Economics Communiqué

Spring 2009

Optimal Monetary Policy

If the Friedman Rule is the gold standard in monetary policy, why isn't it implemented?

By Melody Galen

Anyone who's taken an economics class will recognize Milton Friedman's name. His contributions to economics are numerous, including the Freidman rule for monetary policy. Simply put, the Friedman rule says that the optimal monetary policy is one in which the inflation-adjusted interest rate is set to zero. While the Friedman rule might be considered the standard bearer for how monetary policy should be conducted, no country has implemented it.

Kenneth Lay Chair in Economics Joseph Haslag along with Joydeep Bhattacharya of Iowa State University, Steven Russell of Indiana University Purdue University Indianapolis and Antoine Martin of the Federal Reserve Bank of New York have wondered why that is. They've come up with one simple explanation: if you start in a world in which the Friedman rule is not being implemented by the central bank, and you move to one in which you do implement it, there's a cost that accompanies that change. "It had not been heretofore recognized, but that cost is that you effectively redistribute resources from those who don't have a lot of cash to those who do," says Haslag.

As long as there are different levels of money holdings by different people — Haslag calls that heterogeneity — that transfer of resources will occur upon implementation of a Friedman rule. That is one possible explanation for why no country uses the Friedman rule as its monetary policy.

"If everybody starts off with the same quantity of money, if we all had $100 in our pockets, and that's where we start, then our result disappears, and we'd fall back into the same world — the Friedman rule would be the best policy in our setup as well," Haslag explains. "But as soon as you take into account heterogeneity and the redistribution that occurs with the Friedman rule, then questions start to arise about whether it's the best thing or not."

Kenneth Lay Chair in Economics Joseph Haslag

Haslag and his group experimented with ways to undo that transfer of resources. They theorized that using an arbitrary starting date is important. So they extended time backward infinitely far and forward infinitely far to run their model. It did make a difference; when the starting point was relaxed, it got rid of the heterogeneity issue. "It's kind of like the economics version of a black hole. You get a singularity by eliminating the starting date," Haslag says.

Under that scenario, there's no punishment for holding cash. Unfortunately, relaxing the starting date is a theoretical experiment that can't be performed in the real world. Heterogeneity does exist, and that makes the Friedman rule impractical to use. The point is that implementing monetary policy is done in the real world and in real time. Consequently, central bankers must deal with thorny issues like differential impacts on cash-rich and cash-poor individuals. Sometimes, these thorny issues make it impossible to do what would be best in a controlled setting.

From the Department Chair

By David Mandy

What a year this has been to be an economist! Although we are all deeply concerned about the economic downturn and the fragile state of world financial markets, these events present unique opportunities to study the operation of the financial system, ponder policy responses and educate our students and the general public. Student interest in economics as a major continues to increase, driven partly by a desire to understand current events and partly by expanding recognition that economics may be the "just right" liberal arts major (see the David Colander article in the March 6, 2009, issue of the *Chronicle of Higher Education*).

The cover story in this issue of *Communiqué* features monetary economist and Kenneth Lay Chair in Economics Joe Haslag's research on monetary policy. This research has been published in multiple highly visible academic journals and informs Joe's perspectives on the financial crisis, which appear on Page 9 in a special supplement on the state of the economy.

Also included in this special supplement are Middlebush Professor of the Social Sciences Jeff Milyo's discussion of the politics of targeted Federal spending; my thoughts on possible causes of the meltdown in mortgage-backed securities markets; and Middlebush Professor of Economics Shawn Ni's discussion of housing prices and the effect of fundamental imbalances on macroeconomic performance.

Another feature story describes Peter Mueser's research into measuring the effectiveness of job-training programs. Peter spent much of the past two years in Washington, D.C., working with a research team funded by the U.S. Department of Labor to study individual outcomes from job-training programs and the extent to which those programs improve the employment and wage potential of program participants. Their report to Congress is titled *Workforce Investment Act Non-experimental Net Impact Evaluation* and is available online from the U.S. Department of Labor.

Two changes to the faculty have occurred since last year's installment of *Communiqué*. Ronald Ratti retired from MU and accepted a position in Australia at the University of Western Sydney. Ron's tireless dedication to the graduate program, through many years of service as director of graduate studies and advising of countless graduate students, and his acclaimed undergraduate money and banking course will both be missed. We wish Ron well in his latest endeavor.

Martin Pereyra, a former MU economics doctoral student, accepted a position in the department as assistant teaching professor. Martin bears primary responsibility for curriculum design and teaching of a new version of Walter Johnson's trademark Economics 1051 (formerly Economics 51) course. Martin's new version is taught collaboratively with journalism endowed Professor Marty Steffens in a special section exclusively for journalism students. This special section has been well received as a way of integrating more economics into the journalism curriculum.

The department's faculty has had a very good year. Cory Koedel received the American Educational Research Association, Division L (Education Policy and Politics) Outstanding Dissertation of the Year award last spring. The national award was presented at the organization's annual conference on March 25, 2008, in New York City. The dissertation award committee chair noted that the dissertation "provides important new insights into the measurement of teacher productivity using value-added modeling." In related research, Mike Podgursky's work on teacher compensation reform continues to receive significant funding from the U.S. Department of Education and private foundations. Mike was appointed last spring to chair the 12-member Missouri State Advisory Committee of the U.S. Commission on Civil Rights. This committee conducts hearings, investigations and research on behalf of the U.S. Commission.

