

Joseph Schumpeter Lecture

The Great Moderation, the Great Panic and the Great Contraction

Charles Bean, Bank of England

This lecture examines the causes of the recent financial crisis and subsequent recession. On the macroeconomic side, the Great Moderation encouraged an overly optimistic assessment of risk. Combined with low interest rates, reflecting both loose monetary policy and relatively high Asian savings rates, that encouraged a build-up of excessive leverage in the banking system. On the microeconomic side, distorted incentives led to a concentration and mispricing of risk. Informational complexities associated with new financial assets and the interconnectedness of financial institutions then resulted in the closure of funding markets and a flight to safety when loan defaults rose unexpectedly. The episode indicates the need to focus on agency and information problems between banks and their funders in addition to those between the banks and their borrowers. It also suggests that the process of financial intermediation should play a more prominent role in macroeconomic models.

Alfred Marshall Lecture

Intellectual Property Rights Protection in Developing Countries: The Case of Pharmaceuticals

Pinelope Koujianou Goldberg, Princeton University

Patent enforcement in developing countries generates considerable controversy, especially when patents involve potentially life-saving drugs. This paper argues that common concerns regarding the effects of patents on prices and on research incentives of pharmaceutical multinationals are misplaced. Rather, the most significant effects are likely to concern access to patented drugs in poor countries. Because prices in developing countries are much lower than in the developed world, multinationals may choose to enter such markets with a delay, or not at all, implying a complete loss of access to patented drugs in developing countries. Even when multinationals enter countries like India, their marketing and distribution networks are not currently built out, leading to limited access within the country. Such considerations may provide a justification for policies targeting access in the short and medium run, such as compulsory licensing.

Presidential Address

Imperfections in the Economics of Public Policy, Imperfection in Markets, and Climate Change

Nicholas Stern, London School of Economics

Theories of Internal Organization and Vertical Integration

Matching Problems with Expertise in Firms and Markets

William Fuchs, Berkeley Haas and Luis Garicano, London School of Economics

When should expertise be shared in markets and when in firms? Knowledge exchanges in the market involve less information about the quality of the provider's expertise, but facilitate good utilization of experts knowledge. In a firm, management holds soft information about individuals expertise and thus improves on the matching of experts to problems; however, the usage of experts is not smooth and thus firms experience over or underutilization of experts' time. Thus the trade-off between firms and markets is between utilization (the market allows for better, smoother, utilization of knowledge than firms) and the quality of matching between problems and problem solvers (the market provides less information about experts' quality).

Strategic Communication: Prices Versus Quantities

Ricardo Alonso, University of Southern California, Wouter Dessein, Columbia University, and Niko Matouschek, Northwestern University

We examine how cheap talk communication between managers within the same firm depends on the type of decisions that the firm makes. A firm consists of a headquarters and two operating divisions. Headquarters is unbiased but does not know the demand conditions in the divisions' markets. Each division manager knows the demand conditions in his market but is also biased towards his division. The division managers communicate with headquarters, which then sets either the prices or quantities for each division. The quality of communication depends on whether headquarters sets prices or

quantities. This is the case even though, once communication has taken place, expected profits are the same whether headquarters sets prices or quantities.

Arm's Length Relationships Without Moral Hazard

Jacques Crémer, Toulouse School of Economics

I show that cutting the flow of information between a principal and an agent can increase the power of the incentives of the agent to reveal private information.

Persistence of Poverty

Social Interactions and Segregation in Skill Accumulation

Dilip Mookherjee, Boston University, Stefan Napel, Universität Bayreuth, and Debraj Ray, NYU and Instituto de Análisis Económico

This paper studies human capital investment in a spatial setting with interpersonal complementarities. A mixture of local and global social interactions affect the cost of acquiring education, while the return to human capital is determined endogenously in the market. We study how spatially segregated investment equilibria are affected by an increase in the relative importance of global vis-à-vis local interactions. Per capita income level, equality and welfare are shown to improve if the skilled constitute a majority to begin with, and if not, these implications are reversed. We also examine the effects of wider local neighborhoods, and lower mobility costs, and study a related two-group model based on social distance.

Isolation and Development

Quamrul Ashraf, Williams College, Oded Galor, Brown University, and Ömer Özak, Brown University

This paper exploits cross-country variation in the degree of geographical isolation, prior to the advent of sea-faring and airborne transportation technologies, to examine its impact on the course of economic development across the globe. The empirical investigation establishes that prehistoric geographical isolation has generated a persistent beneficial effect on the process of development and contributed to the contemporary variation in the standard of living across countries.

