THE INSTITUTE FOR ECONOMIC DEVELOPMENT

RESEARCH REVIEW

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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.

Are Working Women Good for Marriage?

Zvika Neeman, Andrew F. Newman and Claudia Olivetti
Discussion Paper 167

This paper studies the connection between trends in divorce rates and female labor force participation (FLFP) in the United States. Much of the literature on this issue argues that divorce rates and the fraction of women who work should move together. However, in the past two decades, the trend in US divorce rates has begun to reverse itself, while FLFP continues to rise. In addition, a cross-section of US states reveals a negative correlation between divorce rates and labor force participation of married women, even after controlling for state level characteristics. Thus existing explanations of the connection between divorce and FLFP are incomplete.

The authors investigate economic forces both theoretically and econometrically that could account for the reversal in the relationship between divorce and FLFP, focusing on two factors that distinguish working women from non-working women. The first is selectivity—working women can afford to wait and be more selective about whom they marry, implying fewer unexpected incompatibilities. The second is flexibility—working endows the earner with cash, the most efficient means of transferring surplus between partners. When the marriage is subjected to a “shock” in the form of an outside opportunity for one partner, the cash endowed partner can easily compensate for this and match the outside option, while cash-poor one cannot and thus may lose the partner. Thus, marriages in which both partners work should be more stable than those in which only one does, all else the same.

Employing a simple search and matching framework, the authors show that the flexibility effect, absent all other competing effects, would predict an “inverted-U” shaped relationship between FLFP and the divorce rate in the aggregate, which matches the trend from 1960 to the present.

They then go on to investigate the evidence. Using both cross-sectional aggregate data for US states from different periods and a panel of individual level data, they find evidence that both the selectivity and flexibility effects may be playing a role in generating the US trends. For instance, a principal implication of the selectivity effect is that women who work marry at later ages than those who do not; in the aggregate data, states with higher FLFP have lower divorce and higher average ages of first marriage than states with low FLFP. Moreover, FLFP is still significant controlling for the average age of first marriage, as well as a number of demographic and economic variables that could represent competing effects. The individual level evidence also shows marriages lasting longer when the woman has significant labor force attachment than when she does not.

Contingent Government Liabilities against Private Expectations in England, 1743-49

Christophe Chamley
Discussion Paper 166

This paper analyzes the debt financing of the first of three major wars that 18th century England was involved in, the war of Austrian succession (1743-1748) which set the pattern of war financing after half a century of strengthening the capital market and credibility for the government. Most studies so far have been devoted to the analysis of the level of financing. This paper focuses on its composition and was motivated by the surprisingly orderly reduction of the interest rate on the public debt from 4 to 3% in 1749.

The interest rate could be reduced in England (contrary to France), because the bond contracts allowed the government to redeem at their face value. The main financial instruments in war financing were two annuities, one (called the 3% annuity) paying 3 pounds per year per face value of 100, the other (the 4% annuity) paying 4 pounds per 100. After the war when the interest rates fell back to a peace time level of 3%, the values of all annuities would increase. The 3% annuity would reach its par level again with a price of 100. The 4% annuity, with higher payments, would be priced higher and the government would exercise the right to buy it back at a price no less than 100. This redemption could be done by issuing new annuities at the lower prevailing rate (around 3%). Since the new subscribers were the same people as the annuity holders, it was more efficient to lower the interest payment on the 4% annuities.

Examination of the historical context and events show that the policy rules determined the payments on the 4% annuities to depend on the evolution of the 3% annuity (which can be considered as perpetual at that time since the interest rate was very unlikely to go below 3%). In the language of modern finance, the 4% annuity was a derivative asset of the 3% annuity. A model of derivative asset pricing is presented and is shown to fit well with the daily prices of the 3% and the 4% annuities.

