Literature Report

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Abstract

Behavioral Hazard in Health Insurance

- The Quarterly Journal of Economics---2015---Katherine Baicker,Sendhil Mullainathan,Joshua Schwartzstein

A fundamental implication of standard moral hazard models is overuse of low-value medical care because co-pays are lower than costs. In these models, the demand curve alone can be used to make welfare statements, a fact relied on by much empirical work. There is ample evidence, though, that people misuse care for a different reason: mistakes, or "behavioral hazard." Much high-value care is underused even when patient costs are low, and some useless care is bought even when patients face the full cost. In the presence of behavioral hazard, welfare calculations using only the demand curve can be off by orders of magnitude or even be the wrong sign. We derive optimal copay formulas that incorporate both moral and behavioral hazard, providing a theoretical foundation for value-based insurance design and a way to interpret behavioral "nudges." Once behavioral hazard is taken into account, health insurance can do more than just provide financial protection—it can also improve health care efficiency. JEL Codes: D03, I12, I13, I30, I38.

Do Pharmacists Buy Bayer? Informed Shoppers and the Brand Premium

- The Quarterly Journal of Economics---2015---Bart J. Bronnenberg,Jean-Pierre Dubé,Matthew Gentzkow,Jesse Shapiro

We estimate the effect of information and expertise on consumers' willingness to pay for national brands in physically homogeneous product categories. In a detailed case study of headache remedies, we find that more informed or expert consumers are less likely to pay extra to buy national brands, with pharmacists choosing them over store brands only 9 percent of the time, compared to 26 percent of the time for the average consumer. In a similar case study of pantry staples such as salt and sugar, we show that chefs devote 12 percentage points less of their purchases to national brands than demographically similar nonchefs. We extend our analysis to cover 50 retail health categories and 241 food and drink categories. The results suggest that misinformation and related consumer mistakes explain a sizable share of the brand premium for health products, and a much smaller share for most food and drink products. We tie our estimates together using a stylized model of demand and pricing. JEL Codes: D12, D83, L66.

Coordination and Crisis in Monetary Unions

- The Quarterly Journal of Economics---2015---Mark Aguiar,Manuel Amador,Emmanuel Farhi,Gita Gopinath

We study fiscal and monetary policy in a monetary union with the potential for rollover crises in sovereign debt markets. Member-country fiscal authorities lack commitment to repay their debt and choose fiscal policy independently. A common monetary authority chooses inflation for the union, also without commitment. We first describe the existence of a fiscal externality that arises in the presence of limited commitment and leads countries to overborrow; this externality rationalizes the imposition of debt ceilings in a monetary union. We then investigate the impact of the composition of debt in a monetary union, that is the fraction of high-debt versus low-debt members, on the occurrence of self-fulfilling debt crises. We demonstrate that a high-debt country may be less vulnerable to crises and have higher welfare when it belongs to a union with an intermediate mix of high- and low-debt members, than one where all other members are low-debt. This contrasts with the conventional wisdom that all countries should prefer a union with low-debt members, as such a union can credibly deliver low inflation. These findings shed new light on the criteria for an optimal currency area in the presence of rollover crises. JEL Codes: E4, E5, F3, F4.

The Skill Complementarity of Broadband Internet

- The Quarterly Journal of Economics---2015---Anders Akerman,Ingvil Gaarder,Magne Mogstad

Does adoption of broadband internet in firms enhance labor productivity and increase wages? Is this technological change skill biased or factor neutral? We combine several Norwegian data sets to answer these questions. A public program with limited funding rolled out broadband access points and provides plausibly exogenous variation in the availability and adoption of broadband internet in firms. Our results suggest that broadband internet improves (worsens) the labor market outcomes and productivity of skilled (unskilled) workers. We explore several possible explanations for the skill complementarity of broadband internet. We find suggestive evidence that broadband adoption in firms complements skilled workers in executing non-routine abstract tasks, and substitutes for unskilled workers in performing routine tasks. Taken together, our findings have important implications for the on-going policy debate over government investment in broadband infrastructure to encourage productivity and wage growth. JEL Codes: J23, J24, J31, O33.

Human Capital and Industrialization: Evidence from the Age of Enlightenment

- The Quarterly Journal of Economics---2015---Mara Squicciarini,Nico Voigtländer

While human capital is a strong predictor of economic development today, its importance for the Industrial Revolution has typically been assessed as minor. To resolve this puzzling contrast, we differentiate average human capital (literacy) from upper-tail knowledge. As a proxy for the historical presence of knowledge elites, we use city-level subscriptions to the famous Encyclopédie in mid-18th century France. We show that subscriber density is a strong predictor of city growth after the onset of French industrialization. Alternative measures of development such as soldier height, disposable income, and industrial activity confirm this pattern. Initial literacy levels, on the other hand, are associated with development in the cross-section, but they do not predict growth. Finally, by joining data on British patents with a large French firm survey from the 1840s, we shed light on the mechanism: upper-tail knowledge raised productivity in innovative industrial technology. JEL Codes: J24, N13, O14, O41.

Radio and the Rise of The Nazis in Prewar Germany

- The Quarterly Journal of Economics---2015---Maja Adena,Ruben Enikolopov,Maria Petrova,Veronica Santarosa,Ekaterina Zhuravskaya

How do the media affect public support for democratic

institutions in a fragile democracy? What role do they play in a dictatorial regime? We study these questions in the context of Germany of the 1920s and 1930s. During the democratic period, when the Weimar government introduced progovernment political news, the growth of Nazi popularity slowed down in areas with access to radio. This effect was reversed during the campaign for the last competitive election as a result of the pro-Nazi radio broadcast following Hitler's appointment as chancellor. During the consolidation of dictatorship, radio propaganda helped the Nazis enroll new party members. After the Nazis established their rule, radio propaganda incited anti-Semitic acts and denunciations of Jews to authorities by ordinary citizens. The effect of anti-Semitic propaganda varied depending on the listeners' predispositions toward the message. Nazi radio was most effective in places where anti-Semitism was historically high and had a negative effect in places with historically low anti-Semitism. JEL Codes: D7, N34, N44.

The Unfavorable Economics of Measuring the Returns to Advertising

- The Quarterly Journal of Economics---2015---Randall Lewis,Justin M. Rao

Twenty-five large field experiments with major U.S. retailers and brokerages, most reaching millions of customers and collectively representing $2.8 million in digital advertising expenditure, reveal that measuring the returns to advertising is difficult. The median confidence interval on return on investment is over 100 percentage points wide. Detailed sales data show that relative to the per capita cost of the advertising, individual-level sales are very volatile; a coefficient of variation of 10 is common. Hence, informative advertising experiments can easily require more than 10 million person-weeks, making experiments costly and potentially infeasible for many firms. Despite these unfavorable economics, randomized control trials represent progress by injecting new, unbiased information into the market. The inference challenges revealed in the field experiments also show that selection bias, due to the targeted nature of advertising, is a crippling

concern for widely employed observational methods. JEL Codes: L10, M37, C93.

Why you Can't Find a Taxi in the Rain and Other Labor Supply Lessons from Cab Drivers

- The Quarterly Journal of Economics---2015---Henry S. Farber

I replicate and extend the seminal work of Camerer et al. ("Labor Supply of New York City Cabdrivers: One Day at a Time," Quarterly Journal of Economics, 112 [1997], 407–441), who find that the wage elasticity of daily hours of work for New York City taxi drivers is negative and conclude that their labor supply behavior is consistent with reference dependence. In contrast, my analysis of the complete record of all trips taken in NYC taxi cabs from 2009 to 2013 shows that drivers tend to respond positively to unanticipated as well as anticipated increases in earnings opportunities. Additionally, using a discrete choice stopping model, the probability of a shift ending is strongly positively related to hours worked but at best weakly related to income earned. I find substantial heterogeneity across drivers in their elasticities, but the estimated elasticities are generally positive and rarely substantially negative. I find that new drivers with smaller elasticities are more likely to exit the industry, whereas drivers who remain quickly learn to be better optimizers (have positive labor supply elasticities that grow with experience). These results are consistent with the neoclassical optimizing model of labor supply and suggest that consideration of gain-loss utility and income reference dependence is not an important factor in the daily labor supply decisions of taxi drivers. JEL Codes: D01, D03, J22.

Risk, Returns, and Multinational Production

- The Quarterly Journal of Economics---2015---Jose Fillat,Stefania Garetto

This article starts by unveiling a strong empirical regularity: multinational corporations exhibit higher stock market returns and earning yields than nonmultinational firms. Within nonmultinationals, exporters ex-

hibit higher earning yields and returns than firms selling only in their domestic market. To explain this pattern, we develop a real option value model where firms are heterogeneous in productivity and have to decide whether and how to sell in a foreign market where demand is risky. Selling abroad is a source of risk exposure to firms: following a negative shock, they are reluctant to exit the foreign market because they would forgo the sunk cost they paid to enter. Multinational firms are the most exposed because of the higher costs they have to pay to invest. The calibrated model is able to match both aggregate U.S. export and foreign direct investment data, and the observed cross-sectional differences in earning yields and returns. JEL Codes: F12, F23, G12.

Editor's Choice The Aggregate Effect of School Choice: Evidence from a Two-Stage Experiment in India

- The Quarterly Journal of Economics---2015---Karthik Muralidharan,Venkatesh Sundararaman

We present experimental evidence on the impact of a school choice program in the Indian state of Andhra Pradesh that provided students with a voucher to finance attending a private school of their choice. The study design featured a unique two-stage lottery-based allocation of vouchers that created both student-level and market-level experiments, which allows us to study the individual and the aggregate effects of school choice (including spillovers). After two and four years of the program, we find no difference between test scores of lottery winners and losers on Telugu (native language), math, English, and science/social studies, suggesting that the large cross-sectional differences in test scores across public and private schools mostly reflect omitted variables. However, private schools also teach Hindi, which is not taught by the public schools, and lottery winners have much higher test scores in Hindi. Furthermore, the mean cost per student in the private schools in our sample was less than a third of the cost in public schools. Thus, private schools in this setting deliver slightly better test score gains than their public counterparts (better on Hindi and same in other subjects),

and do so at a substantially lower cost per student. Finally, we find no evidence of spillovers on public school students who do not apply for the voucher, or on private school students, suggesting that the positive effects on voucher winners did not come at the expense of other students. JEL Codes: C93, H44, H52, I21, O15.

Editor's Choice Working over Time: Dynamic Inconsistency in Real Effort Tasks

- The Quarterly Journal of Economics---2015---Ned Augenblick,Muriel Niederle,Charles Sprenger

Experimental tests of dynamically inconsistent time preferences have largely relied on choices over time-dated monetary rewards. Several recent studies have failed to find the standard patterns of present bias. However, such monetary studies contain often-discussed confounds. In this article, we sidestep these confounds and investigate choices over consumption (real effort) in a longitudinal experiment. We pair this effort study with a companion monetary discounting study. We confirm very limited time inconsistency in monetary choices. However, subjects show considerably more present bias in effort. Furthermore, present bias in the allocation of work has predictive power for demand of a meaningfully binding commitment device. Therefore our findings validate a key implication of models of dynamic inconsistency, with corresponding policy implications. JEL Codes: C91, D12, D81.

Site Selection Bias in Program Evaluation

- The Quarterly Journal of Economics---2015---Hunt Allcott

"Site selection bias" can occur when the probability that a program is adopted or evaluated is correlated with its impacts. I test for site selection bias in the context of the Opower energy conservation programs, using 111 randomized control trials involving 8.6 million households across the United States. Predictions based on rich microdata from the first 10 replications substantially overstate efficacy in the next 101 sites. Several mechanisms caused this positive selection. For

example, utilities in more environmentalist areas are more likely to adopt the program, and their customers are more responsive to the treatment. Also, because utilities initially target treatment at higher-usage consumer subpopulations, efficacy drops as the program is later expanded. The results illustrate how program evaluations can still give systematically biased out-of-sample predictions, even after many replications. JEL Codes: C93, D12, L94, O12, Q41.

Preventives Versus Treatments

- The Quarterly Journal of Economics---2015---Michael Kremer,Christopher M. Snyder

Preventives are sold ex ante, before disease status is realized, while treatments are sold ex post. Even if the mean of the ex ante distribution of consumer values is the same as that ex post, the shape of the distributions may differ, generating a difference between the surplus each product can extract. If, for example, consumers differ only in ex ante disease risk, then a monopolist would have more difficulty extracting surplus with a preventive than with a treatment because treatment consumers, having contracted the disease, no longer differ in disease risk. We show that the ratio of preventive to treatment producer surplus can be arbitrarily small, in particular when the distribution of consumer values has a Zipf shape and the disease is rare. The firm's bias toward treatments can be reversed, for example, if the source of private information is disease severity learned ex post. The difference between the producer surplus earned from the products can result in distorted R&D incentives; the deadweight loss from this distortion can be as large as the entire producer-surplus difference. Calibrations for HIV and heart attacks based on risk factors in the U.S. population suggest that the distribution of disease risk is sufficiently Zipf-similar to generate substantial differences between producer surplus from preventives and treatments. Empirically, we find that proxies for the Zipf-similarity of the disease-risk distribution are associated a significantly lower likelihood of vaccine development but not drug development. JEL Codes: O31, L11, I18, D42.

Dollar Funding and the Lending Behavior of Global Banks

- The Quarterly Journal of Economics---2015---Victoria Ivashina,David S. Scharfstein,Jeremy C. Stein

A large share of dollar-denominated lending is done by non-U.S. banks, particularly European banks. We present a model in which such banks cut dollar lending more than euro lending in response to a shock to their credit quality. Because these banks rely on wholesale dollar funding, while raising more of their euro funding through insured retail deposits, the shock leads to a greater withdrawal of dollar funding. Banks can borrow in euros and swap into dollars to make up for the dollar shortfall, but this may lead to violations of covered interest parity when there is limited capital to take the other side of the swap trade. In this case, synthetic dollar borrowing also becomes expensive, which causes cuts in dollar lending. We test the model in the context of the Eurozone sovereign crisis, which escalated in the second half of 2011 and resulted in U.S. money market funds sharply reducing their exposure to European banks in the year that followed. During this period dollar lending by Eurozone banks fell relative to their euro lending, and firms who were more reliant on Eurozone banks before the Eurozone crisis had a more difficult time borrowing. JEL Codes: E44, F36, G01.

Price Coherence and Excessive Intermediation

- The Quarterly Journal of Economics---2015---Benjamin Edelman,Julian Wright

Suppose an intermediary provides a benefit to buyers when they purchase from sellers using the intermediary's technology. We develop a model to show that the intermediary would want to restrict sellers from charging buyers more for transactions it intermediates. With this restriction an intermediary can profitably raise demand for its services by eliminating any extra price buyers face for purchasing through the intermediary. We show that this leads to inflated retail prices, excessive adoption of the intermediaries'

services, over-investment in benefits to buyers, and a reduction in consumer surplus and sometimes welfare. Competition among intermediaries intensifies these problems by increasing the magnitude of their effects and broadening the circumstances in which they arise. We discuss applications to payment card systems, travel reservation systems, rebate services, and various other intermediaries. JEL Codes: D40, L11, L14, L42.

How Does Peer Pressure Affect Educational Investments?

- The Quarterly Journal of Economics---2015---Leonardo Bursztyn,Robert Jensen

When effort is observable to peers, students may try to avoid social penalties by conforming to prevailing norms. To test this hypothesis, we first consider a natural experiment that introduced a performance leaderboard into computer-based high school courses. The result was a 24 percent performance decline. The decline appears to be driven by a desire to avoid the leaderboard; top performing students prior to the change, those most at risk of appearing on the leaderboard, had a 40 percent performance decline, while poor performing students improved slightly. We next consider a field experiment that offered students complimentary access to an online SAT preparatory course. Sign-up forms differed randomly across students only in whether they said the decision would be kept private from classmates. In nonhonors classes, sign-up was 11 percentage points lower when decisions were public rather than private. Honors class sign-up was unaffected. For students taking honors and nonhonors classes, the response depended on which peers they were with at the time of the offer, and thus to whom their decision would be revealed. When offered the course in a nonhonors class (where peer sign-up rates are low), they were 15 percentage points less likely to sign up if the decision was public. But when offered the course in an honors class (where peer sign-up rates are high), they were 8 percentage points more likely to sign up if the decision was public. Thus, students are highly responsive to their peers are the prevailing norm when they make decisions. JEL Code: I21.

International Liquidity and Exchange Rate Dynamics

- The Quarterly Journal of Economics---2015---Xavier Gabaix,Matteo Maggiori

We provide a theory of the determination of exchange rates based on capital flows in imperfect financial markets. Capital flows drive exchange rates by altering the balance sheets of financiers that bear the risks resulting from international imbalances in the demand for financial assets. Such alterations to their balance sheets cause financiers to change their required compensation for holding currency risk, thus affecting both the level and volatility of exchange rates. Our theory of exchange rate determination in imperfect financial markets not only helps rationalize the empirical disconnect between exchange rates and traditional macroeconomic fundamentals, it also has real consequences for output and risk sharing. Exchange rates are sensitive to imbalances in financial markets and seldom perform the shock absorption role that is central to traditional theoretical macroeconomic analysis. Our framework is flexible; it accommodates a number of important modeling features within an imperfect financial market model, such as nontradables, production, money, sticky prices or wages, various forms of international pricing-to-market, and unemployment. JEL Codes: E44, F31, F32, F41, G11, G15, G20.

Property Rights over Marital Transfers

- The Quarterly Journal of Economics---2015---Siwan Anderson,Chris Bidner

In developing countries, the extent to which women possess property rights is shaped in large part by transfers received at the time of marriage. Focusing on dowry, we develop a simple model of the marriage market with intrahousehold bargaining to understand the incentives for brides' parents to allocate the rights over the dowry between their daughter and her groom. In doing so, we clarify and formalize the "dual role" of dowry—as a premortem bequest and as a market

clearing price—identified in the literature. We use the model to shed light on the intriguing observation that in contrast to other rights, women's rights over the dowry tend to deteriorate with development. We show how marriage payments are utilized even when they are inefficient, and how the marriage market mitigates changes in other dimensions of women's rights even to the point where women are worse off following a strengthening of such rights. We also generate predictions for when marital transfers will disappear and highlight the importance of female human capital for the welfare of women. JEL Codes: J12, J16, J18, D10.

Financial Asset Holdings and Political Attitudes: Evidence from Revolutionary England

- The Quarterly Journal of Economics---2015--- Saumitra Jha

The English Parliament's struggle for supremacy against monarchical dictatorship during the Civil War (1642–1648) was crucial for the establishment of representative government, yet its lessons continue to be debated. I exploit novel data on individual MPs drawn from 1,842 biographies to show that the conflict was over overseas interests and other factors over which the executive enjoyed broad constitutional discretion, rather than over domestic property rights. I further exploit the coincidence of individual MPs' ability to sign legally binding share contracts with novel share offerings by overseas companies to measure the effect of overseas share investment on their political attitudes. I show that overseas shareholding pushed moderates lacking prior mercantile interests to support reform. I interpret the effect of financial assetholding as allowing new investors to exploit emerging economic opportunities overseas, aligning their interests with traders. By consolidating a broad parliamentary majority that favored reform, the introduction of financial assets also broadened support for the institutionalization of parliamentary supremacy over dictatorial rule. JEL Codes: O10, G11, F10, K00, N23, P10.

Aggregate Demand, Idle Time, and Unemployment

- The Quarterly Journal of Economics---2015--- Pascal Michaillat,Emmanuel Saez

This article develops a model of unemployment fluctuations. The model keeps the architecture of the general-disequilibrium model of Barro and Grossman (1971) but takes a matching approach to the labor and product markets instead of a disequilibrium approach. On the product and labor markets, both price and tightness adjust to equalize supply and demand. Since there are two equilibrium variables but only one equilibrium condition on each market, a price mechanism is needed to select an equilibrium. We focus on two polar mechanisms: fixed prices and competitive prices. When prices are fixed, aggregate demand affects unemployment as follows. An increase in aggregate demand leads firms to find more customers. This reduces the idle time of their employees and thus increases their labor demand. This in turn reduces unemployment. We combine the predictions of the model and empirical measures of product market tightness, labor market tightness, output, and employment to assess the sources of labor market fluctuations in the United States. First, we find that product market tightness and labor market tightness fluctuate a lot, which implies that the fixed-price equilibrium describes the data better than the competitive-price equilibrium. Next, we find that labor market tightness and employment are positively correlated, which suggests that the labor market fluctuations are mostly due to labor demand shocks and not to labor supply or mismatch shocks. Last, we find that product market tightness and output are positively correlated, which suggests that the labor demand shocks mostly reflect aggregate demand shocks and not technology shocks. JEL Codes: E10, E24, E30, J2, J64.

Gender Identity and Relative Income within Households

- The Quarterly Journal of Economics---2015--- Marianne Bertrand,Emir Kamenica,Jessica Pan

We examine causes and consequences of relative income within households. We show that the distribution of the share of income earned by the wife exhibits a sharp drop to the right of 1/2, where the wife's income exceeds the husband's income. We argue that this pattern is best explained by gender identity norms, which induce an aversion to a situation where the wife earns more than her husband. We present evidence that this aversion also impacts marriage formation, the wife's labor force participation, the wife's income conditional on working, marriage satisfaction, likelihood of divorce, and the division of home production. Within marriage markets, when a randomly chosen woman becomes more likely to earn more than a randomly chosen man, marriage rates decline. In couples where the wife's potential income is likely to exceed the husband's, the wife is less likely to be in the labor force and earns less than her potential if she does work. In couples where the wife earns more than the husband, the wife spends more time on household chores; moreover, those couples are less satisfied with their marriage and are more likely to divorce. These patterns hold both cross-sectionally and within couples over time. JEL Codes: D10, J12, J16.

Editor's Choice Does Religion Affect Economic Growth and Happiness? Evidence from Ramadan

- The Quarterly Journal of Economics---2015--- Filipe Campante,David Yanagizawa-Drott

We study the economic effects of religious practices in the context of the observance of Ramadan fasting, one of the central tenets of Islam. To establish causality, we exploit variation in the length of daily fasting due to the interaction between the rotating Islamic calendar and a country's latitude. We report two key, quantitatively meaningful results: (i) longer Ramadan fasting has a negative effect on output growth in Muslim countries, and (ii) it increases subjective well-being among Muslims. We find evidence that these patterns are consistent with a standard club good explanation for the emergence of costly religious practices: increased strictness of fasting screens out the less committed members, while the more committed respond with an

increase in their relative levels of participation. Together, our results underscore that religious practices can affect individual behavior and beliefs in ways that have negative implications for economic performance, but that nevertheless increase subjective well-being among followers. JEL Codes: E20, O40, O43, Z12.

Comparative Advantage and Optimal Trade Policy

- The Quarterly Journal of Economics---2015--- Arnaud Costinot,Dave Donaldson,Jonathan Vogel,Iván Werning

The theory of comparative advantage is at the core of neoclassical trade theory. Yet we know little about its implications for how nations should conduct their trade policy. For example, should import sectors with weaker comparative advantage be protected more? Conversely, should export sectors with stronger comparative advantage be subsidized less? In this article we take a first stab at exploring these issues. Our main results imply that in the context of a canonical Ricardian model, optimal import tariffs should be uniform, whereas optimal export subsidies should be weakly decreasing with respect to comparative advantage, reflecting the fact that countries have more room to manipulate prices in their comparative-advantage sectors. Quantitative exercises suggest substantial gains from such policies relative to simpler tax schedules. JEL Codes: F10, F11, F13.

Education and Human Capital Externalities: Evidence from Colonial Benin

- The Quarterly Journal of Economics---2015- --Leonard Wantchekon,Marko Klašnja,Natalija Novta

Using a unique data set on students from the first regional schools in colonial Benin, we investigate the effect of education on living standards, occupation, and political participation. Since both school locations and student cohorts were selected with very little information, treatment and control groups are balanced on observables. We can therefore estimate the effect of

education by comparing the treated to the untreated living in the same village, as well as those living in villages where no schools were set up. We find a significant positive treatment effect of education for the first generation of students, as well as their descendants: they have higher living standards, are less likely to be farmers, and are more likely to be politically active. We find large village-level externalities—descendants of the uneducated in villages with schools do better than those in control villages. We also find extended family externalities—nephews and nieces directly benefit from their uncle's education—and show that this represents a "family tax," as educated uncles transfer resources to the extended family. JEL Codes: N37, O15, J27.

Juvenile Incarceration, Human Capital, and Future Crime: Evidence from Randomly Assigned Judges

- The Quarterly Journal of Economics---2015---Anna Aizer,Joseph J. Doyle

Over 130,000 juveniles are detained in the United States each year with 70,000 in detention on any given day, yet little is known about whether such a penalty deters future crime or interrupts social and human capital formation in a way that increases the likelihood of later criminal behavior. This article uses the incarceration tendency of randomly assigned judges as an instrumental variable to estimate causal effects of juvenile incarceration on high school completion and adult recidivism. Estimates based on over 35,000 juvenile offenders over a 10-year period from a large urban county in the United States suggest that juvenile incarceration results in substantially lower high school completion rates and higher adult incarceration rates, including for violent crimes. In an attempt to understand the large effects, we found that incarceration for this population could be very disruptive, greatly reducing the likelihood of ever returning to school and, for those who do return, significantly increasing the likelihood of being classified as having an emotional or behavioral disorder. JEL Codes: K140, I210.

The Value of Hiring through Employee Referrals

- The Quarterly Journal of Economics---2015---Stephen Burks,Bo Cowgill,Mitchell Hoffman,Michael Housman

Using personnel data from nine large firms in three industries (call centers, trucking, and high-tech), we empirically assess the benefit to firms of hiring through employee referrals. Compared to nonreferred applicants, referred applicants are more likely to be hired and more likely to accept offers, even though referrals and nonreferrals have similar skill characteristics. Referred workers tend to have similar productivity compared to nonreferred workers on most measures, but referred workers have lower accident rates in trucking and produce more patents in high-tech. Referred workers are substantially less likely to quit and earn slightly higher wages than nonreferred workers. In call centers and trucking, the two industries for which we can calculate worker-level profits, referred workers yield substantially higher profits per worker than nonreferred workers. These profit differences are driven by lower turnover and lower recruiting costs for referrals. JEL Codes: J24, M51, J30, J63.

The Response of Drug Expenditure to Nonlinear Contract Design: Evidence from Medicare Part D

- The Quarterly Journal of Economics---2015---Liran Einav,Amy Finkelstein,Paul Schrimpf

We study the demand response to nonlinear price schedules using data on insurance contracts and prescription drug purchases in Medicare Part D. We exploit the kink in individuals' budgets set created by the famous "donut hole," where insurance becomes discontinuously much less generous on the margin, to provide descriptive evidence of the drug purchase response to a price increase. We then specify and estimate a simple dynamic model of drug use that allows us to quantify the spending response along the entire nonlinear budget set. We use the model for counterfactual analysis of the increase in spending from "filling" the donut hole, as will be required by 2020 under the Affordable Care Act. In our baseline model, which considers spending

decisions within a single year, we estimate that filling the donut hole will increase annual drug spending by about $150, or about 8 percent. About one-quarter of this spending increase reflects anticipatory behavior, coming from beneficiaries whose spending prior to the policy change would leave them short of reaching the donut hole. We also present descriptive evidence of cross-year substitution of spending by individuals who reach the kink, which motivates a simple extension to our baseline model that allows—in a highly stylized way—for individuals to engage in such cross-year substitution. Our estimates from this extension suggest that a large share of the $150 drug spending increase could be attributed to cross-year substitution, and the net increase could be as little as $45 a year. JEL Codes: D12, G22.