Emek Basker and Jeff Milyo were both awarded Arts and Science Alumni Association grants to support collaborative research projects with some of the department's accomplished undergraduates. Jeff's study concluding that photo ID requirements have little impact on voter turnout spawned an invitation to testify before the U.S. Senate Committee on Rules and Administration about illegal voting and the impact of voter IDs on disenfranchisement.

Emek also received a University of Missouri Research Board grant, as did Peter Mueser. Emek's grant furthers her ongoing study of the emergence of "big box" retailers such as Wal-Mart Supercenters. Peter's grant supports a research project on the effects of administrative reforms in support programs for low-income individuals.

Foster Professor Ron Harstad and his undergraduate student Anthony Dubis won an Arts and Science Undergraduate Research Mentorship Award to study the efficiency of particular trading environments through the use of aftermarkets.

Saku Aura's research on racially distinctive names published by *Economic Inquiry* in 2008 garnered national attention in the January 29, 2009, issue of *Time* magazine.

Director of Graduate Studies Xinghe Wang continued this year to manage the transition to the new graduate curriculum developed by the faculty over the past several years. Xinghe's efforts were recognized when the MU Graduate School conveyed to him the 2008 Director of Graduate Studies Outstanding Contribution Award.

Director of Undergraduate Studies Myoung Lee worked this year to shift advising activities to a distributed model. The growing number of majors and students expressing interest in economics has overwhelmed our advising capacity. With help from her new staff assistant Linda Dyer, Myoung introduced a peer-advising system that gives advanced undergraduates work experience while also providing new students with good advice from students who have successfully nav-

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Undergraduate Program Update

By Myoung Lee

There are 115 undergraduate economics majors in the College of Arts and Science and about the same number of undergraduate economics concentrations in the College of Business. During the last academic year, a total of 33 bachelor's degrees were awarded in economics by A&S (22 bachelor of arts and 11 bachelor of science degrees) and about the same number of bachelors of science in business administration with a concentration in economics degrees were also awarded. Many other graduates received a minor in economics.

Economics majors have commonly obtained internships with Edward Jones, Merrill Lynch, Boeing, law firms, the Missouri State Legislature and other state agencies, and the Federal Reserve banks in St. Louis and Kansas City. Many recent graduates are continuing their studies in economics, law, business, public policy, medicine and other fields across the nation. Places of study include MU, Chicago–Kent College of Law, Fordham University School of Law, Loyola University Chicago, University of California and Cornell. Others have gained employment at institutions such as state government agencies, research institutes, the Federal Reserve Bank of Kansas City, and the Board of Governors of the Federal Reserve in Washington, D.C.

Our undergraduates collaborate on research projects with faculty members as research assistants and by winning competitive Undergraduate Mentor Research Awards from Arts and Science. Several of them (e.g., **Grant Quigley, Brad Lindemann**) have been involved in teaching as peer teaching assistants in the department or as tutors in the Student Success Center and the Total Person Program in the Athletic Department.

The generosity of our friends and alumni has made several scholarships available to outstanding undergraduate economics majors. **Alex Schulte** and **Andrew Shepler** received Clay J. Anderson Memorial Scholarships, **Zachary Smith** received the John Charles Willett Memorial Scholarship, **Anthony Dubis** received the David J. Loschky Scholarship and **Yiming Zhang** recived the Elmer J. Wood Memorial Scholarship during Arts and Science Week 2009. Several students also received various scholarships from Arts and Science.

Bryan Noeth, a former undergraduate and current student in our master's program, and **Brad Lindemann,** a double major in economics and statistics, assist the undergraduate program as peer advisors, meeting with students regularly for general advisement. Bryan is looking at either employment or continuing in the doctoral program in economics and Brad is accepted to our master's program beginning in the fall semester.

New Staff

Linda Dyer, one of the most talented, artistic and lovely persons you will meet, joined the department at the beginning of the fall semester in 2008 as the assistant to the director of undergraduate studies. She enjoys her duties and likes meeting the students who come to the office needing any assistance. She particularly relishes becoming more familiar with the international cultures represented by the diverse faculty and student body in the economics department.

From the Department Chair

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igated the major as well as discipline and career advice from faculty.

The most significant challenge facing the department this year is expenditure restrictions imposed in response to shortfalls in state tax revenues. All MU academic units have been asked to curtail spending, have been placed under a hiring freeze and were told to expect no funds for salary increases next year. In economics, this has meant reduced ability to support student activities and faculty research, the abrupt cancellation of recruitment for a new assistant professor and heightened concerns that our faculty may be recruited by other institutions. In times like these the support of the department's alumni and friends is more important than ever. Private support provides for student scholarships and faculty research and teaching that is crucial to the department's mission of enhancing the understanding of economics at all levels.

Please visit the new alumni section of the department's Web site. There you will find links to update your contact information, share your activities with us and others, and learn about the activities of other alumni, as well as information on contributing to the department.

economics.missouri.edu/alumni/index.shtml

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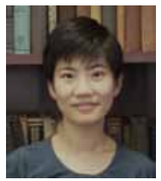
Faculty Kudos

Saku Aura's specialty is public economics. Recently his research has focused on property taxation, land markets in Hong Kong and economics of discrimination. Aura regularly teaches public economics at both graduate and undergraduate levels and has recently started coordinating the department's master's and honors seminars.

