who revealed his main lessons from serving as the governor of the central bank of Israel for eight years. Professor Fischer is a former economics professor, the first deputy managing director at the International Monetary Fund (IMF), and vice chairman of Citigroup.

Then, in February, we had a discussion on the upcoming banking union in Europe with Vitor Gaspar and Athanasios Orphanides. Dr. Gaspar was the first head of the research department at the European Central Bank (ECB), served for many years as the director general of the Bureau of European Policy Advisors of the President of the European Commission, and more recently was the minister of Finance of Portugal. Dr. Orphanides served between 2007 and 2012 as governor of the Central Bank of Cyprus, overseeing the entry of this country into the Euro. He was also a member of the Governing Council of the ECB during the start of the euro crisis.

Finally, as always, PER has been directly engaged in helping our students realize their potential. PER funded several graduate students’ efforts at collecting exciting new data. We are proud to see them use these to earn prizes with their research and get job offers from the best economics departments worldwide. The PER-supported Columbia Experimental Laboratory for the Social Sciences (CELSS) is in full operation and several of our graduate students are incorporating into their dissertations experiments from the lab. The Columbia Economic Review, an undergraduate-run journal, recently published another high-quality issue and organized a discussion on monetary policy that was very well-attended. PER has also started supporting a team of our college students that takes part in the “Fed challenge”, a competition in which students discuss the options available for monetary policy currently in the United States and present their conclusions to a panel of judges from the Federal Reserve Bank of New York. The range of activities around economics at Columbia has grown with every issue of this newsletter, and PER will most certainly continue supporting this trend.

Ricardo Reis is Professor of Economics at Columbia University and Executive Director of the Program for Economic Research.

News from the Graduate Program

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Pablo was one of the recipients of the Economics Department’s Wueller Teaching Awards. Dr. Paul Wueller received his Ph. D. from Columbia University in 1932 and a generous legacy from Dr. Wueller and Gwen H. Wueller to the Economics Department funds the awards. Other recipients of the Wueller Teaching Awards include Nicholas De Roux, Carlos Montes-Galdon, and Daniel Villar.
Recent NBER Working Papers

RICARDO REIS
“Central Bank Design”
NBER Working Paper #19187

EMI NAKAMURA, JÓN STEINSSON
“High Frequency Identification of Monetary Non-Neutrality”
NBER Working Paper #19260

RICARDO REIS
“The Portuguese Slump and Crash and the Euro Crisis”
NBER Working Paper #19288

JOSEPH STIGLITZ, JUNGYOLL YUN
“Optimality and Equilibrium In a Competitive Insurance Market Under Adverse Selection and Moral Hazard”
NBER Working Paper #19317

KATE HO, ARIEL PARKES
“Hospital Choices, Hospital Prices and Financial Incentives to Physicians”
NBER Working Paper #19333

ERIC ANDERSON, EMI NAKAMURA, DUNCAN SIMESTER, JÓN STEINSSON
“Informational Rigidities and the Stickiness of Temporary Sales”
NBER Working Paper #19350

MICHAEL WOODFORD
“Macroeconomic Analysis Without the Rational Expectations Hypothesis”
NBER Working Paper #19368

TODD KUMLER, ERIC VERHOOGEN, JUDITH A. FRAAS
“Enlisting Employees in Improving Payroll-Tax Compliance: Evidence from Mexico”
NBER Working Paper #19385

KATE HO, ROBIN S. LEE
“Insurer Competition and Negotiated Hospital Prices”
NBER Working Paper #19401

WOJCIECH KOPCZUK
“Do the Laws of Tax Incidence Hold? Point of Collection and the Pass-through of State Diesel Taxes”
NBER Working Paper #19410

KYLE JURADO, SYDNEY C. LUDVIGSON, SERENA NG
“Measuring Uncertainty”
NBER Working Paper #19456