Spending-Biased Legislators: Discipline Through Disagreement

- The Quarterly Journal of Economics---2015---Facundo Piguillem,Alessandro Riboni

We study legislators who have a present bias for spending: they want to increase current spending and procrastinate spending cuts. We show that disagreement in legislatures can lead to policy persistence that attenuates the temptation to overspend. Depending on the environment, legislators' decisions to be fiscally responsible may either complement or substitute other legislators' decisions. When legislators have low discount factors, their actions are strategic complements. Thus, changes of the political environment that induce fiscal responsibility are desirable as they generate a positive responsibility multiplier and reduce spending. However, when the discount factor is high, the same changes induce some legislators to free ride on others' responsibility which may lead to higher spending. JEL Codes: D72-H00.

Experimentation in Federal Systems

- The Quarterly Journal of Economics---2015---Steven Callande,Bard Harstad

We develop a model of policy experimentation in federal systems in which heterogeneous districts choose both whether to experiment and the policies to experiment with. The prospect of informational spillovers implies that in the first best the districts converge in their policy choice. Strikingly, when authority is decentralized, the equilibrium predicts the opposite. The districts use their policy choice to discourage other districts from free-riding on them, thereby inefficiently minimizing informational spillovers. To address this failure, we introduce a dynamic form of federalism in which the central government harmonizes policy choices only after the districts have experimented. This progressive concentration of power induces a policy tournament that can increase the incentive to experiment and encourage policy convergence. We compare outcomes under the different systems and derive the optimal levels of district heterogeneity. JEL Codes: D78, H77.

Editor's Choice Very Long-Run Discount Rates

- The Quarterly Journal of Economics---2015---Stefano Giglio,Matteo Maggiori,Johannes Stroebel

We estimate how households trade off immediate costs and uncertain future benefits that occur in the very long run, 100 or more years away. We exploit a unique feature of housing markets in the United Kingdom and Singapore, where residential property ownership takes the form of either leaseholds or freeholds. Leaseholds are temporary, prepaid, and tradable ownership contracts with maturities between 99 and 999 years, while freeholds are perpetual ownership contracts. The price difference between leaseholds and freeholds reflects the present value of perpetual rental income starting at leasehold expiration, and is thus informative about very long-run discount rates. We estimate the price discounts for varying leasehold maturities compared to freeholds and extremely long-run leaseholds via hedonic regressions using proprietary data sets of the universe of transactions in each country. Households discount very long-run cash flows at low rates, assigning high present value to cash flows hundreds of years in the future. For example, 100-year leaseholds are valued at more than 10% less than otherwise identical freeholds, implying discount rates below 2.6% for 100-year claims.

JEL Codes: G11, G12, R30.

Waves in Ship Prices and Investment

- The Quarterly Journal of Economics---2015---Robin Greenwood,Samuel G. Hanson

We study the link between investment boom and bust cycles and returns on capital in the dry bulk shipping industry. We show that high current ship earnings are associated with high used ship prices and heightened industry investment in new ships, but forecast low future returns. We propose and estimate a behavioral model of industry cycles that can account for the evidence. In our model, firms overextrapolate exogenous demand shocks and partially neglect the endogenous investment response of their competitors. As a result, firms overpay for ships and overinvest in booms and are disappointed by the subsequent low returns. Formal estimation of the model suggests that modest expectational errors can result in dramatic excess volatility in prices and investment. JEL Codes: E32, L16, G02.

Regulating Consumer Financial Products: Evidence from Credit Cards

- The Quarterly Journal of Economics---2015---Sumit Agarwal,Souphala Chomsisengphet,Neale Mahoney,Johannes Stroebel

We analyze the effectiveness of consumer financial regulation by considering the 2009 Credit Card Accountability Responsibility and Disclosure (CARD) Act. We use a panel data set covering 160 million credit card accounts and a difference-in-differences research design that compares changes in outcomes over time for consumer credit cards, which were subject to the regulations, to changes for small business credit cards, which the law did not cover. We estimate that regulatory limits on credit card fees reduced overall borrowing costs by an annualized 1.6% of average daily balances, with a decline of more than 5.3% for consumers with FICO scores below 660. We find no evidence of an offsetting increase in interest charges or a reduction in the volume of credit. Taken together, we estimate that the CARD Act saved consumers $11.9 billion a year.

We also analyze a nudge that disclosed the interest savings from paying off balances in 36 months rather than making minimum payments. We detect a small increase in the share of accounts making the 36-month payment value but no evidence of a change in overall payments. JEL Codes: D0, D14, G0, G02, G21, G28, L0, L13, L15.

Does Working from Home Work? Evidence from a Chinese Experiment

- The Quarterly Journal of Economics---2015---Nicholas Bloom,James Liang,John Roberts,Zhichun Jenny Ying

A rising share of employees now regularly engage in working from home (WFH), but there are concerns this can lead to "shirking from home". We report the results of a WFH experiment at Ctrip, a 16,000-employee, NASDAQ-listed Chinese travel agency. Call center employees who volunteered to WFH were randomly assigned either to work from home or in the office for nine months. Home working led to a 13% performance increase, of which 9% was from working more minutes per shift (fewer breaks and sick days) and 4% from more calls per minute (attributed to a quieter and more convenient working environment). Home workers also reported improved work satisfaction, and their attrition rate halved, but their promotion rate conditional on performance fell. Due to the success of the experiment, Ctrip rolled out the option to WFH to the whole firm and allowed the experimental employees to reselect between the home and office. Interestingly, over half of them switched, which led to the gains from WFH almost doubling to 22%. This highlights the benefits of learning and selection effects when adopting modern management practices like WFH. JEL Codes: D24, L23, L84, M11, M54, O31.

Do Markets Erode Social Responsibility?

- The Quarterly Journal of Economics---2015---Björn Bartling,Roberto Weber,Lan Yao

This article studies socially responsible behavior in markets. We develop a laboratory product market in which

low-cost production creates a negative externality for third parties, but where alternative production with higher costs mitigates the externality. Our first study, conducted in Switzerland, reveals a persistent preference among many consumers and firms for avoiding negative social impact in the market, reflected both in the composition of product types and in a price premium for socially responsible products. Socially responsible behavior is generally robust to varying market characteristics, such as increased seller competition and limited consumer information, and it responds to prices in a manner consistent with a model in which positive social impact is a utility-enhancing feature of a consumer product. In a second study, we investigate whether market social responsibility varies across societies by comparing market behavior in Switzerland and China. While subjects in Switzerland and China do not differ in their degree of social concern in nonmarket contexts, we find that low-cost production that creates negative externalities is significantly more prevalent in markets in China. Across both studies, consumers in markets exhibit less social concern than subjects in a comparable individual choice context.JELCodes: C92, D03, D62, M14.

The Geography of Interstate Resource Wars

- The Quarterly Journal of Economics---2015---Francesco Caselli,Massimo Morelli,Dominic Rohner

We establish a theoretical and empirical framework to assess the role of resource endowments and their geographic location in interstate conflict. The main predictions of the theory are that conflict is more likely when at least one country has natural resources, when the resources in the resource-endowed country are closer to the border, and, in the case where both countries have natural resources, when the resources are located asymmetrically vis-à-vis the border. We test these predictions on a novel data set featuring oilfield distances from bilateral borders. The empirical analysis shows that the presence and location of oil are significant and quantitatively important predictors of interstate conflicts after World War II. JEL Codes: C23, D74,

F51, H56, Q34.

Patents and Cumulative Innovation: Causal Evidence from the Courts

- The Quarterly Journal of Economics---2015---Alberto Galasso,Mark Schankerman

Cumulative innovation is central to economic growth. Do patent rights facilitate or impede follow-on innovation? We study the causal effect of removing patent rights by court invalidation on subsequent research related to the focal patent, as measured by later citations. We exploit random allocation of judges at the U.S. Court of Appeals for the Federal Circuit to control for endogeneity of patent invalidation. Patent invalidation leads to a 50% increase in citations to the focal patent, on average, but the impact is heterogeneous and depends on characteristics of the bargaining environment. Patent rights block downstream innovation in computers, electronics, and medical instruments, but not in drugs, chemicals, or mechanical technologies. Moreover, the effect is entirely driven by invalidation of patents owned by large patentees that triggers more follow-on innovation by small firms. JEL Codes: K41, L24, O31, O33, O34.

The Psychological Effect of Weather on Car Purchases

- The Quarterly Journal of Economics---2015---Meghan R. Busse,Devin G. Pope,Jaren Pope,Jorge Silva-Risso

When buying durable goods, consumers must forecast how much utility they will derive from future consumption, including consumption in different states of the world. This can be complicated for consumers because making intertemporal evaluations may expose them to a variety of psychological biases such as present bias, projection bias, and salience effects. We investigate whether consumers are affected by such intertemporal biases when they purchase automobiles. Using data for more than 40 million vehicle transactions, we explore the impact of weather on purchasing decisions. We find that the choice to purchase a convertible or a

four-wheel-drive is highly dependent on the weather at the time of purchase in a way that is inconsistent with classical utility theory. We consider a range of rational explanations for the empirical effects we find, but none can explain fully the effects we estimate. We then discuss and explore projection bias and salience as two primary psychological mechanisms that are consistent with our results. JEL Codes: D03; D12.

Optimal Regulation in the Presence of Reputation Concerns

- The Quarterly Journal of Economics---2015---Andrew Atkeson,Christian Hellwig,Guillermo Ordonez

In all markets, firms go through a process of creative destruction: entry, random growth, and exit. In many of these markets there are also regulations that restrict entry, possibly distorting this process. We study the public interest rationale for entry taxes in a general equilibrium model with free entry and exit of firms in which firm dynamics are driven by reputation concerns. In our model firms can produce high-quality output by making a costly but efficient initial unobservable investment. If buyers never learn about this investment, an extreme "lemons problem" develops, no firm invests, and the market shuts down. Learning introduces reputation incentives such that a fraction of entrants do invest. We show that if the market operates with spot prices, entry taxes always enhance the role of reputation to induce investment, improving welfare despite the impact of these taxes on equilibrium prices and total production. JEL Codes: D21, D82, L15, L51.

The Impact of Housing Assistance on Child Outcomes: Evidence from a Randomized Housing Lottery

- The Quarterly Journal of Economics---2015---Brian A. Jacob,Max Kapustin,Jens Ludwig

One long-standing motivation for low-income housing programs is the possibility that housing affordability and housing conditions generate externalities, including on children's behavior and long-term life outcomes.

We take advantage of a randomized housing voucher lottery in Chicago in 1997 to examine the long-term impact of housing assistance on a wide variety of child outcomes, including schooling, health, and criminal involvement. In contrast to most prior work focusing on families in public housing, we focus on families living in unsubsidized private housing at baseline, for whom voucher receipt generates large changes in both housing and nonhousing consumption. We find that the receipt of housing assistance has little, if any, impact on neighborhood or school quality or on a wide range of important child outcomes. JEL Codes: D10, H23, I38.

Where is the land of Opportunity? The Geography of Intergenerational Mobility in the United States

- The Quarterly Journal of Economics---2014---Raj Chetty,Nathaniel Hendren,Patrick Kline,Emmanuel Saez

We use administrative records on the incomes of more than 40 million children and their parents to describe three features of intergenerational mobility in the United States. First, we characterize the joint distribution of parent and child income at the national level. The conditional expectation of child income given parent income is linear in percentile ranks. On average, a 10 percentile increase in parent income is associated with a 3.4 percentile increase in a child's income. Second, intergenerational mobility varies substantially across areas within the United States. For example, the probability that a child reaches the top quintile of the national income distribution starting from a family in the bottom quintile is 4.4% in Charlotte but 12.9% in San Jose. Third, we explore the factors correlated with upward mobility. High mobility areas have (i) less residential segregation, (ii) less income inequality, (iii) better primary schools, (iv) greater social capital, and (v) greater family stability. Although our descriptive analysis does not identify the causal mechanisms that determine upward mobility, the publicly available statistics on intergenerational mobility developed here can facilitate research on such

mechanisms. JEL Codes: H0, J0, R0.

Evidence on Self-Stereotyping and the Contribution of Ideas

- The Quarterly Journal of Economics---2014---Katherine Baldiga Coffman

We use a lab experiment to explore the factors that predict an individual's decision to contribute her idea to a group. We find that contribution decisions depend on the interaction of gender and the gender stereotype associated with the decision-making domain: conditional on measured ability, individuals are less willing to contribute ideas in areas that are stereotypically outside of their gender's domain. Importantly, these decisions are largely driven by self-assessments, rather than fear of discrimination. Individuals are less confident in gender-incongruent areas and are thus less willing to contribute their ideas. Because even very knowledgeable group members undercontribute in gender-incongruent categories, group performance suffers and, ex post, groups have difficulty recognizing who their most talented members are. Our results show that even in an environment where other group members show no bias, women in male-typed areas and men in female-typed areas may be less influential. An intervention that provides feedback about a woman's (man's) strength in a male-typed (female-typed) area does not significantly increase the probability that she contributes her ideas to the group. A back-of-the-envelope calculation reveals that a "lean in"–style policy that increases contribution by women would significantly improve group performance in male-typed domains. JEL Codes: J16, C92.

A Sparsity-Based Model of Bounded Rationality

- The Quarterly Journal of Economics---2014---Xavier Gabaix

This article defines and analyzes a "sparse max" operator, which is a less than fully attentive and rational version of the traditional max operator. The agent builds (as economists do) a simplified model of the world which is sparse, considering only the variables of first-order importance. His stylized model and his resulting choices both derive from constrained optimization. Still, the sparse max remains tractable to compute. Moreover, the induced outcomes reflect basic psychological forces governing limited attention. The sparse max yields a behavioral version of basic chapters of the microeconomics textbook: consumer demand and competitive equilibrium. I obtain a behavioral version of Marshallian and Hicksian demand, Arrow-Debreu competitive equilibrium, the Slutsky matrix, the Edgeworth box, Roy's identity, and so on. The Slutsky matrix is no longer symmetric: nonsalient prices are associated with anomalously small demand elasticities. Because the consumer exhibits nominal illusion, in the Edgeworth box, the offer curve is a two-dimensional surface rather than a one-dimensional curve. As a result, different aggregate price levels correspond to materially distinct competitive equilibria, in a similar spirit to a Phillips curve. The Arrow-Debreu welfare theorems typically do not hold. This framework provides a way to assess which parts of basic microeconomics are robust, and which are not, to the assumption of perfect maximization. JEL Codes: D01, D03, D11, D51.

Family Welfare Cultures

- The Quarterly Journal of Economics---2014---Gordon Dahl,Andreas Kostøl,Magne Mogstad

We investigate the existence and importance of family welfare cultures, where the receipt of a welfare program by one generation causes increased participation in the next generation. Our context is Norway's disability insurance (DI) system. To overcome the challenge of correlated unobservables across generations, we take advantage of random assignment of judges to DI applicants whose cases are initially denied. Some appeal judges are systematically more lenient, which leads to random variation in the probability a parent will be allowed DI. Using this exogenous variation, we find strong evidence for a causal link across generations: when a parent is allowed DI at the appeal stage, their adult child's participation over the next five years

increases by 6 percentage points. This effect grows over time, rising to 12 percentage points after 10 years. Although these findings are specific to our setting, they highlight that welfare reforms can have long-lasting effects on program participation, since any original effect on the current generation could be reinforced by changing the participation behavior of their children as well. The detailed nature of our data allows us to compare the intergenerational transmission with spillover effects in other networks and to explore mechanisms. JEL Codes: I38, J62, H53.

A Welfare Criterion For Models With Distorted Beliefs

- The Quarterly Journal of Economics---2014---Markus Brunnermeier,Alp Simsek,Wei Xiong

This article proposes a welfare criterion for economies in which agents have heterogeneously distorted beliefs. Instead of taking a stand on whose belief is correct, our criterion asserts that an allocation is belief-neutral efficient (inefficient) if it is efficient (inefficient) under any convex combination of agents' beliefs. Although this criterion gives an incomplete ranking of social allocations, it can identify positive- and negative-sum speculation driven by conflicting beliefs in a broad range of economic environments. JEL Codes: D61, D62, D84, G12, G14.

Trade Adjustment: Worker-Level Evidence

- The Quarterly Journal of Economics---2014---David Autor,David Dorn,Gordon Hanson,Jae Song

We analyze the effect of exposure to international trade on earnings and employment of U.S. workers from 1992 through 2007 by exploiting industry shocks to import competition stemming from China's spectacular rise as a manufacturing exporter paired with longitudinal data on individual earnings by employer spanning close to two decades. Individuals who in 1991 worked in manufacturing industries that experienced high subsequent import growth garner lower cumulative earnings, face elevated risk of obtaining public disability benefits,

and spend less time working for their initial employers, less time in their initial two-digit manufacturing industries, and more time working elsewhere in manufacturing and outside of manufacturing. Earnings losses are larger for individuals with low initial wages, low initial tenure, and low attachment to the labor force. Low-wage workers churn primarily among manufacturing sectors, where they are repeatedly exposed to subsequent trade shocks. High-wage workers are better able to move across employers with minimal earnings losses and are more likely to move out of manufacturing conditional on separation. These findings reveal that import shocks impose substantial labor adjustment costs that are highly unevenly distributed across workers according to their skill levels and conditions of employment in the pre-shock period. JEL Codes: F16, H55, J23, J31, J63.

Extensive Imitation is Irrational and Harmful

- The Quarterly Journal of Economics---2014---Erik Eyster,Matthew Rabin

Rationality leads people to imitate those with similar tastes but different information. But people who imitate common sources develop correlated beliefs, and rationality demands that later social learners take this correlation into account. This implies severe limits to rational imitation. We show that (i) in most natural observation structures besides the canonical single-file case, full rationality dictates that people must "anti-imitate" some of those they observe; and (ii) in every observation structure full rationality dictates that people imitate, on net, at most one person and are imitated by, on net, at most one person, over any set of interconnected players. We also show that in a very broad class of settings, any learning rule in which people regularly do imitate more than one person without anti-imitating others will lead to a positive probability of people converging to confident and wrong long-run beliefs. JEL Code: B49.

A body of literature suggests that ethnic heterogeneity limits economic growth

- The Quarterly Journal of Economics---2014---Jonas Hjort

This article provides microeconometric evidence on the direct effect of ethnic divisions on productivity. In team production at a plant in Kenya, an upstream worker supplies and distributes flowers to two downstream workers, who assemble them into bunches. The plant uses an essentially random rotation process to assign workers to positions, leading to three types of teams: (i) ethnically homogeneous teams, and teams in which (ii) one or (iii) both downstream workers belong to a tribe in rivalry with the upstream worker's tribe. I find strong evidence that upstream workers undersupply non-coethnic downstream workers (vertical discrimination) and shift flowers from non-coethnic to coethnic downstream workers (horizontal discrimination), at the cost of lower own pay and total output. A period of ethnic conflict following Kenya's 2007 election led to a sharp increase in discrimination. In response, the plant began paying the two downstream workers for their combined output (team pay). This led to a modest output reduction in (i) and (iii) teams—as predicted by standard incentive models—but an increase in output in (ii) teams, and overall. Workers' behavior before conflict, during conflict, and under team pay is predicted by a model of taste-based discrimination. My findings suggest that interethnic rivalries lower allocative efficiency in the private sector, that the economic costs of ethnic diversity vary with the political environment, and that in high-cost environments firms are forced to adopt "second best" policies to limit discrimination distortions. JEL Codes: D03, D22, D24, D61, D64, D74, F63, J24, J33, J71, 012, 014.

Propaganda and Conflict: Evidence from the Rwandan Genocide

- The Quarterly Journal of Economics---2014---David Yanagizawa-Drott

This article investigates the role of mass media in times of conflict and state-sponsored mass violence against civilians. We use a unique village-level data set from the Rwandan genocide to estimate the impact of a popular radio station that encouraged violence against the Tutsi minority population. The results show that the broadcasts had a significant effect on participation in killings by both militia groups and ordinary civilians. An estimated 51,000 perpetrators, or approximately 10% of the overall violence, can be attributed to the station. The broadcasts increased militia violence not only directly by influencing behavior in villages with radio reception but also indirectly by increasing participation in neighboring villages. In fact, spillovers are estimated to have caused more militia violence than the direct effects. Thus, the article provides evidence that mass media can affect participation in violence directly due to exposure and indirectly due to social interactions. JEL Codes: D7, N4.

Tax me if you can! Optimal Nonlinear Income Tax Between Competing Governments

- The Quarterly Journal of Economics---2014---Etienne Lehmann,Laurent Simula,Alain Trannoy

We investigate how potential tax-driven migrations modify the Mirrlees income tax schedule when two countries play Nash. The social objective is the maximin and preferences are quasi-linear in consumption. Individuals differ both in skills and migration costs, which are continuously distributed. We derive the optimal marginal income tax rates at the equilibrium, extending the Diamond-Saez formula. We show that the level and the slope of the semi-elasticity of migration (on which we lack empirical evidence) are crucial to derive the shape of optimal marginal income tax. JEL Codes: D82, H21, H87, F22.

The Life Cycle of Plants in India and Mexico

- The Quarterly Journal of Economics---2014---Chang-Tai Hsieh,Pete Klenow

In the United States, the average 40-year-old plant employs more than seven times as many workers as

the typical plant 5 years or younger. In contrast, surviving plants in India and Mexico exhibit much slower growth, roughly doubling in size over the same age range. The divergence in plant dynamics suggests lower investments by Indian and Mexican plants in process efficiency, quality, and in accessing markets at home and abroad. In simple general equilibrium models, we find that the difference in life cycle dynamics could lower aggregate manufacturing productivity on the order of 25 percent in India and Mexico relative to the United States. JEL Codes: O11, O47, O53.

Trade and the Topography of the Spatial Economy

- The Quarterly Journal of Economics---2014---Treb Allen,Costas Arkolakis

We develop a general equilibrium framework to determine the spatial distribution of economic activity on any surface with (nearly) any geography. Combining the gravity structure of trade with labor mobility, we provide conditions for the existence, uniqueness, and stability of a spatial economic equilibrium and derive a simple set of equations that govern the relationship between economic activity and the geography of the surface. We then use the framework to estimate the topography of trade costs, productivities and amenities in the United States. We find that geographic location accounts for at least twenty percent of the spatial variation in U.S. income. Finally, we calculate that the construction of the interstate highway system increased welfare by 1.1 to 1.4 percent, which is substantially larger than its cost. JEL Codes: R12, F10, R13, R40.

Active vs. Passive Decisions and Crowd-Out in Retirement Savings Accounts: Evidence from Denmark

- The Quarterly Journal of Economics---2014---Raj Chetty,John Friedman,Søren Leth-Petersen,Torben Nielsen,Tore Olsen

Using 41 million observations on savings for the population of Denmark, we show that the effects of retirement savings policies on wealth accumulation depend on whether they change savings rates by active or passive choice. Subsidies for retirement accounts, which rely on individuals to take an action to raise savings, primarily induce individuals to shift assets from taxable accounts to retirement accounts. We estimate that each \$1 of government expenditure on subsidies increases total saving by only 1 cent. In contrast, policies that raise retirement contributions if individuals take no action—such as automatic employer contributions to retirement accounts—increase wealth accumulation substantially. We estimate that approximately 15% of individuals are "active savers" who respond to tax subsidies primarily by shifting assets across accounts; 85% of individuals are "passive savers" who are unresponsive to subsidies but are instead heavily influenced by automatic contributions made on their behalf. Active savers tend to be wealthier and more financially sophisticated. We conclude that automatic contributions are more effective at increasing savings rates than subsidies for three reasons: (i) subsidies induce relatively few individuals to respond, (ii) they generate substantial crowd-out conditional on response, and (iii) they do not increase the savings of passive individuals, who are least prepared for retirement. JEL Codes: H2, H3.

Finance and the Preservation of Wealth

- The Quarterly Journal of Economics---2014---Nicola Gennaioli,Andrei Shleifer,Robert Vishny

We introduce the model of asset management developed in Gennaioli, Shleifer, and Vishny ("Money Doctors," Journal of Finance, forthcoming 2015) into a Solow-style neoclassical growth model with diminishing returns to capital. Savers rely on trusted intermediaries to manage their wealth (claims on capital stock), who can charge fees above costs to trusting investors. In this model, the ratio of financial income to GDP increases with the ratio of aggregate wealth to GDP. Both rise along the convergence path to steady state growth. We examine several further implications of the model for management fees, unit costs of finance, and the consequences of shocks to trust and to the capital stock. JEL Codes: D91, E21, E44, G11.

Capital is Back: Wealth-Income Ratios in Rich Countries 1700–2010

- The Quarterly Journal of Economics---2014---Thomas Piketty,Gabriel Zucman

How do aggregate wealth-to-income ratios evolve in the long run and why? We address this question using 1970–2010 national balance sheets recently compiled in the top eight developed economies. For the United States, United Kingdom, Germany, and France, we are able to extend our analysis as far back as 1700. We find in every country a gradual rise' of wealth-income ratios in recent decades, from about 200–300% in 1970 to 400–600% in 2010. In effect, today's ratios appear to be returning to the high values observed in Europe in the eighteenth and nineteenth centuries (600–700%). This can be explained by a long-run asset price recovery (itself driven by changes in capital policies since the world wars) and by the slowdown of productivity and population growth, in line with the $\beta = s/g$ Harrod-Domar-Solow formula. That is, for a given net saving rate s = 10%, the long-run wealth-income ratio β is about 300% if g = 3% and 600% if g = 1.5%. Our results have implications for capital taxation and regulation and shed new light on the changing nature of wealth, the shape of the production function, and the rise of capital shares. JEL Codes: E10, E20, D30, D31, D33.

Learning Through Noticing: Theory and Evidence from a Field Experiment

- The Quarterly Journal of Economics---2014---Rema Hanna,Sendhil Mullainathan,Joshua Schwartzstein

We consider a model of technological learning under which people "learn through noticing" : they choose which input dimensions to attend to and subsequently learn about from available data. Using this model, we show how people with a great deal of experience may persistently be off the production frontier because they fail to notice important features of the data they possess. We also develop predictions on when these learning failures are likely to occur, as well as on the types of interventions that can help people learn. We test the model's predictions in a field experiment with seaweed farmers. The survey data reveal that these farmers do not attend to pod size, a particular input dimension. Experimental trials suggest that farmers are particularly far from optimizing this dimension. Furthermore, consistent with the model, we find that simply having access to the experimental data does not induce learning. Instead, behavioral changes occur only after the farmers are presented with summaries that highlight previously unattended-to relationships in the data. JEL Codes: D03, D83, O13, O14, O30, Q16.

Injecting Charter School Best Practices into Traditional Public Schools: Evidence from Field Experiments

- The Quarterly Journal of Economics---2014---Roland G. Fryer, Jr.

This study examines the impact on student achievement of implementing a bundle of best practices from high-performing charter schools into low-performing, traditional public schools in Houston, Texas, using a school-level randomized field experiment and quasi-experimental comparisons. The five practices in the bundle are increased instructional time, more effective teachers and administrators, high-dosage tutoring, data-driven instruction, and a culture of high expectations. The findings show that injecting best practices from charter schools into traditional Houston public schools significantly increases student math achievement in treated elementary and secondary schools—by 0.15 to 0.18 standard deviations a year—and has little effect on reading achievement. Similar bundles of practices are found to significantly raise math achievement in analyses for public schools in a field experiment in Denver and program in Chicago. JEL Codes: I21, I24, I28, J24.

