

# INSTITUTE FOR ECONOMIC DEVELOPMENT

## RESEARCH REVIEW

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## 4th Annual Paul Streeten Distinguished Lecture in Global Development Policy



**Pictured above from left to right: Kevin Gallagher, Director of the Global Development Policy Center, Eswar Prasad, Dilip Mookherjee, Director of the Institute for Economic Development and Economics Professor Peter Doeringer**

*Photo credit Melissa Ostrow*

of Money: How the Digital Revolution is Transforming Currencies and Finance; he has published in leading economic journals; and is frequently cited in the international media including the Economist, Financial Times, New York Times, and the Wall Street Journal.

Professor Prasad's Lecture titled *The Blurred Contours of a New International Economic Order* provided a wide-ranging discussion of the concept of "globalization". He explored its original mission of providing benefits to both developing and developed economies, how these globalization policies played out, and where they are likely to be headed in the future. In summary, globalization was originally conceived as a way to promote foreign direct investment (FDI) in poor countries while generating trade flows and risk sharing arrangements for the benefit of all trading partners. While FDI increased, financial capital often flowed from developing to advanced economies in response to current account deficits, developed country lenders often avoided low-income countries, and these lenders were able to shelter their risks at the expense of emerging economies by insisting that loans be denominated in "safe" currencies. In looking to the future, Professor Prasad argued that positive lessons have already been learned from the unintended consequences of earlier globalization policies. As a result, the world economy has gained more financial stability, borrowing costs and transportation costs have fallen, and global supply chains have become more efficient.

Nevertheless, new vulnerabilities are emerging in the form of pandemics, climate change, and global geo-political tensions. These factors will likely lead to more resilient and diversified supply chains, new economic alliances based on similar political and social goals, and greater overall economic concentration. The risk is that the future may bring another round of zero-sum globalization policies where there is more emphasis on protection, greater balkanization of the global economy, and losses in global efficiency. In his concluding remarks, Professor Prasad turned to the evolving role of digital currencies, potential changes in international financial institutions, and the future role of key currencies in the global financial system.

The annual Paul Streeten Distinguished Lecture in Global Development Policy is jointly sponsored by the Department of Economics, the Institute for Economic Development, and the Pardee School's Global Policy Development Center to celebrate the legacy of Economics Professor Paul Streeten, an eminent development economist and interdisciplinary scholar who had a significant impact on global development policy. This year's Streeten Lecturer was Eswar Prasad, Tolani Senior Professor of Trade Policy at Cornell University, who spoke to an in-person crowd of over 100 and an equally large on-line audience on March 29.

Professor Prasad is a well-known specialist on international economics and finance who, like Paul Streeten, has straddled academic and policy-making positions and approached development economics from a variety of perspectives. In addition to Professor Prasad's faculty position at Cornell, he is a Senior Fellow at the Brookings Institution and a Research Associate at the National Bureau of Economic Research. He also spent a number of years as head of the IMF's China Division and before that served as chief of the Financial Studies Division in the IMF Research Department. His latest book is on *The Future*

**(Right) Eswar Prasad speaking to the audience of over 100 during the lecture which was held at the BU Hillel House.**

*Photo credit Melissa Ostrow*



## Frontier History and Gender Norms in the United States

*Samuel Bazzi, Abel Brodeur, Martin Fiszbein, and*

*Joanne Haddad*

### IED WORKING PAPER 381

Gender norms are deeply entrenched in a society and are often very persistent throughout time. In this paper, the authors look at how gender norms have evolved in the United States by comparing the frontier with settled areas. Historically, the frontier, defined by the US Census Bureau as being the line demarcating the edge of populated settlement, has been characterized by male-biased sex ratios and a disproportionate share of young adults. The authors track the evolution of the frontier from 1790 onwards and follow the settlement process as the line moved westward with every incoming wave of settlers. This allows the authors to track how frontier locations evolved when it comes to gender norms.

The authors note that frontier women were more likely to be married, at earlier ages and with older men. Fertility was also known to be higher and extended family structures were not as common. This meant that there was an increased burden of domestic duties which came at the cost of gainful outside employment for women on the frontier. However, those that did report employment, were employed in high-status occupations as opposed to in settled areas where men occupied such positions.

To identify how the frontier gender norms have persisted through time, the authors use localized variation in the duration of exposure to frontier conditions. This is due to the fact that the frontier continued to move westward over time and it did so at different speeds in different locations allowing for time varying regional heterogeneity. The authors define Total Frontier Experience (TFE) to capture the duration of the frontier in a specific county. The paper shows that modern counties that historically had a longer TFE tend to show persistently higher fertility and lower female labor force participation (FLFP). In particular, each additional decade of TFE is associated with 0.15-0.2 standard deviations lower FLFP. The results are robust to a large set of place-based controls and are not driven by historically low density but by historical exposure to frontier conditions. The authors do note that the fertility differences between high TFE and low TFE regions did weaken by the late 20th century which highlights that cultural norms around childbearing were less persistent as compared to those around women's work.

The paper looks at a few different mechanisms for why gender norms as influenced by the frontier have evolved differently over time. The authors find evidence to support the hypothesis that political representation may have been instrumental - female political representation is lower in areas with high TFE exposure which could have limited role model based mechanisms for gender empowerment. Interestingly, however, female suffrage originated in the western US and it

was more likely to be supported by male legislators in high TFE areas, even though this support was largely concentrated in elite parts of society and was not necessarily motivated by ideals of female empowerment.

The paper, thus, provides a historical perspective on the evolution of gender norms and also shines light on the effect of the frontier legacy on modern day economic empowerment of women.

## Aggregate and Distributional Effects of 'Free' Secondary Schooling in the Developing World

*Junichi Fujimoto, David Lagakos, and Mitchell*

*VanVuren*

### IED WORKING PAPER 382

Secondary school education enrollment and attendance continue to remain policy relevant issues in developing countries. While enrollment has increased in recent years, only around one in three children that are of age actually attend secondary school. The literature largely cites borrowing constraints as being the main obstacle that prevent poor families from being able to pay for school. In this paper, the authors perform a macroeconomic analysis of policies targeted towards improving secondary school attendance to quantify the aggregate and distributional effects of such policies. In particular, they look at evidence from randomized controlled trials of free secondary schooling (based on work in Ghana by Duflo, Dupas and Kremer (2021)) to estimate a general equilibrium overlapping generations (OLG) model of human capital accumulation and use the model to generate estimates of a nationwide free secondary schooling program. The authors find that such a policy increases enrollment by around 10% but it has negligible effects on GDP per capita which rises by just 0.1% in the long run while average welfare, measured in consumption equivalents, increases by only 2%. Furthermore, the policy only pays for about 10% of its cost in the long run. There are distributional implications - the welfare gains accrue mostly to the poorest households through increases in schooling completion and relative wages but given that they pay very little of the tax increases induced by this policy, the policy remains net non-neutral from a budget standpoint.

The model that the authors design is an OLG model where parents choose whether to send their children to secondary school or not, parents are imperfectly altruistic when it comes to their children's expected utility, and they face credit constraints that prevent borrowing against future income. People's learning ability is a stochastic process that depends on their parents' knowledge base and human capital accumulation happens through the process of acquiring schooling which, in turn, has implications for future incomes. Population is endogenously determined with fertility being decreasing in education levels. Further, parents base the educational choice of their children on their family's income, assets, an idiosyncratic schooling taste parameter and the children's score on a qualifying exam which is modeled to be a noisy signal of ability. Scope for misallocation arises in the model whereby children with high ability end up completing less schooling due to parents' borrowing constraint being

binding. Thus, the model captures the existing hypothesis in the empirical literature that borrowing constraints matter for the extent of secondary schooling completed.

The paper looks at alternate policy experiments to better understand the reasons why free schooling in and of itself does not deliver large gains in welfare. The authors look at experimental evidence from other types of school improvement policies such as pay-for-performance incentives for teachers and additional teachers in the classroom. The authors find that school quality improvements that cost the same amount as free schooling are more effective at raising average income and welfare levels. School improvement policies that raise test scores by 0.1 standard deviations and cost the same amount per student as the other policies from the experimental evidence leads to a GDP increase of 4 percent and an average welfare of around 5 percent. While the top quartile of the income distribution are the biggest winners, the gains from the bottom quartile are still larger than under free schooling. In essence, the low schooling enrolment is an efficient response to low quality schooling. The paper thus, provides macro evidence in support of school quality improvement policies being essential to improving school enrollment in developing countries.

## **Hukou and Guanxi: How Social Discrimination and Networks Impact Intrahousehold Allocations in China**

*Liqun Zhuge and Kevin Lang*

**IED WORKING PAPER 383**

Intra-household bargaining structures are often impacted by the economic power of the spouses. In this paper, the authors look at how differential access to resources affects bargaining power within a couple within the context of China's hukou system. The hukou system is designed to restrict migration - residents with a certain hukou have access to certain public benefits such as health care, education, government jobs, and unemployment insurance which are not accessible to residents whose hukou is elsewhere. Having urban hukou tends to come with greater advantages given that cities have more economic opportunities than rural areas. Further, the strong social ties in a location, known as guanxi, also play an important role in helping people find jobs and build businesses.