PATRICK BOLTON, XAVIER FREIXAS, LEONARDO GAMBACORTA, PAOLO EMILIO MISTRULLI
“Relationship and Transaction lending in a Crisis”
NBER Working Paper #19467

SERENA NG, JONATHAN H. WRIGHT
“Facts and Challenges from the Great Recession for Forecasting and Macroeconomic Modeling”
NBER Working Paper #19469

JESSIE HANDBURY, TSUTOMU WATANABE, DAVID E. WEINSTEIN
“How Much Do Official Price Indexes Tell Us About Inflation?”
NBER Working Paper #19504

GORDON C. MCCORD, JEFFREY SACHS
“Development, Structure, and Transformation: Some Evidence on Comparative Economic Growth”
NBER Working Paper #19512

ANNETTE ALSTADSÆTER, WOJCIECH KOPCZUK, KJETIL TELLE
“Are Closely-Held Firms Tax Shelters?”
NBER Working Paper #19609
Absent states to enforce contracts, societies develop alternative institutions based on the social structure to generate trust and trade (Greif 1990). However, when social groups are fragmented, or when members are too distant to monitor behavior, trade opportunities across groups are lost. In particular, we know that absent states to enforce contracts, many African countries rely on social structure, for instance ethnicity, to achieve public goods provision, and that cooperation for that purpose across different groups is limited. Introducing access to a third-party intermediary can also crowd out the pre-existing social equilibria. In this study, I created a home delivery business based on trust, where traders visit thousands of randomly selected households, both of the two starkest identities in Eastern Congo, offering a household domestic good at a discount. The buyer, however, can choose to pay an upfront fee to receive the good delivery a few days later, requiring him to trust the trader in order to reap the benefits from the discount. Drawing on random assignment between traders and buyers, and of transaction level access to state-enforced contracts, I use this framework to evaluate the effect of access to state backed contracts for transactions with and without common ethnic ties between the trader and the buyer. In order to understand whether this can be scaled-up, I am examining whether contracts are trusted because they solve a holdup problem or because of other information they might signal about traders. To disentangle the incentive effects of contracts from the selection effects, I observe the cell phone repayment behavior of the same populations, when they are exposed to the threat of a state-enforced contract and when they are not, using a methodology similar to Karlan and Zinman (2006). Upon accepting an offer that gives them a domestic good at a discount with the promise of paying a few days later by cellphone, some households are randomly forgiven the contract. Future work includes disentangling the effects of the contract that are purely due to the state backing from those that are present in any written promise between two-parties in a low enforcement environment.

**New Economics Department Faculty Members**

In the Fall 2013, the Economics Department welcomed four new faculty members to Morningside. (From left to right)

José Scheinkman is the Edwin W. Ricker Professor of Economics, and he joins Columbia from Princeton University. He works in the field of financial economics and economic theory.

Pietro Ortoleva joins Columbia from the California Institute of Technology, and he works in the field of political economy.

Jennifer La'O received her PhD from MIT and joins Columbia from the University of Chicago. She works in the field of macroeconomics.

François Gerard received his PhD from University of California Berkeley. He works in the fields of development economics and public economics.
Visitors to the Program for Economic Research

FALL 2013
Each week, researchers and scholars visit the Columbia Economics Department under the auspices of the Program for Economic Research (PER). Interactions in workshops and seminars advance the body of knowledge and encourage collaboration between economists at Columbia and throughout the world.

TREB ALLEN
Joint visitor with Columbia Business School (Northwestern University)
October 28-November 1, 2013

PHILLIP KIRCHER
(University of Edinburgh)
November 8-12, 2013

PETER NEARY
(University of Oxford)
September 23-26, 2013

THOMAS PHILIPPON
Joint visitor with Columbia Business School (New York University)
September 16-20, 2013

ANJA SAUTMANN
(Brown University)
October 14-18, 2013

BRUNO STRULOVICI
(Northwestern University)
October 7-11, 2013

LEAT YARIV
Joint visitor with Columbia Business School (California Institute of Technology)
October 21-25, 2013