Gender, Competitiveness, and Career Choices

- The Quarterly Journal of Economics---2014---Thomas Buser,Muriel Niederle,Hessel Oosterbeek

Gender differences in competitiveness have been hypothesized as a potential explanation for gender differences in education and labor market outcomes. We examine the predictive power of a standard laboratory experimental measure of competitiveness for the later important choice of academic track of secondary school students in the Netherlands. Although boys and girls display similar levels of academic ability, boys choose substantially more prestigious academic tracks, where more prestigious tracks are more math- and science-intensive. Our experimental measure shows that boys are also substantially more competitive than girls. We find that competitiveness is strongly positively correlated with choosing more prestigious academic tracks even conditional on academic ability. Most important, we find that the gender difference in competitiveness accounts for a substantial portion (about 20%) of the gender difference in track choice. JEL Codes: C9, I20, J24, J16.

Axiomatization and Measurement of Quasi-Hyperbolic Discounting

- The Quarterly Journal of Economics---2014---José Luis Montiel Olea,Tomasz Strzalecki

This article provides an axiomatic characterization of quasi-hyperbolic discounting and a more general class of semi-hyperbolic preferences. We impose consistency restrictions directly on the intertemporal trade-offs by relying on what we call "annuity compensations." Our axiomatization leads naturally to an experimental design that disentangles discounting from the elasticity of intertemporal substitution. In a pilot experiment we use the partial identification approach to estimate bounds for the distributions of discount factors in the subject pool. Consistent with previous studies, we find evidence for both present and future bias. JEL Codes: C10, C99, D03, D90.

International Trade Puzzles: A Solution Linking Production and Preferences

- The Quarterly Journal of Economics---2014---Justin Caron,Thibault Fally,James Markusen

International trade literature tends to focus heavily on the production side of general equilibrium, leaving us with a number of empirical puzzles. There is, for example, considerably less world trade than predicted by Heckscher-Ohlin-Vanek (HOV) models. Trade among rich countries is higher and trade between rich and poor countries lower than suggested by HOV and other supply-driven theories, and trade-to-GDP ratios are higher in rich countries. Our approach focuses on the relationship between characteristics of goods and services in production and characteristics of preferences. In particular, we find a strong and significant positive correlation of more than 45% between a good's skilled-labor intensity and its income elasticity, even when accounting for trade costs and cross-country price differences. Exploring the implications of this correlation for empirical trade puzzles, we find that it can reduce HOV's overprediction of the variance of the net factor content of trade relative to that in the data by about 60%. Since rich countries are relatively skilled-labor abundant, they are relatively specialized in consuming the same goods and services that they are specialized in producing, and so trade more with one another than with poor countries. We also find a positive sector-level correlation between income elasticity and a sector's tradability, which helps explain the higher trade-to-GDP ratios in high-income relative to low-income countries. JEL Codes: F10, F16, O10.

International Prices and Endogenous Quality

- The Quarterly Journal of Economics---2014---Robert Feenstra,John Romalis

The unit values of internationally traded goods are heavily influenced by quality. We model this in an extended monopolistic competition framework where, in addition to choosing price, firms simultaneously choose quality subject to nonhomothetic demand. We estimate quality and quality-adjusted price indexes for 185 countries over 1984–2011. Our estimates are less sensitive to assumptions about the extensive margin of firms than are purely "demand-side" estimates. We find that quality-adjusted prices vary much less across countries than do unit values and, surprisingly, the

quality-adjusted terms of trade are negatively related to countries' level of income.

Currency Unions, Product Introductions, and the Real Exchange Rate

- The Quarterly Journal of Economics---2014---Alberto Cavallo,Brent Neiman,Roberto Rigobon

We use a novel data set of online prices of identical goods sold by four large global retailers in dozens of countries to study good-level real exchange rates and their aggregated behavior. First, in contrast to the prior literature, we demonstrate that the law of one price holds very well within currency unions for tens of thousands of goods sold by each of the retailers, implying good-level real exchange rates often equal to 1. Prices of these same goods exhibit large deviations from the law of one price outside of currency unions, even when the nominal exchange rate is pegged. This clarifies that the common currency per se, and not simply the lack of nominal volatility, is important in reducing cross-country price dispersion. Second, we derive a new decomposition that shows that good-level real exchange rates in our data predominantly reflect differences in prices at the time products are first introduced, as opposed to the component emerging from heterogeneous passthrough or from nominal rigidities during the life of the good. Further, these international relative prices measured at the time of introduction move together with the nominal exchange rate. This stands in sharp contrast to pricing behavior in models where all price rigidity for any given good is due simply to costly price adjustment for that good.

Agricultural Decisions after Relaxing Credit and Risk Constraints

- The Quarterly Journal of Economics---2014---Dean Karlan,Robert Osei,Isaac Osei-Akoto,Christopher Udry

The investment decisions of small-scale farmers in developing countries are conditioned by their financial environment. Binding credit market constraints and incomplete insurance can limit investment in activities with high expected profits. We conducted several experiments in northern Ghana in which farmers were randomly assigned to receive cash grants, grants of or opportunities to purchase rainfall index insurance, or a combination of the two. Demand for index insurance is strong, and insurance leads to significantly larger agricultural investment and riskier production choices in agriculture. The binding constraint to farmer investment is uninsured risk: when provided with insurance against the primary catastrophic risk they face, farmers are able to find resources to increase expenditure on their farms. Demand for insurance in subsequent years is strongly increasing with the farmer's own receipt of insurance payouts, with the receipt of payouts by others in the farmer's social network and with recent poor rain in the village. Both investment patterns and the demand for index insurance are consistent with the presence of important basis risk associated with the index insurance, imperfect trust that promised payouts will be delivered and overweighting recent events.

Public Health Insurance, Labor Supply, and Employment Lock

- The Quarterly Journal of Economics---2014---Craig Garthwaite,Tal Gross,Matthew Notowidigdo

We study the effect of public health insurance on labor supply by exploiting a large public health insurance disenrollment. In 2005, approximately 170,000 Tennessee residents abruptly lost Medicaid coverage. Using both across- and within-state variation in exposure to the disenrollment, we estimate large increases in labor supply, primarily along the extensive margin. The increased employment is concentrated among individuals working at least 20 hours a week and receiving private, employer-provided health insurance. We explore the dynamic effects of the disenrollment and find an immediate increase in job search behavior and a steady rise in both employment and health insurance coverage following the disenrollment. Our results are consistent with a significant degree of "employment lock"—workers who are employed primarily to secure private health insurance coverage.

Generating Skilled Self-Employment in Developing Countries: Experimental Evidence from Uganda

- The Quarterly Journal of Economics---2014---Christopher Blattman,Nathan Fiala,Sebastian Martinez

We study a government program in Uganda designed to help the poor and unemployed become self-employed artisans, increase incomes, and thus promote social stability. Young adults in Uganda's conflict-affected north were invited to form groups and submit grant proposals for vocational training and business start-up. Funding was randomly assigned among screened and eligible groups. Treatment groups received unsupervised grants of $382 per member. Grant recipients invest some in skills training but most in tools and materials. After four years, half practice a skilled trade. Relative to the control group, the program increases business assets by 57%, work hours by 17%, and earnings by 38%. Many also formalize their enterprises and hire labor. We see no effect, however, on social cohesion, antisocial behavior, or protest. Effects are similar by gender but are qualitatively different for women because they begin poorer (meaning the impact is larger relative to their starting point) and because women's work and earnings stagnate without the program but take off with it. The patterns we observe are consistent with credit constraints.

International Trade and Institutional Change: Medieval Venice's Response to Globalization

- The Quarterly Journal of Economics---2014---Diego Puga,Daniel Trefler

International trade can have profound effects on domestic institutions. We examine this proposition in the context of medieval Venice circa 800–1600. Early on, the growth of long-distance trade enriched a broad group of merchants who used their newfound economic muscle to push for constraints on the executive, that is, for the end of a de facto hereditary Doge in 1032 and the establishment of a parliament in 1172. The merchants also pushed for remarkably modern innovations in contracting institutions that facilitated long-distance trade, for example, the colleganza. However, starting in 1297, a small group of particularly wealthy merchants blocked political and economic competition: they made parliamentary participation hereditary and erected barriers to participation in the most lucrative aspects of long-distance trade. Over the next two centuries this led to a fundamental societal shift away from political openness, economic competition, and social mobility and toward political closure, extreme inequality, and social stratification. We document this oligarchization using a unique database on the names of 8,178 parliamentarians and their families' use of the colleganza in the periods immediately before and after 1297. We then link these families to 6,959 marriages during 1400–1599 to document the use of marriage alliances to monopolize the galley trade. Monopolization led to the rise of extreme inequality, with those who were powerful before 1297 emerging as the undisputed winners.

Medieval Universities, Legal Institutions, and the Commercial Revolution

- The Quarterly Journal of Economics---2014---Davide Cantoni,Noam Yuchtman

We present new data documenting medieval Europe's Commercial Revolution using information on the establishment of markets in Germany. We use these data to test whether medieval universities played a causal role in expanding economic activity, examining the foundation of Germany's first universities after 1386 following the papal schism. We find that the trend rate of market establishment breaks upward in 1386 and this break is greatest where the distance to a university shrank most. There is no differential pre-1386 trend associated with the reduction in distance to a university, and there is no break in trend in 1386 where university proximity did not change. These results are robust to estimating a variety of specifications that address concerns about the endogeneity of university location. Universities provided training in newly rediscovered Roman and canon law; students with legal training

served in positions that reduced the uncertainty of trade in the Middle Ages. We argue that training in the law, and the consequent development of legal and administrative institutions, was an important channel linking universities and greater economic activity in medieval Germany.

Inconsistent Regulators: Evidence from Banking

- The Quarterly Journal of Economics---2014---Sumit Agarwal,David Lucca,Amit Seru,Francesco Trebbi

We find that regulators can implement identical rules inconsistently due to differences in their institutional design and incentives, and this behavior may adversely impact the effectiveness with which regulation is implemented. We study supervisory decisions of U.S. banking regulators and exploit a legally determined rotation policy that assigns federal and state supervisors to the same bank at exogenously set time intervals. Comparing federal and state regulator supervisory ratings within the same bank, we find that federal regulators are systematically tougher, downgrading supervisory ratings almost twice as frequently as do state supervisors. State regulators counteract these downgrades to some degree by upgrading more frequently. Under federal regulators, banks report worse asset quality, higher regulatory capital ratios, and lower return on assets. Leniency of state regulators relative to their federal counterparts is related to costly outcomes, such as higher failure rates and lower repayment rates of government assistance funds. The discrepancy in regulator behavior is related to different weights given by regulators to local economic conditions and, to some extent, differences in regulatory resources. We find no support for regulator self-interest, which includes "revolving doors" as a reason for leniency of state regulators.

The Agricultural Productivity Gap

- The Quarterly Journal of Economics---2014---Douglas Gollin,David Lagakos,Michael Waugh

According to national accounts data, value added per worker is much higher in the nonagricultural sector than in agriculture in the typical country, particularly in developing countries. Taken at face value, this "agricultural productivity gap" suggests that labor is greatly misallocated across sectors. In this article, we draw on new micro evidence to ask to what extent the gap is still present when better measures of sector labor inputs and value added are taken into consideration. We find that even after considering sector differences in hours worked and human capital per worker, as well as alternative measures of sector output constructed from household survey data, a puzzlingly large gap remains.

Regional Favoritism

- The Quarterly Journal of Economics---2014---Roland Hodler,Paul Raschky

We complement the literature on distributive politics by taking a systematic look at regional favoritism in a large and diverse sample of countries and by employing a broad measure that captures the aggregate distributive effect of many different policies. In particular, we use satellite data on nighttime light intensity and information about the birthplaces of the countries' political leaders. In our panel of 38,427 subnational regions from 126 countries with yearly observations from 1992 to 2009, we find that subnational regions have more intense nighttime light when being the birth region of the current political leader. We argue that this finding provides evidence for regional favoritism. We explore the dynamics and the geographical extent of regional favoritism and show that regional favoritism is most prevalent in countries with weak political institutions and poorly educated citizens. Furthermore, foreign aid inflows and oil rents tend to fuel regional favoritism in weakly institutionalized countries, but not elsewhere. JEL Codes: D72, R11.

The Employment Effects of Credit Market Disruptions: Firm-level Evidence from the 2008-9 Financial Crisis

- The Quarterly Journal of Economics---2014---Gabriel Chodorow-Reich

This article investigates the effect of bank lending frictions on employment outcomes. I construct a new data set that combines information on banking relationships and employment at 2,000 nonfinancial firms during the 2008-9 crisis. The article first verifies empirically the importance of banking relationships, which imply a cost to borrowers who switch lenders. I then use the dispersion in lender health following the Lehman crisis as a source of exogenous variation in the availability of credit to borrowers. I find that credit matters. Firms that had precrisis relationships with less healthy lenders had a lower likelihood of obtaining a loan following the Lehman bankruptcy, paid a higher interest rate if they did borrow, and reduced employment by more compared to precrisis clients of healthier lenders. Consistent with frictions deriving from asymmetric information, the effects vary by firm type. Lender health has an economically and statistically significant effect on employment at small and medium firms, but the data cannot reject the hypothesis of no effect at the largest or most transparent firms. Abstracting from general equilibrium effects, I find that the withdrawal of credit accounts for between one-third and one-half of the employment decline at small and medium firms in the sample in the year following the Lehman bankruptcy. JEL Codes: E24, E44, G20. Copyright 2014, Oxford University Press.

The Global Decline of the Labor Share

- The Quarterly Journal of Economics---2014---Brent Neiman,Loukas Karabarbounis

The stability of the labor share of income is a key foundation in macroeconomic models. We document, however, that the global labor share has significantly declined since the early 1980s, with the decline occurring within the large majority of countries and industries. We show that the decrease in the relative price of investment goods, often attributed to advances in information technology and the computer age, induced firms to shift away from labor and toward capital. The lower price of investment goods explains roughly half of the observed decline in the labor share, even when we allow for other mechanisms influencing factor shares,

such as increasing profits, capital-augmenting technology growth, and the changing skill composition of the labor force. We highlight the implications of this explanation for welfare and macroeconomic dynamics. JEL Codes: E21, E22, E25. Copyright 2014, Oxford University Press.

"Last-Place Aversion": Evidence and Redistributive Implications

- The Quarterly Journal of Economics---2014---Ryan W. Buell,Taly Reich,Michael I. Norton

We present evidence from laboratory experiments showing that individuals are "last-place averse." Participants choose gambles with the potential to move them out of last place that they reject when randomly placed in other parts of the distribution. In modified dictator games, participants randomly placed in second-to-last place are the most likely to give money to the person one rank above them instead of the person one rank below. Last-place aversion suggests that low-income individuals might oppose redistribution because it could differentially help the group just beneath them. Using survey data, we show that individuals making just above the minimum wage are the most likely to oppose its increase. Similarly, in the General Social Survey, those above poverty but below median income support redistribution significantly less than their background characteristics would predict. JEL Codes: H23, D31, C91. Copyright 2014, Oxford University Press.

National Institutions and Subnational Development in Africa

- The Quarterly Journal of Economics---2014---Elias Papaioannou,Stelios Michalopoulos

We investigate the role of national institutions on subnational African development in a novel framework that accounts for both local geography and cultural-genetic traits. We exploit the fact that the political boundaries on the eve of African independence partitioned more than 200 ethnic groups across adjacent countries subjecting similar cultures, residing in homogeneous geographic areas, to different formal institutions. Using

both a matching type and a spatial regression discontinuity approach we show that differences in countrywide institutional structures across the national border do not explain within-ethnicity differences in economic performance, as captured by satellite images of light density. The average noneffect of national institutions on ethnic development masks considerable heterogeneity partially driven by the diminishing role of national institutions in areas further from the capital cities. JEL Codes: O10, O40, O43, N17, Z10. Copyright 2014, Oxford University Press.

Inflation Dynamics and Time-Varying Volatility: New Evidence and an Ss Interpretation

- The Quarterly Journal of Economics---2014--- Joseph Vavra

Is monetary policy less effective at increasing real output during periods of high volatility than during normal times? In this article, I argue that greater volatility leads to an increase in aggregate price flexibility so that nominal stimulus mostly generates inflation rather than output growth. To do this, I construct price-setting models with "volatility shocks" and show these models match new facts in CPI micro data that standard price-setting models miss. I then show that these models imply that output responds less to nominal stimulus during times of high volatility. Furthermore, because volatility is countercyclical, this implies that nominal stimulus has smaller real effects during downturns. For example, the estimated output response to additional nominal stimulus in September 1995, a time of low volatility, is 55% larger than the response in October 2001, a time of high volatility. JEL Codes: E10, E30, E31, E50, D8. Copyright 2014, Oxford University Press.

Optimal money creation in ''pure currency'' economies: a conjecture

- The Quarterly Journal of Economics---2014---Neil Wallace

In a pure-currency economy, money is the only durable object and people have private histories. In such economies, taxation is not feasible and in some of them trade is enhanced through the use of money. For economies of that kind in which a nondegenerate distribution of money, part of the state of the economy, affects trades and real outcomes, and in which trades affect the state at the next date, the conjecture is that there are transfer schemes financed by money creation that improve ex ante representative-agent welfare relative to what can be achieved holding the stock of money fixed. JEL Codes: E52, E58. Copyright 2014, Oxford University Press.

Local Economic Development, Agglomeration Economies, and the Big Push: 100 Years of Evidence from the Tennessee Valley Authority

- The Quarterly Journal of Economics---2014--- Enrico Moretti,Patrick Kline

We study the long-run effects of one of the most ambitious regional development programs in U.S. history: the Tennessee Valley Authority (TVA). Using as controls authorities that were proposed but never approved by Congress, we find that the TVA led to large gains in agricultural employment that were eventually reversed when the program's subsidies ended. Gains in manufacturing employment, by contrast, continued to intensify well after federal transfers had lapsed--a pattern consistent with the presence of agglomeration economies in manufacturing. Because manufacturing paid higher wages than agriculture, this shift raised aggregate income in the TVA region for an extended period of time. Economists have long cautioned that the local gains created by place-based policies may be offset by losses elsewhere. We develop a structured approach to assessing the TVA's aggregate consequences that is applicable to other place-based policies. In our model, the TVA affects the national economy both directly through infrastructure improvements and indirectly through agglomeration economies. The model's estimates suggest that the TVA's direct investments yielded a significant increase in national manufacturing productivity, with benefits exceeding the program's costs. However, the program's indirect effects appear to have been limited: agglomeration gains in the TVA

region were offset by losses in the rest of the country. Spillovers in manufacturing appear to be the rare example of a localized market failure that cancels out in the aggregate. JEL Codes: R11, J20, N92, O40. Copyright 2014, Oxford University Press.

Migration and Wage Effects of Taxing Top Earners: Evidence from the Foreigners' Tax Scheme in Denmark

- The Quarterly Journal of Economics---2014---Henrik Jacobsen Kleven,Camille Landais,Esben Schultz

This article analyzes the effects of income taxation on the international migration and earnings of top earners using a Danish preferential foreigner tax scheme and population-wide Danish administrative data. This scheme, introduced in 1991, allows new immigrants with high earnings to be taxed at a preferential flat rate for a duration of three years. We obtain two main results. First, the scheme has doubled the number of highly paid foreigners in Denmark relative to slightly less paid--and therefore ineligible--foreigners. This translates into a very large elasticity of migration with respect to 1 minus the average tax rate on foreigners, between 1.5 and 2. Second, we find compelling evidence of a negative effect of the scheme-induced reduction in the average tax rate on pretax earnings of foreign migrants at the individual level. This finding can be rationalized by a matching frictions model with wage bargaining where there is a gap between pay and marginal productivity. JEL Codes: H31, J61. Copyright 2014, Oxford University Press.

Valuing the Vote: The Redistribution of Voting Rights and State Funds following the Voting Rights Act of 1965

- The Quarterly Journal of Economics---2014---Elizabeth Cascio

The Voting Rights Act of 1965, called one of the most effective pieces of civil rights legislation in U.S. history, generated dramatic increases in black voter registration across the South. We ask whether the increase in black

voting rights was accompanied by an increase in blacks' share of public spending. We exploit a key provision of the act--removal of literacy tests at registration--for identification. Employing a triple-difference framework over a 20-year period, we find that counties with higher black population shares in former literacy test states saw greater increases in both voter turnout and state transfers than comparison counties in non--literacy test states, a finding that is consistent with models of distributive politics. JEL Codes: D72, H7, I2, J15, N32. Copyright 2014, Oxford University Press.

School Segregation, Educational Attainment, and Crime: Evidence from the End of Busing in Charlotte-Mecklenburg

- The Quarterly Journal of Economics---2014---Stephen B. Billings,Jonah Rockoff

We study the end of race-based busing in Charlotte-Mecklenburg schools (CMS). In 2001, school boundaries in CMS were redrawn dramatically, and half of students received a new assignment. Using addresses measured prior to the policy change, we compare students in the same neighborhood that lived on opposite sides of a newly drawn boundary. We find that both white and minority students score lower on high school exams when they are assigned to schools with more minority students. We also find decreases in high school graduation and four-year college attendance for whites and large increases in crime for minority males. We conclude that the end of race-based busing widened racial inequality, despite efforts by CMS to mitigate the effect of segregation through compensatory resource allocation. JEL Codes: I20, I24. Copyright 2014, Oxford University Press.

Fungibility and Consumer Choice: Evidence from Commodity Price Shocks

- The Quarterly Journal of Economics---2013---Jesse Shapiro

We formulate a test of the fungibility of money based on parallel shifts in the prices of different quality grades of a commodity. We embed the test in a discrete-choice

model of product quality choice and estimate the model using panel microdata on gasoline purchases. We find that when gasoline prices rise, consumers substitute to lower octane gasoline, to an extent that cannot be explained by income effects. Across a wide range of specifications, we consistently reject the null hypothesis that households treat "gas money" as fungible with other income. We compare the empirical fit of three psychological models of decision making. A simple model of category budgeting fits the data well, with models of loss aversion and salience both capturing important features of the time series. JEL Codes: D12, L15, Q41, D03. Copyright 2013, Oxford University Press.

Truth-telling by Third-party Auditors and the Response of Polluting Firms: Experimental Evidence from India

- The Quarterly Journal of Economics---2013---Esther Duflo,Michael Greenstone,Nicholas Ryan

In many regulated markets, private, third-party auditors are chosen and paid by the firms that they audit, potentially creating a conflict of interest. This article reports on a two-year field experiment in the Indian state of Gujarat that sought to curb such a conflict by altering the market structure for environmental audits of industrial plants to incentivize accurate reporting. There are three main results. First, the status quo system was largely corrupted, with auditors systematically reporting plant emissions just below the standard, although true emissions were typically higher. Second, the treatment caused auditors to report more truthfully and very significantly lowered the fraction of plants that were falsely reported as compliant with pollution standards. Third, treatment plants, in turn, reduced their pollution emissions. The results suggest reformed incentives for third-party auditors can improve their reporting and make regulation more effective. JEL Codes: Q56, M42, D22. Copyright 2013, Oxford University Press.

Managerial Miscalibration

- The Quarterly Journal of Economics---2013---Itzhak Ben-David,John R. Graham

Using a unique 10-year panel that includes more than 13,300 expected stock market return probability distributions, we find that executives are severely miscalibrated, producing distributions that are too narrow: realized market returns are within the executives' 80% confidence intervals only 36% of the time. We show that executives reduce the lower bound of the forecast confidence interval during times of high market uncertainty; however, ex post miscalibration is worst during periods of high uncertainty. We also find that executives who are miscalibrated about the stock market show similar miscalibration regarding their own firms' prospects. Finally, firms with miscalibrated executives seem to follow more aggressive corporate policies: investing more and using more debt financing. JEL Codes: G31, G32, G34, D03, D22, D84. Copyright 2013, Oxford University Press.

Matching with Couples: Stability and Incentives in Large Markets

- The Quarterly Journal of Economics---2013---Parag Pathak,Alvin Roth

Accommodating couples has been a long-standing issue in the design of centralized labor market clearinghouses for doctors and psychologists, because couples view pairs of jobs as complements. A stable matching may not exist when couples are present. This article's main result is that a stable matching exists when there are relatively few couples and preference lists are sufficiently short relative to market size. We also discuss incentives in markets with couples. We relate these theoretical results to the job market for psychologists, in which stable matchings exist for all years of the data, despite the presence of couples. JEL Codes: C78, D47. Copyright 2013, Oxford University Press.

Do Political Protests Matter? Evidence from the Tea Party Movement

- The Quarterly Journal of Economics---2013---Andreas Madestam,Daniel Shoag,Stan Veuger,David Yanagizawa-Drott

Can protests cause political change, or are they merely symptoms of underlying shifts in policy preferences? We address this question by studying the Tea Party movement in the United States, which rose to prominence through coordinated rallies across the country on Tax Day, April 15, 2009. We exploit variation in rainfall on the day of these rallies as an exogenous source of variation in attendance. We show that good weather at this initial, coordinating event had significant consequences for the subsequent local strength of the movement, increased public support for Tea Party positions, and led to more Republican votes in the 2010 midterm elections. Policy making was also affected, as incumbents responded to large protests in their district by voting more conservatively in Congress. Our estimates suggest significant multiplier effects: an additional protester increased the number of Republican votes by a factor well above 1. Together our results show that protests can build political movements that ultimately affect policy making and that they do so by influencing political views rather than solely through the revelation of existing political preferences. JEL Code: D72. Copyright 2013, Oxford University Press.

Household Balance Sheets, Consumption, and the Economic Slump

- The Quarterly Journal of Economics---2013---Atif Mian,Kamalesh Rao,Amir Sufi

We investigate the consumption consequences of the 2006--9 housing collapse using the highly unequal geographic distribution of wealth losses across the United States. We estimate a large elasticity of consumption with respect to housing net worth of 0.6 to 0.8, which soundly rejects the hypothesis of full consumption risk-sharing. The average marginal propensity to consume (MPC) out of housing wealth is 5--7 cents with substantial heterogeneity across ZIP codes. ZIP codes with poorer and more levered households have a significantly higher MPC out of housing wealth. In line with the MPC result, ZIP codes experiencing larger wealth losses, particularly those with poorer and more levered households, experience a larger reduction in credit limits, refinancing likelihood, and credit scores. Our findings highlight the role of debt and the geographic distribution of wealth shocks in explaining the large and unequal decline in consumption from 2006 to 2009. JEL Codes: E21, E32, E44, E60. Copyright 2013, Oxford University Press.

Inequality, the Urban-Rural Gap, and Migration

- The Quarterly Journal of Economics---2013---Alwyn Young

Using population and product consumption data from the Demographic and Health Surveys, I construct comparable measures of inequality and migration for 65 countries, including some of the poorest countries in the world. I find that the urban-rural gap accounts for 40% of mean country inequality and much of its cross-country variation. One out of every four or five individuals raised in rural areas moves to urban areas as a young adult, where they earn much higher incomes than nonmigrant rural permanent residents. Equally, one out of every four or five individuals raised in urban areas moves to rural areas as a young adult, where they earn much lower incomes than their nonmigrant urban cousins. These flows and relative incomes are suggestive of a world where the population sorts itself geographically on the basis of its human capital and skill. I show that a simple model of this sort explains the urban-rural gap in living standards. JEL Codes: O15, O18. Copyright 2013, Oxford University Press.

