THE INSTITUTE FOR ECONOMIC DEVELOPMENT

RESEARCH REVIEW

Contents **Spring 2006**

Recent Discussion Papers

BOSTON UNIVERSITY

The Institute for Economic Development (IED) is a research center within Boston University's Department of Economics focusing on the economic problems of developing countries.

Smithian Growth Through Creative Organization

Patrick Legros, Andrew F. Newman, and Eugenio Proto

Discussion Paper 158, March 2006

This paper explores the link between invention and economic incentives by investigating the possibility of technological progress as an unintended consequence of organizational design. The analysis focuses on the possibility of endogenous growth driven by two features of the division of labor within a firm. As Adam Smith first argued, the division of labor in a factory system provides a superior environment for the refinement and invention of productive technologies. Moreover, it enhances the ability of employers to monitor workers, and it is this, unlike the creative role of divided labor, that provides employers with a private benefit.

Using a standard dynamic occupational choice model, where the distribution of wealth affects the competitive wage through the relative scarcity of entrepreneurs and workers, the authors construct a model of endogenous growth and technical progress stemming from organizational choices and investments in innovation. In such a model, entrepreneurs must choose the level of labor division. This is costly because it requires resources to coordinate and assemble the components produced by each worker. However, by enhancing the ability to monitor workers, the division of labor provides a direct benefit to employers. Moreover, it increases the arrival rate of productivity increasing ideas or inventions.

In this model, labor market conditions determine an entrepreneur's organizational choice, whereas conditions in the market for innovations determine the investment decision for a potential inventor. The fraction of poor agents in the economy affects both these markets through a market size effect, and in opposite directions. Therefore, the model predicts that high rates of innovation can only be sustained at moderate rates of inequality. The dynamic extension of the model yields the existence and local stability of steady states in which the relation between the distribution of wealth, the rate of innovation, and growth is maintained in the long run. It predicts a U-shaped relationship between the degree of inequality and the rate of technological progress. The model also suggests growth rate may not be monotonically related to 'institutional' improvements, such as the provision of public education, or the increased efficiency of credit markets.

Legal Reform and Loan Repayment: The Microeconomic Impact of Debt Recovery Tribunals in India

Sujata Visaria

Discussion Paper 157, April 2006

Institutional quality is an important determinant of economic development. This paper focuses on one such institution—the judicial system, and investigates the micro-level link between judicial quality and economic outcomes. Many developing countries and transition economies are characterized by judicial systems where cases in court are subject to long delays and pervasive corruption or elite capture. In particular, this paper examines the effect of judicial efficiency, measured by the time taken to resolve debt recovery suits, on the market for corporate bank debt, and on the behavior of borrowers and lenders in the credit market.

The author addresses this question by looking at the effect of a specific policy measure, the establishment of Debt Recovery Tribunals, a quasi-legal institution, in India. These tribunals were set up to accelerate banks' recovery of non-performing loans from defaulting borrowers, and emphasized swift adjudication of cases and execution of the verdict. The identification of the economic effects of this new institution follows from two aspects of this reform. First, there is a monetary threshold for claims to be eligible for these tribunals. Loans greater than this threshold at the time of the legal reform are potentially treated by these tribunals. Second, the staggered introduction of tribunals across different states in India provides an additional source of variation. The impact of this new institution is estimated by using a loan-level dataset from a large Indian bank with a national presence. It includes detailed records of the history of project loans sanctioned by the bank to corporate borrowers for various long term purposes.

The author finds that the establishment of tribunals reduces delinquency in loan payment. Moreover, this effect is statistically significant within loans as well: for the same loan, installments that become due after the loan becomes treated by a Debt Recovery Tribunal are less likely to be defaulted than those that become due before. These results also suggest that legal reform and the improved enforcement of loan contracts can lead banks to provide cheaper credit: interest rates on loans sanctioned after the reform are found to be lower. Thus, this paper illustrates a microeconomic mechanism through which reform and improvements in the quality of legal institutions can affect credit market outcomes, in this case, by cheapening credit and reducing borrower delinquency.