The model provides a tool to measure the expectations of market participants for the years 1746-1749 in which these annuities were traded. It is shown that the market anticipated very well in advance the price at which the government would buy back the 4% annuity which at 104 was above par, for reasons that are discussed in the paper. However, the market had an outlook that was much too pessimistic about the speed of recovery of the bond prices after the war. The price data exhibits two sharply different regimes, before peace negotiations started in April 1748 when the fortunes of war were very uncertain, and after April 1748 when the main issue was the downward evolution of the interest rate.

The excess of pessimism by investors was exploited cleverly by the government. The market, estimating that interest rates would be slow to decrease, expected that the 4% annuities would pay their high coupons for a time of about 8 years, as computed by the model. The market was rational and purchased the 4% annuity at a high premium over the 3% which reflected this expectation. But the government paid the high coupons for only a couple of years and thus gambled against the market with great success.

Intercountry Comparisons of Poverty based on a Capability-based Approach

Sanjay Reddy, Sujata Visaria and Muhammad Asali

Discussion Paper 165

How should poverty be estimated? Amartya Sen has argued persuasively that poverty is the deprivation of basic capabilities, viz. “substantive freedoms [a person] enjoys to lead the kind of life he or she has reason to value”. Further, he has pointed out that all poverty assessment involves two component exercises: first, the identification of the poor (i.e. the determination of who is poor and to what extent), and second, the aggregation of this information to form a judgment about the extent of poverty in a society. If this exercise is to be meaningful, a uniform identification criterion must be applied to all individuals. For instance, if some person is identified as being poor because her income is insufficient to command certain capabilities, then the same capabilities should form the identification criterion for all other persons as well. Poverty assessment at the regional and global levels is equally subject to this demand. For inter-country comparison and aggregation of poverty estimates to be meaningful, it is essential that a common identification criterion is applied in all countries.

A fully meaningful approach would establish a poverty line for each country that would correspond to the minimum cost (in that country) of achieving a certain set of basic human requirements, which are uniformly conceived across countries. The same elementary human capabilities would be used to define the poverty line in each country. The resulting poverty lines would embody a uniform identification criterion, which has the advantage of having the same meaningful interpretation in all countries.

Currently, the method that is predominantly used for such comparison and aggregation is based on an international poverty line (IPL) expressed in PPP dollars of a specific year, and then converted into poverty lines in local currency units. There are two main criticisms of the IPL-based approach. First, the choice of the IPL was largely arbitrary: it was not constructed to conform to a uniform criterion across all countries and over time. Although this flaw is often overlooked, it is in fact a serious problem and violates the basic principles behind poverty assessment. Second, the extensive use of PPPs in the implementation of the IPL-based approach makes the poverty estimates sensitive to variables that in reality might not affect the level of poverty in any country.

In this paper, the authors demonstrate an alternative approach to poverty assessment which addresses both of the concerns listed above. This approach is used to compute poverty estimates using existing household survey data for three different countries: Nicaragua, Tanzania and Vietnam. An income-dependent elementary human capability, i.e., the capability to be adequately nourished, is used as a uniform criterion to define the poverty line in each country. Applying a common methodology across all three countries, a poverty line in each country is constructed. Unlike the IPLs, these poverty lines (by definition) refer to the same (capability-based) concept of poverty in all three countries and are therefore comparable across the countries.

The authors contrast their poverty estimates with those based on the money-metric international poverty lines that are commonly used and find that the choice of approach matters a great deal. Both cardinal comparisons and (perhaps more surprisingly) ordinal rankings of poverty across countries are influenced by the approach used. Based on this exercise, it is argued that there is no "quick-fix" by which to align the existing money-metric poverty lines with a capability-based concept of poverty: a simple increase or decrease in the money-metric IPL without a change in the PPPs used to convert the IPL into local currency units cannot suffice, because the necessary adjustment varies from country to country. A more comprehensive program of capability-based poverty line construction (and complementary survey design) offers a better way forward for inter-country poverty comparison and aggregation.