Children born before 1988 received their mother's hukou and since 1988, they could receive their father's hukou if the parents so decided. Hukou status can impact the bargaining power in a household due to hukou's role in providing access to these benefits, especially if it is an urban hukou. In addition, the guanxi associated with a hukou status also adds to its value. Thus, hukou will be both a determinant of and an indicator of factors affecting bargaining power within the family.

The authors provide reduced form evidence that shows that when the wife has the better hukou, the household spends more on education, clothing and entertainment and less on alcohol and tobacco, which confirms the hypothesis that women with a better economic position also have more bargaining power within the household. The authors

also build on work by Chiappori (1992) and Lise & Seitz (2011) by adapting the collective model of the household to incorporate the effects of hukou on the bargaining power within the family. The underlying idea is that the person who brings the better hukou to the household will have more bargaining power. While households pool their resources, they have different preferences over consumption. Households maximize a weighted sum of the spouses' utilities where the weights come from their respective bargaining powers. Thus, individuals' bargaining power can be inferred from seeing the relative share of household expenditure on different types of goods. The authors find the wife's bargaining weight to average around 0.34-0.35 and this increases by 0.07 when the woman provides connections to the more desirable hukou. To look at the importance of social connections i.e., guanxi, the authors note that spending an extra year in the household's location increases the woman's bargaining weight by 0.2 percentage points.

The authors thus add to the literature on women's household bargaining power by showing the effects of the pervasive hukou system in China on women's position in the household. This adds to the idea that having greater economic empowerment through some external policy can improve the woman's household bargaining power as well.

## **Optimal Gradualism**

*Nils H. Lehr and Pascual Restrepo*

**IED WORKING PAPER 384**

Large systemic and paradigm altering changes in the global economy such as technological progress, international trade and economic reforms can often lead to positive welfare changes in the long run but can cause short run disruptions during the adjustment process. People can lose their jobs and face adjustment frictions such as having to reskill to newer types of work among other things. The authors show that there is some merit to gradualism - the idea that such large shocks do require gradual transition paths and there are gains to be made from short term taxes on new technologies and trade. The authors calculate formulas for the optimal path for taxes on new technologies and trade that capture the gains from gradualism. To look at trade, the authors calibrate their model to match the empirical estimates of welfare impacts from Autor et al (2014) on the effects from increased import competition from China. For technology, they utilize estimates from Cortes (2016) on the automation of routine jobs. From these two examples, the authors estimate the optimal tax to be around 10-15% phased out over time. In a final application, the authors look at Colombia's trade liberalization policy and find that the optimal policy here would call for a more gradual reform with tariffs staying at a fourth of their initial level by 2000—10 years after the reform started.

The model incorporates insights from Lucas and Prescott (1974) whereby ex-ante identical workers are allocated across islands. Islands are characterized by two types of employment disruptions - on one type, jobs get automated by new technologies and on the second type, jobs get disrupted by international trade. When there is a new technology that arrives at any of these islands, it ends up replacing certain workers by producing the same output at



lower costs. The costs decline as technology improves over time either due to automation or improvements in Chinese exporters' productivity. Real wages in islands with these new technologies fall over time. Workers reallocate at a rate that determines how soon they acquire new skills and/or find new jobs. Thus, the model captures the usual trajectory of technological progress - short term disruptions with long term gains.

Using this model, the authors are aiming to answer the following question: "Given a path for technological progress, should the government induce a more gradual adjustment via temporary taxes on new technologies?" The authors derive formulas for the optimal tax path on new technologies and as per this optimum, they show that it is ideal to raise taxes in the short term that are phased out over time. The more disruptive the transition to new technologies is to workers, the higher the temporary taxes should be. The phase out of the taxes is based on accounting for the general equilibrium effects of such taxes on reallocation. Faster phaseout is necessary when the effects on reallocation are more adverse.

The second question of interest is: "Conditional on Government Policy, does the economy benefit from more gradual technological advances along the transition?" Using their model, the authors predict that if the disruptions from technological advances are more severe, then there are large gains to be made from technological gradualism. But in the presence of optimal taxes, technological gradualism may not be necessary as the taxes can counteract the disruptive effects on displaced workers.

## **Global Knowledge and Trade Flows: Theory and Measurement**

*Nelson Lind and Natalia Ramondo*

**IED WORKING PAPER 385**

Technological progress depends crucially on the speed and quality of idea generation in the economy. The authors aim to uncover the global dynamics of knowledge creation in their paper. To do so, they extend the model of innovation and diffusion in Eaton and Kortum (1999) (EK) to incorporate international trade. In addition, the authors use results from their previous work (Lind and Ramondo, 2022) which link innovation and diffusion to the max-stable property of Fréchet distributions. By virtue of this result, in a Ricardian model of trade, where sources compete head-to-head for markets, trade shares across countries have closed-form solutions and substitution elasticities can be tied to diffusion patterns. The results also allow for more complexity in substitution patterns across countries as the expenditure shares belong to the Generalized-Extreme-Value (GEV) class (McFadden, 1978), which does not impose the Independence of Irrelevant Alternatives (IIA). Thus, this allows the author to infer unobservable knowledge flows across countries from observable expenditure patterns.

In the model, ideas are discovered according to a Poisson process and are different across goods with a unique discovery time and location. Efficiency of an idea decomposes into two related ideas - a global time-invariant component "quality" which is distributed Pareto and a location-specific component "applicability" which is independently and identically distributed Fréchet. After

the discovery of an idea, it may diffuse to other countries and this diffusion occurs within an idea and, as a result, the strength of head-to-head competition will depend on the extent of diffusion. Following EK, the authors assume that at the time of discovery, only the innovator knows about the idea and over time, more countries learn about the idea. This would have created a complex counting problem but under the exponential assumption that the arrival of ideas in each country is proportional to the existing stock of ideas, and given an idea's discovery location and time, it turns out that the variable indicating whether or not a country knows an idea is a Bernoulli Random Variable independent across countries which helps avoid the need to keep track of the distribution of ideas across all possible subsets of countries. Further, the model allows ideas of different "vintages" to exist in each country at each point of time. Productivity in each country is the result of each country using the most efficient idea to produce each good at any point in time. As a result, one can apply results from Lind and Ramondo (2022) which allows for the global distribution of productivity to be max-stable Fréchet with arbitrary correlation across countries. With this, the authors are able to introduce Ricardian Trade and get closed form solutions for expenditure shares.

From the model, the authors conclude that with sharing of ideas, head-to-head competition in the Ricardian sense gets even more fierce and this leads to more substitutable expenditure patterns. Using bilateral trade data and aggregate cost indices over time along with geography data, the authors estimate the parameters of the model and without any patent or R&D related data explicitly, they estimate bilateral knowledge diffusion rates, innovation rates and trade costs. The authors estimates suggest that in the last sixty years, countries have become more distinct in their knowledge production. China has established itself as the foremost source of innovative knowledge in the world starting in the late 1990s and early 2000s. Most rich countries, especially in Europe, depend a lot on knowledge diffusion with the United States being the leading producer of innovative knowledge. Innovation also seems to be positively correlated with increases in researchers and researchers per capita in a country over time.

## **Fiscal and Monetary Policy Interactions in a Model with Low Interest Rates**

*Jianjun Miao and Dongling Su*

**IED WORKING PAPER 386**

The interest rates on US government bonds have steadily declined since 1980 and have been lower than the average US GDP growth rate from 1950 to 2018 as well as in each of the recent 10 years. Further, the US government has experienced fiscal deficits for many years, and specifically since the turn of the new millennium. Low interest rates coupled with high public debt pose some serious challenges to policy makers and academic researchers. The Fiscal Theory of the Price Level (FTPL) predicts that the government debt should be priced as the present value of future surpluses but fails to be empirically true. The authors seek to reconcile theory with the empirical findings and build a dynamic New Keynesian model to address questions around the implications of low interest rates for public debt, whether permanent primary deficits can be sustained in the long run,

what coordination of monetary and fiscal policy is needed to provide a nominal anchor and price stability and how the economy responds to fiscal and monetary policy shocks.

The anchoring assumption of the model is that entrepreneurs face credit constraints and uninsurable idiosyncratic investment shocks. They are able to trade one period risk free private and government bonds which are perfect substitutes of each other. Government bonds provide liquidity by raising owners' net worth and relaxing credit constraints and thus, also have a crowding in effect in addition to the usual crowding out effect. When the idiosyncratic investment shock is very severe, productive entrepreneurs sell bonds to finance real investment while unproductive entrepreneurs are willing to buy bonds despite their low returns for precautionary reasons in anticipation for improvements in productivity in the future when they would need to finance real investment. The model delivers a unique steady state only when there is long run surplus in which the real interest rate is higher than the economic growth rate and the FTPL predictions are true. But if there are permanent deficits or zero deficit or surplus, then there are multiple steady state equilibria in which the interest rate is lower than the rate of economic growth. This multiplicity is generated by the debt Laffer Curve that gives a non-monotonic relationship between the total interest expense and the interest rate which, in turn, is caused by the positive relationship between interest rate and public debt that, in their model, is driven by a reduction in the liquidity premium with an increase in public debt.