Complementarities in Information Acquisition with Short-Term Trades

Christophe Chamley
Discussion Paper 156, July 2005

This paper shows how strategic complementarities can arise in the acquisition of private information in a financial market, where agents trade for prices in the short-term and where news can increase the uncertainty of the public belief. It is a well-known result that strategic substitutability can arise in the acquisition of private information about the fundamental value of an asset (Grossman and Stiglitz, 1980). The mechanism that generates strategic substitutability is a general one. Consider a financial asset that is a claim to the realization of the fundamental value in a one-period market. If, in this market, more people acquire information about the fundamental value, their private information is, on average, in the right direction. As a result, their trades will move the equilibrium price closer to the conditional expected value of the fundamental value. This leads to a lower gross payoff of information and a lower incentive to invest in information acquisition. Thus, strategic substitution arises as a general property because more private information has only one effect—the adverse movement of the value of the asset.

In this paper, strategic complementarity in information acquisition arises when agents trade for the price of the asset before the revelation of the fundamental value. The key mechanism in this model rests on the property of social learning in which current activity has an impact on the updating of the belief that is inversely related to the uncertainty of the belief from history. For instance, suppose the public belief is relatively high. A higher level of information acquisition in the current period may induce a stronger fall in next period's belief and lower confidence in that period. Then, the weight of history will be smaller and there will be a higher payoff to information investment in the next period. Both these effects will drive the price in the next period more strongly towards the fundamental value, and therefore increase the payoff of information in the current period.

In order to generate the property that some market news may increase the uncertainty of the public belief, the paper departs from the Gaussian model, where more observations always increase the weight the history and reduce the uncertainty of the public belief. In addition, this model assumes that agents who have private information hold the asset only for one period, and that some agents can obtain information about the fundamental value at a cost and their decision depends on the publicly available information. In this framework, the interaction of short-term trades and endogenous information generates strategic complementarities, and these complementarities are strong enough to generate a continuum of equilibria when agents have common knowledge of the history. These multiple equilibria exhibit discontinuities in agents' behavior (which are robust to perturbation) with sudden changes in the volume of trade, in the information generated by the market, and in the volatility and the evolution of the asset price.

Bankruptcy Law, Bonded Labor and Inequality

Ulf von Lilienfeld-Toal and Dilip Mookherjee
Discussion Paper 155, September 2005

Most countries impose legal limits on the liability of borrowers. However, the extent of bankruptcy protection varies considerably across countries, with instances of bonded labor being more frequent in poorer countries. Contract theory suggests that there need not be any legally imposed limits on borrower liability at all—borrowers and lenders could select liability provisions and write them directly into credit contracts. It is commonly argued that legally imposed liability restrictions are inefficient and impede the functioning of credit markets. On the other hand, such restrictions may be beneficial if limited rationality, risk-aversion of borrowers, contractual incompleteness or lender moral hazard are taken into account. This paper abstracts from these possible benefits, and focuses instead on the general equilibrium implications of liability rules with moral hazard among borrowers with heterogeneous wealth. It provides a possible explanation for why weaker liability rules are observed in wealthier countries.

This paper argues that even with complete contracts, rational risk-neutral agents, and the lack of incentive problems for lenders, there may be a rationale for limiting borrower liability, depending on the distribution of wealth and concentration in the credit market. In a model where profit rates are determined by stable matching allocations of borrowers and lenders, and borrower wealth is heterogeneous, the equilibrium profit is equal to that in the monopolistically optimal contract for lenders with respect to the poorest borrower. Therefore, wealthier borrowers capture all the rents from their superior ability to post collateral. In the context where bonded labor is banned and borrower liability is limited to a fraction of future earnings, increasing the liability of borrowers has two countervailing effects. The first one reduces the ability of lenders to extract rents from poorer agents, thereby reducing the equilibrium profit rate, which benefits wealthier borrowers and induces higher ex ante effort. Second, the lower ability to pre-commit to repayment adversely affects the utility and effort levels of all borrowers; this effect is larger for poorer borrowers. With regard to rents, the first effect predominates for middle class borrowers, who benefit overall (unlike poor borrowers). With regard to effort, the second effect dominates for all borrowers, so effort levels decline across the board, causing default rates to rise. Weaker liability restrictions in this context therefore cause an inefficient redistribution of rents from lenders and poor borrowers to middle-class borrowers.

Similar results with regard to rent redistribution are obtained for effects of a ban on bonded labor, except that the effort effects may become positive for some classes of borrowers. These results provide an explanation for the greater willingness of poorer countries to tolerate bonded labor. If the wealth distribution is concentrated among poor borrowers who would lose access to credit markets if bonded labor were banned, abolishing it will hurt most borrowers as well as lenders. Thus, in poor countries, bonded labor may be justified as a means of widening credit access. On the other hand, if the economy has a larger concentration of middle class borrowers, who would not use bonded labor themselves, there are greater benefits to banning bonded labor, replacing it with bankruptcy law as a way of limiting borrower liability.