Outside Income and Moral Hazard: The Elusive Quest for Good Politicians

Stefano Gagliarducci, Tommaso Nannnicini and Paolo Naticchioni
Discussion Paper 164

In many modern democracies, elected representatives are allowed to work in the private sector while in office. This paper theoretically and empirically investigates the effects of incorporating this feature on politician quality and effort. The authors argue that relaxing the assumption of mutual exclusiveness between political and market sectors reveals a tradeoff between the quality of elected officials and the effort they exert while in office.

Using a simple theoretical framework, the authors show that allowing elected officials to earn private income produces a tradeoff between moral hazard and adverse selection. In an economy with two sectors, political and private, individual ability is rewarded in the private, but not in the political sector. Thus, the model predicts that high-ability citizens have relatively larger market returns if elected, and therefore, are more likely to run for election. On the other hand, politicians with greater potential market income are less likely to exert effort while in office.

These implications are tested using a unique dataset about members of the Italian Parliament from 1996 to 2006. The results show that a fraction of citizens with relatively high pre-election incomes are elected to parliament. Moreover, outside income is relatively high for politicians with higher pre-election incomes. Conversely, these 'high-ability' politicians exhibit greater absenteeism rates in parliament votes. Thus, low-ability but committed politicians are elected along with high-ability individuals who exert low effort.

Land Reform and Farm Productivity in West Bengal

Pranab Bardhan and Dilip Mookherjee
Discussion Paper 163

Land reforms are typically motivated by the prospect of improving farm productivity and reducing poverty at the same time. In the context of a program Operation Barga in West Bengal in eastern India, this paper studies the effect of sharecropping tenancy on farm productivity and incomes of the poor. Previous literature on this issue has argued on the basis of theory and empirical evidence for West Bengal that Operation Barga increased agricultural productivity via Marshall-Mill incentive effects. In the context of West Bengal, the authors argue that the extent of cultivable land directly affected by tenancy reforms seems too small to be able to explain the doubling of average farm yields or the increasing use of high-yielding varieties of rice, in terms of sharecropping incentive effects alone. The authors point out three potential concerns with previous empirical studies. First, land reform may affect agricultural productivity in many other ways apart from sharecropper incentives, e.g., by altering the distribution of land ownership and cultivation, sharecroppers' access to formal sources of credit, diffusion of productivity improvements through social learning, and changes in local governance. Second, the use of aggregate level government agricultural statistics may be subject to large measurement error. Thirdly, program implementation may be potentially endogenous, since tenancy registration rates depend on the voluntary decision of the tenant to register.

This paper addresses these concerns in various ways. The use of disaggregated farm level data drawn from cost of cultivation surveys enables an analysis of the effects of tenancy reform on farm yields, while controlling for unobserved farm fixed effects. The authors are also able to distinguish between direct effects on tenant farms, and spillover effects on owner-cultivated farms. The panel nature of this data implies that within-farm productivity effects can be measured separately from possible effects on the composition of land holdings. Measurement error in measuring program implementation rates is minimized by using data collected from local land records rather than district level aggregates. Moreover, the authors control for other input supply programs of the local government that may have been correlated with the implementation of Operation Barga. Finally, the authors draw on their prior analysis of the political economy of the land reform to control for potential endogeneity issues.

The authors find that the predicted impact of tenancy reform on tenant farm yields is statistically significant, but quantitatively smaller than found in previous studies. It is substantially smaller than the effects of agricultural input supply programs implemented by local governments. Even though tenancy registration was associated with a significant productivity effect, which diffused to other farms, the low incidence of leasing led to a small aggregate impact. These results suggest an alternative interpretation of the effects of tenancy reform that also takes into account spillover effects on non-tenant farms via price effects, local governance, or management of common property resources.

Risk Bearing and Entrepreneurship

Andrew F. Newman
Discussion Paper 162

This paper asks whether the "Knightian" theory of entrepreneurship still provides plausible predictions once factors leading to the inability of the market to provide insurance are taken into account. The "Knightian" theory argues that entrepreneurs provide insurance to workers through the fixed wage contract, while they bear all the risk of production. Thus, the choice of occupation is the only institutional arrangement for risk-sharing in this theory.