The authors calibrate the model to find that when the long run deficit-GDP ratio is set at 0.445%, then there are exactly two steady states - one which is associated with lower interest rates, lower output and lower GDP-debt ratio (labeled L) and the other which has higher levels of these variables (labeled H). The model also delivers the following insights in addition to the aforementioned steady states:

I. Each of the two steady states has three regions of the policy parameter space - one which delivers explosive solutions, one which delivers multiple equilibria and one which generates a unique stable equilibrium, and these regions are different for the two steady states. Further, as an extension of Leeper (1991) which specifies that monetary and fiscal policies should be combined such that one of them is active while the other is passive to achieve equilibrium determinacy, the authors find that both active and passive monetary policy can achieve this even when fiscal policy is passive.

II. An active monetary policy when combined with a debt rollover fiscal policy can stabilize debt and inflation when interest rates are low. Here, monetary policy controls inflation while fiscal policy stabilizes public debt.

III. The value of public debt can be decomposed into the fundamental component - the part that is the present value of future surpluses/deficits - and a bubble component - the part that is equal to the present value of the liquidity services provided by government bonds. Under low interest rates, this decomposition complements the FTPL while during a liquidity trap, an active fiscal policy dominates an active monetary policy in terms of welfare.

The authors are able to reconcile prima facie theoretically inconsistent results from the experience in the US and Japan by showing the existence of a bubble component to public debt which must be included in its valuation when the interest

rate is lower than the economic growth rate. Upon taking this into account, it is possible to have a large set of monetary and fiscal policy response parameters to achieve stable debt and inflation dynamics given persistent fiscal deficits.

## **Economic Policies vs. Identity Politics: The Rise of a Right-wing Nationalist Party in India**

*Pushkar Maitra, Sandip Mitra, Dilip Mookherjee, and  
Sujata Visaria*

**IED WORKING PAPER 387**

There has been a rise in right wing nationalism around the world and across high- and middle-income countries such as Austria, Brazil, France, Germany, Turkey, UK and the US among other countries. The right-wing parties usually seem to have a populist and nationalist mandates and they have gained traction among a large swathe of the voter base, particularly among poorer and less educated citizens. The empirical study of the rise of right-wing nationalism requires disentangling the demand side (such as economic and cultural grievances) from supply side (such as electoral systems, ideological positions and the media) factors. The authors specifically look to India to study these issues with the rise of the nationalist and populist right wing Bharatiya Janata Party (BJP) since 2014 where the BJP, under the leadership of Narendra Modi, attained an absolute majority in the Lok Sabha (the lower house) of the Parliament for the first time in its thirty four year old history. In 2019, the BJP cemented its mandate even further with an increased vote share, with large gains in states that were hitherto dominated by regional parties. The straightforward explanation of the rejection of regional incumbents being attributed to poorer economic performance by them does not quite hold as since 2014, the BJP has introduced national policies that disproportionately hurt the poor and the underprivileged. Yet, the BJP's vote share among this demographic grew. The literature has put forth both demand side and supply side explanations for the rise of the BJP.

In this paper, the authors investigate the rise of the BJP by making use of a longitudinal survey in the districts of Hugli and West Medinipur in the state of West Bengal of 3500 household heads in 2013-14 and then again in 2018-19. West Bengal makes for an interesting setting to investigate the rise of right-wing nationalism since for over three decades until 2009, the state was governed by a left-wing coalition punctuated by occasional ceding of power to the centrist Indian National Congress (INC). Since 2009, the All India Trinamool Congress (TMC), a breakaway faction of the INC, has been in power with BJP being an almost non-existent player in Bengal's electoral politics until the 2019 Lok Sabha elections when the BJP's vote share grew by 23% over its 2014 vote share. The household surveys had questions documenting households' demographic characteristics, socio-economic status, landholding, cultivation of major crops and the benefits they receive from various government programs. Along with the surveys, the authors conducted a "straw poll" to simulate an election to elicit households' electoral preferences and how these changed with the benefits they received, their economic circumstances and their social identity such as caste, religion and immigrant status since

West Bengal borders Bangladesh, a Muslim majority country. The authors use a “leave-out” shift-share instrument where a household’s benefits are instrumented by time-invariant household characteristics interacted with per-household benefits received in other local government jurisdictions in the same district in any given time period. The authors use a probabilistic voting model where support for a political party depends on both ideological (such as party’s ideological platform, combined with organizational strength, advertising and media outreach) and utilitarian considerations (such as welfare benefits and perceptions of how their economic well-being are affected by policy choices). Supply side factors are inferred from effects of household characteristics such as religion, caste, and immigrant status.

The authors find that, largely, economic factors had little to no role to play in the rise of the BJP in West Bengal. Receipt of state level benefits was associated with a statistically significant net 1-14 percent increase in the probability of the household head voting for TMC. National level benefits such as the Mahatma Gandhi National Rural Employment Guarantee Scheme instituted by the INC before the BJP’s meteoric rise in 2014 seem to have become less effective in generating votes for the TMC since 2014. Receipt of new benefits instituted by the BJP did lead to a switch in voting preference towards BJP even though this effect was very small and marginally statistically significant. The effect of the economic programs has been such that it predicted a fall in share of votes for the BJP and yet this is not what we see.

The results remain robust to a bunch of different specifications. In particular state programs were better targeted compared to the national level programs after 2014 and yet, we see BJP increasing its vote share in 2019. Moreover, a hypothesis that the TMC has indulged in “appeasement” of minorities, particularly Muslim minorities and immigrants from Bangladesh, which may have led to backlash from the dominant upper caste Hindus seems to also not hold up to scrutiny since the state benefits don’t seem to be preferentially delivered to recent non-Hindu immigrants and disadvantaged socio-economic groups. Controlling for the receipt of welfare benefits and household characteristics, the authors find that post-2014 changes in these income sources had no effect on the likelihood that a household voted for the BJP. However, once the authors account for changing household demographic and social status, it seems that the vote share for BJP was around 20% among upper caste, Scheduled Caste and Other Backward Caste Hindus while it was substantially lower (around 7%) among non-Hindus and especially among recent non-Hindu immigrants where the BJP vote share, in fact, fell. Thus, the results suggest identity politics rather than economic factors contributed to the rise of the BJP in West Bengal.

## **Decentralized Targeting of Transfer Programs: A Reassessment**

*Dilip Mookherjee*

**IED WORKING PAPER 388**

In many developing countries, the period between 1950 to 1990 was characterized by centralized planning and implementation of public benefit programs. These programs spanned land, water, cultivation, roads, sanitation, public

health, education and housing among others. Centralized implementation involved delegating the tasks to a bureaucracy that was appointed by and answerable to the central government. Such centralized governance was marred by a host of issues such as targeting failures, leakages, losses, corruption and lack of responsiveness or awareness of local needs.

In this book chapter, the author discusses how since the late 1980s a shift from centralized to decentralized governance has taken place across many developing countries which involved devolving power to local officials elected by the citizens belonging to that jurisdiction. This was primarily motivated by concerns about reducing information asymmetries and to better align the incentives of the government with those of the local citizenry. While decentralization was conceptualized as a panacea to a lot of the problems associated with the centralized regimes, the practical experience has been somewhat mixed. Often, local governments are more susceptible to local elite capture especially in areas with high inequality, poverty, and lack of popular participation in politics. Local incumbents often manipulate the benefits from a public program in order to favor their loyal supporters or swing voters. Thus, the choice between centralized and decentralized governance involves non-trivial trade-offs.

The theoretical literature argues that the impacts of decentralized governance are highly context-specific, a prediction backed by empirical research on the functioning of local governance in multiple geographies. The author argues that these issues have led to reforms in decentralized governance which involve both better monitoring and reducing the extent of discretion provided to local government officials. Known as ‘recentralization’, these initiatives have mostly been initiated with respect to transfer programs which leads to transfer of ‘private good’ benefits as opposed to infrastructure programs providing local public goods. This aligns well with the experience in developed countries where transfer programs are mostly centralized while local governments provide infrastructure and local public goods. The author focuses on the implications of this recentralization on problems of misallocation owing to governance and accountability defects and argues they would likely to improve targeting.

## **Entrepreneurship in China’s Structural Transitions: Network Expansion and Overhang**

*Ruo Chen Dai, Dilip Mookherjee, Kaivan Munshi, and Xiaobo Zhang*

**IED WORKING PAPER 389**

Structural transformation in countries implies that countries transition from agriculture to industry. In the next phase, countries will usually transition to higher value exporting and entrepreneurship plays a critical role in this process. The authors analyze the process of structural transformation in China and note that traditional explanations that harbor an individual-specific view of entrepreneurship such as that it is determined by talent, education or inherited wealth in the presence of credit constraints don’t fully explain the patterns



of entrepreneurship that the authors document in China's structural transitions.