Emek Basker has teamed up with a Mizzou undergraduate, Alan Simpson, for a project testing the competitive effects of Wal-Mart's $4 prescription drug plan. They have obtained financial support from the Economic & Policy Analysis Research Center (EPARC) and from the Arts & Science Alumni Organization to pay for additional research assistants in this data-intensive project. Early results indicate that while many competing pharmacies lowered their prices for generic prescription drugs in response to Wal-Mart's aggressive pricing move, prices of brand-name drugs increased, resulting in higher drug costs for some consumers.



Chao Gu's research interests are in the fields of macroeconomics, money and banking and economic theory. She is working on the timing of payments in the large payment networks and asset prices in the decentralized trading markets. She teaches intermediate macroeconomics and advanced money and banking.

This year **Ron Harstad** published auction theory papers in *Games and Economic Behavior* (on when prices aggregate diversely held information), *AER Bulletin* (asking whether a seller really wants another bidder) and *Interfaces* (on the progress auction theory has and has not made in offering relevant advice for practical problems). The last of these is a memorial to Michael Rothkopf, his late co-author on a dozen papers, some drawing international recognition. He has given invited addresses at Nuffield College, Oxford, Koc University in Istanbul and at Pompeu Fabra University in Barcelona.

Joseph H. Haslag's research principally focuses on several aspects of monetary economics. In particular, he is interested in the effects of bank deregulation. One thing that financial deregulation did was make it possible to offer new kinds of financial instruments. The basic idea is that customers benefit as the types of financial instruments evolve, better serving their ability to insure against future risks. Haslag then asks, "How big are the effects of such financial deregulation on economic growth?" In addition, he has researched various issues pertaining to monetary policy and its effects on the financial industry. He has published his research in such prestigious academic journals as *Journal of Monetary Economics; Journal of Money, Credit, and Banking; Review of Economic and Statistics; International Economic Review* and *Review of Economic Dynamics.*

Cory Koedel's recent research focuses on measuring outcome-based teacher quality using both student test scores and long-term outcomes like high-school graduation. Although the evidence strongly suggests that differences in teacher quality are important determinants of student outcomes, there is a myriad of statistical issues that makes measurement problematic. These issues require serious attention in order to use outcome-based measures of teacher performance for evaluation purposes. Koedel is also studying how the underlying structures of competing school-choice programs in K–12 education affect the extent to which they integrate or segregate students, and how the designs of states' systems of higher education affect human capital accumulation. Koedel teaches labor economics at the undergraduate and graduate levels, and encourages students to critically examine key policy issues using the economic toolkit.

Oksana Loginova's research interests are in the fields of microeconomic theory and industrial organization. She has worked on emerging topics such as e-commerce, peer-to-peer networks and customization. Her papers appeared in a number of field journals, including *The Journal of Industrial Economics* and *Journal of Economic Behavior and Organization.*

David Mandy continues his research into regulations that induce efficient production in industries that have complicated wholesale and retail relationships among sellers, such as telecommunications and electricity. He recently completed a paper with doctoral student George Chikhladze on regulation of discrimination in such industries and has a forthcoming paper on regulations that encourage efficient entry decisions by producers. He has worked over the past year to convert the economics component of the MBA curriculum to an eight-week modular format rather than a traditional semester format and is now teaching an MBA module each semester on strategic pricing and decision making. He serves on the University of Missouri Research Board, the Arts & Science Undergraduate Research Mentorship Committee, the Arts and Science Strategic Development Board and the editorial board of the *Journal of Regulatory Economics.*

Douglas Miller has recently conducted research on a wide range of problems, including more accurate measures of financial risk, determinants of cartel overcharges and fines and estimators of discrete choice models with improved prediction ability. His recent publications have appeared in *Journal of Futures Markets, International Journal of Industrial Organization,* and *Journal of Competition Law and Economics.* He continues to teach graduate and undergraduate econometrics and serves on the Graduate Studies Committee for the department. This past summer, Miller also presented the keynote address at Computational Finance 2008, an international conference held in Cadiz, Spain.

J. Isaac Miller specializes in time series econometrics. His research interests include cointegrated series with nonstandard features such as mixed-frequency data, structural breaks or nonlinearity, with forthcoming research papers in *Journal of Econometrics* and *Energy Economics.* He recently developed a new doctoral-level course at MU featuring long-memory processes and continuous-time models popular in financial econometrics.

Jeff Milyo was named the Middlebush Professor of Social Science in fall 2008. This year, Milyo has taught an honors section of Principles of Economics, Law and Economics, Health Economics and a special topics seminar "Capitalism, Democracy and Society." Milyo's research on the regulatory burden of state campaign finance disclosure laws was featured in a segment on the ABC News program, *20/20.* Work in progress examines the effects of voting reforms, such as early voting and voter identification, on voter turnout and illegal voting, as well as the effects of newly proposed FCC regulations on television and radio ownership.

After spending fall 2008 in Washington, D.C., finishing a research project on job training, **Peter Mueser** returned to Columbia to teach the senior capstone course as well as graduate labor economics. The capstone was particularly fun to teach in the face of the daily financial news, which made clear that economics was central to understanding the world. Two of his papers, on temporary help and welfare reform, are slated to appear in academic volumes. He is beginning projects studying food stamps, adult education and Missouri's minimum wage.

Most of **Shawn Ni's** research concerns empirical analysis of disaggregated data. Usually the numbers of parameters in empirical models he studies are large relative to the observed data. His recent work on model selection features a stochastic search over model restrictions that limit the number of parameters without unnecessarily restricting the model space a priori. The approach generally produces models that are complicated enough, but not overly complicated, for analyzing the data at hand.