This paper endogenizes entrepreneurial risk by allowing for optimal insurance contracts as well as self-selection into occupations, with moral hazard on the part of entrepreneurs requiring them to bear some risk. The risk sharing choices of entrepreneurs are set in a standard principal-agent model. This yields the surprising and implausible prediction that for a broad class of utility functions, competitive equilibrium is characterized by employers being poorer than workers.

The result stems from the fact that when utility is separable in income and effort, wealthier agents need to bear higher risk to maintain incentive compatibility at a given effort level. For a certain class of utility functions, this "increasing risk effect" more than compensates for the decreasing risk aversion as wealth levels increase. In a related result, the model also predicts that agents with higher expected wages are subject to greater monitoring than those with lower average wages.

The empirical implausibility of the first result suggests that a risk-bearing-based theory of entrepreneurship may be inadequate. More generally, both results underscore the contrasting effects of the two fundamental tradeoffs in the theory of moral hazard. The first is the focus of this paper, namely, the tradeoff between risk sharing and incentives, while the other is the tradeoff between surplus extraction and incentives that underlies many models of credit market imperfections or efficiency wages. Results such as those in this paper can help with sorting out the empirical relevance of the two tradeoffs.

Managing the Environmental Consequences of Growth: Forest Degradation in the Indian Mid-Himalayas

Jean-Marie Baland, Pranab Bardhan, Sanghamitra Das, Dilip Mookherjee and Rinki Sarkar

Discussion Paper 161

Based on detailed household, village and ecology surveys in a sample of villages in Uttaranchal and Himachal Pradesh, two Northern Indian states, this paper analyzes the relationship between living standards and forest degradation in the Indian mid-Himalayas. Prior work in this region suggests that forest degradation rather than deforestation is the key problem. This local externality is driven primarily by the dependence of local inhabitants on adjoining forests for the collection of firewood and fodder. While the majority of households report awareness of the worsening situation, the lack of effective local initiatives cannot be explained by the absence of knowledge about tree management practices or deficiency of social capital. This suggests that the major determinants of forest degradation are related to the incentives of households to collect firewood and fodder from the forest, unconstrained by community norms or sanctions.

The authors estimate an econometric model relating household firewood collections to relevant characteristics of households, villages and forests. Their first finding is that demographic pressures rather than economic growth are likely to adversely affect forest degradation. This is because firewood and fodder collections are found to be inelastic with respect to improvements in living standards, and unit elastic with respect to population. Therefore, they argue that while economic growth is expected to have a negligible impact on anthropogenic pressures on the forest, population growth will exacerbate these pressures substantially. Increases in population will cause a proportional rise in collections for the village as a whole, while leaving per capita collections almost unchanged. Insofar as household division induces a shift to smaller household sizes, resulting loss of economies of scale within households will raise per capita collections even further.

Next, the authors assess the impact of forest degradation on future living standards of local households. An increase in collection time by one hour is predicted to lower the income of households living near these forests by less than 1%. Thus, the size of the common property externality is small. This may provide an explanation for lack of collective action among local villagers to regulate forest use.

The argument for external policy interventions then depends on the importance of non-local externalities related to the broader ecological effects of forest degradation. Among these households, the principal alternative to firewood is LPG. This suggests that subsidies for LPG use may be used as a policy to induce households to reduce their dependence on firewood collection from adjoining forests. The estimated model predicts that a Rs 200 subsidy per LPG cylinder will increase the proportion of households in these villages using LPG from 7% to 78%, and lower wood use by 44%. The econometric estimates also show that firewood use is moderated when local forests were managed by the local community (van panchayats) in Uttaranchal. However, even if all state protected forests could be converted to van panchayat forests, firewood use would be predicted to fall by only 20%. Thus, the authors conclude that policies aimed at increasing local community management of forests are likely to be less effective in curtailing firewood collection than subsidies on alternate fuels.