Recent Faculty Articles

JUSHAN BAI AND SERENA NG
“Principal Components Estimation and Identification of Static Factors”
Journal of Econometrics
Issue 1, September 2013

PATRICK BOLTON, MARKUS K. BRUNNERMEIER, AND NENG WANG
“Market Timing, Investment, and Risk Management”

PATRICK BOLTON, MARKUS K. BRUNNERMEIER, AND LAURA VELDKAMP
“Leadership Coordination, and Corporate Culture”
Review of Economic Studies Vol. 80, July 2013

JEFFREY SACHS
“High Stakes at the UN on the Sustainable Development Goals”
Lancet Vol. 382, No. 9897, September 2013

GUY LAROQUE AND BERNARD SALANIÉ
“Identifying the Response of Fertility to Financial Incentives”
Journal of Applied Econometrics Vol. 28, Issue 6, June 2013

STEPHANIE SCHMITT-GROHÉ AND MARTIN URIBE
“Downward Nominal Wage Rigidity and the Case for Temporary Inflation in the Eurozone”
Journal of Economic Perspectives Vol. 27, No. 3, Summer 2013

ANZHELKA KNYAZEVA, DIANA KNYAZEVA, AND JOSEPH STIGLITZ
“Ownership Change, Institutional Development and Performance”
Journal of Banking and Finance Vol. 37, Issue 7, July 2013

ALEJANDRA MIZALA AND MIGUEL URQUIOLA
“School Markets: The Impact of Formation Approximating Schools’ Effectiveness,”
Journal of Developmental Economics, Vol. 103, July 2013

BRITTANIE ATTERBERRY, MATTHEW DERR, MICHAEL HOWELL, AND MICHAEL WOODFORD
“Endorsement for Civil Rights for Lesbian, Gay, Bisexual, and Transgender People Among Heterosexual College Students: Informing Socially Just Policy Advocacy”
Journal of Community Practice Vol. 21, Issue 3, September 2013
Italy’s Future: Reform or Decline?

On February 18, 2013, the Program for Economic Research and the Italian Academy for Advanced Studies in America hosted “Italy’s Future: Reform or Decline?” presented by Francesco Giavazzi, Universita Bocconi. Professor Giavazzi lectured to a packed audience on the potential dynamics of the Italian economy in the wake of the spring election cycle and its consequences for the wider Euro area. His remarks were followed by a discussion with Michael Woodford, Columbia University.

PICTURED:
Right: Professor Francesco Giavazzi
Below: Francesco Giavazzi and Michael Woodford

Photos by: Bruce Gilbert
Predicting Elections

Few events are as central to democratic countries and their economies as an election. This panel, sponsored by the Program for Economic Research on March 27, 2013, discussed different approaches that are used today to predict the outcome of an election - comparing the value of information from experts, polls, surveys, time series, betting markets and others, as well as their shortfalls - and reflected on our ability today to forecast political events. The panel was comprised of Nate Silver, New York Times; Phil Tetlock, University of Pennsylvania; and Justin Wolfers, University of Michigan. Navin Kartik of Columbia University served as moderator.
2013 Kenneth J. Arrow Lecture