Status and Poverty

Omer Moav, Hebrew University of Jerusalem Royal Holloway University of London and Zvika Neeman, Tel-Aviv University

We present a model in which individuals' preferences are defined over their consumption, transfers to offspring, and social status associated with income. We show that a separating equilibrium exists where individuals' expenditure on conspicuous consumption is a signal for their unobserved income. In this equilibrium, poor families that climb up the social ladder by the accumulation of wealth engage in conspicuous consumption that prevents them from escaping poverty. Our model may explain why the poor make some choices that do not appear to help them escape poverty.

Trade Liberalization and Factor Reallocation

Unequal Effects of Trade on Workers with Different Abilities

Elhanan Helpman, Harvard University and CIFAR, Oleg Itskhoki, Princeton University, and Stephen Redding, London School of Economics

In recent research, we have proposed a new framework for examining the determinants of income inequality, which emphasizes firm and worker heterogeneity and selection into export markets. In this paper, we use our framework to examine how wage inequality and unemployment vary across workers with different abilities. Both in the closed and open economy, the unemployment rate is decreasing in worker ability, whereas both the average wage and wage inequality are increasing in worker ability. Upon opening the economy to trade, however, intermediate-ability workers experience reductions in average wages and increases in unemployment rates relative to both lower and higher ability workers.

A Many-Country, Many-Good Model of Labor Market Rigidities as a Source of Comparative Advantage

Alejandro Cuñat, University of Vienna and Marc J. Melitz, Harvard University

We extend the theoretical framework in Cuñat and Melitz (2007) to a many-country setup where countries exhibit different degrees of labor market flexibility. We rely on the insights from a recent paper by Costinot (2009) to obtain precise predictions about comparative advantage in this setting: countries with more flexible labor markets specialize in more volatile industries.

On the Role of Financial Frictions and the Saving Rate during Trade Liberalizations

Pol Antràs, Harvard University and Ricardo J. Caballero, MIT and NBER

We study how financial frictions and the saving rate shape the long-run effects of trade liberalization on income, consumption and the distribution of wealth in financially underdeveloped economies. In our model, regardless of whether the capital account is open or not, trade liberalization reduces the share of wealth in the hands of entrepreneurs and may well reduce steady state consumption and income. Furthermore, trade opening is more likely to reduce steady-state consumption and output, the higher is the level of financial development. For economies with an open capital account, a higher saving rate also increases the likelihood that a trade liberalization leads to a reduction in steady-state consumption and output.

Crises, Liquidity and Policy

A Model of Financial Market Liquidity Based on Intermediary Capital

Denis Gromb, INSEAD and Dimitri Vayanos, LSE

We present a model of financial market liquidity provided by financially constrained intermediaries. We show that market liquidity increases with the level of intermediary capital. We also characterize conditions under which intermediaries play a stabilizing or destabilizing role in markets. Finally, we sketch a number of areas, including welfare and public policy, on which the model can shed light.

Asset Auctions, Information and Liquidity

Xavier Vives, IESE Business School (Universidad de Navarra) and Universitat Pompeu Fabra

A model of a uniform price auction where bidders compete in demand schedules which allows for common and private values and no exogenous noise is presented. It is shown how private information induces market power above standard full information levels. The results obtained are broadly consistent with evidence from asset auctions, may help explaining the response of central banks to the crisis, and suggest potential improvements in the auction formats of asset auctions.

Selected Findings from the Eurosystem/ESCB Wage Dynamics Network (WDN)

Inter-industry Wage Differentials in EU Countries: What Do Cross-Country Time Varying Data Add to the Picture?

Philip Du Caju, National Bank of Belgium, Gábor Kátay, Magyar Nemzeti Bank, Ana Lamo, European Central Bank, Daphne Nicolitsas, Bank of Greece, and Steven Poelhekke, De Nederlandsche Bank

This paper documents the existence and main patterns of inter-industry wage differentials across a large number of industries for 8 EU countries at two points in time (in general 1995 and 2002) and explores possible explanations for these patterns. The analysis uses the European Structure of Earnings Survey, an internationally harmonised matched employer-employee dataset, to estimate industry wage differentials conditional on a rich set of employee, employer and job characteristics. After investigating the possibility that unobservable employee characteristics lie behind conditional wage differentials, a hypothesis which cannot be accepted, the paper investigates the role of institutional, industry structure and industry performance characteristics in explaining industry wage differentials. The results suggest that inter-industry wage differentials could reflect efficiency wages or rent-sharing mechanisms and that rent-sharing is more likely in industries with firm-level collective agreements and with higher-collective agreement coverage.