The authors add a community level dimension to standard economic models of occupational choice and trade to quantify and explain the important role played by hometown networks in supporting (and distorting) the entry of private firms in China. While China industrialized rapidly in the 1990s with the establishment of township-village enterprises (TVEs), a decade after this rapid spell of privatization, China entered the WTO and became the largest exporter in the world with one marked difference - homegrown private firms were less dominant in this second transition. The authors document certain distinguishing features of Chinese entrepreneurship that could explain these facts. First, they note that Chinese entrepreneurship is relatively broad based, with a large fraction of firms set up by rural-born businessmen. The paper finds a positive and significant association between entrepreneurial propensity and birth county population density of the entrepreneur which is retained when the authors use only that part of the variation in population density that can be explained by exogenous agricultural productivity (crop suitability). Thus, the authors do find it credible that counties with higher agricultural productivity may have more wealth that can be channeled into industrial activity.

However, this relationship is reversed when looking at the propensity for exporting. Thus, birth county population density seems to predict higher industrialisation but lower exporting. The authors contend that this could be explained by unobserved ability heterogeneity that could be increasing in density for industrialization but decreasing in density for exporting. Alternatively, on the firm side, it could be possible that denser counties have preferred access to locations (including their birth county) where domestic production is more profitable for exogenous reasons, whereas the converse is true for exporting. By examining firm level outcomes, the authors find contrasting evidence that net of firm fixed effects, revenues (and productivity) are observed to increase more steeply over time for firms drawn from denser counties, both in domestic production and exporting. Therefore the authors explore alternate mechanisms for explaining the set of facts and the novel mechanism they propose is based on the idea that networks of firms organized around the hometown are active in China and that firms from denser birth counties have access to better functioning networks that increase the productivity of their members, both in domestic production and exporting. This increases domestic production and at the same time creates a disincentive to enter exporting. Since population density in rural areas is associated with a higher frequency of local social interactions, this gives rise to higher levels of enforceable trust which can explain the importance of density in birth county as a mechanism for entrepreneurial productivity.

Using data from the nationally representative data from the China Family Panel Study, the authors verify each of these elements of the hypothesis and then proceed to develop a model of occupational choice that adds a social network and trade component to the Roy model. The two main implications of the model are that firm productivity (net of entrepreneurial ability and exogenous prefecture-level factors) are increasing in network size. The model is able to explain the dichotomous nature of these networks in that they increase chances of domestic production but reduce

chances of being an exporter by making use of the scope diseconomy effect which leads to three thresholds - a lower threshold above which firms select into domestic production, a middle threshold above which firms become pure exporters and higher threshold above which they become mixed exporters (operating domestic and exporting units). What is key is that the number of individuals selecting into domestic production is increasing in domestic network size while the number selecting into exporting is decreasing in domestic network size. The empirical analysis confirms these predictions and are robust to validation tests proposed for shift-share instruments by Goldsmith-Pinkham, Sorkin and Swift (2020). Thus, the authors are able to reconcile seemingly inconsistent empirical facts about the Chinese structural transformation experience by highlighting the role of birth county based local networks.

## Whose Preferences Matter for Redistribution: Cross-country Evidence

*Michel André Maréchal, Alain Cohn, Jeffrey Yusof, and Raymond Fisman*

**IED WORKING PAPER 390**

A small literature has shown female government officials. In the political economy literature on redistribution, there are two main viewpoints that have received theoretical and empirical focus - the median voter model which predicts that policies will reflect the preferences of the average citizen, and elite capture whereby the economic elite influence policy outcomes disproportionately due to their resources. In this paper, the authors take a different approach by directly evaluating whose preferences are most predictive of actual redistribution. To do this, the authors look towards relating the preferences for redistribution of people across the income distribution to realized redistribution across 93 countries.

Using data from the European Values Study and the World Values Survey for the years 1995 to 2014, the authors measure preferences for redistribution across different socioeconomic groups, focusing on the bottom 5%, middle 5% and top 5% in each country. To measure actual redistribution, the authors follow Solt (2020) and use the difference between net and gross Gini coefficients from the Standardized World Income Inequality Database. The authors find that the preferences of the bottom 5% are most predictive of realized redistribution. The pattern is robust to looking at the preferences of each group separately as the preferences of the top 5% does not seem to impact the realized redistribution. This result persists even after controlling for a large number of country-level controls or when defining the groups differently. It is also stable over time. While the authors cannot pinpoint the exact mechanism underlying this result, they do highlight a couple of reasons to narrow down the reason for this result (such as reverse causality, policymakers being more responsive to the bottom 5%'s preferences since they might be more vocal about redistribution, and a coalition between the top and bottom 5% to redistribute income at the expense of the middle). The paper contributes to the literature by evaluating the link between class-based preferences to actual redistribution rather than making assumptions of a direct link from own-income to redistribution. Further, the paper provides a

comprehensive cross-country evaluation on a question that has hitherto been limited to single country analysis. The findings, the authors conclude, seem to be at odds with theories of elite capture and call for newer research into theoretical foundations that can explain these empirical facts.

## When Are Estimates Independent of Measurement Units?

*Neil Thakral and Linh T. Tô*

**IED WORKING PAPER 391**

In conducting empirical analyses, researchers and data analysts often make transformations of their variables when conducting regression analysis to reduce the effect of outliers. The authors assert that a meaningful regression model is one where applying the same model to the same dataset with different measurement units should result in the same set of conclusions. This paper seeks to analyze which transformations in linear regressions lead to meaningful conclusions in the sense that changing the measurement units of the data does not change the model's conclusions.

The authors introduce the idea of measurement-unit-independent transformations by introducing the concept of scale equivariance such that any scaling of data can be reversed by appropriately rescaling the estimator, and scale invariance, that any scaling of the data does not affect the estimator. In order to derive the universe of measurement-unit-independent transformations, the authors first prove an equivalence theorem which asserts that requiring any one of the desirable properties—scale-equivariant coefficient estimates, scale-invariant  $t$ -statistics, scale-invariant semi elasticity estimates, and scale-equivariant predicted values—is equivalent to requiring all of them. They show that the set of transformations that satisfies these properties consists exactly of affine functions of a logarithmic or a power function.

The authors use data from a RCT in Kenya (Haushofer and Shapiro, 2016) which serves as a case study due to the wide range of variables and perform the popular inverse hyperbolic sine transformation. They find that changing measurement units to natural alternatives reverses the sign of treatment effect estimates for up to 22 percent of endline outcomes. Furthermore, in 18 percent of the endline outcomes, the natural change in units also changes the conclusion of testing the null hypothesis of no treatment effect at the 5 percent significance level.

The authors look at the severity of scale dependence for a variety of quasi-logarithmic transformations such as adding a positive constant to the data before taking a logarithm, or the increasingly popular inverse hyperbolic sine transformation. Firstly, using larger units of measurement for the outcome variable lead to similar inferences as in an untransformed linear regression. Secondly, using smaller units of measurement for the outcome variable either leads to arbitrarily large effect sizes or arbitrarily large confidence intervals. Using these transformations therefore provides, at best, little or no new information.

In practice, the authors suggest using a range of powers such as 1/2, 1/3, 1/4, and 1/5 to provide distinct ways of reducing the influence of outliers in right-skewed data and assess

sensitivity of regression results to departures from linearity.

## Spatial Production Networks

*Costas Arkolakis, Federico Huneeus, and Yuhei Miyuchi*

**IED WORKING PAPER 392**

The global economy relies on geographically complex production networks. The more integrated individual countries and regions are into these global value chains, the more these countries grow. The literature has developed our understanding of these networks from both microeconomic and macroeconomic perspectives. The former looks at how firms endogenously form production networks while the latter focuses on how countries' macroeconomic conditions are determined given the topography of production networks. The authors use data from Chile to build and validate a new model of these endogenous production networks that shape the spatial distribution of aggregate economic activity. Firms can form supplier and buyer relationships across space while facing iceberg trade costs and matching frictions. Using the model in conjunction with the data, the authors show that when endogenous formation of production networks are taken into consideration, the effects of both international and intranational trade cost changes are larger in absolute terms as well as more spread out.

The authors document a set of stylized facts about spatial production networks using domestic and international firm-to-firm data for all the firms in Chile. Firstly, firms with higher revenue also are more likely to have more suppliers and buyers. Secondly, when firms are located in regions with higher population density, they tend to have a larger network of suppliers and buyers on average. Thirdly, both the number of supplier-to-buyer relationships (extensive margin) and the transaction volume per relationship (intensive margin) contribute to the decay of aggregate trade flows in distance between regions, with the former being faster than the latter.

In the model, the firms search for suppliers and buyers both within and across locations to maximize anticipated profit subject to location-pair specific search costs. With a certain probability, the search leads to a successful match as determined by the matching technology and the number of suppliers and buyers searching in the pair of concerned locations. The model predicts that more productive firms form a larger number of supplier and buyer relationships and make higher revenues. But both the number and intensity of these relationships depend on the geographic location of the firm and its connected counterparts. Once aggregated, these firm decisions lead to bilateral gravity equations for trade flows at both the extensive and intensive margins as defined earlier. The model introduces two types of bilateral trade frictions - search and matching frictions as well as iceberg trade costs. While the intensive margin is affected only by the latter, the extensive margin is affected by both. The gravity equations allow for the analysis of positive general equilibrium properties and welfare. In fact, the authors are able to simplify the complex spatial linkages and characterize the equilibrium using two conditions that relate buyer access and supplier access. The model nests a wide class of gravity trade models which allows for a formal approach to analyzing how endogenous network formation affects the equilibrium.