Martin Pereyra is an assistant teaching professor who earned his doctorate in economics in 2008 at MU. He usually teaches general economics for journalism students and money and banking. He likes to spend his free time going to the movies with Cherlene, his wife. He also enjoys playing football (soccer) and reading about economics.

Michael Podgursky continued his work on teacher compensation. He is a co-investigator with two national research centers funded by the U.S. Department of Education — the National Center for Performance Incentives (Vanderbilt) and the Center for Analysis of Longitudinal Data in Education Research (Urban Institute). With collaborator Robert Costrell, he organized a national research conference on reform of teacher retirement benefit systems for NCPI at Vanderbilt in February 2009. He collaborates in research on teacher compensation reform with Department colleagues Shawn Ni, Cory Koedel and Mark Ehlert. Together they have several research contracts on the area of teacher compensation and many research papers in the pipeline. Over the past year he has given several talks around the country on the issue of teacher performance pay.

Neil Raymon's focus on undergraduate courses in macroeconomics and monetary economics continues. One research project recently begun in the area of macroeconomic theory concerns the notion of "corridor effects." The idea is that a market system adjusts with relatively little disruption (remains in its corridor) to "small" negative shocks but suffers substantial disruption (is thrown out of the corridor) in the wake of "large" negative shocks. The task at hand is to model the very different economic dynamics associated with these phenomena in an integrated way; specifically, so as to include in the model the economy's path back to the corridor following a major disruption.

Gunjan Sharma's research interests lie in international trade, industrial organization, development and applied microeconomics. Her research deals with the impact of industrial deregulation and trade reforms on firm-level productivity, wage gaps and poverty. In a recent paper on crime and inequality in India she found that inequality increases most types of property and violent crime and that inequality within religious and caste groups drive this relationship. In future research she plans to investigate systematic under-reporting of crime in India and whether it is related to electoral cycles.

Vitor Trindade's research and teaching interests are primarily in the area of international trade. In the past year, he finished a paper on international trade and cultural diversity (with his co-author James E. Rauch) forthcoming in the *Canadian Journal of Economics,* which argues for the importance of supporting cultural diversity in the whole world for the purpose of maintaining the creative animus of cultural goods producers. The paper's message is that people such as movie makers and song writers benefit from the cultural diversity in the world because that cultural diversity serves as the basic input for their creativity. More recently, he has been working on the demand side of international trade, that is, on the impact that different countries having different demands for goods can have on international trade flows between them. Trindade serves as the faculty liaison to the Undergraduate Economics Student Association.

Xinghe Wang is teaching this year a new master's-level microeconomics course: Economics 8451. This class helps to transition students from undergraduate microeconomics to doctoral-level microeconomics. So far it is well received by both master's and doctoral students. Wang continues to do research with Oksana Loginova in the area of strategic mass customization by imperfectly competitive firms.

Special Section: Faculty Perspectives on the Economy

Of Bubbles and Information

By David M. Mandy

What caused the financial panic of 2007–08, how do we get out of it and what can be done to prevent a recurrence? Although we remain far from consensus on these questions, some limited answers appear to be emerging.

A speculative bubble in house prices surely played a significant role. Shawn Ni discusses the housing bubble in this issue of *Communiqué,* so I will limit my comments to a thumbnail sketch of how this played through the financial markets.

Many residential mortgages were financed by securitization rather than traditional bank lending during the run-up in housing prices. What, exactly, is "securitization"? The simple answer is that financial institutions bought large pools of mortgages from the mortgage companies and banks that originated the loans and then sold to investors various claims on the principal and interest payments those mortgages were expected to produce. The claims sold to investors were prioritized, meaning that some claims would be paid first from the incoming cash, some would be paid second, and so on down the prioritized list.

This process of prioritization made it possible to create high-priority claims that appeared to be quite safe from the dangers of homeowner defaults even when the underlying mortgages were low quality. After all, the high-priority claims would be paid even if many of the mortgagees defaulted, because the default losses would be absorbed by the low priority claims, right? Moreover, the chances of large default losses were low because the houses that served as collateral for the mortgages could always be refinanced or repossessed and sold at ever-higher prices, right?

The ability to create seemingly safe investments from low-quality mortgages played a role in the very existence of those low-quality mortgages. The financing was available to borrowers who would not otherwise be approved for loans because investors believed their high-priority claims, along with the expectation that the collateral could be refinanced or repossessed and sold at higher prices, would protect them from losses that might otherwise occur when unqualified homebuyers are allowed to borrow. This unprecedented availability of funding for low-quality mortgages actually helped feed the bubble in house prices by increasing demand for housing.

Practically everyone, including the ratings agencies, failed to appreciate the risks associated with a nationwide decline in house prices that would cause a significant number of mortgages to default in a short time period. The theory was that geographic diversification would protect investors from a downturn in a regional housing market. There was no precedent for a nationwide downturn in housing.

The confidence in this financing structure was shaken when housing prices started a widespread decline in late 2006. Suddenly, there *were* significant chances of large default losses. Still, the high priority claims would be safe, right? Surely losses from mortgage defaults would not mount *that* high, would they? Well, probably not, but *somebody* was holding the middle and low priority claims, and nobody was quite sure how much those claims were worth because the entire financing structure was new and evidently more vulnerable to risk than most of the participants thought.