The Incidence of Nominal and Real Wage Rigidity: an Individual-Based Sectoral Approach

Julián Messina, World Bank and University of Girona, Philip Du Caju, National Bank of Belgium, Cláudia Filipa Duarte, Banco de Portugal, Mario Izquierdo, Banco de España, and Niels Lynggård Hansen, Danmarks Nationalbank

This paper presents estimates based on individual data of downward nominal and real wage rigidities for thirteen sectors in Belgium, Denmark, Spain and Portugal. Our methodology follows the approach recently developed for the International Wage Flexibility Project, whereby resistance to nominal and real wage cuts is measured through departures of observed individual wage change histograms from an estimated counterfactual wage change distribution that would have prevailed in the absence of rigidity. Our estimates of wage rigidities are set against structural features of the labour markets studied, including the wage bargaining level and the degree of product market competition.

Wage rigidities and labor market adjustment in Europe

Silvia Fabiani, Banca d'Italia, Kamil Galuscak, Ceska narodni banka, Claudia Kwapil, Oesterreichische Nationalbank, Ana Lamo, European Central Bank, and Tairi Rõõm, Eesti Pank

Based on an ad-hoc firm-level survey on wage and pricing policies conducted in a large number of European countries, this study finds that about 60% of firms change base wages once a year with some clustering of wage changes observed in January. Differences in the frequency of wage changes between firms are mainly attributable to the institutional framework of the labor market they operate in. There is evidence of both nominal and real downward wage rigidity. Moreover, when facing a negative shock European firms prefer to reduce the amount of labor, rather than cutting wages. Among those that decide to cut wages a majority prefers to cut flexible wage components rather than base wages. The rigidity of base wages is largely explained by fairness and efficiency considerations.

Some Macroeconomic and Monetary Policy Implications of New Micro Evidence on Wage Dynamics

Gregory De Walque, National Bank of Belgium, Juan Jimeno, Banco de España, Michael Krause, Deutsche Bundesbank, Hervé Le Bihan, Banque de France, Stephen Millard, Bank of England, and Frank Smets, European Central Bank

This paper investigates the macroeconomic relevance of new findings regarding nominal wage stickiness, wage indexation, wage staggering and synchronisation and downward nominal and real wage rigidity in the Euro Area. Quantifying the relevance of this evidence for monetary policy remains to be fully resolved, but our results suggest that countries with lower indexation and higher wage stickiness for newly-hired workers experience higher employment volatility and lower inflation volatility, and that wage staggering and synchronisation of wage changes in particular months result in less persistence in real wages and inflation.

New Auction Mechanisms for Public Policy: Fighting the Financial Crisis, Mitigating Global Warming, and More

An Experimental Study of Auctions Versus Grandfathering to Assign Pollution Permits

Jacob K. Goeree, University of Zurich and Division of the Humanities and Social Sciences, California Institute of Technology, Charles A. Holt, University of Virginia, Karen Palmer, Resources for the Future, William Shobe, University of Virginia, Dallas Burtraw, Resources for the Future

We experimentally study auctions versus grandfathering in the initial assignment of pollution permits that can be traded in a secondary spot market. Low and high emitters compete for permits in the auction, while permits are assigned for free under grandfathering. In theory, trading in the spot market should erase inefficiencies due to initial misallocations. In the experiment, high emitters exercise market power in the spot market and permit holdings under grandfathering remain skewed towards high emitters. Furthermore, the opportunity costs of "free" permits are fully "passed through." In the auction, the majority of permits are won by low emitters, reducing the need for spot-market trading. Auctions generate higher consumer surplus and slightly lower product prices in the laboratory markets. Moreover, auctions eliminate the large "windfall profits" that are observed in the treatment with free, grandfathered permit allocations.

The Product-Mix Auction: a New Auction Design for Differentiated Goods

Paul Klempner, Nuffield College, Oxford University

I describe a new static (sealed-bid) auction for differentiated goods—the "Product-Mix Auction". Bidders bid on multiple assets simultaneously, and bid-takers choose supply functions across assets. The auction yields greater efficiency, revenue, information, and trade than running multiple separate auctions. It is also often simpler to use and understand, and less vulnerable to collusion, than a simultaneous multiple round auction. I designed it after the 2007 Northern Rock bank-run to help the

Bank of England fight the credit crunch; in 2008 the U.S. Treasury planned using a related design to buy "toxic assets"; it may be used to purchase electricity.

