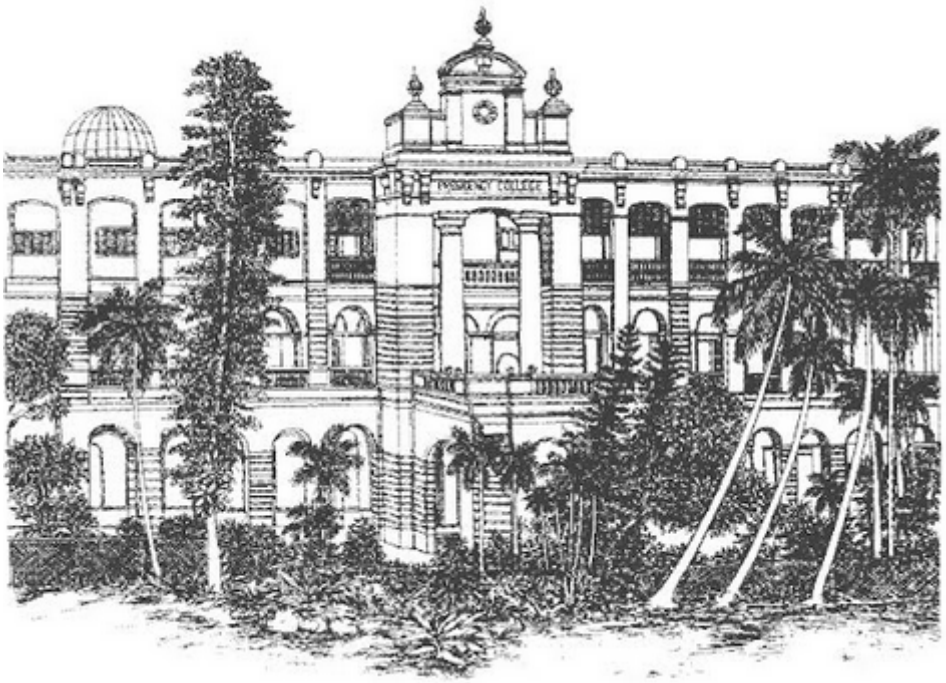
INTERNATIONAL CONFERENCE
ON
REFLECTIONS IN DEVELOPMENT ECONOMICS



PRESIDENCY UNIVERSITY
KOLKATA

Department of Economics
Presidency University
27 December 2024

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Obituary

Professor Amiya Kumar Bagchi
(28 December 1936 – 28 November 2024)



Professor Amiya Kumar Bagchi was a towering figure in the fields of development economics, economic history, and social sciences. His career was marked by a deep commitment to understanding the historical and economic dynamics of colonialism and its enduring effects on the Global South. His scholarship, intellectual integrity, and passionate dedication to the study of imperialism's role in underdevelopment have left an indelible impact on generations of students, scholars, and policymakers.

Professor Bagchi, a graduate of the 1955 batch from Presidency College, began his academic career in his alma mater as an Assistant Professor in 1958. His intellectual curiosity and pursuit of deeper academic engagement led him to Cambridge University in 1959 for his doctoral research, where he laid the foundations for some of his later seminal work. Returning to India, Professor Bagchi re-joined Presidency College in 1963. Subsequently, he moved to the Centre for Studies in Social Sciences in 1974, where he became its Director from 1988 to 1997. In 2001, Professor Bagchi founded the Institute of Development Studies, Kolkata.

Professor Bagchi was an outstanding development economist and economic historian. He re-established the propositions first advanced by the Indian nationalist writers, and illuminated with extraordinary clarity the workings of imperialism in producing underdevelopment. His first outstanding work was based on his doctoral research, *Private Investment in India 1900-1939*. It was followed by his work on “Deindustrialization in the Indian economy in the Colonial Period”. His 1972

paper in *Economic and Political Weekly* (“Some International Foundations of Capitalist Growth and Underdevelopment”) discussed the dialectics of development and under-development in a historical setting. The arguments of this paper were subsequently expanded in *The Political Economy of Underdevelopment*. In his *Perilous Passage: Mankind and the Global Ascendency of Capital* he discussed the experiences of the Global South, focusing on the destructive impact of imperialism.
Professor Bagchi was a staunch nationalist. Although he visited Cambridge every year, he remained loyal to his academic roots in Kolkata, spurning lucrative offers to join institutes abroad to stimulate the study of development issues in Kolkata. Occasionally dogmatic, his works were a passionate denunciation of imperialism written in impeccable English. His critical comments, though caustic at times, were driven by a genuine passion for the subject and an unwavering commitment to intellectual rigor.

Professor Bagchi’s intellectual curiosity never waned. Even in his later years, during the pandemic, he regularly attended the webinar series *Reflections on Development Economics* organised by the Department, and continued contributing to academic discussions. His Dipak Banerjee Memorial lecture on 21 January 2023 on "From Political Economy to Development Studies" exemplified his dedication to advancing the study of development economics.

The Department of Economics, Presidency University, will remember his contribution to understanding the dynamics of economic development and the historical context of under-development for ever. We dedicate Technical Session 3 to his memory.