The Transitional Costs of Sectoral Reallocation: Evidence From the Clean Air Act and the Workforce

- The Quarterly Journal of Economics---2013---Reed Walker

This article uses linked worker-firm data in the United States to estimate the transitional costs associated

with reallocating workers from newly regulated industries to other sectors of the economy in the context of new environmental regulations. The focus on workers rather than industries as the unit of analysis allows me to examine previously unobserved economic outcomes such as nonemployment and long-run earnings losses from job transitions, both of which are critical to understanding the reallocative costs associated with these policies. Using plant-level panel variation induced by the 1990 Clean Air Act Amendments (CAAA), I find that the reallocative costs of environmental policy are significant. Workers in newly regulated plants experienced, in aggregate, more than $5.4 billion in forgone earnings for the years after the change in policy. Most of these costs are driven by nonemployment and lower earnings in future employment, highlighting the importance of longitudinal data for characterizing the costs and consequences of labor market adjustment. Relative to the estimated benefits of the 1990 CAAA, these one-time transitional costs are small. JEL Codes: Q50, H41, R11. Copyright 2013, Oxford University Press.

Do terms-of-trade effects matter for trade agreements? Theory and evidence from WTO Countries

- The Quarterly Journal of Economics---2013---Rodney Ludema,Anna Maria Mayda

International trade agreements are an important element of the world economic system, but questions remain as to their purpose. The terms-of-trade hypothesis posits that countries use tariffs in part to improve their terms of trade and that trade agreements cause them to internalize the costs that such terms-of-trade shifts impose on other countries. This article investigates whether the most-favored-nation (MFN) tariffs set by World Trade Organization (WTO) members in the Uruguay Round are consistent with the terms-of-trade hypothesis. We present a model of multilateral trade negotiations featuring endogenous participation that leads the resulting tariff schedules to display terms-of-trade effects. Specifically, the model predicts that the level of the importer's tariff resulting from negotiations should be negatively related to the product of two terms: exporter concentration, as measured by the Herfindahl-Hirschman index (sum of squared export shares), and the importer's market power, as measured by the inverse elasticity of export supply, on a product-by-product basis. We test this hypothesis using data on tariffs, trade, and production across more than 30 WTO countries and find strong support. We estimate that the internalization of terms of trade effects through WTO negotiations has lowered the average tariff of these countries by 22% to 27% compared to its noncooperative level. JEL Codes: F1, F5. Copyright 2013, Oxford University Press.

External Economies and International Trade Redux: Comment

- The Quarterly Journal of Economics---2013---Andres Rodriguez-Clare

Recently, Gene Grossman and Esteban Rossi-Hansberg (GRH; "External Economies and International Trade: Redux," Quarterly Journal of Economics 125 [2010], 829--858) proposed a novel way to think about the implications of international trade in the presence of national external economies at the industry level. Instead of perfect competition and two industries, GRH assume Bertrand competition and a continuum of industries. GRH conclude that the equilibrium is unique if transport costs are low, that there is no trade for high transport costs, and that there is no equilibrium in pure strategies when transport costs are intermediate. In this note we reexamine the equilibrium analysis under different transport costs for a single industry (partial equilibrium) version of GRH's model. We confirm many of GRH's results, but also find that there are circumstances under which there are multiple equilibria, including equilibria in which trade patterns run counter to "natural" comparative advantage, and also find that there is a profitable deviation to the mixed-strategy equilibrium postulated by GRH for intermediate trading costs. We propose an alternative set of strategies for this case and establish that they constitute an equilibrium. JEL Code: F10. Copyright 2013, Oxford University Press.

Workplace Heterogeneity and the Rise of West German Wage Inequality

- The Quarterly Journal of Economics---2013---David Card,Jörg Heining,Patrick Kline

We study the role of establishment-specific wage premiums in generating recent increases in West German wage inequality. Models with additive fixed effects for workers and establishments are fit into four subintervals spanning the period from 1985 to 2009. We show that these models provide a good approximation to the wage structure and can explain nearly all of the dramatic rise in West German wage inequality. Our estimates suggest that the increasing dispersion of West German wages has arisen from a combination of rising heterogeneity between workers, rising dispersion in the wage premiums at different establishments, and increasing assortativeness in the assignment of workers to plants. In contrast, the idiosyncratic job-match component of wage variation is small and stable over time. Decomposing changes in mean wages between different education groups, occupations, and industries, we find that increasing plant-level heterogeneity and rising assortativeness in the assignment of workers to establishments explain a large share of the rise in inequality along all three dimensions. JEL Codes: J00, J31, J40. Copyright 2013, Oxford University Press.

Marriage Institutions and Sibling Competition: Evidence from South Asia

- The Quarterly Journal of Economics---2013---Tom S. Vogl

Using data from South Asia, this article examines how arranged marriage cultivates rivalry among sisters. During marriage search, parents with multiple daughters reduce the reservation quality for an older daughter's groom, rushing her marriage to allow sufficient time to marry off her younger sisters. Relative to younger brothers, younger sisters increase a girl's marriage risk; relative to younger singleton sisters, younger twin sisters have the same effect. These effects intensify in marriage markets with lower sex ratios or greater parental involvement in marriage arrangements. In contrast, older sisters delay a girl's marriage. Because girls leave school when they marry and face limited earning opportunities when they reach adulthood, the number of sisters has well-being consequences over the life cycle. Younger sisters cause earlier school-leaving, lower literacy, a match to a husband with less education and a less skilled occupation, and (marginally) lower adult economic status. Data from a broader set of countries indicate that these cross-sister pressures on marriage age are common throughout the developing world, although the schooling costs vary by setting. JEL Codes: J1, I25, O15. Copyright 2013, Oxford University Press.

How Safe Are Money Market Funds?

- The Quarterly Journal of Economics---2013---Marcin Kacperczyk,Philipp Schnabl

We examine the risk-taking behavior of money market funds during the financial crisis of 2007--2010. We find that (1) money market funds experienced an unprecedented expansion in their risk-taking opportunities; (2) funds had strong incentives to take on risk because fund inflows were highly responsive to fund yields; (3) funds sponsored by financial intermediaries with more money fund business took on more risk; and (4) funds suffered runs as a result of their risk taking. This evidence suggests that money market funds lack safety because they have strong incentives to take on risk when the opportunity arises and are vulnerable to runs. JEL Codes: G21, G23, E44. Copyright 2013, Oxford University Press.

Duration Dependence and Labor Market Conditions: Evidence from a Field Experiment

- The Quarterly Journal of Economics---2013---Kory Kroft,Fabian Lange,Matthew Notowidigdo

This article studies the role of employer behavior in generating "negative duration dependence"--the adverse effect of a longer unemployment spell--by sending fictitious résumés to real job postings in 100 U.S. cities. Our results indicate that the likelihood of receiving a callback for an interview significantly decreases with

the length of a worker's unemployment spell, with the majority of this decline occurring during the first eight months. We explore how this effect varies with local labor market conditions and find that duration dependence is stronger when the local labor market is tighter. This result is consistent with the prediction of a broad class of screening models in which employers use the unemployment spell length as a signal of unobserved productivity and recognize that this signal is less informative in weak labor markets. JEL Code: J64. Copyright 2013, Oxford University Press.

Strengthening State Capabilities: The Role of Financial Incentives in the Call to Public Service

- The Quarterly Journal of Economics---2013---Ernesto Dal Bó,Frederico Finan,Martín Rossi

We study a recent recruitment drive for public sector positions in Mexico. Different salaries were announced randomly across recruitment sites, and job offers were subsequently randomized. Screening relied on exams designed to measure applicants' intellectual ability, personality, and motivation. This allows the first experimental estimates of (1) the role of financial incentives in attracting a larger and more qualified pool of applicants, (2) the elasticity of the labor supply facing the employer, and (3) the role of job attributes (distance, attractiveness of the municipal environment) in helping fill vacancies, as well as the role of wages in helping fill positions in less attractive municipalities. A theoretical model of job applications and acceptance guides the empirical inquiry. We find that higher wages attract more able applicants as measured by their IQ, personality, and proclivity toward public sector work--that is, we find no evidence of adverse selection effects on motivation; higher wage offers also increased acceptance rates, implying a labor supply elasticity of around 2 and some degree of monopsony power. Distance and worse municipal characteristics strongly decrease acceptance rates, but higher wages help bridge the recruitment gap in worse municipalities. JEL Code: H1. Copyright 2013, Oxford University Press.

The Economic Impact of Social Ties: Evidence from German Reunification

- The Quarterly Journal of Economics---2013---Konrad Burchardi,Tarek Hassan

We use the fall of the Berlin Wall in 1989 to show that personal relationships which individuals maintain for noneconomic reasons can be an important determinant of regional economic growth. We show that West German households who had social ties to East Germany in 1989 experienced a persistent rise in their personal incomes after the fall of the Berlin Wall. Moreover, the presence of these households significantly affects economic performance at the regional level: it increases the returns to entrepreneurial activity, the share of households who become entrepreneurs, and the likelihood that firms based within a given West German region invest in East Germany. As a result, West German regions that (for idiosyncratic reasons) have a high concentration of households with social ties to the East exhibit substantially higher growth in income per capita in the early 1990s. A one standard deviation rise in the share of households with social ties to East Germany in 1989 is associated with a 4.7 percentage point rise in income per capita over six years. We interpret our findings as evidence of a causal link between social ties and regional economic development. JEL Codes: O10, O43, J61, L14, F20. Copyright 2013, Oxford University Press.

Rules with Discretion and Local Information

- The Quarterly Journal of Economics---2013---T. Renee Bowen,David Kreps,Andrzej Skrzypacz

To ensure that individual actors take certain actions, community enforcement may be required. This can present a rules-versus-discretion dilemma: it can become impossible to employ discretion based on information that is not widely held, because the wider community is unable to verify how the information was used. Instead, actions may need to conform to simple and widely verifiable rules. We study when discretion in the form of exceptions to a simple rule can be implemented, if the information is shared by the action taker

and a second party, who is able to verify for the larger group that an exception is warranted. In particular, we compare protocols where the second party excuses the action taker from taking the action ex ante with protocols where the second party instead forgives a rule-breaking actor ex post. JEL Codes: C73, D82. Copyright 2013, Oxford University Press.

The Missing Wealth of Nations: Are Europe and the U.S. net Debtors or net Creditors?

- The Quarterly Journal of Economics---2013--- Gabriel Zucman

This article shows that official statistics substantially underestimate the net foreign asset positions of rich countries because they fail to capture most of the assets held by households in offshore tax havens. Drawing on a unique Swiss data set and exploiting systematic anomalies in countries' portfolio investment positions, I find that around 8% of the global financial wealth of households is held in tax havens, three-quarters of which goes unrecorded. On the basis of plausible assumptions, accounting for unrecorded assets turns the eurozone, officially the world's second largest net debtor, into a net creditor. It also reduces the U.S. net debt significantly. The results shed new light on global imbalances and challenge the widespread view that after a decade of poor-to-rich capital flows, external assets are now in poor countries and debts in rich countries. I provide concrete proposals to improve international statistics. JEL Codes: F32, H26, H87. Copyright 2013, Oxford University Press.

Speculation and Risk Sharing with New Financial Assets

- The Quarterly Journal of Economics---2013---Alp Simsek

I investigate the effect of financial innovation on portfolio risks when traders have belief disagreements. I decompose traders' average portfolio risks into two components: the uninsurable variance, defined as portfolio risks that would obtain without belief disagreements, and the speculative variance, defined as portfolio risks that result from speculation. My main result shows that financial innovation always increases the speculative variance through two distinct channels: by generating new bets and by amplifying traders' existing bets. When disagreements are large, these effects are sufficiently strong that financial innovation increases average portfolio risks, decreases average portfolio co-movements, and generates greater speculative trading volume relative to risk-sharing volume. Moreover, a profit-seeking market maker endogenously introduces speculative assets that increase average portfolio risks. JEL Codes: G11, G12, D53. Copyright 2013, Oxford University Press.

The Emergence of Political Accountability

- The Quarterly Journal of Economics---2013--- Chris Bidner,Patrick Francois

When and how do democratic institutions deliver accountable government? In addressing this broad question, we focus on the role played by political norms--specifically, the extent to which leaders abuse office for personal gain and the extent to which citizens punish such transgressions. We show how qualitatively distinct political norms can coexist because of a dynamic complementarity, in which citizens' willingness to punish transgressions is raised when they expect such punishments to be used in the future. We seek to understand the emergence of accountability by analysing transitions between norms. To do so, we extend the analysis to include the possibility that, at certain times, a segment of voters are (behaviorally) intolerant of transgressions. Our mechanism highlights the role of leaders, offering an account of how their actions can instigate enduring change, within a fixed set of formal institutions, by disrupting prevailing political norms. We show how such changes do not depend on "sun spots" to trigger coordination, and are asymmetric in effect--a series of good leaders can (and eventually will) improve norms, whereas bad leaders cannot damage them. JEL Codes: D72, P16, C73. Copyright 2013, Oxford University Press.

On the Origins of Gender Roles: Women and the Plough

- The Quarterly Journal of Economics---2013---Alberto Alesina,Paola Giuliano,Nathan Nunn

The study examines the historical origins of existing cross-cultural differences in beliefs and values regarding the appropriate role of women in society. We test the hypothesis that traditional agricultural practices influenced the historical gender division of labor and the evolution of gender norms. We find that, consistent with existing hypotheses, the descendants of societies that traditionally practiced plough agriculture today have less equal gender norms, measured using reported gender-role attitudes and female participation in the workplace, politics, and entrepreneurial activities. Our results hold looking across countries, across districts within countries, and across ethnicities within districts. To test for the importance of cultural persistence, we examine the children of immigrants living in Europe and the United States. We find that even among these individuals, all born and raised in the same country, those with a heritage of traditional plough use exhibit less equal beliefs about gender roles today. JEL Codes: D03, J16, N30. Copyright 2013, Oxford University Press.

Do Labor Market Policies have Displacement Effects? Evidence from a Clustered Randomized Experiment

- The Quarterly Journal of Economics---2013---Bruno Crépon,Esther Duflo,Marc Gurgand,Roland Rathelot,Philippe Zamora

This article reports the results from a randomized experiment designed to evaluate the direct and indirect (displacement) impacts of job placement assistance on the labor market outcomes of young, educated job seekers in France. We use a two-step design. In the first step, the proportions of job seekers to be assigned to treatment (0%, 25%, 50%, 75%, or 100%) were randomly drawn for each of the 235 labor markets (e.g., cities) participating in the experiment. Then, in each labor market, eligible job seekers were randomly assigned to the treatment, following this proportion. After eight months, eligible, unemployed youths who were assigned to the program were significantly more likely to have found a stable job than those who were not. But these gains are transitory, and they appear to have come partly at the expense of eligible workers who did not benefit from the program, particularly in labor markets where they compete mainly with other educated workers, and in weak labor markets. Overall, the program seems to have had very little net benefits. JEL Codes: J68, J64, C93. Copyright 2013, Oxford University Press.

The Establishment-Level Behavior of Vacancies and Hiring

- The Quarterly Journal of Economics---2013---Steven Davis,Jason Faberman,John Haltiwanger

This paper is the first to study vacancies, hires, and vacancy yields at the establishment level in the Job Openings and Labor Turnover Survey, a large sample of US employers. To interpret the data, we develop a simple model that identifies the flow of new vacancies and the job-filling rate for vacant positions. The fill rate moves counter to aggregate employment but rises steeply with employer growth rates in the cross section. It falls with employer size, rises with worker turnover rates, and varies by a factor of four across major industry groups. We also develop evidence that the employer-level hiring technology exhibits mild increasing returns in vacancies, and that employers rely heavily on other instruments, in addition to vacancies, as they vary hires. Building from our evidence and a generalized matching function, we construct a new index of recruiting intensity (per vacancy). Recruiting intensity partly explains the recent breakdown in the standard matching function, delivers a better-fitting empirical Beveridge curve, and accounts for a large share of fluctuations in aggregate hires. Our evidence and analysis provide useful inputs for assessing, developing, and calibrating theoretical models of search, matching, and hiring in the labor market. JEL Codes: D21, E24, J60. Copyright 2013, Oxford University Press.

Redistributive Taxation in the Roy Model

- The Quarterly Journal of Economics---2013---Casey Rothschild,Florian Scheuer

We consider optimal redistribution in a model where individuals can self-select into one of several possible sectors based on heterogeneity in a multidimensional skill vector. We first show that when the government does not observe the sectoral choice or underlying skills of its citizens, the constrained Pareto frontier can be implemented with a single nonlinear income tax. We then characterize this optimal tax schedule. If sectoral inputs are complements, a many-sector model with self-selection leads to optimal income taxes that are less progressive than the corresponding taxes in a standard single-sector model under natural conditions. However, they are more progressive than in canonical multisector economies with discrete types and without occupational choice or overlapping sectoral wage distributions. JEL Codes: H2, D5, D8, E2, E6, J3, J6. Copyright 2013, Oxford University Press.

Using Notches to Uncover Optimization Frictions and Structural Elasticities: Theory and Evidence from Pakistan

- The Quarterly Journal of Economics---2013---Henrik J. Kleven,Mazhar Waseem

We develop a framework for nonparametrically identifying optimization frictions and structural elasticities using notches--discontinuities in the choice sets of agents--introduced by tax and transfer policies. Notches create excess bunching on the low-tax side and missing mass on the high-tax side of a cutoff, and they are often associated with a region of strictly dominated choice that would have zero mass in a frictionless world. By combining excess bunching (observed response attenuated by frictions) with missing mass in the dominated region (frictions), it is possible to uncover the structural elasticity that would govern behavior in the absence of frictions and arguably capture long-run behavior. We apply our framework to tax notches in Pakistan using rich administrative data. While observed bunching is large and sharp, optimization frictions are also very large as the majority of taxpayers in dominated ranges are unresponsive to tax incentives. The combination of large observed bunching and large frictions implies that the frictionless behavioral response to notches is extremely large, but the underlying structural elasticity driving this response is nevertheless modest. This highlights the inefficiency of notches: by creating extremely strong price distortions, they induce large behavioral responses even when structural elasticities are small. JEL Codes: H31, J22, O12. Copyright 2013, Oxford University Press.

A Price Theory of Vertical and Lateral Integration

- The Quarterly Journal of Economics---2013---Patrick Legros,Andrew Newman

This article presents a perfectly competitive model of firm boundary decisions and study their interplay with product demand, technology, and welfare. Integration is privately costly but is effective at coordinating production decisions; nonintegration is less costly but coordinates relatively poorly. Output price influences the choice of ownership structure: integration increases with the price level. At the same time, ownership affects output, because integration is more productive than nonintegration. For a generic set of demand functions, equilibrium delivers heterogeneity of ownership and performance among ex ante identical enterprises. The price mechanism transmutes demand shifts into industry-wide reorganizations and generates external effects from technological shocks: productivity changes in some firms may induce ownership changes in others. If the enterprise managers have full title to its revenues, market equilibrium ownership structures are second-best efficient. When managers have less than full revenue claims, equilibrium can be inefficient, with too little integration. JEL Codes: D21, D23, D41, L11, L14, L22. Copyright 2013, Oxford University Press.

A Political Theory of Populism

- The Quarterly Journal of Economics---2013---Georgy Egorov,Konstantin Sonin

When voters fear that politicians may be influenced or

corrupted by the rich elite, signals of integrity are valuable. As a consequence, an honest politician seeking reelection chooses "populist" policies--that is, policies to the left of the median voter--as a way of signaling that he is not beholden to the interests of the right. Politicians that are influenced by right-wing special interests respond by choosing moderate or even left-of-center policies. This populist bias of policy is greater when the value of remaining in office is higher for the politician; when there is greater polarization between the policy preferences of the median voter and right-wing special interests; when politicians are perceived as more likely to be corrupt; when there is an intermediate amount of noise in the information that voters receive; when politicians are more forward-looking; and when there is greater uncertainty about the type of the incumbent. We also show that soft term limits may exacerbate, rather than reduce, the populist bias of policies. JEL Codes: D71, D74. Copyright 2013, Oxford University Press.

Monopolizing Violence and Consolidating Power

- The Quarterly Journal of Economics---2013---Robert Powell

Governments in weak states often face an armed opposition and have to decide whether to try to accommodate and contain that adversary or to try to consolidate power and monopolize violence by disarming it. When and why do governments choose to consolidate power and monopolize violence? How fast do they try to consolidate power? When does this lead to costly fighting rather than to efforts to eliminate the opposition by buying it off? We study an infinite-horizon model in which the government in each period decides how much to offer the opposition and the rate at which it tries to consolidate its power. The opposition can accept the offer and thereby acquiesce to the government's efforts to consolidate, or it can fight in an attempt to disrupt those efforts. In equilibrium, the government always tries to monopolize violence when it has "coercive power" against the opposition where, roughly, coercive power is the ability to weaken the opposition by lowering its payoff to fighting. Whether the govern-

ment consolidates peacefully or through costly fighting depends on the size of any "contingent spoils," which are benefits that begin to accrue from an increase in economic activity resulting from the monopolization of violence and the higher level of security that comes with it. When contingent spoils are small, the government buys the opposition off and eliminates it as fast as is peacefully possible. When contingent spoils are large, the government tries to monopolize violence by defeating the opposition militarily. JEL Codes: D02, D74, H1. Copyright 2013, Oxford University Press.

Proximity and Investment: Evidence from Plant-Level Data

- The Quarterly Journal of Economics---2013---Xavier Giroud

Proximity to plants makes it easier for headquarters to monitor and acquire information about plants. In this article, I estimate the effects of headquarters' proximity to plants on plant-level investment and productivity. Using the introduction of new airline routes as a source of exogenous variation in proximity, I find that new airline routes that reduce the travel time between headquarters and plants lead to an increase in plant-level investment of 8% to 9% and an increase in plants' total factor productivity of 1.3% to 1.4%. The results are robust when I control for local and firm-level shocks that could potentially drive the introduction of new airline routes, when I consider only new airline routes that are the outcome of a merger between two airlines or the opening of a new hub, and when I consider only indirect flights where either the last leg of the flight (involving the plant's home airport) or the first leg of the flight (involving headquarters' home airport) remains unchanged. Moreover, the results are stronger in the earlier years of the sample period and for firms whose headquarters is more time-constrained. In addition, they also hold at the extensive margin, that is, when I consider plant openings and closures. JEL Codes: D24, G31. Copyright 2013, Oxford University Press.

Cooperation in Strategic Games Revisited

- The Quarterly Journal of Economics---2013---Adam Kalai,Ehud Kalai

For two-person complete-information strategic games with transferable utility, all major variable-threat bargaining and arbitration solutions coincide. This confluence of solutions by luminaries such as Nash, Harsanyi, Raiffa, and Selten, is more than mere coincidence. Staying in the class of two-person games with transferable unility, the article presents a more complete theory that expands their solution. Specifically, it presents: (1) a decomposition of a game into cooperative and competitive components, (2) an intuitive and computable closed-form formula for the solution, (3) an axiomatic justification of the solution, and (4) a generalization of the solution to games with private signals, along with an arbitration scheme that implements it. The objective is to restart research on cooperative solutions to strategic games and their applications. JEL Codes: C71, C72, C78. Copyright 2013, Oxford University Press.

Does Management Matter? Evidence from India

- The Quarterly Journal of Economics---2013---Nicholas Bloom,Benn Eifert,Aprajit Mahajan,David McKenzie,John Roberts

A long-standing question is whether differences in management practices across firms can explain differences in productivity, especially in developing countries where these spreads appear particularly large. To investigate this, we ran a management field experiment on large Indian textile firms. We provided free consulting on management practices to randomly chosen treatment plants and compared their performance to a set of control plants. We find that adopting these management practices raised productivity by 17% in the first year through improved quality and efficiency and reduced inventory, and within three years led to the opening of more production plants. Why had the firms not adopted these profitable practices previously? Our results suggest that informational barriers were the primary factor explaining this lack of adoption.

Also, because reallocation across firms appeared to be constrained by limits on managerial time, competition had not forced badly managed firms to exit. JEL Codes: L2, M2, O14, O32, O33. Copyright 2013, Oxford University Press.

A Model of Focusing in Economic Choice

- The Quarterly Journal of Economics---2013---Botond Koszegi,Adam Szeidl

We present a generally applicable theory of focusing based on the hypothesis that a person focuses more on, and hence overweights, attributes in which her options differ more. Our model predicts that the decision maker is too prone to choose options with concentrated advantages relative to alternatives, but maximizes utility when the advantages and disadvantages of alternatives are equally concentrated. Applying our model to intertemporal choice, these results predict that a person exhibits present bias and time inconsistency when--such as in lifestyle choices and other widely invoked applications of hyperbolic discounting--the future effect of a current decision is distributed over many dates, and the effects of multiple decisions accumulate. But unlike in previous models, in our theory (1) present bias is lower when the costs of current misbehavior are less dispersed, helping explain why people respond more to monetary incentives than to health concerns in harmful consumption; and (2) time inconsistency is lower when a person commits to fewer decisions with accumulating effects in her ex ante choice. In addition, a person does not fully maximize welfare even when making decisions ex ante: (3) she commits to too much of an activity--for example, exercise or work--that is beneficial overall; and (4) makes "future-biased" commitments when--such as in preparing for a big event--the benefit of many periods' effort is concentrated in a single goal. JEL Codes: D03, D40, D91. Copyright 2013, Oxford University Press.

Human Capital and Regional Development

- The Quarterly Journal of Economics---2013---Nicola Gennaioli,Rafael La Porta,Florencio Lopez-de-Silanes,Andrei Shleifer

We investigate the determinants of regional development using a newly constructed database of 1,569 subnational regions from 110 countries covering 74% of the world's surface and 97% of its GDP. We combine the cross-regional analysis of geographic, institutional, cultural, and human capital determinants of regional development with an examination of productivity in several thousand establishments located in these regions. To organize the discussion, we present a new model of regional development that introduces into a standard migration framework elements of both the Lucas (1978) model of the allocation of talent between entrepreneurship and work, and the Lucas (1988) model of human capital externalities. The evidence points to the paramount importance of human capital in accounting for regional differences in development, but also suggests from model estimation and calibration that entrepreneurial inputs and possibly human capital externalities help understand the data. JEL Codes: O110, R110, I250. Copyright 2013, Oxford University Press.

Unconditional Convergence in Manufacturing

- The Quarterly Journal of Economics---2013---Dani Rodrik

Unlike economies as a whole, manufacturing industries exhibit strong unconditional convergence in labor productivity. The article documents this at various levels of disaggregation for a large sample covering more than 100 countries over recent decades. The result is highly robust to changes in the sample and specification. The coefficient of unconditional convergence is estimated quite precisely and is large, at between 2--3% in most specifications and 2.9% a year in the baseline specification covering 118 countries. The article also finds substantial sigma convergence at the two-digit level for a smaller sample of countries. Despite strong convergence within manufacturing, aggregate convergence fails due to the small share of manufacturing employment in low-income countries and the slow pace of industrialization. Because of data coverage, these findings should be as viewed as applying to the organized, formal parts of manufacturing. JEL Codes: O40, O14

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Instantaneous Gratification

- The Quarterly Journal of Economics---2013---Christopher Harris,David Laibson

Extending Barro (1999) and Luttmer and Mariotti (2003), we introduce a new model of time preferences: the instantaneous-gratification model. This model applies tractably to a much wider range of settings than existing models. It applies to both complete- and incomplete-market settings and it works with generic utility functions. It works in settings with linear policy rules and in settings in which equilibrium cannot be supported by linear rules. The instantaneous-gratification model also generates a unique equilibrium, even in infinite-horizon applications, thereby resolving the multiplicity problem hitherto associated with dynamically inconsistent models. Finally, it simultaneously features a single welfare criterion and a behavioral tendency towards overconsumption. JEL Codes: C6, C73, D91, E21. Copyright 2013, Oxford University Press.