Path Dependence and Occupations

Maristella Botticini and Zvi Eckstein
Discussion Paper 154, February 2006

Path dependence in occupations refers to the observed occupational distribution in a population or in a sub-population at a point in time that depends on changes that occurred years or centuries earlier. It includes instances when particular innovations in the economy have permanent consequences and those in which particular shocks are not self-correcting so that they also have permanent effects in the absence of any offsetting influences.

To show that there is path dependence in occupations, one has to show that, at a given point in time, multiple occupational distributions were available for selection and theory is unable to predict or explain the occupational structure that will be chosen. Then, a change occurs and an occupational distribution is favored over competing ones. Finally, the selected occupational structure capitalizes on initial advantage and is reproduced in a stable manner over time.

Economists have identified a number of possible sources of path dependence. These include the potentially big impact of increasing returns and cumulative processes that can make the effect of historical accidents permanent; the role of parental income or wealth on the next generation's occupational choices and incomes (even in the absence of increasing returns); and the influence of group membership and characteristics on an individual's economic choices. The authors illustrate the effects of these mechanisms by focusing on selected examples of path dependence in occupations.

One such example is the observed occupational distribution of the Jewish population, which is concentrated in urban, skilled occupations. Two exogenous changes created a permanent effect on the occupational distribution of the Jews—the transformation of the religious norm in the 1st and 2nd centuries C.E., in which an illiterate Jewish individual was considered an outcast in the community; and the massive urbanization in the Muslim Empire in the 8th and 9th centuries that vastly increased the demand for urban, skilled occupations. Another example of path dependence in occupations is the occupational clustering displayed by several commercial and trade diasporas (e.g., the Parsi diaspora from Iran, the Huguenots in early-modern western Europe, the Armenians, the Greeks of the Ottoman Empire, the Germans throughout eastern Europe in modern times, the Chinese in many areas of south-east Asia from the 15th to the 20th century, the Indian middleman minorities of east Africa and Malaya, the Pakistanis in Great Britain, and the Lebanese Christians in 18th-century Egypt and contemporary west Africa). Lastly, the manufacturing belt in the United States, the feminization of teaching and clerical work in the United States over the course of the 19th and 20th centuries, and the occupational and residential transition of African-Americans in the United States, offer additional insightful cases in which path dependence in occupations emerges as the outcome of the interaction of exogenous shocks and social norms.

New Directions in Development Economics: Theory or Empirics? A Symposium in Economic and Political Weekly, October 1, 2005

With contributions from:
Abhijit Banerjee, Pranab Bardhan, Kaushik Basu, Ravi Kanbur (Editor) and Dilip Mookherjee
Discussion Paper 153, August 2005

Since the early 1990s, the primary research concerns in development economics have shifted away from theory and have become increasingly driven by empirical and policy issues, spurred by the availability of better quality, disaggregated data, advances in computational methods, and involving the use of new econometric techniques such as randomized policy evaluations and instrumental variables. In these essays, the contributors consider the balance between theory and empirics in development economics today and debate the need for some reorientation of the dominant research agenda.

In his commentary, "Is There Too Little Theory in Development Economics Today?", Dilip Mookherjee draws from classic 'theory versus empirics' debates, and proposes a classification of alternative stages in the maturation of any field in economics. He places the evolution of methodology in development economics within this general scheme, and argues that the evaluation of research papers nowadays rests almost exclusively on econometric issues, often without paying attention to the importance of the issues addressed by the analysis, or of the findings from a wider viewpoint. This concern to minimize econometric biases is reflected, Mookherjee argues, in the trend within the discipline to study randomized experiments, either natural or controlled. However, the majority of these randomized evaluations are not designed to test theories, but represent an approach to policy evaluation which involves minimal knowledge or interest in structure. It is with regard to this trend that there is 'too little' theory in development economics today. Mookherjee points out that there are still many important theoretical questions that are yet to be addressed. Moreover, he argues, while experimental evaluations represent an exciting step forward in research methodology, the framework of randomized policy evaluations could be enlarged to include the testing of alternative theories of the structure of underlying relationships that might explain observed outcomes, rather than the relatively narrow aim of measuring the impact of specific policy interventions.