Firm Heterogeneity and the Long-Run Effects of Dividend Tax Reforms

Francois Gourio and Jianjun Miao

Discussion Paper 160

In light of the recent dividend tax reform instituted by the Bush government, this paper considers the long-run effect of dividend taxation on aggregate capital accumulation. Theoretical work on the economic effects of dividend taxation on investment falls into one of two views. The "traditional view" argues that the marginal source of investment finance is new equity. The return on investment is then used to pay dividends. Thus, a cut in the dividend tax raises investment by reducing the using cost of capital. The "new view" on the other hand, argues that firms use internal funds to finance investment. Therefore, dividend taxes do not affect the user cost of capital and investment. Empirical evidence on this issue is inconclusive. The authors build on the existing literature by using a dynamic general equilibrium model that incorporates firm heterogeneity as well as idiosyncratic productivity shocks. The calibrated model provides an initial quantitative evaluation of the Jobs and Growth Tax Relief Reconciliation Act (JGTRRA) enacted in 2003.

The model sets the traditional single-firm model in a computable dynamic general equilibrium framework. In addition, it uses a continuum of heterogeneous firms, subject to idiosyncratic productivity shocks. The model generates a cross-sectional distribution of firms, with firm behavior varying by capital stock and own productivity shocks, even though the economy-wide aggregates are constant in the long run. Thus, firms may lie in one of three finance regimes over time, depending on the marginal source of finance. These regimes are the equity issuance regime, the dividend distribution regime and the liquidity constrained regime. In contrast, assuming a representative firm in this model implies that dividend taxation has no effect on long-run capital accumulation, since this firm behaves as in the "new view".

The authors use the calibrated model to evaluate the effects of the 2003 dividend tax reform. Lowering the dividend tax rate increases the long-run capital stock, total factor productivity and labor productivity. However, when both dividend tax rates and capital gains tax rates are lowered to 15 percent, the effects are much larger, and the aggregate long-run capital stock increase by 3 percent. This is because such a policy reduces the user cost of capital for all firms. The general equilibrium price feedback effects are important in dampening the positive effects of these tax cuts. Shutting down this channel yields five to ten times the increase in capital stock.

The Return to English in a Non-English Speaking Country: Russian Immigrants and Native Israelis in Israel

Kevin Lang and Erez Siniver
Discussion Paper 159

The authors examine the return to foreign language skills, in particular, English knowledge, for both Russian immigrants and natives in Israel. In doing so, it contributes to the literature on the role of host-country language acquisition in explaining faster wage growth among immigrants relative to natives. While immigrants' wages are positively related to host-country language skills, the latter may be indicative of other skills or unobserved ability. By analyzing host-country language acquisition (Hebrew) as well as foreign language acquisition (English), the authors address this issue by controlling for individual ability to acquire language skills. In addition, the use of panel data allows them to account for permanent differences in ability. This paper also sheds light on language-skill complementarity, assessing the value of language proficiency across occupations, for both English and Hebrew.

Their data consists of a sample of immigrants from the former Soviet Union and native Israelis working in the same occupations and workplaces, and has current and retrospective information of earnings and language ability. In cross-section estimates, the authors find a significant return to English proficiency for both natives and immigrants with high levels of education. This suggests that language skills are complementary with education. Secondly, while language acquisition is found to be an important element in the convergence of native and immigrant earnings, most of this convergence is explained by other factors. These results are confirmed using panel data. The authors also find that the benefits of foreign language fluency vary across occupations in a pattern consistent with past evidence on language-skill complementarity. Comparing the benefits of foreign language skills across natives and immigrants, the results suggest that members of both groups with high education levels benefit similarly. However, immigrants with low levels of education do not seem to benefit from English knowledge, but native Israelis with similar education do.