Faculty, Staff, Research Scholars and Students
Department of Economics
Presidency University

Message from the conveners

During the COVID lockdown we had started a webinar series, *Reflections on Development Economics*. Among the speakers were Kaivan Munshi, Jonathan Murdoch, Sumon Bhaumik, Maitreesh Ghatak, Sudipta Sarangi, Kausik Chaudhuri, Laxmi Iyer, Ranjit Manchanda, Anindita Chakrabarti, Pushkar Maitra, Tridip Ray, Mausumi Das, to name a few. We decided to carry this forward. Partly to ensure some form of continuity, but also in memory of those strange years we retained the name of the series.

Initially we had planned to accept about 18 papers. But we received a large number of submissions. Even after external reviewing we were able to weed out few submissions—mainly because they could not be matched with other papers to form a session— and had to increase the number of sessions.

In the webinars we had focussed on eminent economists from India and abroad, trying to expose our students and scholars to high quality research. We hope that the conference, too, will benefit the participants by providing inputs about their ongoing work, and enable them to interact with other researchers.

We are particularly grateful to Debopam Bhattacharya, Professor of Econometrics, University of Cambridge, and Sugata Marjit, Distinguished Professor, Indian Institute of Foreign Trade, for agreeing to deliver the keynote and valedictory addresses, respectively, at short notice. We also thank the chairpersons for volunteering their support to the conference. The reviewers made a silent but important contribution by going through the abstracts quickly and sending their assessment within a short time frame.

We hope that the conference will be a success and encourage the Department to make it a regular event, continuing to foster the exchange of ideas and high-quality academic engagement.

27th December 2024 *Zakir Husain & Mousumi Dutta*

Message from the Head

The Department of Economics at Presidency University is hosting a one-day international conference on "Reflections on Development Economics" on 27th December 2024. This conference brings together scholars, researchers, and experts from around the globe to engage in meaningful discussions on various aspects of development economics.

The call for papers has received an enthusiastic response from scholars across India and internationally. However, we regret that, due to the limited duration of the conference, we are unable to accommodate all the enthusiastic researchers who submitted intriguing abstracts on a wide range of topics related to the conference theme.

The Book of Abstracts features a collection of the research contributions that will be presented at the conference. All together thirty-two scholars from reputed institutions like University of Chicago Booth School of Business, Virginia Tech University, University of Maryland, Auburn University, Keele Business School, IIT Kanpur, IIT Kharagpur, IIT Mumbai, IIM Calcutta, ISI Delhi, Madras School of Economics, CESP, JNU, University of Calcutta, Jadavpur University, Ashoka University, BITS Pilani, Hyderabad and Shiv Nadar Institute of Eminence will be presenting their papers on diverse theoretical and empirical issues like Violence and son preference, fertility, gender disparity, inter-generational spillovers, migration, corporate India, electoral bonds, cash transfers, gender pay gap, wage inequality, transfer of technology, sustainable living and many more. We thank all the contributors for their hard work and commitment. Through these presentations, we aim to foster dialogue and critical analysis, providing a platform for young researchers to share their findings and receive valuable feedback from renowned economists.

We extend our heartfelt gratitude to all the participants, and we hope that the discussions sparked by these papers will contribute significantly to the ongoing discourse in development economics. We also express our sincere thanks to our distinguished plenary speakers, Debopam Bhattacharya and Sugata Marjit, whose insights will further enrich the intellectual environment of the conference.

We look forward to a day of stimulating presentations, constructive debates, and fruitful exchanges of ideas.

27th December 2024 *Gagari Chakrabarti*

PROGRAMME

10.30 – 10.45	P. C. Mahalanobis Auditorium	Inauguration: Professor Nirmalya Narayan Chakraborty, Vice Chancellor	
Presenting Author	**Institute**	**Title of paper**	**Venue & Session Chair**
Keynote Address: P. C. Mahalanobis Auditorium 10.45 – 11.30			
Debopam Bhattacharya	University of Cambridge	Discrete choice with congestion	Indrajit Ray, Cardiff Business School
11.30 Tea/Coffee & nibbles: P. C. Mahalanobis Auditorium			
Technical Session 1: 11.45 - 1.15			
Pragatia	Indian Institute of Technology Kanpur	Affirmative action in employment and fertility outcomes: Evidence from India	**1A: PCM Auditorium**
Preeti Jaiswal	Indian Institute of Technology Mumbai	Childbirth and Gender Disparity in Labour Market Outcomes: Evidence from an event study	Diganta Mukherjee, ISI Kolkata
Rikhia Bhukta	Indian Institute of Technology Kanpur	Signing for Safety: Can Mandatory Marriage Registration Reduce Domestic Violence?	
Rahul Singh Chauhan	The University of Chicago Booth School of Business	Cashing-in or Selling Out? - Impact of Electoral Bonds on Corporate India	**1B: Room 21**
Deeksha	Indian Institute of Technology Kanpur	Alcohol Prohibition, Home Environment and Learning: Evidence from India	Anirban Mukherjee, CU
Shubham Ojha	Indian Institute of Management Calcutta	Upstream Economic Effects of Empowering Local State Capacity: Evidence from India	
Ravi Ashok Satpute	Indian Institute of Management Calcutta	Group Specific Public Goods and Political Competition	**1C: Room 26**
Promit Chaudhuri	Virginia Tech University	Learning a Network	Anindya Sen, IIMC
Ipsita Das	Jadavpur University	A theoretical model on Medical Tourism Destination and Quality Provision	
Nandini Das	Virginia Tech University	Does Training Farmers on Multiple Technologies Deter Adoption? Evidence from a Farm Management Training Program in Bangladesh	**1D: Room 30A**