The authors also characterize the first order and second order

effects of a shock on aggregate welfare. In the former, the endogeneity of the networks amplifies the aggregate welfare

effects as long as search costs are directly affected by the shock while in the latter, these networks tend to amplify the impact from a decrease in trade costs and dampen them for an increase in trade costs. Using the Chilean data, the model is calibrated to investigate how the two types of spatial frictions affect aggregate production networks and trade flows. The authors conclude that both types of frictions matter for the spatial architecture of the networks. Looking at counterfactual scenarios, the authors establish that the tariff liberalization in Chile with the United States and China has led to a 0.67 percent decrease in aggregate welfare of Chile. Without accounting for the endogenous network formation, the losses are of a much smaller magnitude. Secondly, the authors show that the effect of a large-scale bridge between mainland Chile and the Chiloé island has led to a 0.25 percent increase in welfare; once again these gains are lower without accounting for the endogenous production networks.

## The Confederate Diaspora

*Samuel Bazzi, Andreas Ferrara, Martin Fiszbein, Thomas Pearson, and Patrick A. Testa*

**IED WORKING PAPER 393**

The United States has a deeply fraught history marked by racial division and conflict. The authors look to examine the legacy and enduring influence of the Confederacy by focusing on the Confederate diaspora - descendants of Confederate migrants to the tune of more than 61,000 former enslavers and 127,000 of their household kin that left the former Confederacy for the rest of the US in the three decades after the Civil War of 1861-1865 which brought about the official end of slavery. The importance of the Confederacy lies in the revisionist narrative of the "Lost Cause of the Confederacy" that emerged in the postbellum South which sought to downplay slavery while highlighting Northern aggression and the defense of the states' rights. White supremacy was key in shaping this narrative as it relied on racist tropes about the supposed contentment of enslaved people and Black inferiority as being a just cause for slavery. The Confederate migrants remained strongly attached to the Confederate culture and the authors look at how this diaspora has shaped the trajectory of racial inequity in the US over time.

The authors document certain facts about this diaspora such as that they often traveled west, settled in nascent communities throughout the frontier where the prevailing institutions were relatively weak, and the cultural norms had not yet been established. Often, Southern migrants opted into careers that gave them authority such as judges, lawyers, public administration, police and clergy and this seemed to be especially true for migrants from slaveholding households. Further, the diaspora brought with them symbolic and material expressions of the Confederate culture such as Confederate memorialization, chapters of the United Daughters of Confederacy and the Ku Klux Klan (KKK) and lynchings of Black people. By developing a shift-share instrumental variable, the authors seek to identify the causal effect of the diaspora by isolating the exogenous county-level variation in exposure to postbellum Southern White migration through 1900. The shares are defined by the historical

migrant networks outside the South as of 1870 at the dawn of the postbellum period and the shifts are defined by the predicted migration flows out of the South from 1870 to 1900. Thus, conditional on the population share of Southern-born whites in 1870, the SSIV estimates identify the causal effect of the Confederate diaspora between 1870 and 1900.

The authors find that the Confederate diaspora hastened the diffusion of the KKK and of Black lynchings and were in fact instrumental in laying the groundwork for deep racial injustice in public life. These findings are robust to a large set of migrant controls, inference corrections for shift share instrumental variable and spatial regressions, omitting individual origin and destination states, excluding border states and restriction to incorporated counties with very minimal population in 1860. These help to account for biases due to endogenous sorting towards places that are ideologically allied with antebellum attitudes and hence point towards a causal interpretation. On average, while migrants from the former Confederacy comprised only 2.2% of the population in the destination counties in 1900, moving from zero to mean Confederate diaspora implies an 8% point increase in the likelihood of KKK activity relative to a mean prevalence of 35% of counties outside the South. Impacts on lynchings are even larger with the probability of a lynching increasing by 4 percentage points relative to a mean of 5%. Further, a 1 percentage point increase in the size of the diaspora led to a 2.4 percentage point increase in the likelihood that Black people left that town. Further, in modern day, larger diasporas in 1900 are associated with larger racial wage gaps, greater residential segregation and higher rates of Black incarceration throughout the 21st century.

Linking modern survey data, the authors find evidence of the impact of the diaspora on modern racial attitudes and inequity. First, diaspora effects were larger along the frontier with weaker institutions. Secondly, the probability of incarceration in 1920 was twice as large for Black men who in 1900 lived in counties with migrants from slaveholding backgrounds that now worked in policing, judicial and/or administrative positions. Thirdly, first and second generation migrants are overrepresented in the KKK. Fourthly, there are cultural spillovers in that White men with no Southern heritage that lived net to first or second generation Southern whites were more likely to join the KKK. Thus, this paper provides suggestive evidence that the Confederate diaspora played an important role in sustaining of racial animus throughout the US into the modern era.

## The Effects of Public Childcare Expansion on Child Penalties - Evidence from West Germany

*Nayeon Lim and Lisa-Marie Duletzki*

**IED WORKING PAPER 394**

While there has been a steady convergence in both education and economic roles of men and women over the past many years, there are still barriers to achieving labor market equality. One such barrier is the child penalty that exists for women bearing children. There is documented evidence that women experience a large drop in their labor supply and income following childbirth while men do not. One of the ways in which to reduce the effects of this penalty



is to provide universal childcare. In this paper, the authors investigate the effects of such a public childcare policy in Germany. Through multiple reforms, the German government decided to expand subsidized public childcare for children under the age of three since 2005.

The paper documents certain trends in the evolution of child penalties for mothers in West Germany, which is well known as having decidedly low maternal labor force participation among the developed countries. Using an event study design as proposed by Kleven et al (2019b) on German administrative data, the authors estimate the child penalty in terms of earnings, employment, days worked, daily wage, working full-time and firm mobility for mothers who gave birth during different time periods. The authors document a steady decrease in the overall child penalty in West Germany since the 2000s. To estimate the causal effects, the authors also look at a generalized difference-in-difference analysis in addition to the event study. The identifying variation comes in the form of regional and temporal variation in public childcare expansion at the county level in West Germany. For the event study, the authors categorize counties into treatment group if they experienced a large sudden increase in public childcare and into the control group if they did not receive any such shock. By comparing mothers who gave birth in these two groups during one to three years before and four to six years before the public childcare expansion, the authors estimate

the effects of increased public childcare on the mothers' child penalty. The authors verify parallel pre-trends for both types of counties. Further, the authors also estimate a generalized difference-in-difference and verify causality by noting that the heterogeneous timing of public childcare expansion across counties was primarily driven by local supply shocks that were exogenous to the mothers' labor market outcomes.

Both of these analyses reveal a decrease in child penalty – the event study estimates that a 5 percentage point increase in public childcare coverage leads to average reductions of 0.7, 1 and 1.2 percentage points in child penalties for earnings, employment, and days worked respectively over a five year period following childbirth. The generalized difference in difference confirms these findings and reveal that a 10 percentage point increase in public childcare coverage decreases mothers' child penalty in earnings by 1.4 percentage points over the same time period. There are various mechanisms due to which the child penalty reduces in the wake of better public childcare coverage such as higher labor force participation, more days worked and higher daily wages due to fewer transitions to low-paying firms. The impact on earnings and daily wages also seem to persist for up to seven years after childbirth thus showing the enduring importance of public childcare in improving women's labor supply at both the extensive and intensive margins.

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## FACULTY PROFILES

**Marianne Baxter's** research is in the fields of macroeconomics and international economics. In research related to her prior work on macroeconomic consequences of home production, she has been engaged in a large-scale econometric analysis of household expenditures and household time use as they pertain to home production. She is also working with a data set using IKEA catalogs from many countries and up to twenty years to study the determinants of departures from the law of one price.

**Joaquín Blaum's** areas of research are international trade and macroeconomics. His work focuses on how heterogeneity matters for macroeconomic outcomes. Joaquin's recent research studies how sourcing of foreign inputs affects firm and aggregate productivity. In ongoing work, he shows that the interdependence between firms' import, and export behavior is key to understanding how economies adjust to large devaluations. In earlier work, Joaquin studied the effects of wealth inequality on aggregate productivity when financial markets function imperfectly.

**Rachel Brulé** is an Assistant Professor of Global Development Policy at Boston University's Frederick S. Pardee School of Global Studies, Graduate Faculty with BU's Department of Political Science, Co-Director of the Human Capital Initiative at the BU Global Development Policy Center, and co-founder the BU-State Department Alliance for Afghan Women's Economic Resilience, launched by US Secretary of State Antony Blinken in September 2022. Her research identifies the conditions under which political, economic, and social systems rebalance gendered power. She is a political scientist who bridges development economics and feminist theory, combining careful causal identification with innovative theory building and extensive field research in

South Asia. Her research has won multiple awards including the American Political Science Association's 2021 Luebbert Prize for the Best Book in Comparative Politics for her solo-authored book: *Women, Power, & Property: The Paradox of Gender Equality Laws in India* (Cambridge University Press, 2020).