Finally, the paper presents results that suggest that earlier work on the role of host-country language fluency does not appear to be significantly biased by the absence of measures of other language skills. Conditional on occupation, the rate at which immigrants and natives learn foreign and host-country languages seem to be largely orthogonal. Thus, it is unlikely that unmeasured skills are an important source of bias in cross-section estimates of the return to language proficiency.

Research in Progress 2007

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

Peter Doeringer's classic book Internal Labor Markets with Michael Piore will be published in a Japanese edition by Waseda University, following on a Spanish edition and a partial translation in Italian. He is completing a book on fashion innovation, market power, and hierarchies and networks in the apparel industry, based on enterprise surveys in the United States, France, Italy, and the UK. A paper based upon this research, "Hierarchical Networks and Innovation Failures: Why the New York Garment District Doesn't Imitate Italy", was presented at the 4th International Industrial Organization Conference. He also wrote two entries, "Noncompeting Groups" and "The Fishing Industry" (with David Terkla) for the new edition of the Encyclopedia of the Social Sciences. His article, (Can Fast Fashion Save the U.S. Apparel Industry? with Sarah Crean) was published in the *Socioeconomic Review*. Professor Doeringer has also been serving as Associate Dean for Faculty in the College of Arts and Sciences.

Randall Ellis's recent research focuses on how payment systems affect health care providers and health plans. His recent papers examine provider incentives created when payments are capitated, so that a fixed amount of money is shared by one or more providers for a fixed period of time, such as a year. He is especially active in risk adjustment, 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, UK, and Taiwan. In January 2006, Germany announced that it would be using a framework that Ellis helped develop to pay for physician services. Ellis is currently collaborating with researchers in Australia, Canada, UK, and Germany.

Simon Gilchrist is conducting research on economy-wide and firm-level determinants of investment, and the influence of credit markets on real activity. In one recent project (joint with Mark Gertler and Fabio Natalucci), he examines the ability of dynamic stochastic general equilibrium models to explain the macroeconomic outcomes experienced during the 1997 Korean financial crisis. In other work (joint with Jae Sim), he explores the link between foreign-denominated debt, balance sheet conditions and firm-level investment spending. Again focusing on the Korean episode, this paper uses a structural model to identify the effect that devaluations may have on investment spending during a financial crisis.

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. Another related component of his research concerns the question of how macroeconomic policy credibility evolves over time. In joint work with two BU Phd students, Yang Lu and Ernesto Pasten, he develops a framework for studying the behavior of a central bank "Managing Expectations" about its future policy stance.

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. His book, Poverty and Discrimination, was published by Princeton University Press in January. He is also working with Deepti Goel on the assimilation of immigrants to Canada.

Jianjun Miao continues to work on the topic of the economic effects of dividend taxation with Francois Gourio. He is working on two new projects. The first project analyzes the dynamic effects of temporary and permanent dividend tax cuts on corporate investment and financing decisions in a partial equilibrium model. The second project analyzes the transitional effects of dividend taxation on firms' entry, growth and exit in a general equilibrium framework. These two projects have policy implications for the dividend tax reform enacted in 2003 by the Bush government. Jianjun Miao is also working on two other topics. One topic addresses the question as to how ambiguity aversion influences asset returns. He applies the smooth ambiguity model recently developed by Klibanoff, Marinacci and Mukerjee (2005). He will also develop a continuous time version of this model. The other topic studies a continuous time dynamic contracting problem. This problem deals with a firm's investment, entry, growth and exit in the presence of enforcement constraint and moral hazard.

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; of globalization and inequality; and effect of laws concerning bankruptcy and bonded labor on inequality and productive incentives. He has recently co-edited two books, Understanding Poverty (Oxford University Press, 2006) and Decentralization and Local Governance in Developing Countries: A Comparative Perspective (MIT press, 2006), and is the author of Market Institutions, Governance and Development (Oxford University Press, 2006).