Manhar Manchanda	Indian Institute of Management Calcutta	The Relevant Third: Threat of Coalition and Economic Development	Kumarjit Mandal, CU
1.15 - 2.00: Lunch - Room 24			
Technical Session 2: 2.00 - 3.30			
Ather Hussain Dar	Indian Institute of Technology Kanpur	Violence, son preference and fertility: Evidence from India	**2A: PCM Auditorium**
Bilal Ahmed Bhat	Indian Institute of Technology Kanpur	Crimes against Women and Migration: Evidence from India	Saswata Ghosh, IDSK
Sulagna Bhattacharya	Indian Institute of Management Calcutta	A Wedding Gift from the Government: On Marriage Subsidies and Fertility Preference in India	
Sankha Mitra	University of Maryland	Access to Cash Transfers and Climate Resilience in Agriculture	**2B: Room 21**
Agnij Sur	Indian Statistical Institute, Delhi	Impacts of Community-Based Forest Management on Bird Diversity: Evidence from Nepal's CFUG program	Sattwik Santra, CSSS
Suranjana Roy	CESP, JNU	Decomposition of accident loss: Another justification	
Arundhati Sinha Roy	Indian Institute of Technology Kharagpur	Comparative Advantage in the 24/7 Economy: Time Zone Differences and Service Trade Flows	**2C: Room 26**
Ranjabati Chakrabarti	Jadavpur University	Strategic transfer of Technology to Pre-empt Innovation in Backward Trading Partners	Sahana Roy Chowdhury, IMIK
Amlan Dutta	Jadavpur University	Oil price, Transport Service and Wage Inequality	
Suman Sarkar	Calcutta University	Does co-residence with children lead to better access to medical care for elderly in India? The results through gender lenses	**2D: Room 30A**
Sourish Mustafi	Shiv Nadar Institute of Eminence	Cognitive Health of Middle-Aged and Older Adults in India: Disparities Across Social Groups	Soumyananda Dinda, BU
Ahan Karmakar	Indian Institute of Management Calcutta	Navigating loss and joy: How births and deaths in the household impact the self-reported health of the elderly in India	
Technical Session 3 - In memory of Professor Amiya Kumar Bagchi: 3.40 - 4.40			
Punarjit Roychowdhury	Shiv Nadar Institute of Eminence	Property Inheritance Rights and Female Political Participation in India	**3A: PCM Auditorium**
Shiva Sikdar	Keele Business School, Keele University	Do Extracurricular Activities Matter for Future Outcomes?	Sourav Bhattacharya, IIMC

Krittika Banerjee	Indian Institute of Technology Kharagpur	Return of the Prodigal Son: How Home Country Institutions and Policies Attract Remittance Flows to Developing Economies	**3B: Room 21**
Souvik Banerjee	Indian Institute of Technology Mumbai	Choosing Wisely: Evaluating Latent Factor Models in the Presence of Contaminated Instrumental Variable(s) with Differing Strengths	Bibek Ray Chaudhuri, IIFT
Tannista Banerjee	Auburn University	Socioeconomic disparities: their role in COVID-19 spread and impact on the labor market	**3C: Room 26**
Shreya Biswas	Birla Institute of Technology & Science, Pilani (Hyderabad)	Does better health seeking behavior ensure improved health outcomes? Evidence from the Muthulakshmi Reddy Maternity Benefit Scheme in India	Manisha Chakrabarty, IIMC
Aparajita Dasgupta	Ashoka University	Gendered Transport Subsidy and its Short Run Effect on Female Employment: Evidence from Delhi's Pink Pass Scheme	**3D: Room 30A**
Somdeep Chatterjee	Indian Institute of Management Calcutta	Leveraging upward inter-generational spill-overs for sustainable living: evidence from a randomized control trial in India	Siddhartha Chattopadhyay, IIT Kharagpur
Valedictory lecture: P. C. Mahalanobis Auditorium 4:45-5.30			
Sugata Marjit	Indian Institute of Foreign Trade	Finance in Economic Theory: The New Ricardian model	Ajitava Raychaudhuri, Adamas University
5.30 – 5.35	Vote of thanks	P. C. Mahalanobis Auditorium	
5.35 Tea/Coffee & nibbles: P. C. Mahalanobis Auditorium			

KEYNOTE ADDRESS

Discrete Choice with Congestion

Debopam Bhattacharya and Matias Makiranta, University of Cambridge



We model discrete choice settings where capacity-constraints cause the expected utility from choosing an alternative to decline as more individuals choose it, e.g. overcrowding in rush-hour commuter transport. We discuss existence/uniqueness of equilibrium, identification of preference parameters, and distribution of welfare change resulting from a switch to (i) centralized random and (ii) centralized utilitarian allocations, which eliminate congestion but also curtail individual freedom of choice. We further show how to identify behavioral preference parameters and welfare when decision makers potentially misperceive success probabilities. We illustrate our methods with microdata on college choice by undergraduate applicants to Cambridge.