A New Payment Rule for Core-Selecting Package Auctions

Aytek Erdil, Nuffield College, Oxford University and Paul Klemperer, Nuffield College, Oxford University

We propose a new, easy-to-implement, class of payment rules, "Reference Rules," to make core-selecting package auctions more robust. Small, almost-riskless, profitable deviations from "truthful bidding" are often easy for bidders to find under currently-used payment rules. Reference Rules perform better than existing rules on our marginal-incentive-to-deviate criterion, and are as robust as existing rules to large deviations. Other considerations, including fairness and comprehensibility, also support the use of Reference Rules.

Experimental Field Work on Development Issues in Africa

Intentions to Participate in Adolescent Training Programs: Evidence from Uganda

Oriana Bandiera, LSE, Robin Burgess, LSE, Markus Goldstein, World Bank, Selim Gulesci, LSE, Imran Rasul, University College London, and Munshi Sulaiman, LSE and BRAC

Almost one third of the population in developing countries is under age 15. Hence improving the effectiveness of policy interventions that target adolescents might be especially important. We analyze the intention to participate in training programs of adolescent girls in Uganda, a country with perhaps the most skewed age distribution anywhere in the world. The training program we focus on is BRAC's Adolescent Development Program, which emphasizes the provision of life skills and entrepreneurship training, and microfinance. We find that girls who are more likely to benefit from the program are more likely to intend to participate. The program attracts girls who are likely to place a high value on financial independence: single mothers and girls that are alienated from their families. The program attracts girls who are more likely to benefit from training: girls who believe they could be successful entrepreneurs but currently lack the quantitative skills to do so. Reassuringly, girls that are in school full-time are less likely to intend to participate. We also find that the program attracts girls from poorer villages but we find no evidence that poorer girls within each village are more likely to want to participate. Finally, girls from villages that have previously been exposed to NGO projects are less likely to intend to participate.

Teaching Business in Tanzania: Evaluating Participation and Performance

Kjetil Bjorvatn, Norwegian School of Economics and Business Administration and Bertil Tungodden, Norwegian School of Economics and Business Administration

There is increased awareness that success among small scale entrepreneurs in developing countries requires more than microfinance, and that an important limiting factor for business growth is the level of human capital among the entrepreneurs. The present paper uses a randomized control trial to evaluate a business training program in Tanzania. Our results show that there is a positive average treatment effect on business knowledge. It also appears that training has a stronger effect on the entrepreneurs with less formal education. Paradoxically, these entrepreneurs are also less consistent in their participation in the training program. An important implication from our study is therefore that when providing business training, special care should be given to ensure high participation rates.

When is Community-based Monitoring Effective? Evidence from a Randomized Experiment in Primary Health in Uganda

Martina Björkman, IGER, Bocconi University and Jakob Svensson, IIES, Stockholm University

Evidence from recent randomized field experiments on community-based monitoring reveals substantial heterogeneous treatment effects. Using data from a randomized experiment in primary health in Uganda, we test whether social heterogeneity can explain why some communities managed to push for better health service delivery while others did not. The results suggest that income inequality, and particularly ethnic fractionalization, adversely impact collective action for improved service provision.

Determinants of Entrepreneurship

Banking Deregulations, Financing Constraints, and Firm Entry Size

William R. Kerr, Harvard Business School and Ramana Nanda, Harvard Business School

We examine the effect of US branch banking deregulations on the entry size of new firms using micro-data from the US Census Bureau. We find that the average entry size for startups did not change following the deregulations. However, among firms that survived at least four years, a greater proportion of firms entered either at their maximum size or closer to the maximum size in the first year. The magnitude of these effects were small compared to the much larger changes in entry rates of small firms following the reforms. Our results highlight that this large-scale entry at the extensive margin can obscure the more subtle intensive margin effects of changes in financing constraints.

Heterogeneity in the Effect of Regulation on Entrepreneurship and Entry Size

Silvia Ardagna, Harvard University and Annamaria Lusardi, Dartmouth College and NBER

We use cross-national harmonized micro data from a broad sample of developed and developing countries and investigate the heterogeneity of the effect of entry, contract enforcement regulation, and financial development on both the decision to become an entrepreneur and the level of employment of newly created businesses. We focus on the interaction between the level of regulation and financial development and some individual characteristics that are important determinants of entrepreneurship, such as gender, business skills, and social networks. We find that entry regulation moderates the effect of business skills, while accentuating the effect of gender, even after accounting for the level of financial development. Specifically, women are more likely to enter into entrepreneurship in countries with higher levels of entry regulation, but mainly because they cannot find better work. This effect is also more pronounced in countries that are less financially developed. Furthermore, individuals who report having business skills are less likely to enter entrepreneurship in countries with higher entry regulation. Finally, we also find that individuals who know other entrepreneurs are less likely to start large businesses in countries with higher levels of entry and contract enforcement regulation.