The 2013 Kenneth J. Arrow lecture was held on April 25th. Professor Christian Gollier, Professor of Economics at the University of Toulouse, presented “Pricing the Planet’s Future: The Economics of Discounting in an Uncertain World.” Professor Gollier’s lecture focused on the theory of risk-bearing, with an application to the welfare analysis of policies to reduce climate change. His lecture was followed by remarks from Bernard Salanie, Professor of Economics at Columbia, Kenneth Arrow, Professor Emeritus of Economics at Stanford University, and University Professor Joseph Stiglitz. The Arrow Lecture is co-sponsored with the Committee on Global Thought and Columbia University Press.
Existing literature on small open economies has studied separately two opposite effects of currency depreciation during crises: in the presence of nominal wage rigidity, exchange rate depreciation reduces unemployment; in the presence of collateral constraints that link external debt to the value of income, exchange rate depreciation tightens the collateral constraint and leads to higher consumption adjustment. I show that in a model that includes both frictions, exchange rate policy faces a “credit access - unemployment trade-off,” i.e., a trade-off between reducing involuntary unemployment and relaxing the external credit limit. My quantitative study of this model shows that during financial crisis episodes, optimal policy features large nominal and real exchange rate depreciation. This is because, while containing real exchange rate depreciation can have welfare gains related to second moments (lower consumption volatility) its costs are related to first-moments (higher average unemployment rate). The optimal policy implies a lower currency depreciation than that necessary to achieve full employment, which is consistent with “managed-floating” exchange rate policy typically observed during financial crises in emerging economies. Sudden stops (or large current account adjustments) are part of the endogenous response under the optimal exchange rate policy to large negative shocks.

Despite the widely acknowledged importance of infrastructure for economic growth, there has been relatively little research on how infrastructure affects the decisions of firms. Using data on Indian manufacturing firms, this paper provides evidence on how electricity prices affect a firm’s industry choice and productivity growth. I construct an instrument for electricity price as the interaction between the price of coal paid by power utilities, which is arguably exogenous to firm characteristics, and the initial share of thermal generation in a state’s total electricity generation capacity. I find that, in response to an exogenous increase in electricity price, firms reduce their electricity consumption and switch to industries with less electricity-intensive production processes. I also find that firm output, machine intensity and labor productivity decline with an increase in electricity price. In addition to these level effects, I show that firm output and productivity growth rates are negatively affected by high electricity prices. These results suggest that electricity constraints faced by firms may limit a country’s growth by leading firms to operate in industries with fewer productivity-enhancing opportunities.

I formulate a notion of stable outcomes in matching problems with one-sided asymmetric information. The key conceptual problem is to formulate a notion of a blocking pair that takes account of the inferences that the uninformed agent might make. I show that the set of stable outcomes is nonempty in incomplete-information environments and is a superset of the set of complete-information stable outcomes. I then provide sufficient conditions for incomplete-information stable matchings to be efficient. Lastly, I define a notion of price-sustainable allocations and show that the set of incomplete-information stable matchings is a subset of the set of such allocations.

The department sponsors a discussion paper series for faculty, students, and visitors. Download the full text of these papers at:
http://econ.columbia.edu/columbia-economics-discussion-papers-series
Innovation is typically a trial-and-error process. While some research paths lead to the innovation sought, others result in dead ends. Because firms benefit from their competitors working in the wrong direction, they do not reveal their dead-end findings. Time and resources are wasted on projects that other firms have already found to be fruitless. This is a major problem, particularly in industries that rely heavily on trial-and-error research. We offer a simple model with two firms and two research lines to study this prevalent problem. We characterize the equilibrium in a decentralized environment that necessarily entails significant efficiency losses due to wasteful dead-end replication and a flight to safety, i.e. an early abandonment of the risky project. We show that different types of firms follow different innovation strategies and create different kinds of welfare losses. In an extension of the core model, we also study a centralized mechanism whereby firms are incentivized to disclose their actions and share their private information in a timely manner.

We study the role of incomplete information and outside options in determining bargaining postures and surplus division in repeated bargaining between a long-run player and a sequence of short-run players. The outside option is not only a disagreement point but reveals information privately held by the long-run player. In equilibrium, the uninformed short-run player’s offers do not always respond to changes in reputation and the informed long-run player’s payoffs are discontinuous. The long-run player invokes inefficient random outside options repeatedly in order to build reputation to a level where the subsequent short-run players succumb to his extraction of a larger payoff, but he also runs the risk of losing reputation and relinquishing bargaining power. We investigate equilibrium properties when the discount factor goes to 1 and when the informativeness of outside option diffuses. In both cases, bargaining outcomes become more inefficient and the limit reputation building probabilities are interior.