VALEDICTORY LECTURE

Finance in Economic Theory – The New Ricardian Model (NRM)

Sugata Marjit, Distinguished Professor, Indian Institute of Foreign Trade

This work introduces the classical theory of Wage Fund (WF) as Financial Capital/Credit in Economic Theory, based on a recent and emerging literature. [Marjit and Das (2021), Marjit and Nakanishi (2023), Marjit and Bhattacharya (2022, 2023), Marjit (2024) and Marjit, Das and Yang (2024) etc.]. Unlike the usual and legitimate assumption of Unemployment as a relevant attribute in pre-Industrial Revolution in Great Britain, we use the theory of WF in Full Employment models to compare the modified Ricardian system with the benchmark Neo-Classical framework. We show why NRM can be a substitute for the Neo-Classical Production Theory in terms of mimicking similar results which do not depend on the Smooth Factor Substitution and Diminishing Marginal Productivity. As an example, the NRM provides a drastically simpler proof of the iconic Solow (1956) Neo-classical growth model without using the Neo-classical production functions. We also provide the essence of some fresh arguments which use the NRM to reflect on the Macroeconomic outcomes of Monetary Policies with imperfect credit market and Informal Sector.



The classical lineage was enriched by Hicks and Hollander (1977), Steedman (1979), Bhaduri and Harris (1982), Negishi (1982), Michio Morishima (1991), Findlay (1995) etc. We build upon the essence of such contributions, but try to focus on specific issues which address critical contemporary problems. On one hand it elaborates the usefulness of the WF approach in modern times and on the other it generates pedagogic ideas that seem to make the conventional Neo-Classical production theory redundant as we teach in our basic undergraduate Microeconomics courses.

SESSION 1: 11.45 – 1.15

Session 1A: P. C. Mahalanobis Auditorium
Chair: Diganta Mukherjee, Indian Statistical Institute Kolkata
Session-in-charge: Saswatee Mukherjee

Violence, son preference and fertility: Evidence from India

Ather Hassan Dar, Indian Institute of Technology Kanpur*
Debayan Pakrashi, ISI Kolkata
Sounak Thakur, Indian Institute of Technology Kanpur

Humans evolved over millennia according to the laws of natural selection. Between 1.9 million to 200,000 years ago, humans developed brains that were substantially superior as compared to that of other apes (Gibbons, 2007; Gowlett et al., 2012). This "cognitive revolution" allowed humans to influence their environment and led to major milestones such as socialization in larger groups, the invention of fire and settled agriculture (Dunbar & Shultz, 2007; Harari, 2015). These revolutions, in turn, shaped social norms and customs, which, over centuries, crystallized into culture. Current human behaviour is influenced not only by the forces of natural selection, which evolved over millennia, but also by culture, which evolved over centuries (Guiso et al., 2006). For instance, human mothers instinctively breastfeed their children, but son-preferring social norms lead Indian mothers to breastfeed their daughters for a shorter duration as compared to their son (Jayachandran & Kuziemko, 2011).

In this paper, we study how the forces of natural selection and social norms interact to affect human behaviour in the face of adverse shocks. The context of our study is the Indian state of Punjab, which experienced violent conflict between 1978 and 1993. The Punjabi context is interesting because an extremely high degree of son preference is deeply embedded in persistent social norms in the state (Das Gupta et al., 2003). Punjabi society is patrilocal, with adult sons co-residing with elderly parents and supporting them through old age. Given that most victims of the violent conflict were male (Puri et al., 1999), patrilocality of Punjabi society provides parents with strong incentives to desire more sons (due to a replacement motive) in the event of a conflict. On the other hand, mothers in Punjab, like their counterparts elsewhere in the world, are subject to the same forces of natural selection. Trivers & Willard (1973) famously hypothesized that the forces of natural selection favour girls over boys in the event that a population is hit by adverse shocks. Trivers & Willard argue that this strategy maximizes eventual reproductive success for the species.

The original Trivers-Willard hypothesis has largely been confirmed in both non-human species and amongst humans. Amongst human populations, several studies have found that the ratio of females to males at birth increases when the population is faced with adverse circumstances such as environmental shocks (Wilde et al., 2017; Torche & Kleinhaus, 2012), nutritional shocks (Almond et al., 2007; Almond & Mazumder, 2011;) and exposure to war and violence (Valente, 2015; Dagnelie et al., 2018). However, in Punjab, the context of our study, we find that exposure to the violent conflict leaves overall sex ratio unchanged and leads to an intensification of son-biased fertility stopping behaviours. To the best of our knowledge, this constitutes the first evidence that the forces of natural selection, as applicable to human fertility behaviours, may be counteracted by strong and persistent social norms.