Long-Term Effects of Class Size

- The Quarterly Journal of Economics---2013---Peter Fredriksson,Björn Öckert,Hessel Oosterbeek

This article evaluates the long-term effects of class size in primary school. We use rich data from Sweden and exploit variation in class size created by a maximum class size rule. Smaller classes in the last three years of primary school (age 10 to 13) are beneficial for cognitive and noncognitive ability at age 13, and improve achievement at age 16. Most important, we find that smaller classes have positive effects on completed education, wages, and earnings at age 27 to 42. The estimated wage effect is large enough to pass a cost-benefit test. JEL Codes: I21, I28, J24, C31. Copyright 2013, Oxford University Press.

Gender Discrimination in Job Ads: Evidence from China

- The Quarterly Journal of Economics---2013---Peter Kuhn,Kailing Shen

We study explicit gender discrimination in a population of ads on a Chinese Internet job board. Gender-targeted job ads are common, favor women as often as men, and are much less common in jobs requiring higher levels of skill. Employers' relative preferences for female versus male workers, on the other hand, are more strongly related to the preferred age, height, and beauty of the worker than to job skill levels. Almost two thirds of the variation in advertised gender preferences occurs within firms, and one third occurs within firmoccupation cells. Overall, these patterns are not well explained by a firm-level animus model, by a glass-ceiling model, or by models in which broad occupational categories are consistently gendered across firms. Instead, the patterns suggest a model in which firms have idiosyncratic preferences for particular job-gender matches, which are overridden in skilled positions by factors such as thinner labor markets or a greater incentive to search broadly for the most qualified candidate. JEL Codes: J16, J63, J71. Copyright 2013, Oxford University Press.

Veiling

- The Quarterly Journal of Economics---2013---Jean-Paul Carvalho

Veiling among Muslim women is modeled as a commitment mechanism that limits temptation to deviate from religious norms of behavior. The analysis suggests that veiling is a strategy for integration, enabling women to take up outside economic opportunities while preserving their reputation within the community. This accounts for puzzling features of the new veiling movement since the 1970s. Veiling also has surprising effects on the intergenerational transmission of values. Compulsory veiling laws can lead to a decline in religiosity. Bans on veiling can inhibit social integration and increase religiosity. JEL Codes: C72, C73, Z1 Copyright 2013, Oxford University Press.

How should inmates be released from prison? An assessment of parole versus fixed-sentence regimes

- The Quarterly Journal of Economics---2013---Ilyana Kuziemko

Over the past 30 years, many states have abolished parole boards, which traditionally have had the discretion to release inmates before the expiration of their full sentence, in favor of fixed-sentence regimes in which the original sentence is binding. However, if prison time lowers recidivism risk and if parole boards can accurately estimate inmates' recidivism risk, then relative to a fixed-sentence regime, parole can provide allocative-efficiency benefits (costly prison space is allocated to the highest-risk offenders) and incentive benefits (prisoners know they must reduce their recidivism risk to gain an early release, so invest in their own rehabilitation). Exploiting quasi-experiments from the state of Georgia, I show that prison time reduces recidivism risk and that parole boards set prison time in an allocatively efficient manner. Prisoners respond to these incentives; after a reform that eliminated parole for certain offenders, they accumulated a greater number of disciplinary infractions, completed fewer prison rehabilitative programs, and recidivated at higher rates than inmates unaffected by the reform. I estimate that eliminating parole for all prisoners would increase the prison population by 10% while also increasing the crime rate through deleterious effects on recidivism. JEL Codes: H76, K14, K40. Copyright 2013, Oxford University Press.

A Revealed Preference Ranking of U.S. Colleges and Universities

- The Quarterly Journal of Economics---2013---Christopher N. Avery,Mark E. Glickman,Caroline Hoxby,Andrew Metrick

We present a method of ranking U.S. undergraduate programs based on students' revealed preferences. When a student chooses a college among those that have admitted him, that college "wins" his "tournament." Our method efficiently integrates the informa-

tion from thousands of such tournaments. We implement the method using data from a national sample of high-achieving students. We demonstrate that this ranking method has strong theoretical properties, eliminating incentives for colleges to adopt strategic, inefficient admissions policies to improve their rankings. We also show empirically that our ranking is (1) not vulnerable to strategic manipulation; (2) similar regardless of whether we control for variables, such as net cost, that vary among a college's admits; (3) similar regardless of whether we account for students selecting where to apply, including Early Decision. We exemplify multiple rankings for different types of students who have preferences that vary systematically. JEL Codes: I2, I23, C35, D11. Copyright 2013, Oxford University Press.

Wages and Human Capital in the U.S. Finance Industry: 1909--2006

- The Quarterly Journal of Economics---2012---Thomas Philippon,Ariell Reshef

We study the allocation and compensation of human capital in the U.S. finance industry over the past century. Across time, space, and subsectors, we find that financial deregulation is associated with skill intensity, job complexity, and high wages for finance employees. All three measures are high before 1940 and after 1985, but not in the interim period. Workers in finance earn the same education-adjusted wages as other workers until 1990, but by 2006 the premium is 50% on average. Top executive compensation in finance follows the same pattern and timing, where the premium reaches 250%. Similar results hold for other top earners in finance. Changes in earnings risk can explain about one half of the increase in the average premium; changes in the size distribution of firms can explain about one fifth of the premium for executives. Copyright 2012, Oxford University Press.

Dynamic Games with Asymmetric Information: A Framework for Empirical Work

- The Quarterly Journal of Economics---2012---Chaim Fershtman,Ariel Pakes

We develop a framework for the analysis of dynamic oligopolies with persistant sources of asymmetric information that enables applied analysis of situations of empirical importance that have been difficult to deal with. The framework generates policies that are "relatively" easy for agents to use while still being optimal in a meaningful sense, and is amenable to empirical research in that its equilibrium conditions can be tested and equilibrium policies are relatively easy to compute. We conclude with an example that endogenizes the maintenance decisions of electricity generators when the costs states of the generators are private information. Copyright 2012, Oxford University Press.

The Organization of Firms Across Countries

- The Quarterly Journal of Economics---2012---Nicholas Bloom,Raffaella Sadun

We argue that social capital as proxied by trust increases aggregate productivity by affecting the organization of firms. To do this we collect new data on the decentralization of investment, hiring, production, and sales decisions from corporate headquarters to local plant managers in almost 4,000 firms in the United States, Europe, and Asia. We find that firms headquartered in high-trust regions are significantly more likely to decentralize. To help identify causal effects, we look within multinational firms and show that higher levels of bilateral trust between the multinational's country of origin and subsidiary's country of location increases decentralization, even after instrumenting trust using religious similarities between the countries. Finally, we show evidence suggesting that trust raises aggregate productivity by facilitating reallocation between firms and allowing more efficient firms to grow, as CEOs can decentralize more decisions. Copyright 2012, Oxford University Press.

The Political Economy of Deforestation in the Tropics

- The Quarterly Journal of Economics---2012---Robin Burgess,Matthew Hansen,Benjamin Olken,Peter Potapov,Stefanie Sieber

Tropical deforestation accounts for almost one-fifth of greenhouse gas emissions and threatens the world's most diverse ecosystems. Much of this deforestation is driven by illegal logging. We use novel satellite data that tracks annual deforestation across eight years of Indonesian institutional change to examine how local officials' incentives affect deforestation. Increases in the number of political jurisdictions lead to increased deforestation and lower timber prices, consistent with Cournot competition between jurisdictions. Illegal logging and local oil and gas rents are short-run substitutes, but this effect disappears over time with political turnover. The results illustrate how local officials' incentives affect deforestation and show how standard economic theories can explain illegal behavior. Copyright 2012, Oxford University Press.

Reshaping Institutions: Evidence on Aid Impacts Using a Preanalysis Plan

- The Quarterly Journal of Economics---2012---Katherine Casey,Rachel Glennerster,Edward Miguel

Despite their importance, there is limited evidence on how institutions can be strengthened. Evaluating the effects of specific reforms is complicated by the lack of exogenous variation in institutions, the difficulty of measuring institutional performance, and the temptation to "cherry pick" estimates from among the large number of indicators required to capture this multifaceted subject. We evaluate one attempt to make local institutions more democratic and egalitarian by imposing participation requirements for marginalized groups (including women) and test for learning-by-doing effects. We exploit the random assignment of a governance program in Sierra Leone, develop innovative real-world outcome measures, and use a preanalysis plan (PAP) to bind our hands against data mining. The intervention studied is a "community-driven development" program, which has become a popular strategy for foreign aid donors. We find positive short-run effects on local public goods and economic outcomes, but no evidence for sustained impacts on collective action, decision making, or the involvement of marginalized groups, sug-

gesting that the intervention did not durably reshape local institutions. We discuss the practical trade-offs faced in implementing a PAP and show how in its absence we could have generated two divergent, equally erroneous interpretations of program impacts on institutions. JEL Codes: F35, H41, O4 Copyright 2012, Oxford University Press.

Organization and Information: Firms' Governance Choices in Rational-Expectations Equilibrium

- The Quarterly Journal of Economics---2012---Robert Gibbons,Richard Holden,Michael Powell

We analyze a rational-expectations model of price formation in an intermediate-good market under uncertainty. There is a continuum of firms, each consisting of a party who can reduce production cost and a party who can discover information about demand. Both parties can make specific investments at private cost, and there is a machine that either party can control. As in incomplete-contracting models, different governance structures (i.e., different allocations of control of the machine) create different incentives for the parties' investments. As in rational-expectations models, some parties may invest in acquiring information, which is then incorporated into the market-clearing price of the intermediate good by these parties' production decisions. The informativeness of the price mechanism affects the returns to specific investments and hence the optimal governance structure for individual firms; meanwhile, the governance choices by individual firms affect the informativeness of the price mechanism. In equilibrium, the informativeness of the price mechanism can induce ex ante homogeneous firms to choose heterogeneous governance structures. Copyright 2012, Oxford University Press.

Subgame-Perfect Implementation Under Information Perturbations

- The Quarterly Journal of Economics---2012---Philippe Aghion,Drew Fudenberg,Richard Holden,Takashi Kunimoto,Olivier Tercieux

We consider the robustness of extensive form mechanisms to deviations from common knowledge about the state of nature, which we refer to as information perturbations. First, we show that even under arbitrarily small information perturbations the Moore-Repullo mechanism does not yield (even approximately) truthful revelation and that in addition the mechanism has sequential equilibria with undesirable outcomes. More generally, we prove that any extensive form mechanism is fragile in the sense that if a non-Maskin monotonic social objective can be implemented with this mechanism, then there are arbitrarily small information perturbations under which an undesirable sequential equilibrium also exists. Finally, we argue that outside options can help improve efficiency in asymmetric information environments, and that these options can be thought of as reflecting ownership of an asset. JEL Codes: C72, D23, D78, D82 Copyright 2012, Oxford University Press.

Hatred and Profits: Under the Hood of the Ku Klux Klan

- The Quarterly Journal of Economics---2012---Roland G. Fryer,Steven Levitt

In this article, we analyze the 1920s Ku Klux Klan, those who joined it, and its social and political impact by combining a wide range of archival data sources with data from the 1920 and 1930 U.S censuses. We find that individuals who joined the Klan in some cities were more educated and more likely to hold professional jobs than the typical American. Surprisingly, we find little evidence that the Klan had an effect on black or foreign-born residential mobility or vote totals. Rather than a terrorist organization, the 1920s Klan is best described as social organization with a very successful multilevel marketing structure fueled by an army of highly incentivized sales agents selling hatred, religious intolerance, and fraternity in a time and place where there was tremendous demand. JEL Codes: D71, D72, R23, N32. Copyright 2012, Oxford University Press.

Reputation with Analogical Reasoning

- The Quarterly Journal of Economics---2012---Philippe Jehiel,Larry Samuelson

We consider a repeated interaction between a long-run player and a sequence of short-run players, in which the long-run player may either be rational or may be a mechanical type who plays the same (possibly mixed) action in every stage game. We depart from the classical model in assuming that the short-run players make inferences by analogical reasoning, meaning that they correctly identify the average strategy of each type of long-run player, but do not recognize how this play varies across histories. Concentrating on 2×2 games, we provide a characterization of equilibrium payoffs, establishing a payoff bound for the rational long-run player that can be strictly larger than the familiar "Stackelberg" bound. We also provide a characterization of equilibrium behavior, showing that play begins with either a reputation-building or a reputation-spending stage (depending on parameters), followed by a reputation-manipulation stage. Copyright 2012, Oxford University Press.

Market Power Screens Willingness-to-Pay

- The Quarterly Journal of Economics---2012---Eric Weyl,Jean Tirole

What is the best way to reward innovation? While prizes avoid deadweight loss, intellectual property (IP) selects high social surplus projects. Optimal innovation policy thus trades off the ex ante screening benefit and the ex post distortion. It solves a multidimensional screening problem in the private information held by the innovator: research cost, quality, and market size of the innovation. The appropriate degree of market power is never full monopoly pricing and is determined by measurable market characteristics, the inequality and elasticity of innovation supply, making the analysis open to empirical calibration. The framework has applications beyond IP policy to the optimal pricing of platforms or the optimal procurement of public infrastructure. Copyright 2012, Oxford University Press.

The Oregon Health Insurance Experiment: Evidence from the First Year

- The Quarterly Journal of Economics---2012---Amy Finkelstein,Sarah Taubman,Bill Wright,Mira Bernstein,Jonathan Gruber,Joseph Newhouse,Heidi Allen,Katherine Baicker

In 2008, a group of uninsured low-income adults in Oregon was selected by lottery to be given the chance to apply for Medicaid. This lottery provides an opportunity to gauge the effects of expanding access to public health insurance on the health care use, financial strain, and health of low-income adults using a randomized controlled design. In the year after random assignment, the treatment group selected by the lottery was about 25 percentage points more likely to have insurance than the control group that was not selected. We find that in this first year, the treatment group had substantively and statistically significantly higher health care utilization (including primary and preventive care as well as hospitalizations), lower out-of-pocket medical expenditures and medical debt (including fewer bills sent to collection), and better self-reported physical and mental health than the control group. JEL Codes: H51, H75, I1. Copyright 2012, Oxford University Press.

The Effects of Fiscal Stimulus: Evidence from the 2009 Cash for Clunkers Program

- The Quarterly Journal of Economics---2012---Atif Mian,Amir Sufi

We evaluate the impact of the 2009 Cash for Clunkers program on short- and medium-run auto purchases. Our empirical strategy exploits variation across U.S. cities in ex ante exposure to the program as measured by the number of "clunkers" in the city as of summer 2008. We find that the program induced the purchase of an additional 370,000 cars in July and August 2009. However, we find strong evidence of reversal; high clunker counties bought fewer autos in the 10 months after the program expired, which offset most of the initial purchases. We find no evidence of an effect on employment, house prices, or household default rates in cities with higher exposure to the program. JEL

Codes: H20, E62. Copyright 2012, Oxford University Press.

The Collapse of the Soviet Union and the Productivity of American Mathematicians

- The Quarterly Journal of Economics---2012---George Borjas,Kirk Doran

It has been difficult to open up the black box of knowledge production. We use unique international data on the publications, citations, and affiliations of mathematicians to examine the impact of a large, post-1992 influx of Soviet mathematicians on the productivity of their U.S. counterparts. We find a negative productivity effect on those mathematicians whose research overlapped with that of the Soviets. We also document an increased mobility rate (to lower quality institutions and out of active publishing) and a reduced likelihood of producing "home run" papers. Although the total product of the preexisting American mathematicians shrank, the Soviet contribution to American mathematics filled in the gap. However, there is no evidence that the Soviets greatly increased the size of the "mathematics pie." Finally, we find that there are significant international differences in the productivity effects of the collapse of the Soviet Union, and these international differences can be explained by both differences in the size of the émigré flow into the various countries and in how connected each country is to the global market for mathematical publications. JEL Codes: O31, J61. Copyright 2012, Oxford University Press.

The Role of Application Assistance and Information in College Decisions: Results from the H&R Block Fafsa Experiment

- The Quarterly Journal of Economics---2012---Eric Bettinger,Bridget Long,Philip Oreopoulos,Lisa Sanbonmatsu

Growing concerns about low awareness and take-up rates for government support programs like college financial aid have spurred calls to simplify the application process and enhance visibility. We present results from a randomized field experiment in which low-

income individuals receiving tax preparation help were also offered immediate assistance and a streamlined process to complete the Free Application for Federal Student Aid (FAFSA) for themselves or their children. Treated participants were also provided with aid estimates that were compared against tuition cost amounts for nearby colleges. The combined assistance and information treatment substantially increased FAFSA submissions and ultimately the likelihood of college attendance, persistence, and aid receipt. In particular, high school seniors whose parents received the treatment were 8 percentage points more likely to have completed two years of college, going from 28% to 36%, during the first three years following the experiment. Families who received aid information but no assistance with the FAFSA did not experience improved outcomes. The findings suggest many other opportunities for using personal assistance to increase participation in programs that require filling out forms to become eligible. JEL Codes: I2, H4, J24. Copyright 2012, Oxford University Press.

Salience Theory of Choice Under Risk

- The Quarterly Journal of Economics---2012--- Pedro Bordalo,Nicola Gennaioli,Andrei Shleifer

We present a theory of choice among lotteries in which the decision maker's attention is drawn to (precisely defined) salient payoffs. This leads the decision maker to a context-dependent representation of lotteries in which true probabilities are replaced by decision weights distorted in favor of salient payoffs. By specifying decision weights as a function of payoffs, our model provides a novel and unified account of many empirical phenomena, including frequent risk-seeking behavior, invariance failures such as the Allais paradox, and preference reversals. It also yields new predictions, including some that distinguish it from prospect theory, which we test. JEL Codes: D03, D81. Copyright 2012, Oxford University Press.

How Homophily Affects the Speed of Learning and Best-Response Dynamics

- The Quarterly Journal of Economics---2012--- Benjamin Golub,Matthew Jackson

We examine how the speed of learning and best-response processes depends on homophily: the tendency of agents to associate disproportionately with those having similar traits. When agents' beliefs or behaviors are developed by averaging what they see among their neighbors, then convergence to a consensus is slowed by the presence of homophily but is not influenced by network density (in contrast to other network processes that depend on shortest paths). In deriving these results, we propose a new, general measure of homophily based on the relative frequencies of interactions among different groups. An application to communication in a society before a vote shows how the time it takes for the vote to correctly aggregate information depends on the homophily and the initial information distribution. JEL Codes: D83, D85, I21, J15, Z13 Copyright 2012, Oxford University Press.

Persecution Perpetuated: The Medieval Origins of Anti-Semitic Violence in Nazi Germany

- The Quarterly Journal of Economics---2012---Nico Voigtländer,Hans-Joachim Voth

How persistent are cultural traits? Using data on anti-Semitism in Germany, we find local continuity over 600 years. Jews were often blamed when the Black Death killed at least a third of Europe's population during 1348--50. We use plague-era pogroms as an indicator for medieval anti-Semitism. They reliably predict violence against Jews in the 1920s, votes for the Nazi Party, deportations after 1933, attacks on synagogues, and letters to Der Stürmer. We also identify areas where persistence was lower: cities with high levels of trade or immigration. Finally, we show that our results are not driven by political extremism or by different attitudes toward violence. JEL Codes: N33, N34, N93, N94, D74. Copyright 2012, Oxford University Press.

The Impact of Trade on Organization and Productivity

- The Quarterly Journal of Economics---2012---Lorenzo Caliendo,Esteban Rossi-Hansberg

A firm's productivity depends on how production is organized. To understand this relationship we develop a theory of an economy where firms with heterogeneous demands use labor and knowledge to produce. Entrepreneurs decide the number of layers of management and the knowledge and span of control of each agent. As a result, in the theory, heterogeneity in demand leads to heterogeneity in productivity and other firms' outcomes. We use the theory to analyze the impact of international trade on organization and calibrate the model to the U.S. economy. Our results indicate that, as a result of a bilateral trade liberalization, firms that export will increase the number of layers of management. The new organization of the average exporter results in higher productivity, although the responses of productivity are heterogeneous across these firms. Liberalizing trade from autarky to the level of openness in 2002 results in a 1% increase in productivity for the marginal exporter and a 1.8% increase in its revenue productivity. Endogenous organization increases the gains from trade by 41% relative to standard models. JEL Codes: D21, D24, F12, F13. Copyright 2012, Oxford University Press.

Debt, Deleveraging, and the Liquidity Trap: A Fisher-Minsky-Koo Approach

- The Quarterly Journal of Economics---2012---Gauti Eggertsson,Paul Krugman

In this article we present a simple new Keynesian--style model of debt-driven slumps--that is, situations in which an overhang of debt on the part of some agents, who are forced into rapid deleveraging, is depressing aggregate demand. Making some agents debt-constrained is a surprisingly powerful assumption. Fisherian debt deflation, the possibility of a liquidity trap, the paradox of thrift and toil, a Keynesian-type multiplier, and a rationale for expansionary fiscal policy all emerge naturally from the model. We argue that this approach

sheds considerable light both on current economic difficulties and on historical episodes, including Japan's lost decade (now in its 18th year) and the Great Depression itself. (JEL Codes: E32, E52, E62) Copyright 2012, Oxford University Press.

Capital Taxation During the U.S. Great Depression

- The Quarterly Journal of Economics---2012---Ellen McGrattan

Previous studies of the U.S. Great Depression find that increased government spending and taxation contributed little to either the dramatic downturn or the slow recovery. These studies include only one type of capital taxation: a business profits tax. The contribution is much greater when the analysis includes other types of capital taxes. A general equilibrium model extended to include taxes on dividends, property, capital stock, excess profits, and undistributed profits predicts patterns of output, investment, and hours worked that are more like those in the 1930s than found in earlier studies. The greatest effects come from the increased taxes on corporate dividends and undistributed profits. JEL Codes: E13, E32, H25 Copyright 2012, Oxford University Press.

Urbanization and Structural Transformation

- The Quarterly Journal of Economics---2012---Guy Michaels,Ferdinand Rauch,Stephen Redding

We examine urbanization using new data that allow us to track the evolution of population in rural and urban areas in the United States from 1880 to 2000. We find a positive correlation between initial population density and subsequent population growth for intermediate densities, which increases the dispersion of the population density distribution over time. We use theory and empirical evidence to show this pattern of population growth is the result of differences in agriculture's initial share of employment across population densities, combined with structural transformation that shifts employment away from agriculture. Copyright 2012, Oxford University Press.

Portage and Path Dependence

- The Quarterly Journal of Economics---2012---Hoyt Bleakley,Jeffrey Lin

Many cities in North America formed at obstacles to water navigation, where continued transport required overland hauling or portage. Portage sites attracted commerce and supporting services, and places where the falls provided water power attracted manufacturing during early industrialization. We examine portage sites in the U.S. South, Mid-Atlantic, and Midwest, including those on the fall line, a geomorphological feature in the southeastern United States marking the final rapids on rivers before the ocean. Although their original advantages have long since become obsolete, we document the continuing importance of historical portage sites. We interpret these results as path dependence and contrast explanations based on sunk costs interacting with decreasing versus increasing returns to scale. Copyright 2012, Oxford University Press.

Variable Rare Disasters: An Exactly Solved Framework for Ten Puzzles in Macro-Finance

- The Quarterly Journal of Economics---2012---Xavier Gabaix

This article incorporates a time-varying severity of disasters into the hypothesis proposed by Rietz (1988) and Barro (2006) that risk premia result from the possibility of rare large disasters. During a disaster an asset's fundamental value falls by a time-varying amount. This in turn generates time-varying risk premia and, thus, volatile asset prices and return predictability. Using the recent technique of linearity-generating processes, the model is tractable and all prices are exactly solved in closed form. In this article's framework, the following empirical regularities can be understood quantitatively: (i) equity premium puzzle; (ii) risk-free rate puzzle; (iii) excess volatility puzzle; (iv) predictability of aggregate stock market returns with price-dividend ratios; (v) often greater explanatory power of characteristics than covariances for asset returns; (vi) upward-sloping nominal yield curve; (vii) predictability of future bond excess returns and long-term rates via the slope of the yield curve; (viii) corporate bond spread puzzle; (ix) high price of deep out-of-the-money puts; and (x) high put prices being followed by high stock returns. The calibration passes a variance bound test, as normal-times market volatility is consistent with the wide dispersion of disaster outcomes in the historical record. The model extends to a setting with many factors and to Epstein-Zin preferences. Copyright 2012, Oxford University Press.

The Effects of Extended Unemployment Insurance Over the Business Cycle: Evidence from Regression Discontinuity Estimates Over 20 Years

- The Quarterly Journal of Economics---2012---Johannes Schmieder,Till von Wachter,Stefan Bender

One goal of extending the duration of unemployment insurance (UI) in recessions is to increase UI coverage in the face of longer unemployment spells. Although it is a common concern that such extensions may themselves raise nonemployment durations, it is not known how recessions would affect the magnitude of this moral hazard. To obtain causal estimates of the differential effects of UI in booms and recessions, this article exploits the fact that in Germany, potential UI benefit duration is a function of exact age which is itself invariant over the business cycle. We implement a regression discontinuity design separately for 20 years and correlate our estimates with measures of the business cycle. We find that the nonemployment effects of a month of additional UI benefits are, at best, somewhat declining in recessions. Yet the UI exhaustion rate, and therefore the additional coverage provided by UI extensions, rises substantially during a downturn. The ratio of these two effects represents the nonemployment response of workers weighted by the probability of being affected by UI extensions. Hence, our results imply that the effective moral hazard effect of UI extensions is significantly lower in recessions than in booms. Using a model of job search with liquidity constraints, we also find that in the absence of market-wide effects, the net social benefits from UI extensions can be expressed

either directly in terms of the exhaustion rate and the nonemployment effect of UI durations, or as a declining function of our measure of effective moral hazard. Copyright 2012, Oxford University Press.

Do Labor Market Opportunities Affect Young Women's Work and Family Decisions? Experimental Evidence from India

- The Quarterly Journal of Economics---2012---Robert Jensen

Do labor market opportunities for women affect marriage and fertility decisions? We provided three years of recruiting services to help young women in randomly selected rural Indian villages get jobs in the business process outsourcing industry. Because the industry was so new at the time of the study, there was almost no awareness of these jobs, allowing us in effect to exogenously increase women's labor force opportunities from the perspective of rural households. We find that young women in treatment villages were significantly less likely to get married or have children during this period, choosing instead to enter the labor market or obtain more schooling or postschool training. Women also report wanting to have fewer children and to work more steadily throughout their lifetime, consistent with increased aspirations for a career. Copyright 2012, Oxford University Press.