**Christophe Chamley's** research is on social learning, coordination of expectations and markets in macroeconomics, and in the history of states' finances from 5000 BC to the 19th century.

**Randall Ellis'** research focuses on how health care payment systems affect consumers, health care providers, and health plans. He is actively using billions of health insurance claims to develop clinically rich predictive models that can be used to pay health plans and reward high quality. This work was funded by a four year grant from the Agency for Healthcare Research and Quality entitled "Advanced Risk Adjusters and Predictive Formulas for IDC-10 Based Risk Adjustment". Separately, he is also working on healthcare innovation, feasible strategies for universal health insurance, and systemic racism and sexism in the US. He is currently collaborating with researchers in the US, Canada, Netherlands, and Australia.

**Raymond Fisman** works in two main areas of political economy - corruption, and the causes and consequences of inequality. Much of his current research focuses on how businesses covertly influence politicians and regulators; two studies on this topic were recently published in the American Economic Review and the Quarterly Journal of Economics. He is the author of a number books, most recently *Corruption: What Everyone Needs to Know* (with political scientist Miriam Golden), and *Risky Business: Why Insurance Markets Fail and What to do about it* (with Liran Einav and Amy Finkelstein).

**Martin Fiszbein** works in the fields of economic growth, development, history, and urban economics. His research examines the determinants and the effects of structural change, technology adoption, skill acquisition, and cultural formation. To address open questions in the field of growth and development, his projects often leverage rich subnational data, new empirical strategies, and a long-run historical perspective.

**Ivan Fernandez Val** specializes in theoretical and applied econometrics. He has recently been working on nonlinear panel data and distributional methods with applications to labor and development economics. He has recently been working on applications of machine learning to estimate heterogeneous treatment effects in randomized experiments.

**Stefania Garetto** is a trade economist whose work is centered on the study of foreign direct investment and the activities of multinational corporations, both from a real and from a financial perspective. Stefania's current research combines empirical analysis and structural dynamic modeling to understand the creation of multinational firms via mergers and acquisitions, and their expansion in space over time. She is a research associate of NBER and a research fellow of CEPR.

**Tarek A. Hassan's** research focuses on international finance, macro-finance, and social factors in economic growth. Some of his recent papers study the effects of uncertainty on firm behavior and on the allocation of capital across countries. Another set of papers studies the effect of social structure on economic growth and the effect of historical migration and ethnic diversity on foreign direct investment.

**Mahesh Karra** is an IED affiliate and Assistant Professor of Global Development Policy at the Frederick S. Pardee School of Global Studies and Associate Director of the Human Capital Initiative at the Global Development Policy Center. His academic and research interests are broadly in development economics, health economics, quantitative methods, and applied demography. His research utilizes experimental and non-experimental methods to investigate the relationships between population, health, and economic development in low- and middle-income countries.

**Robert King** focuses his research on monetary policy and macroeconomics. Particular areas of current interest are the nature of price dynamics, the influence of reputation and credibility on optimal monetary policy, and the history of banking markets.

**Laurence Kotlikoff** specializes in fiscal policy, macroeconomics, money and banking, computational economics, healthcare, and personal finance. He also works on the economics of robots. The author or co-author of 20 books and hundreds of journal articles, Kotlikoff is also a prolific columnist and a #1 NY Times Best Seller author. His columns have appeared in the New York Times, the Wall Street Journal, Bloomberg, Forbes, PBS.org, VOX, and many of the other top newspapers and magazines in the U.S. and abroad. His recent work has focused on carbon taxation, inequality and fiscal progressivity, work disincentives and labor supply, the causes of the great recession, the future of global economic power, computing large scale life-cycle models with aggregate shocks, and modeling the economic impact of artificial intelligence.

**David Lagakos** conducts research in the fields of macroeconomics and development economics, focusing on the determinants of sectoral productivity levels, human capital accumulation, structural transformation, and cross-country differences in labor market outcomes, among other topics. His research has appeared in the American Economic Review, the Journal of Political Economy, the Quarterly Journal of Economics and other prominent academic journals. He currently serves as an editor of the Review of Economic Dynamics and a co-editor of the Journal of Development Economics. Since 2016 he has worked as the lead academic for the International Growth Centre in Ghana, helping to foster policy-relevant academic research on economic growth. Lagakos is a research affiliate at the NBER and is a co-organizer of the annual NBER conferences on Economic Growth and Macroeconomics Across Time and Space.

**Kevin Lang's** research concerns education and labor markets, with a particular focus on discrimination. While his work is primarily centered on the United States, he is currently involved in projects in Singapore on the market for illegal money-lending and on incentives in the retail illegal drug market.

**Robert Lucas** has recently completed two books. *Crossing the Divide: Rural to Urban Migration in Developing Countries* is in print with Oxford University Press. This volume includes critiques and summaries of the existing literature on migration between the rural and urban sectors of developing countries and presents fresh analyses of micro data from 75 countries on various aspects of these migrations, contradicting the conventional wisdom in some cases, supporting it in others, but also addressing several topics not previously examined. Portions of this book were presented in Abu Dhabi and the UK in the spring of 2020 before the pandemic curtailed further international presentations. *Migration and Development: The Role for Development Aid* was published in 2019 by the Swedish Ministry of Justice and presented in Stockholm. This report critically examines aid policies in the context of global, cross-border migrations and refugee flows, with recommendations on the future role of aid in fulfilling the objectives of the Global Compact for Safe, Orderly and Regular Migration. Lucas has now gone on to examine the connections between short-term migration, food security, and child health in seven countries of Sub-Saharan Africa.

**Benjamin Marx** conducts research in political economy and development. One strand of his research studies the determinants of political accountability, state capacity, and voting behavior in developing countries. He has worked in various countries including Kenya, Senegal, Uganda, and Indonesia. Another strand explores the political economy of religion, with the goal of better understanding the interplay between religious institutions, politics, and culture. In addition, he is interested in the study of discrimination and the political economy of urban poverty.

**Robert A. Margo's** recent publications include "The Economic History of Economic History: The Evolution of a Field in Economics," in A. Bisin and G. Federico, eds., *Handbook of Historical Economics* (London, UK: Academic Press, 2021); and "Industrialization and Urbanization in Nineteenth Century America," (with J. Atack and P. Rhode), *Regional Science and Urban Economics* (forthcoming).

**Jianjun Miao** continues to work on two lines of research. The first concerns macroeconomic implications of financial frictions, specifically business cycle and growth implications of bubbles and credit constraints. The second involves new models of ambiguity sensitive preferences and applications to macroeconomics and finance.

**Yuhei Miyauchi's** primary research interest is to understand how socio-economic activity is shaped within cities and across regions. Yuhei tackles these questions using a combination of theory and new sources of granular data, such as cell phone, smartphone transaction data and firm-level transaction data.

**Dilip Mookherjee** works on a combination of theoretical and empirical topics related to development economics. Current empirical projects focus on various Asian countries, addressing topics such as political clientelism and delivery of welfare programs, middlemen and marketing supply chains, and the role of local community networks in financial intermediation and entrepreneurship. His theoretical interests include effects of automation on income distribution, and control of collusion in hierarchies. He is a member/fellow/affiliate of BREAD, CEPR, EDI and the NBER Development groups.

**Andrew Newman** is currently engaged in several research agendas pertaining to organizational economics, industrial organization, institutions, inequality, and the economics of the household. Recent work involves a unifying organizational- and industrial-economics theory of

endogenous market structure. Other work develops testable theories of how firms' internal organization decisions such as outsourcing or vertical integration interact with markets and how those decisions in turn affect product market performance, particularly in the face of globalization. He has been contributing to the economic theory of matching markets and applying that to affirmative action policies. He is also exploring how the processes by which people learn about their economic environment can lead to organizational dysfunction and change.

**Daniele Paserman** specializes in labor, applied microeconomics, political economy and behavioral economics.

**Natalia Ramondo** is a trade economist whose research is focused broadly on issues of globalization, particularly with respect to the role of multinational firms. Ramondo is part of a new wave of economists using quantitative models and detailed datasets to understand the welfare gains (and losses) from various forms of economic openness.

**Pankaj Tandon** concentrates on technological change, microeconomics, public enterprises, and food policy. He has worked on evaluating privately financed infrastructure projects and privatization programs. His main field experience has been in Egypt, India, Mexico, and Venezuela.

*Professors Emeriti: Peter Doeringer, Shane Hunt, and Gustav F. Papanek*



*At the Economics Convocation, on May 18th, Professor Stefania Garetto received the Gitner Prize for Excellence in Undergraduate teaching. Stefania is an IED affiliated faculty member who is a trade economist.*



## GRADUATE STUDENTS

### Manuel Abdala Award and IED Summer Fieldwork Grant Recipients

#### *Laura Aquino and Anastasiia Arbuzova*

The Abdala program was created in 2019 to fund research fieldwork of graduate students. These grants are made possible by a generous gift from alumnus Manuel Abdala. These are supplemented by fieldwork grants awarded by IED. Fieldwork is broadly defined to include conduct of surveys, interviewing, collecting archival/historical data, or performing laboratory experiments, along with associated activities necessary to carry out a research project.