Which set of institutions can support the activity of a central bank? Designating a central bank requires specifying the following: its objective function, including the bank’s mandate at different horizons and the choice of banker(s); the constraint that limits the resources that the bank generates, the asset it holds, or the payments on its liabilities; and finally, specifying how the central bank will communicate with private agents to affect the way that they respond to policy choices. I summarize the relevant economic literature that bears on these choices, which leads to twelve principles on central bank design.

We provide a positive analysis of effort allocation by a politician facing reelection when voters are uncertain about the politician’s preferences on a divisive issue. We then use this framework to derive normative conclusions on the desirability of transparency and other institutional design features. There is a pervasive incentive to “posture” by over-providing effort to pursue divisive policies, even if all voters would strictly prefer to have a consensus policy implemented. As such, the desire of politicians to convince voters that their preferences are aligned with the majority can lead them to choose strictly pareto dominated effort allocations. Transparency over the politicians’ effort choices can either mitigate or re-enforce the distortions depending on the strength of politicians’ office motivation and the efficiency of institutions. When re-election concerns are paramount, and executive institutions are strong, transparency about effort choices can be bad for both incentivizing politicians and for sorting.
Between 2000 and 2012, the Portuguese economy grew less than the United States during the Great Depression and less than Japan during its lost decade. I ask why this happened, with a particular focus on the slump between 2000 and 2007. I describe the main facts of Portugal’s recent economic history, evaluate some possible explanations for its dismal performance, and propose a new hypothesis based on the misallocation of abundant capital flows from abroad. I put forward a model of credit frictions to show that if financial integration exceeds financial deepening, productivity will fall, generating a slump as relatively unproductive firms in the nontradables sector expand at the expense of more productive tradables firms. This explanation can also potentially account for the similarities and the differences during this period between Portugal on the one hand, and Ireland and Spain on the other, and for some features of the crash in Portugal after 2010.

If voters of different countries adhere to different and deeply rooted cultural norms, when these countries interact their leaders may find it impossible to agree on efficient policies, especially in hard times. Political leaders’ actions are bound by a “conformity constraint” that requires them to express policies that do not violate these norms. This inhibits politicians from adopting the optimal policies as they may clash with either one or the other of the cultures of the interacting countries. We model this mechanism and argue that conformity constraints and cultural clash can help us understand the poor management of the Greek crisis and the resulting European Sovereign debt crisis. We show the conditions under which the introduction in Europe of a fiscal union can be obtained with consensus and be beneficial. Perhaps counter-intuitively, cultural diversity makes a fiscal union even more desirable.

We study collusion in a large class of private-value auctions by cartels whose members cannot exchange monetary transfers among themselves (i.e., weak cartels). We provide a complete characterization of outcomes that are implementable in the presence of weak cartels, and identify optimal collusion-proof auctions for symmetric value distributions. When the density is single-peaked, the optimal collusion-proof auction can be implemented by a procedure that combines a second-price auction with a sequential one-on-one negotiation.

We develop a network-flow approach for characterizing interim allocation rules that can be implemented by ex post allocations. Our method can be used to characterize feasible interim allocations in general multi-unit auctions where agents face capacity constraints, both ceilings and floors. Applications include a variety of settings of practical interest, ranging from individual and group-specific capacity constraints, set-aside sale, partnership dissolution, and government license reallocation.

We examine the effects of speculation using credit derivatives on the cost of debt and the likelihood of default. The availability of credit default swaps induces investors who are optimistic about borrower revenues to sell protection instead of buying bonds. This benefits borrowers if protection can only be bought with an insurable interest, but can increase the cost of debt and crowd out productive lending if protection can be purchased as a bet on default. We also show that the possibility of speculation on default may cause multiple equilibria and exacerbate the problem of rollover risk.

continued on page 15
Recent Discussion Papers
Continued from page 14

MARY AMITI AND DAVID E. WEINSTEIN
How Much Do Bank Shocks Affect Investment? Evidence From Matched Bank-Firm Loan Data | 1314 08