Our identification strategy exploits two plausibly exogenous sources of variation. The first source of variation is the conflict described above. The second source of plausibly exogenous variation is the gender of the firstborn child. The plausible exogeneity of the gender of the firstborn child derives from the fact that Indian parents do not attempt to actively influence the gender of the firstborn child, with the effect that the sex ratio amongst firstborns lies in the biological interval (Bhalotra & Cochrane, 2010; Rosenblum, 2013; Alfano, 2017; Anukriti et al., 2022). Son preference manifests in subsequent fertility in the following way: In a bid to have the desired number of sons, Indian parents speed up their fertility process in the event that the firstborn is a girl (Clark, 2000; Rosenblum, 2013). This differential-stopping behaviour leads to a more male-biased sex ratio amongst children at higher birth-orders (Barcellos et al., 2014). The extent to which parents speed up their fertility

(following the birth of a firstborn daughter) is considered a measure of son-biased fertility stopping (Alfano, 2017).
We find that, amongst parents with at least one child, exposure to the violent conflict leads to an intensification in son-biased fertility stopping. This result is robust to the introduction of a rich set of controls for background characteristics and mother fixed effects. It is also validated using event-study designs, which indicate that the timing of the intensification in son-biased fertility stopping closely traces the trajectory of the conflict. This intensification of son-biased fertility stopping does not affect overall fertility. Contrary to the Trivers-Willard hypothesis, the overall sex ratio remains unaffected by the conflict. However, fertility outcomes at birth order one, where parents do not attempt to influence the gender of the child, do align with the Trivers-Willard conjecture. We find a slight increase in the ratio of females to males amongst firstborn children following exposure to the conflict. In a nutshell, our results indicate that the forces of natural selection do influence fertility responses in the event of a conflict, but that deep-rooted and persistent social norms counteract these forces of natural selection when humans choose to intervene.

Crimes against Women and Migration: Evidence from India

Bilal Ahmad Bhat, Indian Institute of Technology Kanpur*
Sounak Thakur, Indian Institute of Technology Kanpur

Barriers to migration lead to inter-sectoral misallocation of labor in developing countries. We provide novel evidence that parental concerns about daughters being potential victims of sexual crimes act as a barrier to temporary migration for adult males. Families with firstborn daughters end up having more daughters, and are 20% less likely to have an out-migrant. We provide evidence that this is driven by the imperative to have male members around to protect daughters. Our results suggest that improved law and order and more security for women may improve efficiency of inter-sectoral allocation, and increase GDP.

Signing for Safety: Can Mandatory Marriage Registration Reduce Domestic Violence?

Rikhia Bhukta, Indian Institute of Technology, Kanpur*
Debayan Pakrashi, Indian Statistical Institute, Kolkata & Indian Institute of Technology, Kanpur
Sarani Saha, Indian Institute of Technology, Kanpur
Ashish K. Sedai, University of Texas at Arlington

This paper examines the impact of a mandatory marriage registration policy on domestic violence in India using a difference-in-difference model. Our analysis also explores how mandatory registration can mitigate polygamy and child marriage. Event study analysis shows that the tangible impacts of the policy only emerge after the implementation of anticorruption measures in public service delivery. However, the heterogeneity analysis reveals that the policy primarily benefits non-poor and non-marginalized groups, leaving vulnerable populations underserved. Thus, mandatory marriage registration is crucial in combating domestic violence but must be integrated into broader initiatives to reduce corruption and enhance inclusivity.

Session 1B: Room 21
Chair: Anirban Mukherjee, Economics Department, Calcutta University
Session-in-charge: Jayeeta Deshmukh

Cashing-in or Selling Out? - Impact of Electoral Bonds on Corporate India

Rahul S Chauhan, The University of Chicago Booth School of Business

I analyze the impact of anonymous political financing via electoral bonds on the Indian corporate sector. My findings indicate that political donors are more likely to announce investment projects in the year they donate through electoral bonds, particularly in states governed by the ruling party. Political donations are associated with increased capital expenditures and employment, reflecting capacity expansion, but are also associated with reduction in marginal revenue product of capital (MRPK) and total factor productivity (TFP). Government-owned banks are more likely to lend to donors connected to the ruling party, and especially lend

during close state elections. Consequently, political donors exhibit higher industry-wide market share, pursue mergers and major acquisitions, and increase price markups, indicative of higher market power. Industries with higher value-weighted donations-to-assets ratio show greater dispersion in MRPK and MRPL, signalling a correlation between increased political activity and resource misallocation.

Alcohol Prohibition, Home Environment and Learning: Evidence from India

Ather Hassan Dar, Indian Institute of Technology, Kanpur
Deeksha, Indian Institute of Technology, Kanpur*
Sounak Thakur, Indian Institute of Technology, Kanpur
Sarani Saha, Indian Institute of Technology, Kanpur

In this paper we study the impact of a state-wide alcohol ban implemented in 2016 in the Indian state of Bihar on the learning outcomes of children. Bihar, one of the most impoverished states in India, had the sixth highest alcohol consumption in the country with an APC of 14.7 litres per year in the pre-ban period. This ban is considered to be one of the most stringent alcohol bans in India due to its draconian provisions of heavy fines, prolonged periods of imprisonment and even death penalty in some cases for the offenders.