The CMS Auction: Experimental Studies of a Median-Bid Procurement Auction with Nonbinding Bids

- The Quarterly Journal of Economics---2012---Brian Merlob,Charles Plott,Yuanjun Zhang

We report on the experimental results of simple auctions with (i) a median-bid pricing rule and (ii) nonbinding bids (winning bids can be withdrawn)--the two central pillars of the competitive bidding program designed by the Centers for Medicare and Medicaid Services (CMS). Comparisons between the performance of the CMS auction and the performance of the excluded-bid auction reveal the problematic nature of the CMS

auction. The CMS auction fails to generate competitive prices of goods and fails to satisfy demand. In all proposed efficiency measures, we find the excluded-bid auction significantly outperforms the CMS auction. Copyright 2012, Oxford University Press.

How large is the Government Spending Multiplier? Evidence from World Bank Lending

- The Quarterly Journal of Economics---2012---Aart Kraay

This article proposes a novel approach to empirically identifying government spending multipliers that relies on two features unique to many low-income countries: (1) borrowing from the World Bank finances a substantial fraction of government spending, and (2) spending on World Bank--financed projects is typically spread out over several years following the original approval of the project. The first fact means that fluctuations in spending on World Bank--financed projects are a significant source of fluctuations in overall government spending in these countries. The second fact means that fluctuations in World Bank--financed spending in a given year are largely determined by fluctuations in project approval decisions made in previous years, and so are unlikely to be correlated with shocks to output in the current year. I use World Bank project-level disbursement data to isolate the component of World Bank--financed government spending in a given year that is associated with past project approval decisions. I use this as an instrument for total government spending to estimate multipliers in a sample of 29 primarily low-income countries where variation in government spending from this source is large relative to the size of the economy. The resulting spending multipliers are small and reasonably precisely estimated to be in the vicinity of 0.5. Copyright 2012, Oxford University Press.

A General Equilibrium Model of Sovereign Default and Business Cycles

- The Quarterly Journal of Economics---2012---Enrique Mendoza,Vivian Z. Yue

Why are episodes of sovereign default accompanied by deep recessions? The existing literature cannot answer this question. On one hand, sovereign default models treat income fluctuations as an exogenous endowment process with ad hoc default costs. On the other hand, emerging markets business cycle models abstract from modeling default and treat default risk as part of an exogenous interest rate on working capital. We propose instead a general equilibrium model of both sovereign default and business cycles. In the model, some imported inputs require working capital financing, and default triggers an efficiency loss as these inputs are replaced by imperfect substitutes, because both firms and the government are excluded from credit markets. Default is an optimal decision of a benevolent planner for whom, even after internalizing the adverse effects of default on economic activity, financial autarky has a higher payoff than debt repayment. The model explains the main features of observed cyclical dynamics around defaults, countercyclical spreads, high debt ratios, and key long-run business cycle moments. Copyright 2012, Oxford University Press.

The Political Economy of Indirect Control

- The Quarterly Journal of Economics---2012--- Gerard Padró I Miquel,Pierre Yared

This article characterizes optimal policy when a government uses indirect control to exert its authority. We develop a dynamic principal-agent model in which a principal (a government) delegates the prevention of a disturbance--such as riots, protests, terrorism, crime, or tax evasion--to an agent who has an advantage in accomplishing this task. Our setting is a standard repeated moral hazard model with two additional features. First, the principal is allowed to exert direct control by intervening with an endogenously determined intensity of force which is costly to both players. Second, the principal suffers from limited commitment. Using recursive methods, we derive a fully analytical characterization of the intensity, likelihood, and duration of intervention. The first main insight from our model is that repeated and costly equilibrium interventions are a feature of optimal policy. This is because

they are the most efficient credible means for the principal of providing incentives for the agent. The second main insight is a detailed analysis of a fundamental trade-off between the intensity and duration of intervention which is driven by the principal's inability to commit. Finally, we derive sharp predictions regarding the impact of various factors on the optimal intensity, likelihood, and duration of intervention. We discuss these results in the context of some historical episodes. Copyright 2012, Oxford University Press.

The Impact of Jury Race in Criminal Trials

- The Quarterly Journal of Economics---2012--- Shamena Anwar,Patrick Bayer,Randi Hjalmarsson

This article examines the impact of jury racial composition on trial outcomes using a data set of felony trials in Florida between 2000 and 2010. We use a research design that exploits day-to-day variation in the composition of the jury pool to isolate quasi-random variation in the composition of the seated jury, finding evidence that (i) juries formed from all-white jury pools convict black defendants significantly (16 percentage points) more often than white defendants, and (ii) this gap in conviction rates is entirely eliminated when the jury pool includes at least one black member. The impact of jury race is much greater than what a simple correlation of the race of the seated jury and conviction rates would suggest. These findings imply that the application of justice is highly uneven and raise obvious concerns about the fairness of trials in jurisdictions with a small proportion of blacks in the jury pool. Copyright 2012, Oxford University Press.

Testing for Altruism and Social Pressure in Charitable Giving

- The Quarterly Journal of Economics---2012--- Stefano DellaVigna,John List,Ulrike Malmendier

Every year, 90% of Americans give money to charities. Is such generosity necessarily welfare enhancing for the giver? We present a theoretical framework that distinguishes two types of motivation: individuals like to give, for example, due to altruism or warm glow,

and individuals would rather not give but dislike saying no, for example, due to social pressure. We design a door-to-door fund-raiser in which some households are informed about the exact time of solicitation with a flyer on their doorknobs. Thus, they can seek or avoid the fund-raiser. We find that the flyer reduces the share of households opening the door by 9% to 25% and, if the flyer allows checking a Do Not Disturb box, reduces giving by 28% to 42%. The latter decrease is concentrated among donations smaller than $10. These findings suggest that social pressure is an important determinant of door-to-door giving. Combining data from this and a complementary field experiment, we structurally estimate the model. The estimated social pressure cost of saying no to a solicitor is $3.80 for an in-state charity and $1.40 for an out-of-state charity. Our welfare calculations suggest that our door-to-door fund-raising campaigns on average lower the utility of the potential donors. Copyright 2012, Oxford University Press.

Monetary Policy as Financial Stability Regulation

- The Quarterly Journal of Economics---2012---Jeremy C. Stein

This article develops a model that speaks to the goals and methods of financial stability policies. There are three main points. First, from a normative perspective, the model defines the fundamental market failure to be addressed, namely, that unregulated private money creation can lead to an externality in which intermediaries issue too much short-term debt and leave the system excessively vulnerable to costly financial crises. Second, it shows how in a simple economy where commercial banks are the only lenders, conventional monetary policy tools such as open-market operations can be used to regulate this externality, whereas in more advanced economies it may be helpful to supplement monetary policy with other measures. Third, from a positive perspective, the model provides an account of how monetary policy can influence bank lending and real activity, even in a world where prices adjust friction-lessly and there are other transactions media besides bank-created money that are outside the control of

the central bank. Copyright 2012, Oxford University Press.

Price Competition Under Limited Comparability

- The Quarterly Journal of Economics---2012---Michele Piccione,Ran Spiegler

This article studies market competition when firms can influence consumers' ability to compare market alternatives through their choice of price "formats." In our model, the ability of a consumer to make a comparison depends on the firms' format choices. Our main results concern the interaction between firms' equilibrium price and format decisions and its implications for industry profits and consumer switching rates. In particular, market forces drive down the firms' profits to a "constrained competitive" benchmark if and only if the comparability structure satisfies a property that we interpret as a form of "frame neutrality." The same property is necessary for equilibrium behavior to display statistical independence between price and format decisions. We also show that narrow regulatory interventions that aim to facilitate comparisons may have an anticompetitive effect. Copyright 2012, Oxford University Press.

The Changing of the Boards: The Impact on Firm Valuation of Mandated Female Board Representation

- The Quarterly Journal of Economics---2012---Kenneth Ahern,Amy K. Dittmar

In 2003, a new law required that 40% of Norwegian firms' directors be women--at the time only 9% of directors were women. We use the prequota cross-sectional variation in female board representation to instrument for exogenous changes to corporate boards following the quota. We find that the constraint imposed by the quota caused a significant drop in the stock price at the announcement of the law and a large decline in Tobin's Q over the following years, consistent with the idea that firms choose boards to maximize value. The quota led to younger and less experienced boards,

increases in leverage and acquisitions, and deterioration in operating performance. Copyright 2012, Oxford University Press.

Comparison Friction: Experimental Evidence from Medicare Drug Plans

- The Quarterly Journal of Economics---2012---Jeffrey Kling,Sendhil Mullainathan,Eldar Shafir,Lee C. Vermeulen,Marian V. Wrobel

Consumers need information to compare alternatives for markets to function efficiently. Recognizing this, public policies often pair competition with easy access to comparative information. The implicit assumption is that comparison friction--the wedge between the availability of comparative information and consumers' use of it--is inconsequential because when information is readily available, consumers will access this information and make effective choices. We examine the extent of comparison friction in the market for Medicare Part D prescription drug plans in the United States. In a randomized field experiment, an intervention group received a letter with personalized cost information. That information was readily available for free and widely advertised. However, this additional step--providing the information rather than having consumers actively access it--had an impact. Plan switching was 28% in the intervention group, versus 17% in the comparison group, and the intervention caused an average decline in predicted consumer cost of about $100 a year among letter recipients--roughly 5% of the cost in the comparison group. Our results suggest that comparison friction can be large even when the cost of acquiring information is small and may be relevant for a wide range of public policies that incorporate consumer choice. Copyright 2012, Oxford University Press.

Incentives and the De Soto Effect

- The Quarterly Journal of Economics---2012---Timothy Besley,Konrad Burchardi,Maitreesh Ghatak

This paper explores the consequences of improving property rights to facilitate the use of fixed assets as collateral, popularly attributed to the influential policy advocate Hernando de Soto. We use an equilibrium model of a credit market with moral hazard to characterize the theoretical effects and also develop a quantitative analysis using data from Sri Lanka. We show that the effects are likely to be nonlinear and heterogeneous by wealth group. They also depend on the extent of competition between lenders. There can be significant increases in profits and reductions in interest rates when credit markets are competitive. However, since these are due to reductions in moral hazard, that is, increased effort, the welfare gains tend to be modest when cost of effort is taken into account. Allowing for an extensive margin where borrowers gain access to the credit market can make these effects larger depending on the underlying wealth distribution. Copyright 2012, Oxford University Press.

A Dynamic Theory of Resource Wars

- The Quarterly Journal of Economics---2012---Daron Acemoglu,Mikhail Golosov,Aleh Tsyvinski,Pierre Yared

We develop a dynamic theory of resource wars and study the conditions under which such wars can be prevented. Our focus is on the interaction between the scarcity of resources and the incentives for war in the presence of limited commitment. We show that a key parameter determining the incentives for war is the elasticity of demand. Our first result identifies a novel externality that can precipitate war: price-taking firms fail to internalize the impact of their extraction on military action. In the case of inelastic resource demand, war incentives increase over time and war may become inevitable. Our second result shows that in some situations, regulation of prices and quantities by the resource-rich country can prevent war, and when this is the case, there will also be slower resource extraction than the Hotelling benchmark (with inelastic demand). Our third result is that because of limited commitment and its implications for armament incentives, regulation of prices and quantities might actually precipitate war even in some circumstances

where wars would not have arisen under competitive markets. Copyright 2012, Oxford University Press.

Long-Run Impacts of Unions on Firms: New Evidence from Financial Markets, 1961--1999

- The Quarterly Journal of Economics---2012---David S. Lee,Alexandre Mas

We estimate the effect of new private-sector unionization on publicly traded firms' equity value in the United States over the 1961--1999 period using a newly assembled sample of National Labor Relations Board (NLRB) representation elections matched to stock market data. Event-study estimates show an average union effect on the equity value of the firm equivalent to $40,500 per unionized worker, an effect that takes 15 to 18 months after unionization to fully materialize, and one that could not be detected by a short-run event study. At the same time, point estimates from a regression discontinuity design--comparing the stock market impact of close union election wins to close losses--are considerably smaller and close to zero. We find a negative relationship between the cumulative abnormal returns and the vote share in support of the union, allowing us to reconcile these seemingly contradictory findings. Copyright 2012, Oxford University Press.

Export Prices Across Firms and Destinations

- The Quarterly Journal of Economics---2012---Kalina Manova,Zhiwei Zhang

This article establishes six stylized facts about firms' export prices using detailed customs data on the universe of Chinese trade flows. First, across firms selling a given product, exporters that charge higher prices earn greater revenues in each destination, have bigger worldwide sales, and enter more markets. Second, firms that export more, enter more markets, and charge higher export prices import more expensive inputs. Third, across destinations within a firm-product, firms set higher prices in richer, larger, bilaterally more distant and overall less remote countries. Fourth, across destinations within a firm-product, firms earn bigger revenues in markets where they set higher prices. Fifth,

across firms within a product, exporters with more destinations offer a wider range of export prices. Finally, firms that export more, enter more markets, and offer a wider range of export prices pay a wider range of input prices and source inputs from more origin countries. We propose that trade models should incorporate two features to rationalize these patterns in the data: more successful exporters use higher quality inputs to produce higher quality goods (stylized facts 1 and 2), and firms vary the quality of their products across destinations by using inputs of different quality levels (stylized facts 3, 4, 5, and 6). Copyright 2012, Oxford University Press.

How do Different Exporters React to Exchange Rate Changes?

- The Quarterly Journal of Economics---2012---Nicolas Berman,Philippe Martin,Thierry Mayer

This article analyzes the heterogeneous reaction of exporters to real exchange rate changes using a very rich French firm-level data set with destination-specific export values and volumes on the period 1995--2005. We find that high--performance firms react to a depreciation by increasing significantly more their markup and by increasing less their export volume. This heterogeneity in pricing-to-market is robust to different measures of performance, samples, and econometric specifications. It is consistent with models where the demand elasticity decreases with firm performance. Since aggregate exports are concentrated on high-productivity firms, precisely those that absorb more exchange rate movements in their markups, heterogeneous pricing-to-market may partly explain the weak impact of exchange rate movements on aggregate exports. Copyright 2012, Oxford University Press.

Earnings Determination and Taxes: Evidence From a Cohort-Based Payroll Tax Reform in Greece

- The Quarterly Journal of Economics---2012---Emmanuel Saez,Manos Matsaganis,Panos Tsakloglou

This article analyzes the response of earnings to payroll tax rates using a cohort-based reform in Greece. Individuals who started working on or after 1993 face permanently a much higher earnings cap for payroll taxes, creating a large and permanent discontinuity in marginal payroll tax rates by date of entry in the labor force for upper earnings workers. Using full-population administrative social security data and a regression discontinuity design, we estimate the long-term labor supply effects and incidence of payroll tax rates on earnings. Standard theory predicts that in the long run, new regime workers should bear the entire burden of the payroll tax increase (relative to old regime workers). In contrast, we find that employers compensate new regime workers for the extra employer payroll taxes but not for the extra employee payroll taxes. We do not find any evidence of labor supply responses along the extensive or intensive margins around the discontinuity, suggesting low efficiency costs of payroll taxes. We discuss various possible explanations for those results. Copyright 2012, Oxford University Press.

How Does Your Kindergarten Classroom Affect Your Earnings? Evidence from Project Star

- The Quarterly Journal of Economics---2011---Raj Chetty,John Friedman,Nathaniel Hilger,Emmanuel Saez,Diane Whitmore Schanzenbach,Danny Yagan

In Project STAR, 11,571 students in Tennessee and their teachers were randomly assigned to classrooms within their schools from kindergarten to third grade. This article evaluates the long-term impacts of STAR by linking the experimental data to administrative records. We first demonstrate that kindergarten test scores are highly correlated with outcomes such as earnings at age 27, college attendance, home ownership, and retirement savings. We then document four sets of experimental impacts. First, students in small classes are significantly more likely to attend college and exhibit improvements on other outcomes. Class size does not have a significant effect on earnings at age 27, but this effect is imprecisely estimated. Second, students who had a more experienced teacher in kindergarten

have higher earnings. Third, an analysis of variance reveals significant classroom effects on earnings. Students who were randomly assigned to higher quality classrooms in grades K--3--as measured by classmates' end-of-class test scores--have higher earnings, college attendance rates, and other outcomes. Finally, the effects of class quality fade out on test scores in later grades, but gains in noncognitive measures persist. Copyright 2011, Oxford University Press.

Self-Enforcing Democracy

- The Quarterly Journal of Economics---2011---James Fearon

If democracy is to have the good effects said to justify it, it must be self-enforcing in that incumbents choose to hold regular, competitive elections and comply with the results. I consider models of electoral accountability that allow rulers a choice of whether to hold elections and citizens whether to rebel. When individuals observe diverse signals of government performance, coordination to pose a credible threat of protest if the ruler "shirks" is problematic. The convention of an electoral calendar and known rules can provide a public signal for coordinating rebellion if elections are suspended or blatantly rigged, while the elections themselves aggregate private observations of performance. Two threats to this solution to political moral hazard are considered. First, a ruling faction that controls the army may prefer to fight after losing an election, and ex post transfers may not be credible. A party system in which today's losers may win in the future can restore self-enforcing democracy, though at the cost of weaker electoral control. Second, subtle electoral fraud can undermine the threat of coordinated opposition that maintains elections. I show that when there are organizations in society that can observe and announce a signal of the extent of popular discontent, the incumbent may prefer to commit to fair elections over an "accountable autocratic" equilibrium in which public goods are provided but costly rebellions periodically occur. Copyright 2011, Oxford University Press.

Cash or Condition? Evidence from a Cash Transfer Experiment

- The Quarterly Journal of Economics---2011---Sarah Baird,Craig McIntosh,Berk Özler

This article assesses the role of conditionality in cash transfer programs using a unique experiment targeted at adolescent girls in Malawi. The program featured two distinct interventions: unconditional transfers (UCT arm) and transfers conditional on school attendance (CCT arm). Although there was a modest decline in the dropout rate in the UCT arm in comparison with the control group, it was only 43% as large as the impact in the CCT arm at the end of the 2-year program. The CCT arm also outperformed the UCT arm in tests of English reading comprehension. However, teenage pregnancy and marriage rates were substantially lower in the UCT than the CCT arm, entirely due to the impact of UCTs on these outcomes among girls who dropped out of school. Copyright 2011, Oxford University Press.

Financial Incentives and Student Achievement: Evidence from Randomized Trials

- The Quarterly Journal of Economics---2011---Roland G. Fryer

This article describes a series of school-based field experiments in over 200 urban schools across three cities designed to better understand the impact of financial incentives on student achievement. In Dallas, students were paid to read books. In New York, students were rewarded for performance on interim assessments. In Chicago, students were paid for classroom grades. I estimate that the impact of financial incentives on student achievement is statistically 0, in each city. Due to a lack of power, however, I cannot rule out the possibility of effect sizes that would have positive returns on investment. The only statistically significant effect is on English-speaking students in Dallas. The article concludes with a speculative discussion of what might account for intercity differences in estimated treatment effects. Copyright 2011, Oxford University Press.

Ideological Segregation Online and Offline

- The Quarterly Journal of Economics---2011---Matthew Gentzkow,Jesse Shapiro

We use individual and aggregate data to ask how the Internet is changing the ideological segregation of the American electorate. Focusing on online news consumption, offline news consumption, and face-to-face social interactions, we define ideological segregation in each domain using standard indices from the literature on racial segregation. We find that ideological segregation of online news consumption is low in absolute terms, higher than the segregation of most offline news consumption, and significantly lower than the segregation of face-to-face interactions with neighbors, co-workers, or family members. We find no evidence that the Internet is becoming more segregated over time. Copyright 2011, Oxford University Press.

Exports and Financial Shocks

- The Quarterly Journal of Economics---2011---Mary Amiti,David Weinstein

A striking feature of many financial crises is the collapse of exports relative to output. This article examines whether deteriorations in bank health can help explain the large drops in exports relative to output. Our article is the first to establish a causal link between the health of banks providing trade finance and growth in a firm's exports relative to its domestic sales. We overcome measurement and endogeneity issues by using a unique data set, covering the Japanese financial crises from 1990 through 2010, which enables us to match exporters with the main bank that provides them with trade finance. Our point estimates are economically and statistically significant, suggesting that the health of financial institutions is an important determinant of firm-level exports during crises. Copyright 2011, Oxford University Press.

Expectations as Endowments: Evidence on Reference-Dependent Preferences from Exchange and Valuation Experiments

- The Quarterly Journal of Economics---2011---Keith Ericson,Andreas Fuster

While evidence suggests that people evaluate outcomes with respect to reference points, little is known about what determines them. We conduct two experiments that show that reference points are determined, at least in part, by expectations. In an exchange experiment, we endow subjects with an item and randomize the probability they will be allowed to trade. Subjects that are less likely to be able to trade are more likely to choose to keep their item. In a valuation experiment, we randomly assign subjects a high or low probability of obtaining an item and elicit their willingness-to-accept for it. The high probability treatment increases valuation of the item by 20--30%. Copyright 2011, Oxford University Press.

Optimal Price Setting With Observation and Menu Costs

- The Quarterly Journal of Economics---2011---Fernando E. Alvarez,Francesco Lippi,Luigi Paciello

We study the price-setting problem of a firm in the presence of both observation and menu costs. The firm optimally decides when to "review" costly information on the adequacy of its price. Upon each review, the firm chooses whether to adjust its price, one or more times, before the next price review. Each price adjustment entails paying a menu cost. The firm's choices map into several statistics: the frequency of price reviews, the frequency of price adjustments, the size distribution of price changes, and the hazard rate of price adjustments. The simultaneous presence of observation and menu costs produces complementarities that change the predictions of simpler models featuring one cost only. For instance, infrequent observations may reflect a high menu cost rather than high observation costs: in spite of these complementarities, we show that the ratio of the two costs is identified by

several statistics on price observations and adjustments. Copyright 2011, Oxford University Press.

Learning by Drilling: Interfirm Learning and Relationship Persistence in the Texas Oilpatch

- The Quarterly Journal of Economics---2011---Ryan Kellogg

This article examines learning-by-doing that is specific not just to individual firms but to pairs of firms working together in a contracting relationship. Using data from the oil and gas industry, I find that the productivity of an oil production company and its drilling contractor increases with their joint experience. This learning is relationship-specific: drilling rigs cannot fully appropriate the productivity gains acquired through experience with one production company to their work for another.This result is robust to ex ante match specificities. Moreover, producers' and rigs'contracting behavior is consistent with maximization of relationship-specific learning's productivity benefits. Copyright 2011, Oxford University Press.

The Geographic Concentration of Enterprise in Developing Countries

- The Quarterly Journal of Economics---2011---John S. Felkner,Robert Townsend

A nation's economic geography can have an enormous impact on its development. In Thailand, we show that a high concentration of enterprise in an area predicts high subsequent growth in and around that area. We also find spatially contiguous convergence of enterprise with stagnant areas left behind. Exogenous physiographic conditions are correlated with enterprise location and growth. We fit a structural, micro-founded model of occupation transitions with fine-tuned geographic capabilities to village data and replicate these salient facts. Key elements of the model include costs, credit constraints on occupation choice, and spatially varying expansion of financial service providers. Copyright 2011, Oxford University Press.

Better Schools, Less Crime?

- The Quarterly Journal of Economics---2011---David Deming

I estimate the impact of attending a first-choice middle or high school on adult crime, using data from public school choice lotteries in Charlotte-Mecklenburg school district (CMS). Seven years after random assignment, lottery winners had been arrested for fewer serious crimes and had spent fewer days incarcerated. The gain in school quality as measured by peer and teacher inputs was equivalent to moving from one of the lowest-ranked schools to one at the district average. The reduction in crime comes largely from years after enrollment in the preferred school is complete. The impacts are concentrated among high-risk youth, who commit about 50% less crime across several different outcome measures and scalings of crime by severity. I find suggestive evidence that school quality explains more of the impact in high school, whereas peer effects are more important in middle school. Copyright 2011, Oxford University Press.

Saving Babies? Revisiting the effect of very low birth weight classification

- The Quarterly Journal of Economics---2011---Alan Barreca,Melanie Guldi,Jason Lindo,Glen R. Waddell

We reconsider the effect of very low birth weight classification on infant mortality. We demonstrate that the estimates are highly sensitive to the exclusion of observations in the immediate vicinity of the 1,500-g threshold, weakening the confidence in the results originally reported in Almond, Doyle, Kowalski, and Williams (2010). Copyright 2011, Oxford University Press.

The Role of Hospital Heterogeneity in Measuring Marginal Returns to Medical Care: A Reply to Barreca, Guldi, Lindo, and Waddell

- The Quarterly Journal of Economics---2011---Douglas Almond,Joseph J. Doyle,Amanda Kowalski,Heidi Williams

In , we describe how marginal returns to medical care can be estimated by comparing patients on either side of diagnostic thresholds. Our application examines at-risk newborns near the very low birth weight threshold at 1500 g. We estimate large discontinuities in medical care and mortality at this threshold, with effects concentrated at "low-quality" hospitals. Although our preferred estimates retain newborns near the threshold, when they are excluded the estimated marginal returns decline, although they remain large. In low-quality hospitals, our estimates are similar in magnitude regardless of whether these newborns are included or excluded. Copyright 2011, Oxford University Press.

On the Long-Run Evolution of Inheritance: France 1820--2050

- The Quarterly Journal of Economics---2011---Thomas Piketty

This article attempts to document and account for the long-run evolution of inheritance. We find that in a country like France the annual flow of inheritance was about 20--25% of national income between 1820 and 1910, down to less than 5% in 1950, and back up to about 15% by 2010. A simple theoretical model of wealth accumulation, growth, and inheritance can fully account for the observed U-shaped pattern and levels. Using this model, we find that under plausible assumptions the annual bequest flow might reach about 20--25% of national income by 2050. This corresponds to a capitalized bequest share in total wealth accumulation well above 100%. Our findings illustrate the fact that when the growth rate g is small, and when the rate of return to private wealth r is permanently and substantially larger than the growth rate (say, r = 4--5% versus g = 1--2%), which was the case in the nineteenth century and early twentieth century and is likely to happen again in the twenty-first century, then past wealth and inheritance are bound to play a key role for aggregate wealth accumulation and the structure of lifetime inequality. Contrary to a widespread view, modern economic growth did not kill inheritance. Copyright 2011, Oxford University Press.

Information Technology and Economic Change: The Impact of The Printing Press

- The Quarterly Journal of Economics---2011---Jeremiah E. Dittmar

The printing press was the great innovation in early modern information technology, but economists have found no macroeconomic evidence of its impact. This article exploits city-level data. Between 1500 and 1600, European cities where printing presses were established in the 1400s grew 60% faster than otherwise similar cities. Cities that adopted printing in the 1400s had no prior advantage, and the association between adoption and subsequent growth was not due to printers choosing auspicious locations. These findings are supported by regressions that exploit distance from Mainz, Germany--the birthplace of printing--as an instrument for adoption. Copyright 2011, Oxford University Press.

Procurement Contracting With Time Incentives: Theory and Evidence

- The Quarterly Journal of Economics---2011---Gregory Lewis,Patrick Bajari

In public procurement, social welfare often depends on how quickly the good is delivered. A leading example is highway construction, where slow completion inflicts a negative externality on commuters. In response, highway departments award some contracts using scoring auctions, which give contractors explicit incentives for accelerated delivery. We characterize efficient design of these mechanisms. We then gather an extensive data set of highway projects awarded by the California Department of Transportation between 2003 and 2008. By comparing otherwise similar contracts, we show that where the scoring design was used, contracts were completed 30--40% faster and the welfare gains to commuters exceeded the increase in procurement costs. Using a structural model that endogenizes participation and bidding, we estimate that the counterfactual welfare gain from switching all contracts from the standard design to the efficient A+B design is nearly 22% of the total contract value ($1.14 billion). Copyright 2011, Oxford University Press.