We show that supply-side financial shocks have a large impact on firms’ investment. We do this by developing a new methodology to separate firm-borrowing shocks from bank supply shocks using a vast sample of matched bank-firm lending data. We decompose loan movements in Japan for the period 1990 to 2010 into bank, firm, industry, and common shocks. The high degree of financial institution concentration means that individual banks are large relative to the size of the economy, which creates a role for granular shocks as in Gabaix (2011). As a result, bank supply shocks—i.e., movements in the supply of bank loans net of borrower characteristics and general credit conditions—can have large impacts on aggregate loan supply and investment. We show that these bank supply shocks explain 40 percent of aggregate loan and investment fluctuations.

JESSIE HANDBURY, TSUTOMU WATANBE, AND DAVID E. WEINSTEIN
How Much Do Official Price Indexes Tell Us About Inflation? | 1314 09

Official price indexes, such as the CPI, are imperfect indicators of inflation calculated using ad hoc price formulae different from the theoretically well-founded inflation indexes favored by economists. This paper provides the first estimate of how accurately the CPI informs us about “true” inflation. We use the largest price and quantity dataset ever employed in economics to build a Törnqvist inflation index for Japan between 1989 and 2010. Our comparison of this true inflation index with the CPI indicates that the CPI bias is not constant but depends on the level of inflation. We show the informativeness of the CPI rises with inflation. When measured inflation is low (less than 2.4% per year) the CPI is a poor predictor of true inflation even over 12-month periods. Outside this range, the CPI is a much better measure of inflation. We find that the U.S. PCE Deflator methodology is superior to the Japanese CPI methodology but still exhibits substantial measurement error and biases. This also renders it a problematic predictor of inflation in low inflation regimes.

MICHAEL WOODFORD
Macroeconomic Analysis Without the Rational Expectation Hypothesis | 1314 10

I review a variety of alternative approaches to the specification of the expectations of economic decision-makers in dynamic models, and I reconsider familiar results in the theory of monetary and fiscal policy when one allows for departures from the hypothesis of rational expectations. The various approaches are all illustrated in the context of a common model, a log-linearized New Keynesian model in which both households and firms solve infinite-horizon decision problems. Under the hypothesis of rational expectations, the model reduces to the standard “3-equation model” used in studies such as Clarida et al. (1999). The alternative approaches considered include rationalizable equilibrium dynamics (Guesnerie, 2008); restricted perceptions equilibria (Branch, 2004); decreasing-gain and constant-gain variants of least-squares learning dynamics (Evans and Honkapohja, 2001); rational belief equilibria (Kurz, 2012); and near-rational expectations equilibria (Woodford, 2010). Issues treated include Ricardian equivalence; the determinacy of equilibrium under alternative interest-rate rules; non-fundamental sources of aggregate instability; the tradeoff between inflation stabilization and output-gap stabilization; and the possibility of a “deflation trap.”

ALOISIO ARAUJO, SUSAN SCHOMMER, AND MICHAEL WOODFORD
Conventional and Unconventional Monetary Policy with Endogenous Collateral Constraints | 1314 11

We consider the effects of central-bank purchases of a risky asset, financed by issuing riskless nominal liabilities (reserves), as an additional dimension of policy alongside “conventional” monetary policy (central-bank control of the riskless nominal interest rate), in a general-equilibrium model of asset pricing and risk sharing with endogenous collateral constraints of the kind proposed by Geanakoplos (1997). When sufficient collateral exists for...
collateral constraints not to bind for any agents, we show that central-bank asset purchases have no effects on either real or nominal variables, despite the differing risk characteristics of the assets purchased and the ones issued to finance these purchases. At the same time, the existence of collateral constraints allows our model to capture the common view that large enough central-bank purchases would eventually have to affect asset prices. But even when central-bank purchases raise the price of the asset, owing to binding collateral constraints, the effects need not be the ones commonly assumed. We show that under some circumstances, central-bank purchases relax financial constraints, increase aggregate demand, and may even achieve a Pareto improvement; but in other cases, they may tighten financial constraints, reduce aggregate demand, and lower welfare. The latter case is almost certain the one that arises if central-bank purchases are sufficiently large.