So the price at which many of the outstanding claims could be sold plummeted, perhaps more than warranted based on underlying mortgage defaults because there was poor information among investors about how much those claims were really worth.

To make matters worse, the financial institutions involved became leery of each other's financial viability because of the lost confidence and poor information about how much their claims were really worth. These worries were greatly heightened in August 2007 after some large financial institutions reported very large losses on the prioritized mortgage claims they owned. These financial institutions routinely make short-term loans to each other to meet their immediate cash needs, using their various assets (including the suspect mortgage claims) as collateral. Worried financial institutions began refusing to extend these routine short-term loans, fearing they would not be repaid because their trading partners might suffer significant losses on mortgage claims and also needing to hold cash in order to protect against their own losses on mortgage claims.

Hence large parts of the financial system ceased to function, even parts that were fundamentally sound. This is the essence of a financial panic: Lending is pulled back much more than warranted by the basic underlying losses because the parties to the loans do not have sufficient information to distinguish a good loan from a bad one. It is, in principle, not much different from a traditional bank panic in which depositors (that is, those who lend to the bank) become unsure about their bank's viability and therefore refuse to lend (by withdrawing their deposits), thereby ensuring their bank's inability to meet its obligations even though the bank's actual losses might be sustainable if operations continued normally.

It is tempting to conclude that the loan originators and at least some of the financial institutions that created prioritized mortgage claims knew that investors were underestimating the riskiness of their mortgage claims. Although there was undoubtedly some deception, the evidence is far from clear that this was a main cause of the financial panic. Many of the participants were themselves very exposed to unanticipated risk, lost huge amounts of money and, in some cases, became bankrupt.

It seems instead that the financial panic of 2007–08 is largely a story of ignorance. Ignorance about the true risk of the prioritized mortgage claims led financial institutions to invest in them when they would not have done so had they fully understood the risks, further complicated by subsequent ignorance about the value of those mortgage claims once their risks became more apparent.

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Some Macroeconomic Perspectives on the Financial Crisis, Government Policies and Economic Growth

By Shawn Ni

Recent economic headlines paint a bleak picture of the current U.S. economy: Housing prices collapsed, stock prices tumbled, unemployment jumped and business failures skyrocketed. The net worth of U.S. households declined by about $13 trillion from the second quarter of 2007 to the fourth quarter of 2008. The financial crisis was triggered by an unprecedented run-up and subsequent collapse of housing prices. Fueled by the availability of cheap mortgage loans, the national real housing price clipped an extraordinary 6 percent annual return from the late 1990s to 2006, well above the long-term average of less than 1 percent. Some regions experienced much higher percentage gains than the national average. Since 2007, as the fall in housing prices has accelerated, the survival of many financial institutions has been threatened by their holdings of bad assets, and the economy has slipped into a severe recession. I argue here that while the hope of a quick fix has been placed on the government bailout and fiscal stimulus, the real fix of the fundamental imbalances that led to the crisis requires adoption of different policies focusing on long-term growth.

Even before the current crisis, many financial data of the nation had already shown a troubling trend: The trade and government deficits are stubbornly high and accumulate to disturbingly large amounts of debt. The foreign investment position in the U.S. is now about $2.4 trillion more than U.S. investment abroad, while U.S. government debt stands close to $11 trillion, or about 78 percent of Gross Domestic Product (GDP). U.S. government liabilities (mostly future obligations on Social Security and Medicare) are now almost $60 trillion by some estimates, and rising.

In the long run, the nation's living standard is determined by its productive capacity. The fundamental cause of the nation's financial difficulties is that for a long period of time aggregate consumption has grown faster than aggregate output. In the years of booming asset markets, many treated gains in asset values as a reliable source of income. For those who sold at the peak of the market it would work out fine. But for the nation as a whole, whether current assets can be traded for future consumption depends on the productivity of future generations. Historical data show that the U.S. stock market tracks nominal GDP over the long run. If future output growth is slower than market anticipation, then asset values will fall in the future in real terms, most likely through a combination of lower appreciation in nominal asset prices and a surge in inflation. While the current loss in asset values is large, it barely brought the household net worth/GDP ratio in line with the historical average. Whether this diminished expectation turns out to be too pessimistic or still too optimistic depends on future output growth.

A nation's output depends on its capital stock, the skill of its labor, the effort of the workers and the overall efficiency, known as total factor productivity, or TFP. Incremental improvements in productivity over a long period of time will accumulate to large differences in national income. Compared to a benchmark of 2.5 percent annual output growth, an additional 0.25-percent increase in TFP and 0.5-percent increase in effectiveness of labor per annum will generate additional output of about $1 trillion per year by the year 2020 and $3 trillion by 2030. This additional annual income would go a long way towards chipping away the mountains of debt.

Government policies can affect productivity through provision of public services and distortions in prices. The financial crisis and the government bailout have aroused a heated policy debate. In hindsight, prior to the crisis the federal government did not do enough to effectively monitor the financial industry and did too much to promote homeownership and excessive easing of the money supply. In the wake of the crisis, government policy now consists of bailing out financial institutions and ramping up government spending to increase demand and create jobs. Unfortunately, easy credit and unsustainable government spending do not solve the decades-long fundamental imbalances. While the short-term bottleneck in the credit markets seems to be reluctant banks, a persistent problem is that investment demand in nonresidential capital goods has not been strong even when banks were eager to lend. The bailout and fiscal stimulus create a dramatic increase in future tax liability and the threat of a steep devaluation in the dollar. These concerns do not bolster the confidence of forward-looking investors.