Corporate Taxation and the Size of New Firms: Evidence from Europe

Marco Da Rin, Tilburg University, Marina Di Giacomo, Università di Torino and Alessandro Sembenelli, Università di Torino and Collegio Carlo Alberto

Using a novel country-industry level panel database with information on newly incorporated firms in 17 European countries between 1997 and 2004, we study how taxation of corporate income affects the size of entrants at the country-industry level. Our results, that are robust to changes in several assumptions, suggest that a one unit reduction in the effective corporate income tax rate leads to a reduction of entrants' capital size that ranges from 2.7% to 14.4%. Results on labor size are more mixed in terms of both sign and size. These findings imply that a reduction in corporate taxation reduces the capital to labor ratio.

Computational Economics

Problems in the Numerical Simulation of Models with Heterogeneous Agents and Economic Distortions

Adrian Peralta-Alva, Federal Reserve Bank of Saint Louis and Manuel S. Santos, University of Miami

Our work has been concerned with the numerical simulation of dynamic economies with heterogeneous agents and economic distortions. Recent research has drawn attention to inherent difficulties in the computation of competitive equilibria for these economies: A continuous Markovian solution may fail to exist, and some commonly used numerical algorithms may not deliver accurate approximations. We consider a reliable algorithm set forth in Feng et al. (2009), and discuss problems related to the existence and computation of Markovian equilibria, as well as convergence and accuracy properties. We offer new insights into numerical simulation.

Stable and Efficient Computational Methods for Dynamic Programming

Yongyang Cai, Stanford University and Kenneth L Judd, Hoover Institution

Dynamic programming is the foundation of dynamic economic analysis and often requires numerical solution methods. Standard methods are either slow or unstable. These instabilities are avoided when

one uses modern methods from numerical optimization and approximation. Furthermore, large dynamic programming problems can be solved by using modern parallel computing architectures.

Uniqueness of Steady States in Models with Overlapping Generations

Felix Kubler, University of Zurich and Swiss Finance Institute and Karl Schmedders, University of Zurich and Swiss Finance Institute

In this paper we examine the likelihood of multiple real steady states in deterministic exchange economies with overlapping generations. There is a single good and a single agent per generation with constant relative risk aversion expected utility. In order to test for multiple equilibria we employ methods from computational algebraic geometry. In our examples, we find that multiplicity becomes less likely as the life span of agents increases but becomes more likely as the coefficient of risk aversion increases. For moderate values of risk aversion, multiplicity is very unlikely when agents live for five or more periods.

Coercion in Politics

Savings and Predation

Sylvain Chassang, Princeton University and Gerard Padró i Miquel, LSE

We contrast the relationship between predation and the savings of its potential victim in two different simple models. In the first model, predation is an exogenous event in which savings are expropriated with some fixed probability. In such a setting, the higher the probability of expropriation the lower are savings. In the second model, we endow the predatory agent with a decision whether to expropriate or to devote his efforts to some productive endeavor. In this second model, the (endogenous) probability of expropriation can easily be positively correlated with savings. In addition, we show that predation is more damaging to the savings and utility of the victim in the second model.

Quis Custodiet Ipsos Custodes? Civilian Control over the Military

Timothy Besley, LSE and CIFAR and James A. Robinson, Harvard University and CIFAR

The question of who guards the guards is intimately connected with broader questions of state capacity and the establishment of a monopoly of violence in society, something which is often viewed as the defining feature of the modern state. But to establish such a monopoly, civilian rulers need not only to build an effective military, but also to control it. In this paper we study how governments may solve this problem when they recognize that their decisions to build a strong army may have ramifications for subsequent coups.

Persistence of Civil Wars

Daron Acemoglu, MIT and CIFAR, Davide Ticchi, University of Urbino and Andrea Vindigni, Princeton University

A notable feature of post-World War II civil wars is their very long average duration. We provide a theory of the persistence of civil wars. The civilian government can successfully defeat rebellious factions only by creating a relatively strong army. In weakly-institutionalized polities this opens the way for excessive influence or coups by the military. Civilian governments whose rents are largely unaffected by civil wars then choose small and weak armies that are incapable of ending insurrections. Our framework also shows that when civilian governments need to take more decisive action against rebels, they may be forced to build over-sized armies, beyond the size necessary for fighting the insurrection, as a commitment to not reforming the military in the future.