Two responses to this commentary, "Theory or Empirics in Development Economics" by Pranab Bardhan, and "The New Empirical Development Economics: Remarks on its Philosophical Foundations", by Kaushik Basu, were largely supportive of the position taken by Dilip Mookherjee. In seeking to eliminate problems of endogeneity and reverse causality, Bardhan argues, researchers often turn to 'instrumental variables' as a solution, while failing to examine the larger meaning of identifying assumptions, and disregarding the fact that instruments by themselves do not give an adequate causal explanation. Random evaluations provide an econometrically cleaner method of establishing causality, but by their very nature, tend to be narrowly defined. Any generalizations stemming from such experimental evaluations will tend to be unreliable, as they ignore the macro, political-economy or general equilibrium effects of a particular policy intervention. The purpose of development economics, he argues, is to address larger structural and conceptual issues, decipher the mechanisms through which certain outcomes are generated, and the social dynamics that are involved, rather than precise program evaluation.

Kaushik Basu's criticisms are not about the methods themselves, but about how researchers use and interpret them. He argues that it is not possible to use a research finding based on a controlled experiment in any setting where the population is different from the one used in the original experiment. Hence the findings generated by these techniques must be combined with some unscientific intuition for them to be useful for predictive purposes; the majority of human knowledge is derived from wrongly conducted experiments and biased samples rather than from scientifically conducted studies. He goes on to argue that there is no real way to demonstrate causality, or any reason to believe "there is anything objective in nature called causality." Therefore, when researchers around the world are studying different phenomena, there is a tendency to highlight only the unexpected, and this yields a biased view of the world.

Abhijit Banerjee defends the current empirical methodology in development economics and responds to the criticisms leveled by Bardhan, Basu and Mookherjee, in his essay, "New Development Economics and the Challenge to Theory". Banerjee argues that the recent trend in development economics reflects the mainstreaming of empirical work in the field. While empirical methodology now places more emphasis on identification issues, the basic concern with distinguishing causation from correlation is a long-standing one. The main criticism, as he sees it, is that in this process empirical standards have become very high, and as a result published research is often composed of well-identified but uninteresting questions. However, he points out, development economists are now able to use cutting-edge empirical techniques; what is missing from the field is not ideas, but a rigorous process by which good ideas are identified and made better. Banerjee agrees with the other contributors on two concerns—the problem of scope and the problem of size. The former stems from the fact that most well-identified empirical exercises tend to be relatively localized. The problem of size arises because such experiments tend to be small-scale, partly because of practical and financial constraints, and also because scaling up often follows experimental results. He argues that the only way to build trust in such experimental results may be to replicate them in different locations. The use of theory could help in addressing both these concerns. However, the theory may be incorrect; therefore it is not obvious that using the existing theory always dominates assuming an ad hoc empirical specification. The most important role of theory in development economics is to promote an understanding of what the right questions are and to locate empirical results within a broader intellectual context. What is unusual about the state of development economics today, Banerjee argues, is not that there is too little theory; instead new questions are being asked by empirical researchers, which are not stemming from an existing body of theoretical literature. Thus, he concludes, development economics today has come full circle--it is engaged in gathering impressions and empirical results that could form the basis for a new body of theoretical work in the future.

Ravi Kanbur's comments in "Goldilocks Development Economics (Not Too Theoretical, Not Too Empirical, But Watch Out for the Bears!)" concludes this debate. The balance between theory and empirics, according to Kanbur, is an ongoing process, and in time the balance will tend to be restored. He recognizes the tradeoff involved in ensuring the environment generating the data is sufficiently controlled to make a clean inference possible, and the more general applicability and relevance of such results. The role of theory in making the best of this tradeoff is indisputable, as is the need for theoretical perspective to make the best use of empirical results. But the real issues facing development economics today, he argues, are tangential to the debate on theory versus empirics. The first relates to the realm of theory, the use of methodological individualism in a framework of 'rational choice', a framework within which it is hard to understand the questions being raised in empirical development economics. The second major problem relates to the use of overly simplistic economic analysis in policy making, while theory and empirics employ increasingly sophisticated tools of analysis. These issues, Kanbur argues, represent the fundamental predicament in development economics.

Decentralization, Corruption and Government Accountability: An Overview

Pranab Bardhan and Dilip Mookherjee
Discussion Paper 152, June 2005

The recent trend toward greater decentralization in many developing countries is partly motivated by the concern that highly centralized governments are more prone to rent-seeking and corruption. This has spawned a growing literature on the usefulness of decentralization as an institutional reform to reduce corruption. This essay provides an overview of the literature on this subject, and attempts to provide a common framework to identify key sources of disagreement as well as the lessons learnt.