Andrew Newman is currently engaged in several research projects pertaining to development, the economics of the household, and economics of organization, and is developing theoretical tools used to study these issues. "Managerial Firms, Organizational Choice, and Consumer Welfare" studies in a perfectly competitive framework the impact of product market-induced corporate reorganization on consumer welfare and possible policy remedies. "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. "Are Working Women Good for Marriage?" studies the recent decline in US divorce rates despite increasing female labor force participation and suggests that that this trend reversal may be accounted for by the greater flexibility of working women compared to non-working women in intrahousehold bargaining.

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, joint with Sudipto Dasgupta. With Rohini Pande and Erica Field, she is examining the effects of religious violence on segregation and health outcomes in the city of Ahmedabad, India. With Dilip Mookherjee, Sandip Mitra and Maximo Torero she is examining the importance of information constraints to the marketing decisions of small versus large farmers in West Bengal. With Farzana Afridi she is beginning a project on public accountability and peoples' movements.

Visiting Scholars 2007

The following paragraphs summarize the projects and research conducted by visitors to the Institute in 2007

Mina Baliamoune-Lutz is from the University of North Florida. Her research is mainly empirical and focuses on the growth and development effects of trade, institutions, and social capital. She has been working on four projects. (1) "The Growth Effects of Openness to Trade and the Role of Institutions" (with Leonce Ndikumana, UMASS-Amherst) explores the argument that one of the causes for the limited growth effects of trade openness in Africa may be the weakness of institutions. The study uses Arellano-Bond GMM estimations on panel data from African countries and controls for several major factors and, in particular, for export diversification, using a newly developed dataset on Africa. (2) "Social capital and Human Wellbeing in Africa" examines the effects of income, institutions and social capital proxied by the level of corruption and ethnic tensions on literacy and life expectancy. (3) "Aid Effectiveness: Looking at the Aid-Social Capital-Growth Nexus" tests the robustness of Burnside and Dollar's findings (Aid, Policies, and Growth, *AER* 2000) that the positive effect of aid on growth depends on the presence of good policies. (4) "Trade and Inequality in the Presence of Weak Institutions and Imperfect Credit Markets" (with Dilip Mookherjee) uses cross-sectional and panel data and examines whether trade exacerbates inequality in developing countries where political institutions are weak and credit markets are imperfect.

Masatoshi Tsumagari, Keio University, is currently working on two projects in collaboration with Dilip Mookherjee. The first is on analyzing implications of trade liberalization for inequality based on the model with middlemen margins. The second is on developing mechanism design theory under explicit consideration of communication cost, and arguing implications for decentralization.

Research interests of **Jose Antonio Garcia Martinez** (University of Alicante) are related to biased selection in the promotion mechanism in hierarchical social systems. He studies the relationship between group-cohesion and the persistence and spread of efficient but dominated strategies, such as altruism, in *Altruism, Egoism and Group Cohesion in a Local Interaction Model*. In *Biased Selection in Hierarchies* he 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.

Ulf von Lilienfeld-Toal is from Johann Wolfgang Goethe-University Frankfurt in Germany. He is working on law and economics, and organizations. During his research at the IED, he has been investigating the causes and consequences of limited liability in debt contract. "The Political Economy of Debt Bondage" sheds light on the use of bonded labor and regulations of bonded labor as a specific form of liability. "Bankruptcy Law and Inequality" is concerned with the structure of bankruptcy law and its impact on economic activities. These projects are joint work with Dilip Mookherjee. In the future, they hope to carry out some empirical work in collaboration with Sujata Visaria related to limits on liability.

2007 Rosenstein-Rodan Prize Winner Announced

The Rosenstein-Rodan prize is awarded annually for the best paper in a development-related area written by an economics graduate student.