Growth-enhancing policies should lead to lower barriers to entry, more market transparency, reduced distortions induced by taxes and rent-seeking, and more efficiently provided public goods. For example, consider allowing immigration through investment in housing. This policy increases housing demand without subsidies from taxpayers. Productivity gains can also result from more efficient public provision of R&D, in-

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A Political Economy Perspective on Federal Spending

By Jeffrey Milyo

The past year has seen a dramatic increase in actual and proposed spending by the Federal government; one common complaint is that such spending is "pork" that is doled out by members of Congress in order to secure re-election. But to what extent can incumbents buy votes by delivering local spending projects? For many years, political scientists were unable to find much evidence that federal spending had any influence on the election chances of Congressional incumbents; however, this work failed to account for the possibility that the majority party might direct federal spending to support its most vulnerable incumbents, thereby confounding the relationship between pork and re-election success.

In a path-breaking study from the mid-1990s, two economists, Steve Levitt at the University of Chicago and James Snyder at MIT, solved this statistical puzzle and demonstrated that federal discretionary spending does indeed help House incumbents get re-elected (Levitt and Snyder 1997). Updating their estimates to current dollars, $100 million in local projects funded by the federal government results in about a 2 percent increase in the incumbent's share of the popular vote; in a typical House district, this works out to almost $26,800 per vote! Mean turnout for a U.S. House race in the 2006 Congressional election was 186,000 votes, so $100 million in pork "buys" the incumbent 3,724 more votes. That makes pork-barrel politics sound costly and ineffective, but remember, it is a cost borne by taxpayers, not the incumbent.

In comparison, the best estimates of the marginal impact of incumbent campaign spending is about $430 per vote (Levitt 1994); so even campaign advertising is surprisingly ineffectual, albeit cheaper than pork as a vote-getting strategy. But politicians have to work long and hard to raise campaign cash; in contrast, raiding the Federal treasury in the guise of stimulating the macro-economy is essentially costless to an incumbent. So when macroeconomic experts sound the call for increased spending, politicians don't have to be told twice!

Of course, the fact that incumbents directly benefit from Federal spending doesn't mean that the spending was wasteful to begin with, but it does give politicians an incentive to spend, even when those projects are not economically justified. Is there reason to believe that recent increases in government spending will prove to be an inefficient use of resources? Well, if the past is any guide, the answer is unfortunately affirmative. Harvard macroeconomist Robert Barro (1999) and others have examined the effects of government spending on long-run growth across a number of developed countries; all else constant, an increase in the size of government leads to a subsequent reduction in per-capita gross domestic product growth.

But as long as voters care more about pork when they enter the voting booth than the long-run consequences of increased government spending, that's what they'll get from re-election maximizing politicians. Keynes famously said, "in the long run we're all dead;" similarly, members of Congress say, "in the short run, we're up for election."

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Macroeconomic Perspectives on the Financial Crisis

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frastructure and education. By many measures, K–12 American students are falling behind their counterparts in a number of European and Asian countries in math and science. Reforms through rewarding good teachers and encouraging competition among schools can better prepare students for the knowledge-based economy. These measures will not immediately increase foreign investment or improve the skill level of workers, but the implementation or even discussion of these kinds of policies raises the expectation of future returns to investment and inspires optimism. And the inspired optimism stimulates investment today.

Addressing the fundamental imbalances in the U.S. economy requires investing in capital goods and R&D at the expense of current consumption and improving productivity. Economic research can help identify reforms needed to achieve these objectives throughout the economy, from institutions to households. Carrying out these reforms involves costly adjustments. But the crisis serves as a strong motivation for taking on the challenge. A commitment to reform can speed up the recovery and lead to improvement in the nation's long-term economic health.

Monetary Policy During the 2007–2008 Financial Crisis

By Joseph Haslag

Let me begin with the acknowledgment that monetary and fiscal policy are inextricably linked. In its most independent vein, monetary policy affects the expected inflation rate and therefore the real value of government debt outstanding. With these interactions accounted for, there is likely feedback needed, in the form of subtle modifications, for monetary policy to achieve its aims. For the purposes of this newsletter article, I will view recent Federal Reserve actions as if they are isolated, attempting to shed light on what these actions have meant over the past months as well as the risks that may be in store for the U.S. economy because of these actions.

Beginning in October 2008, the Federal Reserve modified its playbook. If the dominant central bank tool was the textbook open market operation — where the Fed buys or sells U.S. Treasury securities — then it is imperative that we recognize the "wildcat" innovation. The Fed still bought and sold assets but extended the consideration to high-grade commercial paper along with so-called toxic assets via the Term Asset-backed Securities Loan Facility, or TALF. Since October, the Fed has been a net buyer of assets. Whatever the asset purchased, the effect on money supply is the same. Indeed, between October 2008 and February 2009, high-powered money — currency in the hands of the non-bank public, plus bank reserves — increased at an annual rate of 237 percent. Compared with the financial crisis in 1929, this is a 240-percent change in the growth rate of high-powered money (that is, between October 1929 and February 1930 high-powered money decreased at an annual rate of nearly 3 percent). Thus, the Fed has taken a much more aggressive role in this financial crisis than it did 70 years ago.

With such explosive money growth, the greatest concern is that inflation will rise. Sharply.