The authors begin by describing the theoretical literature concerning the different channels via which decentralization can affect corruption and government accountability. They focus on two principal accountability mechanisms; external competition with other governments, and internal democratic pressures. If local factors are mobile between different jurisdictions, then competition between local governments may reduce the monopoly power of local officials with respect to local laws, regulations and bribes, creating incentives for lower corruption and better provision of infrastructure. Moreover, interjurisdictional competition hardens budget constraints for local governments by raising the opportunity cost of bailouts. However, if jurisdictions are sufficiently heterogeneous, competition for mobile factors can exacerbate interjurisdictional externalities and inequality, thereby reducing government effort on infrastructure provision, and increasing rent extraction. Thus, the effect of competition for mobile factors on government accountability can only be settled empirically.

Democratic pressure for re-election provides another mechanism for ensuring the accountability of governments. Local democracy is particularly important in the provision of public goods, social services and anti-poverty programs in developing countries where mobility costs are typically high for households. Local governments may be more accountable to citizens because the latter are better able to make accurate inferences about their performance. On the other hand, local governments may also be prone to elite capture. One strand of the literature on the relative accountability of local and national governments argues that economic decentralization must be accompanied by political decentralization to succeed. It emphasizes the negative effects of political decentralization, arising from the use of power by regional interests to engage in provincial protectionism. Another class of models argues that the extent of capture of government at any level of government depends on patterns of political participation, voter awareness, and the nature of political competition. Thus, the effects of political decentralization are also theoretically ambiguous.

The complexity of the effects of decentralization on corruption and government accountability are reflected in empirical studies. While cross-country studies fail to provide robust evidence of the benign effects of decentralization on governance, within-country empirical studies show that decentralization has different effects in different countries. For instance, a combination of fiscal decentralization and a high degree of fiscal autonomy contributed to rapid economic growth in China since the early 1980s. In contrast, the negative effects of interjurisdictional externalities seem to have dominated in Russia in the 1990s. In Brazil and India, the effects of decentralization vary substantially across different regions. In summary, the literature provides valuable insight into reasons for the lack of accountability of local governments and the sources of elite capture. Decentralization by itself is unlikely to solve problems of corruption and accountability at the local level. It must be accompanied by institutional safeguards: greater literacy, information availability, land reform, minority reservations, monitoring by civil society, media and higher levels of government, and avoidance of large unfunded mandates.

New IED Faculty Affiliates 2006

Robert A. Margo, Professor, *Ph.D., Harvard University,* specializes in labor economics and economic history. His current research focuses on the economic impact of the 1960s riots.

Andrew Newman, Professor, *Ph.D., Harvard University,* focuses his research on contracts and organizations, income distribution, and matching as they relate to the fields of information economics and development economics.

Adrien Verdelhan, Assistant Professor, *Ph.D., University of Chicago,* works on topics in international macroeconomics and finance. His recent research focuses on exchange rate risk and term premia.

Sujata Visaria, Assistant Professor, *Ph.D., Columbia University*, centers her research interests in the fields of development economics and applied microeconomics.

Will China Eat Our Lunch or Take Us to Dinner? –Simulating the Transition Paths of the US, EU, Japan, and China

Hans Fehr, Sabine Jokisch, and Laurence J. Kotlikoff

Discussion Paper 151, September 2005

This paper develops a dynamic, life-cycle, general equilibrium model to study the interdependent demographic, fiscal, and economic transition paths of China, Japan, the US and the EU. Each of these regions is entering a period of rapid and significant aging that will require major fiscal adjustments. In previous research on the demographic and fiscal transition paths of Japan, the US and the EU, the authors find that the interaction between aging and large fiscal commitments to the elderly will undermine the macroeconomies of the developed world. In particular, the tax hikes needed to pay pension and health care benefits of the increasingly older populations of the developed world will lead to a growing shortage of physical capital relative to human capital. This is because raising taxes on workers to make transfers to the elderly will reduce the amount of individual and collective capital accumulation, reducing real wages per unit of human capital over time by 20%.

In this paper, the authors incorporate two important issues that alter the model's predictions by militating against a severe capital shortage. First, a recalibration of their original model that treats government purchases of capital goods as investment rather than current consumption significantly mitigates the predicted long term capital shortage. As a result, the predicted long run decline in real wages is reduced to 4%. Secondly, this paper incorporates China into the original model, which dramatically alters the model's predictions. China, like Japan and the West, is aging and faces significant associated fiscal obligations. However, China's saving behavior, growth rate, and fiscal policies are currently very different from those of the developed world. Thus, incorporating China has the potential to transform a capital shortage into a capital glut, depending on how its saving behavior and fiscal policy evolve in the future.