Creation of Social Order in Ethnic Conflict

Keisuke Nakao

In his paper, "Creation of Social Order in Ethnic Conflict", Keisuke Nakao describes a repeated game theory model of ethnic conflict and cooperation, in which the threat of inter-ethnic conflict creates incentives for peer monitoring within ethnic groups (to deter inter-ethnic transgressions). This theory contrasts with the well known work of Fearon and Laitin (American Political Science Review, 1996), where ethnic conflict deters inter-ethnic transgressions owing to lack of information about identity of transgressors. Besides being able to explain numerous instances of ethnic conflict that the Fearon-Laitin theory cannot, an important implication of the theory is that it provides new insight into the causes of inter-ethnic conflict that are related to weak within-group policing: groups with low quality of within-group policing tend to have more frequent and longer disputes with other groups.

Policy Paper

The Growth Effects of Openness to Trade and the Role of Institutions: New Evidence from African Countries

Mina Baliamoune-Lutz and Leonce Ndikumana

Theoretical arguments in favor of trade liberalization suggest that it expands trade opportunities, improves the efficiency of resource allocation, and accelerates technological development, which in turn promotes economic growth. However, empirical evidence on the growth effects of trade liberalization remains mixed. While some studies find no association between trade liberalization and growth, others find a negative relationship. This paper contributes to this literature by exploring the role of weak institutions in explaining the limited growth effects of trade liberalization in African countries.

The authors estimate a growth model that includes measures of institutional quality and indicators of openness, in additional to conventional measures correlated with growth. Moreover, the effects of major factors of growth are controlled for, in particular, the effects of export diversification. The estimation uses Arellano-Bond panel techniques to isolate the joint effects of trade liberalization and institutional quality on growth in African countries, while controlling for the endogeneity of some regressors.

The empirical analysis suggests that institutions have a robust and positive impact on growth, once other factors are controlled for. Moreover, institutional quality plays an important role in the effectiveness of trade liberalization. This relationship is non-monotonic, and exhibits a U-shaped pattern. At low levels of trade openness, the joint impact of institutions and trade liberalization on growth is negative. However, as openness of trade increases, higher institutional quality enhances the growth effects of openness. The analysis also finds a negative effect on growth due to ethnic fractionalization and economic instability, and a positive relationship between growth and domestic investment. Thus, this evidence lends support to the view that institutions play a crucial role in explaining the degree of success of economic reforms in developing countries.

Student Research

Silvia Prina completed a PhD dissertation titled "Essays in Trade Liberalization, Inequality and Human Capital", under the supervision of Dilip Mookherjee, Kevin Lang and Ivan Fernandez-Val. The first chapter explores a theoretical analysis of fertility patterns on human capital accumulation, inequality and mobility. The second and third chapters provide an empirical analysis of trade liberalization between Mexico and the USA under NAFTA, on the distribution of Mexican farm incomes, wages and employment. Silvia is taking up an appointment of Assistant Professor of Economics at Case Western University.

Ricardo Madeira completed a PhD dissertation titled "Education Policy and Politics: Empirical Essays using Brazilian Data", under the supervision of Dilip Mookherjee, Kevin Lang and Ivan Fernandez-Val. The first chapter explains how data on school quality and quantity across different municipalities of the state of Sao Paolo are consistent with the median voter theorem when citizens are distinguished by two attributes (income and preferences for education) rather than income alone. The subsequent two chapters study the impact of school decentralization in the same context on the provision of educational resources and schooling attainments in both the public and private schooling sectors. Ricardo is taking up an appointment of Assistant Professor of Economics at the University of Sao Paolo.

Keisuke Nakao presented "The Creation of Social Order in Ethnic Conflict" at the International Game Theory Conference at SUNY Stony Brook in July 2006, and at the Midwest Economic Theory meetings at Purdue University in October 2006. Three other PhD students presented papers at the North-Eastern Universities Development Conference at Cornell University in October 2006. **Nandini Krishnan** presented "Learning and Persistent Discrimination", **Rezida Zakarova** presented "Trade and Skill Upgrading", and **Ricardo Madeira** presented "School Quality, Choice and the Median Ideal Policy: Theory and Evidence".

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