Position Auctions with Consumer Search

- The Quarterly Journal of Economics---2011---Susan Athey,Glenn Ellison

This article examines a model in which advertisers bid for "sponsored-link" positions on a search engine. The value advertisers derive from each position is endogenized as coming from sales to a population of consumers who make rational inferences about firm qualities and search optimally. Consumer search strategies, equilibrium bidding, and the welfare benefits of position auctions are analyzed. Implications for reserve prices and a number of other auction design questions are discussed. Copyright 2011, Oxford University Press.

Multiproduct Firms and Trade Liberalization

- The Quarterly Journal of Economics---2011---Andrew Bernard,Stephen Redding,Peter Schott

This article develops a general equilibrium model of multiple-product, multiple-destination firms, which allows for heterogeneity in ability across firms and in product attributes within firms. Firms make endogenous entry and exit decisions and each surviving firm chooses optimally the range of products to supply to each market. We show that the resulting selection, across and within firms, provides a natural explanation for a number of features of trade across firms, products, and countries. Using both time-series changes in trade policy and cross-section variation in trade, we provide empirical evidence in support of the predictions of the model. Copyright 2011, Oxford University Press.

Intermediated Trade

- The Quarterly Journal of Economics---2011---Pol Antras,Arnaud Costinot

This paper develops a simple model of international trade with intermediation. We consider an economy with two islands and two types of agents, farmers and traders. Farmers can produce two goods, but to sell these goods in centralized (Walrasian) markets, they need to be matched with a trader, and this entails costly search. In the absence of search frictions, our

model reduces to a standard Ricardian model of trade. We use this simple model to contrast the implications of changes in the integration of Walrasian markets, which allow traders from different islands to exchange their goods, and changes in the access to these Walrasian markets, which allow farmers to trade with traders from different islands. We find that intermediation always magnifies the gains from trade under the former type of integration, but leads to more nuanced welfare results under the latter, including the possibility of aggregate losses. Copyright 2011, Oxford University Press.

Coups, Corporations, and Classified Information

- The Quarterly Journal of Economics---2011--- Arindrajit Dube,Ethan Kaplan,Suresh Naidu

We estimate the impact of coups and top-secret coup authorizations on asset prices of partially nationalized multinational companies that stood to benefit from U.S.-backed coups. Stock returns of highly exposed firms reacted to coup authorizations classified as top-secret. The average cumulative abnormal return to a coup authorization was 9% over 4 days for a fully nationalized company, rising to more than 13% over 16 days. Precoup authorizations accounted for a larger share of stock price increases than the actual coup events themselves. There is no effect in the case of the widely publicized, poorly executed Cuban operations, consistent with abnormal returns to coup authorizations reflecting credible private information. We also introduce two new intuitive and easy to implement nonparametric tests that do not rely on asymptotic justifications. Copyright 2011, Oxford University Press.

The Logic of Political Violence

- The Quarterly Journal of Economics---2011--- Timothy Besley,Torsten Persson

This article offers a unified approach for studying political violence whether it emerges as repression or civil war. We formulate a model where an incumbent or opposition can use violence to maintain or acquire power to study which political and economic factors drive one-sided or two-sided violence (repression or civil war). The model predicts a hierarchy of violence states from peace via repression to civil war; and suggests a natural empirical approach. Exploiting only within-country variation in the data, we show that violence is associated with shocks that can affect wages and aid. As in the theory, these effects are only present where political institutions are noncohesive. Copyright 2011, Oxford University Press.

Judicial Ingroup Bias in the Shadow of Terrorism

- The Quarterly Journal of Economics---2011--- Moses Shayo,Asaf Zussman

We study ingroup bias--the preferential treatment of members of one's group--in naturally occurring data, where economically significant allocation decisions are made under a strong non-discriminatory norm. Data come from Israeli small claims courts during 2000--2004, where the assignment of a case to an Arab or Jewish judge is effectively random. We find robust evidence for judicial ingroup bias. Furthermore, this bias is strongly associated with terrorism intensity in the vicinity of the court in the year preceding the ruling. The results are consistent with theory and lab evidence according to which salience of group membership enhances social identification. Copyright 2011, Oxford University Press.

Why Do Mothers Breastfeed Girls Less than Boys? Evidence and Implications for Child Health in India

- The Quarterly Journal of Economics---2011--- Seema Jayachandran,Ilyana Kuziemko

Breastfeeding is negatively correlated with future fertility because nursing temporarily reduces fecundity and because mothers usually wean on becoming pregnant again. We model breastfeeding under son-biased fertility preferences and show that breastfeeding duration increases with birth order, especially near target family size; is lowest for daughters and children without older brothers because their parents try again for a son; and exhibits the largest gender gap near target family size,

when gender is most predictive of subsequent fertility. Data from India confirm each prediction. Moreover, child survival exhibits similar patterns, especially in settings where the alternatives to breastmilk are unsanitary. Copyright 2011, Oxford University Press.

Competition and Product Quality in the Supermarket Industry

- The Quarterly Journal of Economics---2011---David A. Matsa

This article analyzes the effect of competition on a supermarket firm's incentive to provide product quality. In the supermarket industry, product availability is an important measure of quality. Using U.S. Consumer Price Index microdata to track inventory shortfalls, I find that stores facing more intense competition have fewer shortfalls. Competition from Walmart--the most significant shock to industry market structure in half a century--decreased shortfalls among large chains by about a third. The risk that customers will switch stores appears to provide competitors with a strong incentive to invest in product quality. Copyright 2011, Oxford University Press.

Fear of Fire Sales, Illiquidity Seeking, and Credit Freezes

- The Quarterly Journal of Economics---2011---Douglas Diamond,Raghuram Rajan

Is there any need to clean up a banking system by closing some banks and forcing others to sell assets if the risk of a crisis becomes high? Impaired banks that may be forced to sell illiquid assets in the future have private incentives to hold, rather than sell, those assets Anticipating a potential fire sale, liquid buyers expect high returns, reducing their incentive to lend. Privately optimal trading decisions therefore lead to a worse fire sale and a larger drop in lending than is necessary. We discuss alternative ways of cleaning up the system and the associated costs and benefits. Copyright 2011, Oxford University Press.

The Potato's Contribution to Population and Urbanization: Evidence From A Historical Experiment

- The Quarterly Journal of Economics---2011---Nathan Nunn,Nancy Qian

We exploit regional variation in suitability for cultivating potatoes, together with time variation arising from their introduction to the Old World from the Americas, to estimate the impact of potatoes on Old World population and urbanization. Our results show that the introduction of the potato was responsible for a significant portion of the increase in population and urbanization observed during the eighteenth and nineteenth centuries. According to our most conservative estimates, the introduction of the potato accounts for approximately one-quarter of the growth in Old World population and urbanization between 1700 and 1900. Additional evidence from within-country comparisons of city populations and adult heights also confirms the cross-country findings. Copyright 2011, Oxford University Press.

Growth in the Shadow of Expropriation

- The Quarterly Journal of Economics---2011---Mark Aguiar,Manuel Amador

We propose a tractable variant of the open economy neoclassical growth model that emphasizes political economy and contracting frictions. The political economy frictions involve a preference for immediate spending, while the contracting friction is a lack of commitment regarding foreign debt and expropriation. We show that the political economy frictions slow an economy's convergence to the steady state due to the endogenous evolution of capital taxation. The model rationalizes why openness has different implications for growth depending on the political environment, why institutions such as the treatment of capital income evolve over time, why governments in countries that grow rapidly accumulate net foreign assets rather than liabilities, and why foreign aid may not affect growth. Copyright 2011, Oxford University Press.

Accountability and Flexibility in Public Schools: Evidence from Boston's Charters And Pilots

- The Quarterly Journal of Economics---2011---Atila Abdulkadiroğlu,Joshua Angrist,Susan Dynarski,Thomas J. Kane,Parag Pathak

We use student assignment lotteries to estimate the effect of charter school attendance on student achievement in Boston. We also evaluate a related alternative, Boston's pilot schools. Pilot schools have some of the independence of charter schools but are in the Boston Public School district and are covered by some collective bargaining provisions. Lottery estimates show large and significant score gains for charter students in middle and high school. In contrast, lottery estimates for pilot school students are mostly small and insignificant, with some significant negative effects. Charter schools with binding assignment lotteries appear to generate larger gains than other charters. Copyright 2011, Oxford University Press.

Adjustment Costs, Firm Responses, and Micro vs. Macro Labor Supply Elasticities: Evidence from Danish Tax Records

- The Quarterly Journal of Economics---2011---Raj Chetty,John Friedman,Tore Olsen,Luigi Pistaferri

We show that the effects of taxes on labor supply are shaped by interactions between adjustment costs for workers and hours constraints set by firms. We develop a model in which firms post job offers characterized by an hours requirement and workers pay search costs to find jobs. We present evidence supporting three predictions of this model by analyzing bunching at kinks using Danish tax records. First, larger kinks generate larger taxable income elasticities. Second, kinks that apply to a larger group of workers generate larger elasticities. Third, the distribution of job offers is tailored to match workers' aggregate tax preferences in equilibrium. Our results suggest that macro elasticities may be substantially larger than the estimates obtained using standard microeconometric methods. Copyright 2011, Oxford University Press.

Identity, Morals, and Taboos: Beliefs as Assets

- The Quarterly Journal of Economics---2011---Roland Benabou,Jean Tirole

We develop a theory of moral behavior, individual and collective, based on a general model of identity in which people care about "who they are" and infer their own values from past choices. The model sheds light on many empirical puzzles inconsistent with earlier approaches. Identity investments respond nonmonotonically to acts or threats, and taboos on mere thoughts arise to protect beliefs about the "priceless" value of certain social assets. High endowments trigger escalating commitment and a treadmill effect, while competing identities can cause dysfunctional capital destruction. Social interactions induce both social and antisocial norms of contribution, sustained by respectively shunning free riders or do-gooders. Copyright 2011, Oxford University Press.

Learning Self-Control

- The Quarterly Journal of Economics---2011---S. Nageeb Ali

This article examines how a decision maker who is only partially aware of his temptations learns about them over time. In facing temptations, individuals use their experience to forecast future self-control problems and choose the appropriate level of commitment. I demonstrate that rational learning can be perpetually partial and need not result in full sophistication. The main result of this article characterizes necessary and sufficient conditions for learning to converge to full sophistication. I apply this result to a consumption-savings environment in which a decision maker is tempted by present bias and establish a learning-theoretic justification for assuming sophistication in this setting. "An individual who finds himself continuously repudiating his past plans may learn to distrust his future behavior, and may do something about it." -- Copyright 2011, Oxford University Press.

Social Structure and Development: A Legacy of the Holocaust in Russia

- The Quarterly Journal of Economics---2011---Daron Acemoglu,Tarek Hassan,James Robinson

We document a statistical association between the severity of the persecution, displacement and mass murder of Jews by the Nazis during World War II and long-run economic and political outcomes within Russia. Cities that experienced the Holocaust most intensely have grown less, and both cities and administrative districts (oblasts) where the Holocaust had the largest impact have worse economic and political outcomes since the collapse of the Soviet Union. We provide evidence that the lasting impact of the Holocaust may be attributable to a permanent change it induced in the social structure across different regions of Russia. Copyright 2011, Oxford University Press.

Legislative Bargaining with Reconsideration

- The Quarterly Journal of Economics---2011---Daniel Diermeier,Pohan Fong

We present a dynamic model of legislative bargaining with an endogenously evolving default policy and a persistent agenda setter. Policy making proceeds until the agenda setter can no longer pass a new policy to replace an approved bill. We prove existence and necessary conditions of pure-strategy stationary equilibria for any finite policy space, any number of players, and any preference profile. In equilibrium, the value of proposal power is limited compared to the case that disallows reconsideration, as voters are induced to protect each other's benefits to maintain their future bargaining positions. The agenda setter, in turn, would prefer to limit his ability to reconsider. The lack of commitment due to the possibility of reconsideration, however, enhances policy efficiency. Copyright 2011, Oxford University Press.

Home Computer Use and the Development of Human Capital

- The Quarterly Journal of Economics---2011---Ofer Malamud,Cristian Pop-Eleches

This paper uses a regression discontinuity design to estimate the effect of home computers on child and adolescent outcomes by exploiting a voucher program in Romania. Our main results indicate that home computers have both positive and negative effects on the development of human capital. Children who won a voucher to purchase a computer had significantly lower school grades but show improved computer skills. There is also some evidence that winning a voucher increased cognitive skills, as measured by Raven's Progressive Matrices. We do not find much evidence for an effect on non-cognitive outcomes. Parental rules regarding homework and computer use attenuate the effects of computer ownership, suggesting that parental monitoring and supervision may be important mediating factors. Copyright 2011, Oxford University Press.

Immigration, Skill Mix, and Capital Skill Complementarity

- The Quarterly Journal of Economics---2011---Ethan Lewis

Over the past thirty years, U.S. manufacturing plants invested heavily in automation machinery. This paper shows these investments substituted for the least-skilled workers and complemented middle-skilled workers at equipment and fabricated metal plants. Specifically, it exploits the fact that some metropolitan areas experienced faster growth in the relative supply of less-skilled labor in the 1980s and 1990s due to an immigration wave and the tendency of immigrants to regionally cluster. Plants in these areas adopted significantly less machinery per unit output, despite having similar adoption plans initially. The results imply that fixed rental rates for automation machinery reduce the effect that immigration has on less-skilled relative wages. Copyright 2011, Oxford University Press.

Identifying Government Spending Shocks: It's all in the Timing

- The Quarterly Journal of Economics---2011---Valerie Ramey

Standard vector autoregression (VAR) identification

methods find that government spending raises consumption and real wages; the Ramey--Shapiro narrative approach finds the opposite. I show that a key difference in the approaches is the timing. Both professional forecasts and the narrative approach shocks Granger-cause the VAR shocks, implying that these shocks are missing the timing of the news. Motivated by the importance of measuring anticipations, I use a narrative method to construct richer government spending news variables from 1939 to 2008. The implied government spending multipliers range from 0.6 to 1.2. Copyright 2011, Oxford University Press.

Macroeconomic Effects From Government Purchases and Taxes

- The Quarterly Journal of Economics---2011---Robert Barro,Charles J. Redlick

For U.S. annual data that include World War II, the estimated multiplier for temporary defense spending is 0.4--0.5 contemporaneously and 0.6--0.7 over 2 years. If the change in defense spending is "permanent" (gauged by Ramey's defense news variable), the multipliers are higher by 0.1--0.2. Since all estimated multipliers are significantly less than 1, greater spending crowds out other components of GDP, particularly investment. The lack of good instruments prevents estimation of reliable multipliers for nondefense purchases; multipliers in the literature of two or more likely reflect reverse causation from GDP to nondefense purchases. Increases in average marginal income tax rates (measured by a newly constructed time series) have significantly negative effects on GDP. When interpreted as a tax multiplier, the magnitude is around 1.1. The combination of the estimated spending and tax multipliers implies that the balanced-budget multiplier for defense spending is negative. We have some evidence that tax changes affect GDP mainly through substitution effects, rather than wealth effects. Copyright 2011, Oxford University Press.

Family Violence and Football: The Effect of Unexpected Emotional Cues on Violent Behavior

- The Quarterly Journal of Economics---2011---David Card,Gordon Dahl

We study the link between family violence and the emotional cues associated with wins and losses by professional football teams. We hypothesize that the risk of violence is affected by the "gain-loss" utility of game outcomes around a rationally expected reference point. Our empirical analysis uses police reports of violent incidents on Sundays during the professional football season. Controlling for the pregame point spread and the size of the local viewing audience, we find that upset losses (defeats when the home team was predicted to win by four or more points) lead to a 10% increase in the rate of at-home violence by men against their wives and girlfriends. In contrast, losses when the game was expected to be close have small and insignificant effects. Upset wins (victories when the home team was predicted to lose) also have little impact on violence, consistent with asymmetry in the gain-loss utility function. The rise in violence after an upset loss is concentrated in a narrow time window near the end of the game and is larger for more important games. We find no evidence for reference point updating based on the halftime score. Copyright 2011, Oxford University Press.

Spring Cleaning: Rural Water Impacts, Valuation, and Property Rights Institutions

- The Quarterly Journal of Economics---2011---Michael Kremer,Jessica Leino,Edward Miguel,Alix Peterson Zwane

Using a randomized evaluation in Kenya, we measure health impacts of spring protection, an investment that improves source water quality. We also estimate households' valuation of spring protection and simulate the welfare impacts of alternatives to the current system of common property rights in water, which limits incentives for private investment. Spring infrastructure investments reduce fecal contamination by 66%, but household water quality improves less, due

to recontamination. Child diarrhea falls by one quarter. Travel-cost based revealed preference estimates of households' valuations are much smaller than both stated preference valuations and health planners' valuations, and are consistent with models in which the demand for health is highly income elastic. We estimate that private property norms would generate little additional investment while imposing large static costs due to above-marginal-cost pricing, private property would function better at higher income levels or under water scarcity, and alternative institutions could yield Pareto improvements. Copyright 2011, Oxford University Press.

Comparing open and Sealed Bid Auctions: Evidence from Timber Auctions

- The Quarterly Journal of Economics---2011---Susan Athey,Jonathan Levin,Enrique Seira

We study entry and bidding patterns in sealed bid and open auctions. Using data from the U.S. Forest Service timber auctions, we document a set of systematic effects: sealed bid auctions attract more small bidders, shift the allocation toward these bidders, and can also generate higher revenue. A private value auction model with endogenous participation can account for these qualitative effects of auction format. We estimate the model's parameters and show that it can explain the quantitative effects as well. We then use the model to assess bidder competitiveness, which has important consequences for auction design. Copyright 2011, Oxford University Press.

Outside and Inside Liquidity

- The Quarterly Journal of Economics---2011---Patrick Bolton,Tano Santos,Jose Scheinkman

We propose an origination-and-contingent-distribution model of banking, in which liquidity demand by short-term investors (banks) can be met with cash reserves (inside liquidity) or sales of assets (outside liquidity) to long-term investors (hedge funds and pension funds). Outside liquidity is a more efficient source, but asymmetric information about asset quality can introduce a friction in the form of excessively early asset trading in anticipation of a liquidity shock, excessively high cash reserves, and too little origination of assets by banks. The model captures key elements of the financial crisis and yields novel policy prescriptions. Copyright 2011, Oxford University Press.

Financial Contracting Under Imperfect Enforcement

- The Quarterly Journal of Economics---2011---Tore Ellingsen,Eirik Gaard Kristiansen

We develop a model of financial contracting under imperfect enforcement. Financial contracts are designed to keep entrepreneurs from diverting project returns, but enforcement is probabilistic and penalties are limited. The model rationalizes the prevalence of straight debt and common stock, and its predictions are consistent with a host of empirical capital structure regularities. Copyright 2011, Oxford University Press.

Depression Babies: Do Macroeconomic Experiences Affect Risk Taking?

- The Quarterly Journal of Economics---2011---Ulrike Malmendier,Stefan Nagel

We investigate whether individual experiences of macroeconomic shocks affect financial risk taking, as often suggested for the generation that experienced the Great Depression. Using data from the Survey of Consumer Finances from 1960 to 2007, we find that individuals who have experienced low stock market returns throughout their lives so far report lower willingness to take financial risk, are less likely to participate in the stock market, invest a lower fraction of their liquid assets in stocks if they participate, and are more pessimistic about future stock returns. Those who have experienced low bond returns are less likely to own bonds. Results are estimated controlling for age, year effects, and household characteristics. More recent return experiences have stronger effects, particularly on younger people. Copyright 2011, Oxford University Press.

Estimating Cross-Country Differences in Product Quality

- The Quarterly Journal of Economics---2011---Juan Hallak,Peter Schott

We develop a method for decomposing countries' observed export prices into quality versus quality-adjusted components using information contained in trade balances. Holding observed export prices constant, countries with trade surpluses are inferred to offer higher quality than countries running trade deficits. We account for variation in trade balances induced by horizontal and vertical differentiation, and we estimate the evolution of manufacturing quality for top exporters from 1989 to 2003. We find that observed unit value ratios can be a poor approximation for relative quality differences, countries' quality is converging more rapidly than their income, and countries appear to vary in terms of displaying "high-quality" versus "low-price" growth strategies. Copyright 2011, Oxford University Press.

The Role of Dispute Settlement Procedures in International Trade Agreements

- The Quarterly Journal of Economics---2011---Giovanni Maggi,Robert Staiger

Although disputes are typically treated as synonymous with concerns about enforcement in economic models of trade agreements, in reality most WTO disputes seem to concern the interpretation of vague provisions, or instances where the agreement is silent. And some have suggested that the WTO's Dispute Settlement Body (DSB) could usefully grant exceptions to rigid contractual obligations. These activist DSB roles could help "complete" an incomplete contract. But how activist should the DSB be? Should DSB rulings set precedent? We address these questions by characterizing the optimal choice of contract form and DSB mandate under various contracting conditions. JEL Codes: D02, D78, D86, F13, K12, K33. Copyright 2011, Oxford University Press.

The Real Costs of Credit Access: Evidence from the Payday Lending Market

- The Quarterly Journal of Economics---2011---Brian Melzer

Using geographic differences in the availability of payday loans, I estimate the real effects of credit access among low-income households. Payday loans are small, high interest rate loans that constitute the marginal source of credit for many high risk borrowers. I find no evidence that payday loans alleviate economic hardship. To the contrary, loan access leads to increased difficulty paying mortgage, rent and utilities bills. The empirical design isolates variation in loan access that is uninfluenced by lenders' location decisions and state regulatory decisions, two factors that might otherwise correlate with economic hardship measures. Further analysis of differences in loan availability--over time and across income groups--rules out a number of alternative explanations for the estimated effects. Counter to the view that improving credit access facilitates important expenditures, the results suggest that for some low-income households the debt service burden imposed by borrowing inhibits their ability to pay important bills. Copyright 2011, Oxford University Press.

What Comes to Mind

- The Quarterly Journal of Economics---2010---Nicola Gennaioli,Andrei Shleifer

We present a model of intuitive inference, called "local thinking," in which an agent combines data received from the external world with information retrieved from memory to evaluate a hypothesis. In this model, selected and limited recall of information follows a version of the representativeness heuristic. The model can account for some of the evidence on judgment biases, including conjunction and disjunction fallacies, but also for several anomalies related to demand for insurance.

Gaming Performance Fees By Portfolio Managers

- The Quarterly Journal of Economics---2010---Dean P. Foster,H. Peyton Young

We show that it is very difficult to devise performance-based compensation contracts that reward portfolio managers who generate excess returns while screening out managers who cannot generate such returns. Theoretical bounds are derived on the amount of fee manipulation that is possible under various performance contracts.We show that recent proposals to reform compensation practices, such as postponing bonuses and instituting clawback provisions, will not eliminate opportunities to game the system unless accompanied by transparency in managers' positions and strategies. Indeed, there exists no compensation mechanism that separates skilled from unskilled managers solely on the basis of their returns histories.

Does Terrorism Work?

- The Quarterly Journal of Economics---2010---Eric Gould,Esteban Klor

This paper examines whether terrorism is an effective tool for achieving political goals. By exploiting geographic variation in terror attacks in Israel from 1988 to 2006, we show that local terror attacks cause Israelis to be more willing to grant territorial concessions to the Palestinians. These effects are stronger for demographic groups that are traditionally right-wing in their political views. However, terror attacks beyond a certain threshold cause Israelis to adopt a less accommodating position. In addition, terror induces Israelis to vote increasingly for right-wing parties, as the right-wing parties move to the left in response to terror. Hence, terrorism appears to be an effective strategy in terms of shifting the entire political landscape to the left, although we do not assess whether it is more effective than non-violent means.

Political Selection and Persistence of Bad Governments

- The Quarterly Journal of Economics---2010---Daron Acemoglu,Georgy Egorov,Konstantin Sonin

We study dynamic selection of governments under different political institutions, with a special focus on institutional "flexibility." A government consists of a subset of the individuals in the society. The competence level of the government in office determines collective utilities (e.g., by determining the amount and quality of public goods), and each individual derives additional utility from being part of the government (e.g., rents from holding office). We characterize the dynamic evolution of governments and determine the structure of stable governments, which arise and persist in equilibrium. In our model, perfect democracy, where current members of the government do not have veto power over changes in governments, always leads to the emergence of the most competent government. However, any deviation from perfect democracy, to any regime with incumbency veto power, destroys this result. There is always at least one other, less competent government that is also stable and can persist forever, and even the least competent government can persist forever in office. We also show that there is a nonmonotonic relationship between the degree of incumbency veto power and the quality of government. In contrast, in the presence of stochastic shocks or changes in the environment, a regime with less incumbency veto power has greater flexibility and greater probability that high-competence governments will come to power. This result suggests that a particular advantage of "democratic regimes" (with a limited number of veto players) may be their greater adaptability to changes rather than their performance under given conditions. Finally, we show that "royalty-like" dictatorships may be more successful than "junta-like" dictatorships because in these regimes veto players are less afraid of change.

The Developing World is Poorer than We Thought, But No Less Successful in the Fight Against Poverty

- The Quarterly Journal of Economics---2010---Shaohua Chen,Martin Ravallion

A new data set on national poverty lines is combined with new price data and almost 700 household surveys to estimate absolute poverty measures for the developing world. We find that 25% of the population lived in poverty in 2005, as judged by what "poverty" typically

means in the world's poorest countries. This is higher than past estimates. Substantial overall progress is still indicated—the corresponding poverty rate was 52% in 1981—but progress was very uneven across regions. The trends over time and regional profile are robust to various changes in methodology, though precise counts are more sensitive.

Post-1500 Population Flows and The Long-Run Determinants of Economic Growth and Inequality

- The Quarterly Journal of Economics---2010---Louis Putterman,David Weil

We construct a matrix showing the share of the year 2000 population in every country that is descended from people in different source countries in the year 1500. Using the matrix to adjust indicators of early development so that they reflect the history of a population's ancestors rather than the history of the place they live today greatly improves the ability of those indicators to predict current GDP. The variance of the early development history of a country's inhabitants is a good predictor for current inequality, with ethnic groups originating in regions having longer histories of organized states tending to be at the upper end of a country's income distribution.

Competition and Bias

- The Quarterly Journal of Economics---2010---Harrison Hong,Marcin Kacperczyk

We attempt to measure the effect of competition on bias in the context of analyst earnings forecasts, which are known to be excessively optimistic because of conflicts of interest. Our natural experiment for competition is mergers of brokerage houses, which result in the firing of analysts because of redundancy (e.g., one of the two oil stock analysts is let go) and other reasons such as culture clash. We use this decrease in analyst coverage for stocks covered by both merging houses before the merger (the treatment sample) to measure the causal effect of competition on bias. We find that the treatment sample simultaneously experiences a decrease in analyst coverage and an increase in optimism bias

the year after the merger relative to a control group of stocks, consistent with competition reducing bias. The implied economic effect from our natural experiment is significantly larger than estimates from OLS regressions that do not correct for the endogeneity of coverage. This effect is much more significant for stocks with little initial analyst coverage or competition.