The model predicts that if China adopts fiscal policies and saving propensities similar to the developing world, China will only make a modest contribution to the world's supply of capital, leading to an increase in real wages per unit of capital by only 4% by the end of this century. However, if successive cohorts of Chinese continue to save like current generations, China limits growth in public expenditures, and if Chinese technology and education levels catch up with those of the developed world, China could potentially save enough for its own capital needs as well as those of the developed world. As a result, real wages per unit of human capital would be roughly 60% above the current level at the end of the century. These findings lend support to the view that China, India and other developing countries may alleviate the developed world's demographic problems (Siegel, 2005). But even under the most favorable macroeconomic scenario, tax rates will rise dramatically in the developed world to pay the aging population their government-promised health and pension benefits.

Skill-Biased Technology Adoption: Evidence for the Chilean Manufacturing Sector

Olga M. Fuentes and Simon Gilchrist

Discussion Paper 150, November 2005

This paper studies the determinants of demand for skilled manufacturing workers in Chile over the period 1979-1995. This period was characterized by rapid liberalization that resulted in a free-market, trade-oriented economy. During the 1960s and early 1970s, Chile, like much of Latin America, followed an import substitution policy, with high tariffs and market regulations. A variety of economic reforms were initiated between 1973 and 1979 which eliminated most non-trade barriers and quantitative trade restrictions, reduced import tariffs, and deregulated capital and labor markets.

Following such trade reforms, the standard Heckscher-Ohlin model predicts that a low labor-cost country like Chile will experience a fall in the capital-labor ratio and a reduction in the demand for skilled workers relative to unskilled workers. However, more recent theories argue that trade liberalization will have the opposite effect if it is associated with the adoption of new technologies. This may occur because the free trade environment directly facilitates the transfer of knowledge, or because the mix of investment goods shifts towards imported high-technology capital goods that are complementary with skilled labor. As a result, skill-biased technological change may also imply increased wage inequality.

The authors focus on three issues: the extent to which the demand for skilled labor changed over this fifteen year period following trade liberalization; the extent to which the change in the demand for skilled labor was associated with technology adoption; the extent to which the change in the demand for skilled labor was linked to the accumulation of capital in general, and imported capital goods, in particular. They use a plant-level data set obtained from the World Bank and the National Statistics of Chile (INE). The dataset is a census of manufacturing plants and contains annual information for the period 1979-1995.

The findings suggest that labor demand did shift in favor of skilled workers during this period and that the relative demand for skilled labor was closely tied to the adoption and use of new technologies as measured by patents used in manufacturing. Decompositions of the wage-bill and employment share of skilled workers show that the rise in skilled labor can be entirely attributed to within-industry changes. This is consistent with the hypothesis that the relative demand for skilled labor is linked to technology adoption at the plant level resulting from skill-biased technological change. However, the authors find no evidence that trade liberalization increased the relative demand for skilled labor by reducing the cost of imported capital goods that embodied new technologies. Thus, the authors infer that the economic environment created by the economic reforms adopted in the late 1970s must have encouraged the adoption of new technologies.

The Economics of Forced Migration – a Workshop

Robert Lucas organized a two day workshop on the economics of forced migration at MIT, December 9-10 2005. Although international migration is now attracting a great deal of attention the economics of forced migration remains relatively neglected. The workshop brought together researchers from around the world who have contributed to the analysis of these issues; leading researchers interested in forced migration more generally and economists with an interest in migration and its development implications. Topics addressed were: Compulsion, Choice and Selection; OECD Host Country Policies - Recognition Rates, Resettlement, State Support and Foreign Aid; Livelihoods and Remittances - Refugees and Internally Displaced Persons; Economic Assimilation of Refugees and Asylum Seekers in the OECD Countries; Economic Impacts on Developing and Transition Economies - The Effects of Refugee Inflows and Post-Conflict Repatriation; Data: Sources, Sampling and Collection; and Future Research - Priorities and Potential.

2006 Rosenstein-Rodan Prize Winners Announced

The Rosenstein-Rodan prize is awarded annually for the best paper in a development-related area written by economics graduate students. Because of their excellence, two papers were selected this year.