The ban prohibits the manufacturing, sale, transport and consumption of alcohol, inducing plausibly exogenous variations in the availability of alcohol, which we exploit in a difference-in-difference framework. Jharkhand being a neighbouring state that was a part of Bihar until 2000 serves as the most appropriate control group for our analysis. Since the alcohol ban is a state-wide reform, it is likely that the policy may not be as effective in the border districts of Bihar as in the interior districts of Bihar due to potential leakages from non-dry states. So, in our main analysis, we restrict our treatment group to the interior districts of Bihar.

Using detailed information on children's performance on basic literacy and numeracy tests from Annual Status of Education Report (ASER), we compare these learning outcomes of children in Bihar with their counterparts in neighbouring Jharkhand before and after the enactment of the policy. We find that the ban reduced alcohol consumption and improved the learning outcomes of school-going children in Bihar. In terms of magnitude, the ban increased the reading test scores by 0.076 standard deviations and math test scores by 0.102 standard deviations.

The identification in a difference-in-difference framework crucially hinges on the parallel trend assumption, which in our case, implies that test scores of children in Bihar should have evolved in parallel to their counterparts in Jharkhand. We use event studies to test the validity of the parallel trend assumption. Heterogeneity analysis shows that these effects are driven by non-poor households. The plausible underlying mechanisms are lower domestic violence and improvements in the home environment induced by reduced alcohol consumption on the part of adult males.

Further, we show that the ban improved the quality of home environment such as by reducing alcohol consumption and intimate partner violence and by improving the relative position of women in the household. Moreover, we find evidence of increased expenditures on education because of the policy. We conduct a battery of robustness checks to validate our results. Our results indicate that eliminating the negative externalities associated with alcohol consumption within the household — such as the incidence of domestic violence, parental ill behaviour and substitution of household resources away from productive uses to expenditures on temptations goods — can result in significant gains in children's cognition.

Upstream Economic Effects of Empowering Local State Capacity: Evidence from India

Somdeep Chatterjee, Indian Institute of Management Calcutta
Shubham Ojha, Indian Institute of Management Calcutta*

Despite the overall economic growth in many countries, significant regional disparities within countries persist, and various solutions have been proposed, such as decentralization and place-based policies. However, the impact of enhancing local state capacity remains underexplored. In this paper, we examine the impact of a policy intervention in India, the Backward Regions Grant Fund (BRGF), which aimed to strengthen the capabilities and effectiveness of local Panchayats (village-level governance institutions).

We use a synthetic difference-in-differences (SDiD) approach to estimate the effects of the BRGF program on economic development, as proxied by night time light intensity. Our findings indicate that the program led to a

1% increase in average night time light density and a 4.1 percentage point increase in the growth rate of total night time lights in the treated districts compared to the control districts.

To explore the potential mechanisms, we investigate the impact of the BRGF program on the provision of public goods at the local level. We find that the program led to a significant increase in the availability of primary, middle, and secondary schools, as well as an increase in the proportion of villages with *pucca* (high-quality) roads. In contrast, we observe a decrease in the proportion of villages with kutcha (low-quality) roads. However, the program did not have a significant impact on the availability of health infrastructure or electricity supply for agricultural use.

These findings suggest that augmenting local state capacity via the BRGF program had positive upstream effects on economic development, primarily through improved provision of local public goods, such as education and transportation infrastructure. The results highlight the importance of strengthening local institutions and their capabilities in reducing regional disparities and promoting growth. Our results are robust to various robustness checks like winsorization of the sample, a test of exact randomization, and alternate outcome specifications.

Our findings contribute to the literature on state capacity, decentralization, and regional development in several ways. First, we provide causal evidence on the economic benefits of augmenting local state capacity, which is an important yet understudied topic in the development literature. Second, our analysis of the potential mechanisms highlights the critical role of local public goods provision in driving the observed economic effects.

Session 1C: Room 26
Chair: Anindya Sen, (retd.) Indian Institute of Management Calcutta
Session-in-charge: Prithviraj Guha

Group Specific Public Goods and Political Competition

Sourav Bhattacharya, Indian Institute of Management Calcutta
Tapas Kundu, Oslo Metropolitan University, Norway
Ravi Ashok Satpute, Indian Institute of Management Calcutta*

Societies frequently exhibit divisions among various groups rooted in social identities (religion, language, caste, etc). Much like generic public goods that benefit all members of society, there exist group-specific public goods that are enjoyed by all members of the group but not by non-members. These may include places of worship for religious groups or roads and local public services provided in areas where most of the population belongs to a specific group. Much like generic public goods, these group-specific public goods are also often provided by the government and financed by taxes. They have the feature that not only do they provide utility to the group enjoying them, but they also provide disutility to the groups that are excluded from enjoying them. In this paper, we specifically model group-specific identity goods as a source of disutility to other groups. Going one step forward, we think of the society as composed of multiple groups, and the "identity distance" between a pair of groups is measured by the extent of disutility that one group obtains from specific public goods provided to the other group.

In this paper, we ask how political competition determines the taxes as well as the mix of tax-financed generic and group-specific public goods in the society when groups not only care about their own group's specific public goods but also dislike other group's specific public goods. We employ the standard probabilistic voting model (Lindbeck and Weibull, 1987), later used in the textbook by Persson and Tabellini (2002), commonly used to study public goods provision through electoral competition.