I submit that that the Fed implemented reasonable policies in responding to the financial crisis. The first goal for the Fed was to stabilize the payment system. The payment system consists of all types of settlements used to conduct transactions. So ATMs, currency, checks, credit cards and interbank clearing houses make up the payment system. To demonstrate why this is so important, note that the Fedwire and the Clearing House Interbank Payments System (CHIPS) clear about $6.7 trillion on an average day. With Gross Domestic Product somewhere around $14 trillion, these two clearing houses see a daily flow of payments exceeding 40 percent of annual GDP. If the payment system fails, each of us would have to work a lot harder to conduct transactions. Further, all those assets that we take for granted as being liquid would probably not be.

Was there any risk to the payment system last year? Arguably, there was a real danger. In mid-September 2008, Lehman Brothers was having trouble meeting its obligations to payees. This meant that their scheduled payments through the clearing houses were not going to be made. As other financial market participants caught wind of this, they began to shut out Lehman Brothers, meaning that Lehman Brothers could not acquire enough liquidity through the payment system to even try to meet its obligations. As such, the credit risk was becoming self-fulfilling. Credit risk, however, is not systemic risk. And many questioned whether the Fed's actions were merely providing insurance for a sinking Lehman Brothers.

Credit risk is not the only story, and I will come back to that part later. My main point is that the payment system has all the key characteristics of a network. The value of the payment system to a market economy lies with the interconnections between all the parties. Think of a road system. Interstate 70 is the principal means that people use to go between St. Louis and Kansas City. This one connection permits trade at a lower cost between these cities. Trade increases specialization and thereby enhances productivity. Although I-70 is useless for getting to Springfield, the inclusion of I-44 and U.S. Highway 71 allows travel between Missouri's three largest cities. The road system creates a network that has greater social value as people can move goods and services at a lower cost between these three cities. Value increases even more as the network connections grow between other locations. This is also true for the payment system. The more parties included in the interbank clearing houses, the more valuable it is for all other members as the opportunities increase. Thus, the liquidity of the payment system network grows.

Faced with a situation like Lehman Brothers, the Fed was concerned that an important node in the payment system network would fail. Furthermore, other important nodes appeared susceptible. Hence, the fear of contagion prompted the Fed to provide large amounts of liquidity to ensure that the payment system did not unravel. In this sense, the Fed acted to ensure that the gains from the payment system network would not vanish but continue to operate at a high level. The Fed alone has the unique ability to provide liquidity to the economy. Beginning late in 2008, the Fed did this job.

Two questions might potentially tarnish the Fed's image in coming months: First, there is the sense that the Fed simultaneously provided liquidity and bailed out some insolvent companies. While the former is useful, the latter is not one of the Fed's primary objectives. Where we stand right now, it is impossible to discern which portion of the explosive money growth over the past few months went to the liquidity function and which went to low-cost "bridge" loans. Indeed, the evidence may never be comprehensive enough to identify which part served which function. Doing so tries to separate out one observation over several competing uses. So, this question remains an academic one that researchers will attempt to uncover over time.

Second, with all this money in the system, there is the risk that inflation will increase. So far, my interpretation of the evidence is that the explosive money

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Evaluating the WIA

Mueser helped lead the Department of Labor's first thorough evaluation of one of its best-known programs, the Workforce Investment Act

By Melody Galen

Most adults would agree that finding a good job is not always an easy thing to do. Especially in the midst of a recession. And it is certainly grim news to find that one's employer is in a position to begin laying off workers.

It can be difficult to feel completely secure, even with a job and benefits package, but there may be some measure of solace in knowing that there are programs in place to help out when faced with unemployment.

The Workforce Investment Act (WIA), passed in 1998, is the primary federal job-training program in the U.S. It was designed to provide aid to people who are having a hard time either because they've always had a difficult time finding gainful employment (disadvantaged workers) or because they've been laid off (dislocated workers).

When the WIA was enacted, Congress specified that the Department of Labor would be required to perform a rigorous evaluation of the program. Peter Mueser, professor of labor economics at MU, signed on as one of three lead researchers for that evaluation in fall 2007.

Mueser and Carolyn J. Heinrich of University of Wisconsin, and Kenneth R. Troske of University of Kentucky, worked with a consulting organization to perform a comprehensive nonexperimental evaluation. One of their biggest hurdles was getting states to provide information on workers — eventually they had agreements with 12 states to provide existing data on people who had gone through their WIA programs. Part of doing a meaningful evaluation is having data on a comparison group, so the taskforce gathered comparison data from each of its participating states.

The group being studied — those who had participated either in the WIA's Adult Program, which focuses on disadvantaged workers, or the Dislocated Worker Program — were compared to people who had received unemployment insurance or who had used the employment office in their state. The value of this comparison is that it gives an idea of what might have happened *without* the WIA programs.

Professor Peter Mueser

"When people enter a program like this, they normally go through a period when their earnings are very poor," explains Mueser. If a program were to essentially hold that person's hand, make sympathetic noises and then wait for six months, that person would be likely to be doing better in six months — even without interventions.

"That's because anyone caught at a low point is likely to do better later on," says Mueser. "And so that kind of dip, called Ashenfelter's Dip for the economist who first wrote about it, is a fact of any training program that you must take into account." This is where that comparison group becomes important. Mueser's team had 160,000 WIA participants and about 3 million comparison individuals with whom to match them. What they were looking for was what would have happened to those people if they hadn't used WIA. The people getting unemployment insurance suffer the same kind of drop in income as the people using WIA had suffered. Both groups were searching for jobs.