"Spatial Analysis of City Income Distribution Dynamics in China"

Chun-Yu Ho and Dan Li

"Inequality, Choice of Education, and Trade"

Rezida Zakirova

In "Spatial Analysis of City Income Distribution Dynamics in China", Chun-Yu Ho and Dan Li employ Quah's transitional matrix and Rey's Spatial Clustering Index (SCI) to analyze the dynamics in Chinese city income distribution both from temporal and spatial dimensions. Their empirical results show that cities in eastern China enjoy more favorable movements in income distribution during the urban post-reform era compared with the inland counterparts. The dynamic spatial dependence is notable at the provincial level but not at the regional level, even though the static spatial clustering is noticeable at both levels. There is no obvious evidence for the effectiveness of the Western Region Development Plan in helping poor cities out of their current status.

The goal of Rezida Zakirova's "Inequality; Choice of Education, and Trade" is to provide an analytical framework to study the effects of trade liberalization on wage inequality and human capital accumulation. Empirical evidence suggests that increasing openness of developing country economies can lead both to more equal income distribution as in East Asia, and to increased inequality as in Latin America or China. Feenstra and Hanson (2001) argue that openness is a potentially important explanation for the increasing wage gap in industrial countries, claiming that outsourcing can account for a large share of skill upgrading. For developing countries openness often entails large increases in returns to higher education, while returns to secondary or primary education are decreasing or unchanged. There is no coherent theory reconciling this evidence. This paper attempts to fill the gap, adding trade to the model of persistent inequality of Mookherjee and Ray (2003). The model presented in this paper is able to reproduce some important empirical facts, such as an increasing wage gap between skilled and unskilled workers in developed countries and a growing share of skilled workers worldwide. Yet it is unable to explain widening of skill premia in both developing and developed countries, except via exogenous technology shifts.

Research in Progress 2006

The following paragraphs summarize the projects and development-related research being conducted by Institute affiliates from the Economics Department at Boston University

Maristella Botticini is working with Zvi Eckstein on a project on Jewish economic history with the aim of studying the role of social norms and religion on occupational selection, conversions, and migration. One of their papers "Jewish Occupational Selection: Education, Restrictions, or Minorities?" has been published in the December 2005 issue of the *Journal of Economic History.* The other paper "From Farmers to Merchants, Voluntary Conversions, and Diaspora A Human Capital Interpretation of Jewish Economic History" is in the working paper series of CEPR. They are also developing a book based on this project.

She is also finishing the manuscript <u>The Price of Love: Marriage Markets and Intergenerational Transfers in Comparative Perspective</u> to be published by Princeton University Press. The book will offer a comparative analysis of marriage markets and intergenerational transfers by merging original research on medieval and Renaissance Florence with secondary literature on dowries, bride prices, marriage markets, and bequests in past and contemporary societies.

Randall Ellis' recent research focuses on how payment systems affect the health delivery system, with a particular focus on risk adjustment. Risk adjustment is a strategy for reducing adverse selection incentives by paying health insurance companies premiums that more closely reflect their expected costs. His research on risk adjustment has already had an important impact on health care policy in the United States, changing the formula currently being used to pay for health care of 6 million Medicare managed care enrollees. Risk adjustment is being considered for adoption in numerous countries around the world, including Australia, Chile, Taiwan, and China. In January 2006 Germany announced that it would be using a framework that Ellis helped develop to pay for physician services. During the past year, Ellis has given talks in Spain and Germany. Currently he is collaborating with researchers in Australia, Canada, and Germany.

Robert King continues to focus his research on monetary policy and macroeconomics. A portion of that research has considered settings in which discretionary policy enhances complementarities in economies, thus leading to multiple equilibria with some equilibria much worse than others. An initial example, "Monetary Discretion, Pricing Complementarity and Dynamic Multiple Equilibria" concerns monetary policy (*Quarterly Journal of Economics*, November 2004). A very different example, "Discretionary Policy and Multiple Equilibria" involves the interaction of a government which must decide whether to build flood protection systems such as dams and levies (*Federal Reserve Bank of Richmond Economic Quarterly*, Winter 2006). In future work, he plans to study examples in which discretionary policy can lead to development traps.

Kevin Lang continues to focus his research on education and on labor markets. His major current project related to development (joint with Erez Siniver) examines the effect of English knowledge on the earnings of immigrants to a country where English is not the main language. He is completing a book , <u>Poverty and Discrimination,</u> to be published by Princeton University Press. He is also working with Michael Manove on education and wage discrimination.