Public goods provision in the face of ethnic fractionalization has been studied by others, in particular, by Esteban and Ray (2011). In fact, our preference specification as coming from utility from own-group identity good and disutility from other-group identity good borrows a specification in Esteban and Ray (2011). However, while they (and others in this literature on fractionalization and political conflict) typically consider a contest model to allocate the prizes, we consider a model of electoral politics. We emphasize that the electoral channel is an important device to decide the allocation of public goods. Moreover, while the contest models work with a fixed budget to be allocated across different public goods, our framework allows for the level of taxes as well as the mix of tax-financed public and identity goods to be determined simultaneously in equilibrium.

In our model, we have a society that is divided into n mutually exclusive and exhaustive groups, and the utility of any individual has four components: private consumption, generic public goods, own-group public good, and rival-group public good, which is a source of disutility. Candidates commit to a policy, and a policy tuple is the two kinds of public goods (a generic public good and a specific good for each group) and a tax rate. The additive structure allows us to obtain an equilibrium. Assuming that both candidates are office-motivated, there is a policy convergence.

In equilibrium, we show that, unlike the social planner's solution, the political competition caters to the political clout of the groups. Moreover, the lower the within-group variance in preference, the more politically effective the group is. This is measured by a 'cohesiveness' parameter (inverse of preference variance) in our model, one for each group. The political clout of a group depends on its size and cohesiveness. We demonstrate that the income being similar, there will be a higher provision of group-specific public good if the group with more cohesive votes desire so. Moreover, in the convergent political equilibrium, we can have either under-provision or over-provision of public goods depending on whether the group with higher political clout has a higher or lower income share.

Next, we provide a characterization of identity good provision based on identity networks structure of the society. We demonstrate that a group that is more central in the society can attract more identity goods. Further, in the case of a society having subgroups, we show that a group with lower within-group fragmentation can attract more identity goods, showcasing the importance of social harmony for higher societal welfare.

Learning a Network

Promit K. Chaudhuri∗, Virginia Tech, Blacksburg
Jonghyun Park, Virginia Tech, Blacksburg
Sudipta Sarangi, Virginia Tech, Blacksburg
Hector Tzavellas, Virginia Tech, Blacksburg

This paper investigates how rational agents make decisions in networks with incomplete information about the overall network structure. Using an infinitely repeated local interaction game model, we show that Bayesian Nash Equilibrium (BNE) under incomplete information is coincide to the Nash Equilibrium (NE) of a complete information game, implying that, despite incomplete knowledge, agents' behavior converges to the equilibrium predicted under full information over time. Our results highlight the continued importance of Katz-Bonacich centrality in incomplete networks and identify conditions under which agents can learn the network structure, with learning time scaling linearly with the number of players. These findings enhance our understanding of decision-making and information diffusion in complex networks and offer practical insights for policymakers and researchers.

A theoretical model on medical tourism destination and quality provision

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Tanmoyee Banerjee (Chatterjee), Jadavpur University

The paper theoretically analyses the development of a medical-tourism destination that includes both hospital sector and allied firms, which provide all the goods and services that make the stay in a destination possible, under two possible situations: (a) the monopoly hospital sector providing unique service quality, (b) duopoly hospital sector providing differentiated service qualities. We compared the quality of medical service provided under (a) and (b) to that of provided in a coordinated setup, where a destination-development authority maximizes the overall joint-profit of the destination. The quality of medical service provided under (a) and (b) are better, than under coordinated-setup, under suitable condition. However, the demand and profit of allied firms are higher under coordination. If income distribution parameter improves, medical-service quality under (a) may rise however under (b) qualities may deteriorate if initial quality-level of high-quality hospital is sufficiently high.

Session 1D: Room 30A
Chair: Kumarjit Mandal, Economics Department, Calcutta University
Session-in-charge: Supravat Bagli

Does Training Farmers on Multiple Technologies Deter Adoption? Evidence from a Farm Management Training Program in Bangladesh

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Groundnut cultivation in low-income countries suffers from several challenges that prevent farmers from achieving their potential yields and higher income from groundnut farming. Several existing constraints that groundnut farmers face include diseases in seeds, plants, and harvest, and ineffective traditional farming practices. Integrated Pest Management Activities (IPMA) technology can help address some of these existing hindrances as a collection of cost-effective and eco-friendly practices to manage pests and diseases. While previous research shows the promise of new agricultural technologies in improving welfare and livelihoods, barriers such as imperfect credit markets and low-risk protection impede widespread adoption (Foster and Rosenzweig, 2010). Thus, identifying the factors that influence adoption in developing country settings is imperative. A training program containing IPMA components, good agricultural practices, and agronomical suggestions, supported by the United States Agency for International Development's (USAID) Bangladesh mission was implemented before the 2022-23 *Dhulot* (December 2022 to May 2023) season. The training's main goal was to improve activities around groundnut farming season. This paper provides an impact evaluation of the training program on groundnut farmers' socioeconomic outcomes. We focus on the existing challenges in groundnut cultivation and barriers to adopting new technology and practices. Using reduced-form econometric analyses, we present the assessment results on input usage and costs, utilization of recommendations from the training program, output and profit.