The 2023 grants provided funding to two PhD students: Laura Aquino and Anastasiia Arbuzova.



*Laura Aquino*

Laura Aquino's project is set in Mexico where she spent a few weeks in August doing research. Her paper is titled:

#### *'The impact of banking agents on financial inclusion in Mexico'*

Summary:

In 2014, the Government of Mexico implemented a new regulatory framework, which allowed financial institutions to hire local convenience stores to open low-risk bank accounts on their behalf. The objective of this study is to assess the impact of this regulation on consumer savings, spending, and transaction behavior. In August 2023 I traveled to Mexico to meet with stakeholders at the National Banking and Securities Commission (CNBV), the Central Bank of Mexico, the National Statistics Directory of Economic Units (DENUE), and the National Institute of Statistics and Geography, and collect data from restricted datasets available at these institutions. This will allow to combine several sources of data, including municipality-level information on the presence and locations of convenience stores, including those that were authorized to act as banking agents after the regulation was implemented, and account-level data from the Central Bank of Mexico which contain details on spending, minimum payments, and credit offered by all financial institutions at the individual and municipality levels.



*Anastasiia Arbuzova*

Anastasiia Arbuzova's spent 3 weeks this summer in Ethiopia doing research. Her paper is titled:

#### *'Gendered Differences in Mobility and the Demand for Transport in Ethiopia'*

Summary:

In July 2023 I traveled to Addis Ababa, Ethiopia to continue my work on a transportation study that was launched in 2022, in collaboration with IED Faculty Affiliate Mahesh Karra. Our study aims to investigate how travel demand and mobility patterns vary by gender. As part of the study, we conducted a randomized controlled trial that provided households with a high-quality transport option, taxi services.

Now that the data collection activities have commenced, I plan to return to the field to retrieve the spatial data from the taxi companies and complete the analysis of the experimental results from the first phase of the trial. Additionally, I will be preparing to disseminate these results to key policy stakeholders in the transport and urban planning sector in Ethiopia, including the Ministry of Transport, the Addis Ababa City Roads Authority, and the Ministry of Women and Children's Affairs. I will also be conducting pilot activities to inform the design of the second phase, including in-depth interviews with selected respondents to discuss their experiences with the transport intervention. Being in the field will allow me to prepare for workshops and conduct additional training with our local research partner, EconInsight, in anticipation of future fieldwork.

## ROSENSTEIN-RODAN PRIZE 2023

The Rosenstein-Rodan prize is awarded annually for the best paper(s) in a development-related area written by a PhD student. The 2023 Rosenstein-Rodan Prize was awarded to Sophie (Yiwen) Li and Max Garcia who each received \$1,800 in prize money.



*Sophie Li*

Sophie Li's paper is titled:

### *'Historical Evidence on Gender Differences in Job Loss: US Postmasters before World War Two'*

Abstract

Were there any gender differences in response to job loss during historical periods? I examine this question by studying workers who experienced exogenous job loss due to party turnovers in the early 20th century United States. Specifically, I study the postmaster occupation in the federal government, a unique labor market opportunity for women that did not impose marriage bars. With a newly digitized dataset on postmaster appointments, I show that the share of women postmasters increased from 5% to 30% between 1910 and 1940, most of whom had been married at the time of the appointment. Next, I estimate the causal effect of job loss by comparing postmasters appointed just before and after a party turnover in a regression discontinuity design. The RD estimates show that women experienced a reduced probability of employment by 40.5 percentage points after job loss and decreased their labor supply by 21.4 weeks per year and 15.1 hours per week. In contrast, men were just as likely to be employed as before and did not decrease their labor supply. Finally, I show that women exited the labor market after job loss due to marriage bars introduced by the state governments and the severity of the Great Depression, but not due to fertility or home production.



*Max Garcia*

Max Garcia's paper is titled:

### *'Governance and Property Rights over Water'*

Abstract

Water resources present a classic tragedy of the commons that is of increasing relevance as a result of climate change. This paper uses the staggered introduction of a local governance institution to estimate the causal effect of property rights enforcement on the allocation of water in Chile. I find that the establishment of legally empowered boards representing water right holders leads to increased water access in downstream locations, reallocating water from upstream to downstream users. The increase happens during the irrigation season, suggesting that it corresponds to a reduction in illegal extractions. The presence of a board also slows down the creation of titles over river waters, which we attribute to improved monitoring of the state of the river by the boards. We further present evidence of greater misallocation of water in basins without boards, where the shadow value of water is higher in downstream locations than in upstream locations. We conclude that legally empowered community enforcement improves the performance of markets in absence of state capacity.



*Yuqing Chen*

## MA RESEARCH FELLOWS

The IED recently established the Summer MA-Research Fellowships program that will award a \$3,500 prize to three students and a \$1000 stipend to their respective faculty mentors. 2023 MA Research Fellowship awardees are: Yuqing Chen and Shuaichen Liu.

Yuqing Chen, mentored by Professor Joaquin Blaum. Her work is titled:

### ***‘The Impact of Participation in Global Value Chains on the Intra-industry Income Gap in Developing Countries: An Empirical Analysis’***

This paper conducts a comprehensive empirical analysis to assess the impact of participation in Global Value Chains (GVCs) on the intra-industry income gap in developing countries. Using a quantitative approach, we integrate the GVC participation index with an in-depth examination of intra-industry income disparities. Our primary data is sourced from the World Input-Output Database (WIOD) and selects data from 19 industries in developing countries from 1996 to 2009. The research investigates the initial impact and mechanisms of forward participation in GVCs on intra-industry income gaps. Variables such as intermediate goods trade, technological progress, and factor inputs are introduced to construct a panel regression model and examine the differential performance in labor-intensive and capital-intensive industries. These results carry significant policy implications, informing strategies for promoting inclusive growth and reducing income inequality in the context of global economic integration.



*Shuaichen Liu*

Shuaichen Liu mentored by Professor Jianjun Miao. His work is titled:

### ***‘Public Health Insurance Pricing at Aging China’***

China is currently facing two significant challenges: a sizable aging population and high aging rates, which are putting immense strain on societal support systems. The demand for long-term care and management of chronic diseases is escalating, further exacerbating the inadequacy and inefficiency of the public medical insurance system. To tackle these critical issues, my research adopts a combination of actuarial and macroeconomic methods. I have introduced an overlapping generations model, incorporating health shock, which allows for a comprehensive analysis of reasonable social security rates. To strengthen the model's accuracy, I utilized CHARLS health survey data conducted by Peking University to parameterize the mortality rate based on different health statuses. The proposed model functions as a payroll taxation system, specifically addressing the challenges arising from an aging population. By conducting thorough analyses and simulations, I am striving to develop cost-effective strategies for providing sufficient and accessible medical services to the population. The ultimate goal is to alleviate the burden on society and enhance the overall well-being of the aging population.



## STUDENT PLACEMENT

IED provides placement services and workshops to graduating PhD students from the Department of Economics. We are proud to announce the placements of the latest graduating PhD cohort. 18 PhD students have concluded their job searches and found excellent positions in a variety of institutions. This year's PhD placements include five tenure track positions in economics departments, three postdoctoral fellowships and visiting positions, five positions in central banks, government offices, and research institutions, and five positions in economic consulting firms.

This year's placements can be seen here: <https://www.bu.edu/econ/academics/recent-phd-placements/>.

<b>Rubaiyat Alam</b>	Kansas State University, (Assistant Professor)
<b>Corinne Andriola</b>	University of Kentucky School of Medicine, (Postdoctoral Fellow)
<b>Marshall Drake</b>	Equal Employment Opportunity Commission, (Economist)
<b>César Garro-Marín</b>	University of Edinburgh, UK, (Early Career Researcher)
<b>Emilio Gonzalez Coya Sandoval</b>	Morgan Stanley, (Associate)
<b>Nicolas Guida-Johnson</b>	Pontificia Universidad Javeriana, Colombia, (Assistant Professor)
<b>Masyhur Hilmy</b>	University of New South Wales, (Lecturer (Assistant Professor))
<b>Ran Ji</b>	Analysis Group, (Associate)
<b>Chuqing Jin</b>	Toulouse School of Economics, France, (Assistant Professor)
<b>Heechul Jung</b>	Korea Capital Market Institute, South Korea, (Research Fellow)
<b>Aakash Kalyani</b>	Federal Reserve Bank of St. Louis, (Economist)
<b>Yunus Kurt</b>	Analysis Group, (Associate)
<b>Nils Haakon Lehr</b>	Cornerstone Research, (Associate)
<b>Chenyue Lei</b>	Southwestern University of Finance and Economics, Chengdu, China, (Assistant Professor)
<b>Duoxi Li</b>	Cornerstone Research, (Associate)
<b>Guillermo Neves Silveira</b>	Analysis Group, (Associate)
<b>Yuheng Zhao</b>	Renmin University of China, (Assistant Professor)
<b>Beixi Zhou</b>	University of Pittsburgh, (Visiting Assistant Professor)

### Alumni Engagement

IED works in close partnership with the Department of Economics' MA Alumni Council and the PhD Alumni Council to foster a cohesive relationship between the department, current students, and alumni. Through the organization of academic and social events, the IED aims to provide collaborative experiences to our vast network of alumni.