Imported Intermediate Inputs and Domestic Product Growth: Evidence from India

- The Quarterly Journal of Economics---2010---Pinelopi Goldberg,Amit Kumar Khandelwal,Nina Pavcnik,Petia Topalova

New goods play a central role in many trade and growth models. We use detailed trade and firm-level data from India to investigate the relationship between declines in trade costs, imports of intermediate inputs, and domestic firm product scope. We estimate substantial gains from trade through access to new imported inputs. Moreover, we find that lower input tariffs account on average for 31% of the new products introduced by domestic firms. This effect is driven to a large extent by increased firm access to new input varieties that were unavailable prior to the trade liberalization.

Stock-Based Compensation and CEO (Dis)Incentives

- The Quarterly Journal of Economics---2010---Efraim Benmelech,Eugene Kandel,Pietro Veronesi

The use of stock-based compensation as a solution to agency problems between shareholders and managers has increased dramatically since the early 1990s. We show that in a dynamic rational expectations model with asymmetric information, stock-based compensation not only induces managers to exert costly effort, but also induces them to conceal bad news about future growth options and to choose suboptimal investment policies to support the pretense. This leads to a severe overvaluation and a subsequent crash in the stock price. Our model produces many predictions that are consistent with the empirical evidence and are relevant to understanding the current crisis.

Conflict and Deterrence Under Strategic Risk

- The Quarterly Journal of Economics---2010---Sylvain Chassang,Gerard Padró I Miquel

We examine the determinants of cooperation and the effectiveness of deterrence when fear is a motive for conflict.We contrast results obtained in a complete information setting with those obtained in a setting with strategic risk, where players have different information about their environment. These two strategic settings allow us to identify and distinguish the role of predatory and preemptive incentives as determinants of cooperation and conflict. In our model, weapons unambiguously facilitate peace under complete information. In contrast, under strategic risk, we show that increases in weapon stocks can have a nonmonotonic effect on the sustainability of cooperation. We also show that under strategic risk, asymmetry in military strength can facilitate peace, and that anticipated peacekeeping interventions may improve incentives for peaceful behavior.

Racial Discrimination Among NBA Referees

- The Quarterly Journal of Economics---2010---Joseph Price,Justin Wolfers

The NBA provides an intriguing place to assess discrimination: referees and players are involved in repeated interactions in a high-pressure setting, with referees making split-second decisions that might allow implicit racial biases to become evident. We find that more personal fouls are awarded against players when they are officiated by an opposite-race officiating crew than when they are officiated by an own-race refereeing crew. These biases are sufficiently large so that they affect the outcome of an appreciable number of games. Our results do not distinguish whether the bias stems from the actions of white or black referees.

Estimating Welfare in Insurance Markets Using Variation in Prices

- The Quarterly Journal of Economics---2010---Liran Einav,Amy Finkelstein,Mark R. Cullen

We provide a graphical illustration of how standard consumer and producer theory can be used to quantify the welfare loss associated with inefficient pricing in insurance markets with selection. We then show how this welfare loss can be estimated empirically using identifying variation in the price of insurance. Such variation, together with quantity data, allows us to estimate the demand for insurance. The same variation, together with cost data, allows us to estimate how insurers' costs vary as market participants endogenously respond to price. The slope of this estimated cost curve provides a direct test for both the existence and the nature of selection, and the combination of demand and cost curves can be used to estimate welfare.We illustrate our approach by applying it to data on employer-provided health insurance from one specific company. We detect adverse selection but estimate that the quantitative welfare implications associated with inefficient pricing in our particular application are small, in both absolute and relative terms.

Measuring Beliefs and Rewards: A Neuroeconomic Approach

- The Quarterly Journal of Economics---2010---Andrew Caplin,Mark Dean,Paul W. Glimcher,Robb B. Rutledge

The neurotransmitter dopamine is central to the emerging discipline of neuroeconomics; it is hypothesized to encode the difference between expected and realized rewards and thereby to mediate belief formation and choice. We develop the first formal tests of this theory of dopaminergic function, based on a recent axiomatization by Caplin and Dean (Quarterly Journal of Economics, 123 (2008), 663–702). These tests are satisfied by neural activity in the nucleus accumbens, an area rich in dopamine receptors. We find evidence for separate positive and negative reward prediction error signals, suggesting that behavioral asymmetries in responses to losses and gains may parallel asymmetries in nucleus accumbens activity.

Monetary Non-neutrality in a Multisector Menu Cost Model

- The Quarterly Journal of Economics---2010---Emi Nakamura,Jon Steinsson

Empirical evidence suggests that as much as one-third of the U.S. business cycle is due to nominal shocks. We calibrate a multisector menu cost model using new evidence on the cross-sectional distribution of the frequency and size of price changes in the U.S. economy. We augment the model to incorporate intermediate inputs. We show that the introduction of heterogeneity in the frequency of price change triples the degree of monetary non-neutrality generated by the model. We furthermore show that the introduction of intermediate inputs raises the degree of monetary non-neutrality by another factor of three, without adversely affecting the model's ability to match the large average size of price changes. A single-sector model with a frequency of price change equal to the median, rather than the mean, generates monetary non-neutrality similar to that in our multisector model. Our multisector model with intermediate inputs generates variation in real output in response to calibrated aggregate nominal shocks that can account for roughly 23% of the U.S. business cycle.

Regulation and Distrust

- The Quarterly Journal of Economics---2010---Philippe Aghion,Yann Algan,Pierre Cahuc,Andrei Shleifer

We document that, in a cross section of countries, government regulation is strongly negatively correlated with measures of trust. In a simple model explaining this correlation, distrust creates public demand for regulation, whereas regulation in turn discourages formation of trust, leading to multiple equilibria. A key implication of the model is that individuals in low-trust countries want more government intervention even though they know the government is corrupt. We test this and other implications of the model using country- and individual-level data on trust and beliefs about the role of government, as well as on changes in beliefs during the transition from socialism.

Improved Access to Foreign Markets Raises Plant-level Productivity···For Some Plants

- The Quarterly Journal of Economics---2010---Alla Lileeva,Daniel Trefler

Market size matters for innovation and hence for productivity. Improved access to foreign markets will thus encourage firms to simultaneously export and invest in raising productivity. We examine this insight using the responses of Canadian plants to the elimination of U.S. tariffs. Unique "plant-specific" tariff cuts serve as an instrument for changes in exporting. We find that Canadian plants that were induced by the tariff cuts to start exporting or to export more (a) increased their labor productivity, (b) engaged in more product innovation, and (c) had higher adoption rates for advanced manufacturing technologies. Further, these responses were heterogeneous.

Sex and Science: How Professor Gender Perpetuates the Gender Gap

- The Quarterly Journal of Economics---2010---Scott Carrell,Marianne Page,James West

Why aren't there more women in science? This paper begins to shed light on this question by exploiting data from the U.S. Air Force Academy, where students are randomly assigned to professors for a wide variety of mandatory standardized courses.We focus on the role of professor gender. Our results suggest that although professor gender has little impact on male students, it has a powerful effect on female students' performance in math and science classes, and high-performing female students' likelihood of taking future math and science courses, and graduating with a STEM degree. The estimates are largest for students whose SAT math scores are in the top 5% of the national distribution. The gender gap in course grades and STEM majors is eradicated when high-performing female students are assigned to female professors in mandatory introductory math and science coursework.

Can Exchange Rates Forecast Commodity Prices?

- The Quarterly Journal of Economics---2010---Yu-Chin Chen,Kenneth Rogoff,Barbara Rossi

We show that "commodity currency" exchange rates have surprisingly robust power in predicting global commodity prices, both in-sample and out-of-sample, and against a variety of alternative benchmarks. This result is of particular interest to policy makers, given the lack of deep forward markets in many individual commodities, and broad aggregate commodity indices in particular. We also explore the reverse relationship (commodity prices forecasting exchange rates) but find it to be notably less robust. We offer a theoretical resolution, based on the fact that exchange rates are strongly forward-looking, whereas commodity price fluctuations are typically more sensitive to short-term demand imbalances.

Counterparty Risk in Financial Contracts: Should the Insured Worry About the Insurer?

- The Quarterly Journal of Economics---2010---James Thompson

We analyze the effect of counterparty risk on financial insurance contracts, using the case of credit risk transfer in banking. This paper posits a new moral hazard problem on the insurer side of the market, which causes the insured party to be exposed to excessive counterparty risk. We find that this counterparty risk can create an incentive for the insured party to reveal superior information about the likelihood of a claim. In particular, a unique separating equilibrium may exist, even in the absence of any costly signaling device.

The Geographic Determinants of Housing Supply

- The Quarterly Journal of Economics---2010---Albert Saiz

I process satellite-generated data on terrain elevation and presence of water bodies to precisely estimate the amount of developable land in U.S. metropolitan areas.

The data show that residential development is effectively curtailed by the presence of steep-sloped terrain. I also find that most areas in which housing supply is regarded as inelastic are severely land-constrained by their geography. Econometrically, supply elasticities can be well characterized as functions of both physical and regulatory constraints, which in turn are endogenous to prices and demographic growth. Geography is a key factor in the contemporaneous urban development of the United States.

School Choice with Consent

- The Quarterly Journal of Economics---2010---Onur Kesten

An increasingly popular practice for student assignment to public schools in the United States is the use of school choice systems. The celebrated Gale. Shapley student-optimal stable mechanism (SOSM) has recently replaced two deficient student assignment mechanisms that were in use in New York City and Boston. We provide theoretical evidence that the SOSM outcome may produce large welfare losses. Then we propose an efficiency-adjusted deferred acceptance mechanism (EADAM) that allows a student to consent to waive a certain priority that has no effect on his or her assignment. Under EADAM, consenting students cause themselves no harm, but may help many others benefit as a consequence. We show that EADAM can recover any welfare losses due to SOSM while also preserving immunity against strategic behavior in a particular way. It is also possible to use EADAM to eliminate welfare losses due to randomly breaking ties in student priorities.

Muslim Family Law, Prenuptial Agreements, and the Emergence of Dowry in Bangladesh

- The Quarterly Journal of Economics---2010---Attila Ambrus,Erica Field,Maximo Torero

We explain trends in dowry levels in Bangladesh by drawing attention to an institutional feature of marriage contracts previously ignored in the literature: mehr or traditional Islamic bride-price. We develop a

model of marriage contracts in which mehr serves as a barrier to husbands exiting marriage and a component of dowry as an amount that ex ante compensates the groom for the cost of mehr. We investigate how mehr and dowry respond to exogenous changes in the costs of polygamy and divorce, and show that our model gives a different set of predictions than traditional models. We show that major changes in dowry levels took place precisely after the legal changes, corresponding to simultaneous changes in levels of mehr.

A Theory of Firm Scope

- The Quarterly Journal of Economics---2010---Oliver Hart,Bengt Holmstrom

The formal literature on firm boundaries has assumed that ex post conflicts are resolved through bargaining. In reality, parties often simply exercise their decision rights. We develop a model, based on shading, in which the use of authority has a central role. We consider two firms deciding whether to adopt a common standard. Nonintegrated firms may fail to coordinate if one firm loses. An integrated firm can internalize the externality, but puts insufficient weight on employee benefits. We use our approach to understand why Cisco acquired StrataCom, a provider of new transmission technology. We also analyze delegation.

The (Perceived) Returns to Education and the Demand for Schooling

- The Quarterly Journal of Economics---2010---Robert Jensen

Economists emphasize the link between market returns to education and investments in schooling. Though many studies estimate these returns with earnings data, it is the perceived returns that affect schooling decisions, and these perceptions may be inaccurate. Using survey data for eighth-grade boys in the Dominican Republic, we find that the perceived returns to secondary school are extremely low, despite high measured returns. Students at randomly selected schools given information on the higher measured returns completed

on average 0.20–0.35 more years of school over the next four years than those who were not.

Superstar Extinction

- The Quarterly Journal of Economics---2010---Pierre Azoulay,Joshua Graff Zivin,Jialan Wang

We estimate the magnitude of spillovers generated by 112 academic "superstars" who died prematurely and unexpectedly, thus providing an exogenous source of variation in the structure of their collaborators' coauthorship networks. Following the death of a superstar, we find that collaborators experience, on average, a lasting 5% to 8% decline in their quality-adjusted publication rates. By exploring interactions of the treatment effect with a variety of star, coauthor, and star/coauthor dyad characteristics, we seek to adjudicate between plausible mechanisms that might explain this finding. Taken together, our results suggest that spillovers are circumscribed in idea space, but less so in physical or social space. In particular, superstar extinction reveals the boundaries of the scientific field to which the star contributes—the "invisible college."

Estimating Marginal Returns to Medical Care: Evidence from At-risk Newborns

- The Quarterly Journal of Economics---2010---Douglas Almond,Joseph J. Doyle,Amanda Kowalski,Heidi Williams

A key policy question is whether the benefits of additional medical expenditures exceed their costs. We propose a new approach for estimating marginal returns to medical spending based on variation in medical inputs generated by diagnostic thresholds. Specifically, we combine regression discontinuity estimates that compare health outcomes and medical treatment provision for newborns on either side of the very low birth weight threshold at 1,500 grams. First, using data on the census of U.S. births in available years from 1983 to 2002, we find that newborns with birth weights just below 1,500 grams have lower one-year mortality rates than do newborns with birth weights just above this cutoff, even though mortality risk tends

to decrease with birth weight. One-year mortality falls by approximately one percentage point as birth weight crosses 1,500 grams from above, which is large relative to mean infant mortality of 5.5% just above 1,500 grams. Second, using hospital discharge records for births in five states in available years from 1991 to 2006, we find that newborns with birth weights just below 1,500 grams have discontinuously higher charges and frequencies of specific medical inputs. Hospital costs increase by approximately $4,000 as birth weight crosses 1,500 grams from above, relative to mean hospital costs of $40,000 just above 1,500 grams. Under an assumption that observed medical spending fully captures the impact of the "very low birth weight" designation on mortality, our estimates suggest that the cost of saving a statistical life of a newborn with birth weight near 1,500 grams is on the order of $550,000 in 2006 dollars.

Progressive Estate Taxation

- The Quarterly Journal of Economics---2010---Emmanuel Farhi,Iván Werning

We present a model with altruistic parents and heterogeneous productivity. We derive two key properties for optimal estate taxation. First, the estate tax should be progressive, so that parents leaving a higher bequest face a lower net return on bequests. Second, marginal estate taxes should be negative, so that all parents face a marginal subsidy on bequests. Both properties can be implemented with a simple nonlinear tax on bequests, levied separately from the income tax. These results apply to other intergenerational transfers, such as educational investments, and are robust to endogenous fertility choices. Both estate or inheritance taxes can implement the optimal allocation, but we show that the inheritance tax has some advantages. Finally, when we impose an ad hoc constraint requiring marginal estate taxes to be nonnegative, the optimum features a zero tax up to an exemption level, and a progressive tax thereafter.

Frequency of Price Adjustment and Pass-Through

- The Quarterly Journal of Economics---2010---Gita Gopinath,Oleg Itskhoki

We empirically document, using U.S. import prices, that on average goods with a high frequency of price adjustment have a long-run pass-through that is at least twice as high as that of low-frequency adjusters. We show theoretically that this relationship should follow because variable mark-ups that reduce longrun pass-through also reduce the curvature of the profit function when expressed as a function of cost shocks, making the firm less willing to adjust its price. We quantitatively evaluate a dynamic menu-cost model and show that the variable mark-up channel can generate significant variation in frequency, equivalent to 37% of the observed variation in the data. On the other hand, the standard workhorse model with constant elasticity of demand and Calvo or state-dependent pricing has difficulty matching the facts.

Price Stickiness and Customer Antagonism

- The Quarterly Journal of Economics---2010---Eric T. Anderson,Duncan I. Simester

Managers often state that they are reluctant to vary prices for fear of "antagonizing customers." However, there is no empirical evidence that antagonizing customers through price adjustments reduces demand or profits. We use a 28-month randomized field experiment involving over 50,000 customers to investigate how customers react if they buy a product and later observe the same retailer selling it for less. We find that customers react by making fewer subsequent purchases from the firm. The effect is largest among the firm's most valuable customers: those whose prior purchases were most recent and at the highest prices.

Barbed Wire: Property Rights and Agricultural Development

- The Quarterly Journal of Economics---2010---Richard Hornbeck

This paper examines the impact on agricultural development of the introduction of barbed wire fencing to the American Plains in the late nineteenth century. Without a fence, farmers risked uncompensated damage by others' livestock. From 1880 to 1900, the introduction and near-universal adoption of barbed wire greatly reduced the cost of fences, relative to the predominant wooden fences, especially in counties with the least woodland. Over that period, counties with the least woodland experienced substantial relative increases in settlement, land improvement, land values, and the productivity and production share of crops most in need of protection. This increase in agricultural development appears partly to reflect farmers' increased ability to protect their land from encroachment. States' inability to protect this full bundle of property rights on the frontier, beyond providing formal land titles, might have otherwise restricted agricultural development.

Trust and the Reference Points for Trustworthiness in Gulf and Western Countries

- The Quarterly Journal of Economics---2010---Iris Bohnet,Benedikt Herrmann,Richard Zeckhauser

Why is private investment so low in Gulf compared to Western countries? We investigate cross-regional differences in trust and reference points for trustworthiness as possible factors. Experiments controlling for cross-regional differences in institutions and beliefs about trustworthiness reveal that Gulf citizens pay much more than Westerners to avoid trusting, and hardly respond when returns to trusting change. These differences can be explained by subjects' gain/loss utility relative to their region's reference point for trustworthiness. The relation-based production of trust in the Gulf induces higher levels of trustworthiness, albeit within groups, than the rule-based interactions prevalent in the West.

External Economies and International Trade Redux

- The Quarterly Journal of Economics---2010---Gene M. Grossman,Esteban Rossi-Hansberg

We study a world with national external economies of scale at the industry level. In contrast to the standard treatment with perfect competition and two industries, we assume Bertrand competition in a continuum of industries. With Bertrand competition, each firm can internalize the externalities from production by setting a price below those set by others. This out-of-equilibrium threat eliminates many of the "pathologies" of the standard treatment. There typically exists a unique equilibrium with trade guided by "natural" comparative advantage. And, when a country has CES preferences and any finite elasticity of substitution between goods, gains from trade are ensured.

Shrouded Attributes and Information Suppression: Evidence from the Field

- The Quarterly Journal of Economics---2010---Jennifer Brown,Tanjim Hossain,John Morgan

We use field and natural experiments in online auctions to study the revenue effect of varying the level and disclosure of shipping charges. Our main findings are (1) disclosure affects revenues—for low shipping charges, a seller is better off disclosing; and (2) increasing shipping charges boosts revenues when these charges are hidden. These results are not explained by changes in the number of bidders.

Free Distribution or Cost-Sharing? Evidence from a Randomized Malaria Prevention Experiment

- The Quarterly Journal of Economics---2010---Jessica Cohen,Pascaline Dupas

2010

Sophisticated Monetary Policies

- The Quarterly Journal of Economics---2010---Andrew Atkeson,Varadarajan V. Chari,Patrick Kehoe

In standard monetary policy approaches, interest-rate rules often produce indeterminacy. A sophisticated policy approach does not. Sophisticated policies depend

on the history of private actions, government policies, and exogenous events and can differ on and off the equilibrium path. They can uniquely implement any desired competitive equilibrium. When interest rates are used along the equilibrium path, implementation requires regime-switching. These results are robust to imperfect information. Our results imply that the Taylor principle is neither necessary nor sufficient for unique implementation. They also provide a direction for empirical work on monetary policy rules and determinacy.

Earnings Inequality and Mobility in the United States: Evidence from Social Security Data Since 1937

- The Quarterly Journal of Economics---2010---Wojciech Kopczuk,Emmanuel Saez,Jae Song

This paper uses Social Security Administration longitudinal earnings micro data since 1937 to analyze the evolution of inequality and mobility in the United States. Annual earnings inequality is U-shaped, decreasing sharply up to 1953 and increasing steadily afterward. Short-term earnings mobility measures are stable over the full period except for a temporary surge during World War II. Virtually all of the increase in the variance in annual (log) earnings since 1970 is due to increase in the variance of permanent earnings (as opposed to transitory earnings). Mobility at the top of the earnings distribution is stable and has not mitigated the dramatic increase in annual earnings concentration since the 1970s. Long-term mobility among all workers has increased since the 1950s but has slightly declined among men. The decrease in the gender earnings gap and the resulting substantial increase in upward mobility over a lifetime for women are the driving force behind the increase in long-term mobility among all workers.

The Role of the Structural Transformation in Aggregate Productivity

- The Quarterly Journal of Economics---2010---Margarida Duarte,Diego Restuccia

We investigate the role of sectoral labor productivity in explaining the process of structural transformation—the secular reallocation of labor across sectors—and the time path of aggregate productivity across countries. We measure sectoral labor productivity across countries using a model of the structural transformation. Productivity differences across countries are large in agriculture and services and smaller in manufacturing. Over time, productivity gaps have been substantially reduced in agriculture and industry but not nearly as much in services. These sectoral productivity patterns generate implications in the model that are broadly consistent with the cross-country data. We find that productivity catch-up in industry explains about 50% of the gains in aggregate productivity across countries, whereas low productivity in services and the lack of catch-up explain all the experiences of slowdown, stagnation, and decline observed across countries.

Teacher Quality in Educational Production: Tracking, Decay, and Student Achievement

- The Quarterly Journal of Economics---2010---Jesse Rothstein

Growing concerns over the inadequate achievement of U.S. students have led to proposals to reward good teachers and penalize (or fire) bad ones. The leading method for assessing teacher quality is "value added" modeling (YAM), which decomposes students' test scores into components attributed to student heterogeneity and to teacher quality. Implicit in the VAM approach are strong assumptions about the nature of the educational production function and the assignment of students to classrooms. In this paper, I develop falsification tests for three widely used VAM specifications, based on the idea that future teachers cannot influence students' past achievement. In data from North Carolina, each of the VAMs' exclusion restrictions is dramatically violated. In particular, these models indicate large "effects" of fifth grade teachers on fourth grade test score gains. I also find that conventional measures of individual teachers' value added fade out very quickly and are at best weakly related to long-run effects. I discuss implications for the use

of VAMs as personnel tools.

The Value of School Facility Investments: Evidence from a Dynamic Regression Discontinuity Design

- The Quarterly Journal of Economics---2010---Stephanie Riegg Cellini,Fernando Ferreira,Jesse Rothstein

Despite extensive public infrastructure spending, surprisingly little is known about its economic return. In this paper, we estimate the value of school facility investments using housing markets: standard models of local public goods imply that school districts should spend up to the point where marginal increases would have zero effect on local housing prices. Our research design isolates exogenous variation in investments by comparing school districts where referenda on bond issues targeted to fund capital expenditures passed and failed by narrow margins. We extend this traditional regression discontinuity approach to identify the dynamic treatment effects of bond authorization on local housing prices, student achievement, and district composition. Our results indicate that California school districts underinvest in school facilities: passing a referendum causes immediate, sizable increases in home prices, implying a willingness to pay on the part of marginal homebuyers of $1.50 or more for each $1 of capital spending. These effects do not appear to be driven by changes in the income or racial composition of homeowners, and the impact on test scores appears to explain only a small portion of the total housing price effect.

What's Advertising Content Worth? Evidence from a Consumer Credit Marketing Field Experiment

- The Quarterly Journal of Economics---2010---Marianne Bertrand,Dean Karlan,Sendhil Mullainathan,Eldar Shafir,Jonathan Zinman

Firms spend billions of dollars developing advertising content, yet there is little field evidence on how much or how it affects demand. We analyze a direct mail field experiment in South Africa implemented by a consumer lender that randomized advertising content, loan price, and loan offer deadlines simultaneously. We find that advertising content significantly affects demand. Although it was difficult to predict ex ante which specific advertising features would matter most in this context, the features that do matter have large effects. Showing fewer example loans, not suggesting a particular use for the loan, or including a photo of an attractive woman increases loan demand by about as much as a 25% reduction in the interest rate. The evidence also suggests that advertising content persuades by appealing "peripherally" to intuition rather than reason. Although the advertising content effects point to an important role for persuasion and related psychology, our deadline results do not support the psychological prediction that shorter deadlines may help overcome time-management problems; instead, demand strongly increases with longer deadlines.

Did Securitization Lead to Lax Screening? Evidence from Subprime Loans

- The Quarterly Journal of Economics---2010---Benjamin Keys,Tanmoy Mukherjee,Amit Seru,Vikrant Vig

A central question surrounding the current subprime crisis is whether the securitization process reduced the incentives of financial intermediaries to carefully screen borrowers. We examine this issue empirically using data on securitized subprime mortgage loan contracts in the United States. We exploit a specific rule of thumb in the lending market to generate exogenous variation in the ease of securitization and compare the composition and performance of lenders' portfolios around the ad hoc threshold. Conditional on being securitized, the portfolio with greater ease of securitization defaults by around 10%–25% more than a similar risk profile group with a lesser ease of securitization. We conduct additional analyses to rule out differential selection by market participants around the threshold and lenders employing an optimal screening cutoff unrelated to securitization as alternative explanations. The results are confined to loans where

intermediaries' screening effort may be relevant and soft information about borrowers determines their creditworthiness. Our findings suggest that existing securitization practices did adversely affect the screening incentives of subprime lenders.

Monetary Policy by Committee: Consensus, Chairman Dominance, or Simple Majority?

- The Quarterly Journal of Economics---2010---Alessandro Riboni,Francisco Ruge-Murcia

This paper studies the theoretical and empirical implications of monetary policy making by committee under four different voting protocols. The protocols are a consensus model, where a supermajority is required for a policy change; an agenda-setting model, where the chairman controls the agenda; a dictator model, where the chairman has absolute power over the committee; and a simple majority model, where policy is determined by the median member. These protocols give preeminence to different aspects of the actual decision-making process and capture the observed heterogeneity in formal procedures across central banks. The models are estimated by maximum likelihood using interest rate decisions by the committees of five central banks, namely the Bank of Canada, the Bank of England, the European Central Bank, the Swedish Riksbank, and the U.S. Federal Reserve. For all central banks, results indicate that the consensus model fits actual policy decisions better than the alternative models. This suggests that despite institutional differences, committees share unwritten rules and informal procedures that deliver observationally equivalent policy decisions.

Was Postwar Suburbanization "White Flight"? Evidence from the Black Migration

- The Quarterly Journal of Economics---2010---Leah Boustan

Residential segregation by jurisdiction generates disparities in public services and education. The distinctive American pattern—in which blacks live in cities and whites in suburbs—was enhanced by a large black migration from the rural South. I show that whites responded to this black influx by leaving cities and rule out an indirect effect on housing prices as a sole cause. I instrument for changes in black population by using local economic conditions to predict black migration from southern states and assigning predicted flows to northern cities according to established settlement patterns. The best causal estimates imply that each black arrival led to 2.7 white departures.

Paying for Progress: Conditional Grants and the Desegregation of Southern Schools

- The Quarterly Journal of Economics---2010---Elizabeth Cascio,Nora Gordon,Ethan Lewis,Sarah Reber

This paper examines how a large conditional grants program influenced school desegregation in the American South. Exploiting newly collected archival data and quasi-experimental variation in potential per-pupil federal grants, we show that school districts with more at risk in 1966 were more likely to desegregate just enough to receive their funds. Although the program did not raise the exposure of blacks to whites like later court orders, districts with larger grants at risk in 1966 were less likely to be under court order through 1970, suggesting that tying federal funds to nondiscrimination reduced the burden of desegregation on federal courts.