We analytically characterize robustly optimal monetary policy for an augmented New Keynesian model with a housing sector. In our setting, the housing stock delivers a service flow entering households’ utility, houses are durable goods that depreciate over time, and new houses can be produced using a concave production technology. We show that shocks to housing demand and to housing productivity have “cost-push” implications, which warrant temporary fluctuations in the inflation rate under optimal policy, even under an assumption of rational expectations, for reasons familiar from the literature on “flexible inflation targeting”. However, under rational expectations, optimal monetary policy can still be characterized by commitment to a “target criterion” that refers to inflation and the output gap only just as in the standard model without a housing sector. Instead, if policy is to be robust to potential departures of (house price and inflation) expectations from model-consistent ones, the target criterion must also depend on housing prices. In the empirically realistic case where the government subsidizes housing, the robustly optimal target criterion requires the central bank to “lean against” unexpected increases in housing prices, in the sense that it should adopt a policy stance that is projected to undershoot its normal targets for inflation and/or the output gap owing to the increase in housing prices, and similarly aim to overshoot those targets in the case of unexpected declines in housing prices.

There have been many notable changes in the policies of the Fed and other central banks in response to the global financial crisis and its continuing aftermath, and few would disagree that the importance of these institutions for both the US and the world economy has become more evident as a result. I talk about only one of the notable changes in Fed policy, though it is one that I suspect will come to be seen as a change of historic significance for the institution. This is the increase in recent years in the degree to which the Fed openly discusses its policy deliberations and the bases for its decisions.
Recent Discussion Papers

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MICHAEL WOODFORD
Forward Guidance By Inflation-Targeting Central Banks | 1314 15

One of the notable features of inflation targeting as an approach to the conduct of monetary policy has been the increased degree of transparency on the part of inflation-targeting central banks, not only to their decisions but also with regard to the goals that the policy seeks to achieve and the reasoning behind individual decisions. The degree to which this makes it appropriate, or even necessary, for inflation-targeting central banks to speak in advance about future policy decisions has been a topic of debate. However, over time, inflation-targeting central banks such as the Reserve Bank of New Zealand, the Norges Bank, and Sveriges Riksbank have led the way in increasing the degree of explicit communication about the likely forward path of short-term interest rates on a regular basis.

Faculty Books: Winter 2014

JOSEPH STIGLITZ AND ANDREW CHARLTON
The Right to Trade: Rethinking the Aid for Trade Agenda
(Commonwealth Secretariat, September 2013)

Aid for trade is a fixture in the development landscape, accounting for approximately 25 percent of total official development assistance (ODA), and is being positioned as a building block in the future development agenda beyond the 2015 expiry of the Millennium Development Goals. In The Right to Trade, Nobel Prize-winning economist Joseph E. Stiglitz and Andrew Charlton argue that aid for trade has not delivered on its initial promise. To create a genuinely pro-development trade liberalization agenda, the authors propose that a “right to trade” and a “right to development” be enshrined within the WTO’s dispute settlement system; and that aid for trade funds be consolidated into a coherent and predictable framework, where dedicated funds are committed by rich countries to a Global Trade Facility and dispersed through a transparent and competitive process. Together these proposals would help ensure that international trade works for developing countries and will help preserve a development-friendly multilateral trading system.
Program for Economic Research
Events Listing—Fall 2013

NOVEMBER 21, 2013
Monetary Policy: Lessons from Eight Years as Governor of the Bank of Israel
Stanley Fischer
Co-sponsored by the Center for Israeli Legal Studies

DECEMBER 13, 2013
Political Economy Conference
Co-sponsored by the Institute for Social and Economic Research and Policy