Robert Lucas is working on two main topics. The first, in collaboration with former IED visitor, Sari Pekkala, is on inter-generational economic mobility in Finland. Their first paper, which looks at changes in inter-generational mobility in Finland over the entire second half of the last century, will appear in a special issue of *Industrial Relations*. They are now completing a second paper addressing credit constraints versus ability transmission as explanations for observed inter-generational transmission. The second topic examines the effects of international migration upon the economic development of the sending countries. Lucas's monograph on this subject was published by Edward Elgar Press in 2005. This work has now been extended to encompass Sub-Saharan Africa in a paper that is forthcoming in the *Journal of African Economies*. During the last year, seminars based on his work were presented in Nairobi, Accra, Berlin, Stockholm, Paris, Rome, and New York, as well as at the World Bank and United Nations. Lucas also organized a major workshop on the economics of forced migration in December 2005.

Jianjun Miao is currently working on a project with Francois Gourio about the long-run effects of dividend taxation. They build a dynamic general equilibrium model in which there is a continuum of firms subject to idiosyncratic productivity shocks. They show that at any point in time, a firm may lie in one of three finance regimes: a dividend distribution regime, a liquidity constrained regime, or an equity issuance regime. These finance regimes may change over time in response to idiosyncratic productivity shocks. Firms in different finance regimes respond to dividend taxation in different ways. Miao and Gourio calibrate the model to the US data from COMPUSTAT and use this calibrated model to provide an initial quantitative evaluation of the Bush government dividend tax reform in 2003. They show that when both dividend and capital gain tax rates are cut to 15 percent, the aggregate long-run capital stock increases by about 3 percent and welfare increases by about 0.2 percent. Miao also continues work on topics related to dividend taxation. In the next project, he will investigate redistribution issues.

Dilip Mookherjee is currently engaged in a number of development related projects: political economy of land reforms and local governance in West Bengal since the late 1970s; relation between poverty, household energy use and reliance on forests in the Himalayan regions of Nepal and India; theoretical analysis of the dynamics of poverty and inequality; and of rules concerning bankruptcy and bonded labor on inequality and productive incentives. He has recently co-edited two books, Understanding Poverty (Oxford University Press) and Decentralization and Local Governance in Developing Countries: A Comparative Perspective (MIT Press), and is the author of a forthcoming book Market Institutions, Governance and Development (Oxford University Press).

Andrew Newman is currently engaged in several theoretical research projects pertaining to development and globalization. "Globalization and Insecurity" investigates the effects of liberalized markets on informal or implicit insurance institutions, with a focus on the consequences for inequality, economic insecurity, and job turnover. "Managerial Firms, Organizational Choice, and Consumer Welfare" studies in a perfectly competitive framework the impact of trade-induced corporate reorganization on consumer welfare and possible policy remedies. "Credit, Growth and Trade Policy" is concerned with the effects of inefficient credit markets on developing countries' responses to trade liberalization, in particular in terms of trade patterns, inequality and the effects of policies such as tariffs or export promotion. "Smithian Growth through Creative Organization" studies the effects of inequality on organizational choices such as the division of labor and its feedback to rates of innovation and growth.

Sujata Visaria is currently working on a number of empirical projects related to economic development. These include a study of the impact of legal hurdles to liquidation on the financing, organization and performance of Indian manufacturing sector. With Rohini Pande and Erica Field, she is examining the effects of religious violence on segregation and health outcomes in India and, with Rohini Pande she is also working on a project to understand the role of caste and family networks in socio-economic mobility in a Jain community from Gujarat.

IED Visitors 2006

Jose Antonio Garcia Martinez is from the University of Alicante. His research interests are related to biased selection in promotion mechanisms in hierarchical social systems. He has been working on three projects. "Altruism, Egoism and Group Cohesion in a Local Interaction Model" studies the relationship between group-cohesion and the persistence and spread of efficient but dominated strategies, such as altruism. "Biased Selection in Hierarchies" develops a model to study selection in social hierarchies where non-performance characteristics of agents are taken into account. Questions addressed include usefulness of minority quotas in promotion systems, the effect of temporary versus permanent quotas and endogamic selection procedures on the efficiency of the system. "Reputation and Information Transmission" examines the effect of reputational concerns and informational quality of an advisor on the extent of credible communication with an uninformed decision maker.

Masatoshi Tsumagari, Keio University, is currently working on two projects related to organization theory. The first is on theoretical analysis of organizations with collusion. The second, in collaboration with Dilip Mookherjee, is on developing mechanism design theory under explicit consideration of communication cost, and using this to explain the resulting benefit of decentralized organization forms.

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