### MA Alumni Council

The MA Alumni Council focused on resuming its activities with the MA students. The council participated in MA Orientations for both Fall 2022 and Spring 2023 as well as the Virtual Visit Day for admitted students in May 2023. Furthermore, the council attend the Economics Graduation Reception in May to celebrate the achievements and awards of the MA students. The council also served as a resource for resume review & interview prep as well as keeping up the MA alumni network via LinkedIn. The council is looking forward to the return of the notable Career Panel this fall as they bring alumni back on campus as well as planning alumni events.

The Master's Alumni Council members for the past year were Kelly Colden (BA/MA 2014, US Talent Finance Relationship Owner, Assistant Director – Ernst & Young), Caroline Margiotta (BA/MA 2017, Data Scientist – Genesis Research), and Jonas Tizabi (MA 2022).

### PhD Alumni Council

The PhD Council works in collaboration with IED and the GEA to plan networking and career development events throughout the academic year. During 2022-23 the PhD Alumni Council held a virtual panel event and offered ongoing support for job market candidates through mock interviews and targeted connections with alumni. They look forward to hosting more events this year, including events of interest to students earlier in the program and finding more ways to productively engage our global network of alumni from the PhD program.

The PhD Alumni Council members are Chair Paul Karner '12 (Horizon Data Science), Jesse Bruhn '19 (Brown University), Emily Rose Gee '15 (Center for American Progress), Jee-Yeon Kim Lehmann '12 (Analysis Group), Dara Lee Luca '11 (Amazon), Aditi Mehta '08 (DOJ-ATR), and Silvia Prina '08 (Northeastern University).

## Economics Graduation & Distinguished Alumni Reception

The Institute for Economic Development in conjunction with the Economics Department continued the annual award to honor a distinguished alumnus. The Department Chair and the IED Director, along with a few senior faculty, established this award to recognize the remarkable accomplishments of our alumni and to inspire and motivate current students in the department. The 2023 Distinguished Alumni Award was awarded to Jane Hyde Williams, BA Economics '71. As a female pioneer in the investment industry in 1981 she co-founded Sand Hill Global Advisors. Throughout her career Jane worked helping people by offering sound advice and guiding them with strong investment management for over 40 years.



*Jane Williams receives the Distinguished Alumni plaque from Chair Marc Rysman the following day at the Economics Convocation*

This event was revamped this year to focus more on the achievements and excellence of graduating Undergraduate and Masters students. This reception was held the evening before the Economics Commencement ceremony (May 17th) in the Dahod Family Alumni Center at the Castle to recognize and honor outstanding Undergraduate and Master's students. Prior to the reception Jane met with a small, select group of female students for a roundtable discussion. This year's reception provided selected students and their families an opportunity to join with faculty, alumni and staff in enjoyable conversation as part of Commencement weekend.



*Chair Marc Rysman (left) with BA and MA student award recipients*



*Faculty, Staff and Students at the reception.*



*Attendees enjoying the reception at the BU Castle*



## STAFF NEWS



Mavis Manaloto (pictured on campus) joined the IED team as the new IED Coordinator in January (Jay Aung left BU in December). Mavis graduated from Boston University in 2022, earning a degree in Public Relations with a minor in Arts Leadership. During her time at BU, she was involved in several clubs and activities, was an Office Assistant at Boston Playwrights' Theatre, and interned at various arts and entertainment organizations, including StageSource, ICON PR, and Written On Time, Inc.

Since joining full-time as the IED Program Coordinator in February 2023, Mavis has grown to have a strong affinity for the Economics Department, largely in part due to the people that make up the department, from the staff and the students to the faculty and guests. One of her favorite parts about the position is the wide variety of tasks, ranging from setting up events for graduate students to creating the annual departmental newsletter. After being a student at BU, Mavis is grateful for the opportunity to give back to the BU community in her new role. We are very thankful to welcome Mavis-she has been such a wonderful addition to the IED team.

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## IED RESEARCH VISITOR 2022-2023

Dr. Saima Nawaz, a tenured Associate Professor at COMSATS University Islamabad, Pakistan, undertook a postdoctoral fellowship at the Institute for Economic Development (IED), Department of Economics, Boston University from September 2022-May 2023. During her fellowship, Dr. Nawaz focused on investigating the long-term effects of unconditional cash transfers, with a specific emphasis on the Benazir Income Support Program (BISP), on individual and household outcomes. Her research involved a rigorous analysis, encompassing data collection, advanced econometric modeling, and an examination of the multifaceted impacts of cash transfers on various socioeconomic indicators. Additionally, Dr. Nawaz explored the intricate relationship between climatic shocks, such as droughts and floods, and their implications for cash transfers and economic welfare. Her aim was to shed light on the intersecting dynamics between social protection mechanisms and climate resilience.



## IED HOSTED CONFERENCES

Trade Conference:

IED faculty affiliates Stefania Garetto, Yuhei Miyauchi, and Natalia Ramondo organized two mini conferences on international trade on October 21, 2022 and March 24, 2023. Four external speakers from various institutions were featured on each day. Each presenter presented their latest research, followed by extensive discussions among participants. During breaks, lunches, and over dinner, BU's faculty and students interacted with external speakers and exchanged research ideas. There was a turnout of about 15-20 graduate students and several faculty members.

Presenters on 10/21/2022: Kerem Coşar (Virginia), Mathilde Munoz (Berkeley), George Alessandria (Rochester), David Nagy (CREI/Princeton)

Presenters on 3/24/2023: Andrea Ariu (Milan), Federico Esposito (Tufts), Xiang Ding (Georgetown), Rob Johnson (Notre Dame)



*Trade attendees at lunch at the BU Faculty Club  
(October 2022)*



*Group discussions and presentations during  
Trade Conference (March 2023)*

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## DISTINGUISHED VISITORS

The following distinguished visitors spent a few days in the Economics department, each giving a seminar and two lectures in their field of expertise for the benefit of our graduate students and faculty:

Erzo Luttmer from Dartmouth  
visited from Nov 14–18, 2022 (Micro)

Eliana La Ferrara from Harvard  
visited March 20–24, 2023 (Development)

Guido Menzio from NYU  
visited remotely Nov 28–Dec 2, 2022 (Macro)

Aubhik Khan from Ohio State  
visited March 27–31, 2023 (Macro)

## SEMINARS

IED organizes a weekly seminar during the academic year where visiting speakers present their research. The following is the list of seminars for the 2022-2023 academic year:

### FALL 2022

9/20/22	Jing Cai (University of Maryland)	"Indirect Effects of Access to Finance"
9/19/22	Melanie Xue (LSE)	"The Short- and Long-Run Effects of Affirmative Action: Evidence from Imperial China"
9/26/22	Dilip Mookherjee (Boston University)	"Network Expansion and Overhang: Entrepreneurship in China's Structural Transformation"
10/3/22	Sultan Mehmood (New School of Economics)	"Contract Enforcement in a Stateless Economy"
10/11/22	Quamrul Ashraf (Williams College)	"Structural Change, Elite Capitalism, and the Emergence of Labor Emancipation"
10/17/22	Joana Naratomi (LSE)	"Cash Transfers and Formal Labor Markets: Evidence from Brazil"
10/24/22	Veronica Rappaport (LSE)	"Trade Shocks and Credit Reallocation"
10/31/22	Namrata Kala (MIT/Solan)	"The Impact of Managerial Autonomy on Firm Outcomes"
11/7/22	Ben Olken (MIT)	"Optimal Public Transportation Networks: Evidence from the World's Largest Bus Rapid Transit System in Jakarta"
11/14/22	Ama Baafrā Aberese (Wellesley College)	"Place-Based Policies and Migration: Evidence from India"
11/28/22	Raul Santaeulalia-Llopis (Universitat Autònoma de Barcelona)	"Excess of Transfer Progressivity in the Village"
12/5/22	Gordon Hanson (Harvard Kennedy School)	"Did the Rise of the South Deindustrialize the North?"

### SPRING 2023

3/13/23	Gaurav Chiplunkar (University of Virginia)	"Gender Barriers, Structural Transformation and Economic Development"
3/20/23	Eliana La Ferrara (Harvard Kennedy School)	"Norm Replacement. A Field Experiment on Ending Female Genital Cutting"
3/27/23	Mara Squicciarini (Bocconi)	"Dealing with Adversity: Religiosity or Science? Evidence from the Great Influenza Pandemic"
4/3/23	Claudio Ferraz (UBC)	"Land Market Frictions in Developing Countries: Evidence from Manufacturing Firms in India"
4/10/23	Anders Jensen (Harvard Kennedy School)	"Globalization and Factor Income Taxation"
4/19/23	Sara Lowes (UCSD)	"Lectures on Trade Models and Micro Data"
4/24/23	Oeindrila Dube (Chicago Harris)	"Measuring Religion from Behavior: Climate Shocks and Religious Adherence in Afghanistan"
5/1/23	Raul Sanchez de la Sierra (Chicago Harris)	"Who Is the Monopoly of Violence? Inside one of the Largest Armed Groups of the Congo"



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