The value of having 3 million comparison individuals is that it let the evaluators match up each of the 160,000 WIA participants with someone as similar to them as possible. They matched people by location, gender, earnings history and occupational industry. After the number crunching was finished, and that took nearly a year, a report was submitted to the Department of Labor in December 2008.

It appears that the people who go through the Adult Program eventually earn up to $400 more per quarter than if they hadn't used the services.

"Those who think that a program like this is going to solve poverty are going to be very disappointed with those results. But the results we found are pretty much in line with results others have found for similar programs," says Mueser.

He believes that the WIA programs are beneficial enough that it would not be inappropriate to put more resources into the program, given that unemployment is higher now than in recent years, and that more individuals stand to benefit from it. An earnings increase of $400 per quarter may not sound terribly impressive, but over the course of 15–20 years, it can make an appreciable impact in an individual's life.

Noting that the presidential administration is pouring money into every stimulus package imaginable, Mueser thinks it's possible that someone in that administration will wonder what is known about the net gains to WIA participants. He's pleased that the work he and his colleagues did will contribute to the body of knowledge of how programs work in general, and, perhaps more important, to how effective the Workforce Investment Act is in particular.

Graduate Program Update

By Xinghe Wang

Eleven master's and eight doctoral candidates graduated from the Department of Economics in 2008. Three of the master's candidates moved on to pursue doctoral degrees or other advanced studies at institutions such as Cornell University and the University of Kansas. One graduate took a teaching position here at MU. The majority of the graduates now work in government and industries, including government ministries in Korea, a research fellowship at the Korea Economic Research Institute, a research associate position at the Federal Reserve Bank of Kansas City and an energy economist at the Missouri Public Utility Alliance.

Students were active presenters this year at regional and national professional meetings, including the Eighth Annual Missouri Economics Conference in Columbia, Mo., the Graduate Student Conference at Washington University in St. Louis and the Southern Economic Association Annual Meeting in Washington, D.C. Several students received awards for their outstanding performances in course work, research or as a teaching assistant: **Wei Zhou** received the Harry Gunnison Brown Graduate Student Fellowship, **Wilson Kang** received the Harry Gunnison Brown Research Fellowship and several received the Harry Gunnison Brown Graduate Teaching Award.

During the academic year 2007–08, the department restructured our graduate programs, and the new programs are now in their first year. In the new master's program, students write and present their research in a master's research class under the guidance of the instructor and their own advisers. It is expected that master's students can graduate in one and a half to two years. The new doctoral program puts strong emphasis on research. The faculty is highly committed to guide and work with our doctoral students to produce publishable research before their graduation. All doctoral dissertations are expected to contain original research that is worthy of publication in refereed journals. The new curriculum provides both opportunities and incentives for doctoral students to become well acquainted with research methods and techniques and gain research experience well before their dissertation proposals. Doctoral students now take a series of classes on research methodology and literature, and they start their own research by writing research papers in their two chosen fields of specialization. We all look forward to the successes of the current inaugural and future groups of students who pass through these redesigned programs.

Assistant Teaching Professor Myoung Lee, Lucille and Ronald Willett and Chair David Mandy at the College of Arts and Science Scholarship Luncheon in April 2008. The Willetts, along with family and friends, funded a memorial scholarship for their son, John, who died in the September 11, 2001, attack on the World Trade Center.

Bubbles

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Much analysis remains to determine whether the ignorance explanation withstands further scrutiny. In any case, improved transparency regarding the true risks of prioritized mortgage claims should probably be a main ingredient of future prevention. Information that empowers investors to assess risk and to make informed judgments about how much risk to incur would let those who wish to speculate on very risky investments do so while also letting those who want safer investments confidently obtain them.

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The department appreciates hearing from alumni and friends. Send announcements or milestones to the address listed above.

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Department Appreciates Support of Alumni and Friends

By David Mandy

The Department of Economics relies on the financial support of our friends and alumni to provide scholarships, awards and research opportunities for both undergraduate and graduate students. The need is great, especially in the area of graduate student fellowships where the department has difficulty competing with better-financed institutions for the best students. Some gift funds also support the general teaching and research mission of the department by funding the purchase of computing and other equipment, data access, faculty and student participation in professional seminars and development of new curriculum materials.

We are immensely grateful for this support. A solid base of alumni support is one of the principal factors that distinguishes the best universities and departments from the rest. The need to enhance economic education is more pressing now than at any time in the past 80 years.

Please consider a gift of any amount. More information about the department's gift funds is available in the alumni section of our Web site at economics.missouri.edu/alumni/index.shtml or directly from the department at the address below.

Gifts may be made online from the Web site or mailed to Department of Economics, 118 Professional Building, Columbia, MO 65211. Questions may be directed to our office manager, Sheila Akers, at 573-882-4776 or AkersS@missouri.edu, or to me at 573-882-1763 or MandyD@missouri.edu.

Monetary Policy

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growth roughly matched an explosion in the demand for money. When this happens, economic theory tells us that no upward pressure on the price level occurs. Money demand is tricky. At some point in the future, people will see that investment opportunities exist. When this occurs, the demand for money will shrink. The question, therefore, is whether the Fed can extract money supply from the payment system fast enough at the right time to avoid higher inflation. The answer is unknown. We have no historical blueprint for such monetary contraction. On the Fed's side is the large quantity of private assets it has been purchasing over the past few months. In my mind, this is the biggest monetary policy challenge currently facing the United States.