This program was carried out in Char Madras union in Char Fassion *upazila* (sub-district) in Bhola district, Barishal division, Bangladesh. Four wards within Char Madras union were chosen and 200 farmers were invited to participate in the training program that happened during the third and fourth weeks of November 2022, right before the 2022-23 *Dhulot* planting. To evaluate the impact of the training program, a multi-arm control design was developed. The multi-arm control included groundnut farmers from the four treated wards in Char Madras who did not participate in the IPMA training (henceforth Control 1) or "spillover group", and two "pure control" groups, four control wards in Osmanganj union of Char Fassion (Control 2) and eight wards in Chanchra and Chandpur wards in Tazumuddin *upazila* (Control 3). A baseline survey was carried out before the start of the season in December 2022, which was followed up with another survey on the same sampled households after the groundnut harvest from 2022-23 *Dhulot* farming in July 2023. The two waves of groundnut household surveys created a panel dataset for evaluating the impact of IPMA training program on groundnut cultivation. The final panel dataset contains baseline information on 521 groundnut-farming households and the follow-up dataset contains 519 (out of 521) households.

The training program attempted to address several challenges faced by the local groundnut farmers. The major problems identified in groundnut cultivation in the area include root rot and collar rot diseases, pest attacks, issues with seed germination, and post-harvest management. These salient problems with groundnut cultivation are exacerbated by increasing climate change-induced dry spells as well as rising levels of soil salinity. Thus, there were several components of this training program. As the training program advocated a holistic approach, there were suggestions to change the amount of usage of certain traditional inputs alongside the introduction of new inputs (the IPMA inputs) in farming practices. Having several components in the package left scope for various levels of adoption, requiring an in-depth analysis of the differential ease of adopting various aspects of the technology and the influencing factors.

Our preliminary results suggest an impact of the training program on usage amounts of the traditional inputs, but hardly any statistically significant changes in the usage of new inputs. The lack of adoption of new inputs could

be due to several factors such as increased costs of production, lack of availability of new IPM products in the local markets, or retention of information gathered during the training program. There was not a huge gap between the results while considering the spillover control over pure control, but there were a few noticeable differences. The first set of changes that relates to changing to the recommended usage of traditional inputs is relatively easier to implement because it requires certain costless changes in practices such as decreasing the use of urea or increasing the use of gypsum, etc. However, starting to use new inputs like biofertilizers, trichocompost, pheromone traps, etc. could be costly. These "costs," predominantly financial in nature, encompass expenditures related to the acquisition of new inputs and the modification of traditional inputs, which can be quantified. However, there are unquantifiable variables such as the effort required by a farmer to locate sources for procuring these new inputs and the acquisition of the necessary knowledge and skills for their application. Consequently, the adoption of each practice incurs varying costs for farmers, leading to selective adoption.

It is important to note that unless most of these practices are implemented, quantifiable impacts may not be realized, particularly in the short term. Thus, our results suggest that the training for groundnut farmers did not have significant effects on groundnut yields. Evaluating the socioeconomic impact of this training is complicated because the implementation of these suggestions does not easily lend itself to rigorous economic impact identification. One of the main reasons for the complexity is that such training packages consist of several techniques for better agricultural practices, agronomical solutions as well as recommended products, mostly biological, to improve farmers' production as well as overall welfare. The many components of this training cannot separately create the impact, which the combination could potentially generate. The only possible way for any impact evaluation needs testing of the package in its totality rather than the separate components, which this paper aims to achieve.

To measure severity of exposure to indoor air-pollution is constructed as a categorical variable by considering two factors – (i) use of solid fuel for cooking (firewood/twig/dung cake/coal/crop residue) by the household, and (ii) whether separate kitchen exists (in a household using solid fuel for cooking indoor pollution will be high in absence of separate kitchen with ventilation system). The data is obtained from IHDS. Also, outdoor air-pollution is measured by presence of SO_2 and NO_2 in the atmosphere. The data is available from Central Pollution Control Broad.

Two-step estimation is done. As SRM is endogenous here, SRM is estimated first considering indoor and outdoor air-pollution, age, age-squared, education of the individuals and the predicted value of SRM is obtained which is used as explanatory variable in estimation of logarithm of hours of work equation. Along with SRM, education, locality of residence, caste, religion, age, age-squared etc. are included as explanatory variables to estimate hours_work equation. Since SRM is a binary variable, hence Fairlie's (2005) non-linear decomposition analysis is performed to estimate the existence of gender difference (male variable – female variable) in probability of SRM and contribution of the explanatory variables (where air-pollution is the thrust) in the total explained effect. The explained effect is due to the average characteristic gap between the genders. If the disadvantaged group (i.e. women) have same characteristics as the favoured group (i.e. mean the difference would be zero. Further, to estimate the gender gap in hours of work and contribution of SRM (predicted) in it, the linear Blinder (1973) and Oaxaca (1973) technique of decomposition is used.

Results: Existence of gender gap in both SRM and hours of work are evident from the decomposition analysis. Here the total differential is negative for SRM i.e., women have higher probability of SRM than men implying women tend to have poor health whereas the differential is positive in case of hours of work, i.e., women work less hours compared to men. In case of SRM, air-pollution (indoor and outdoor both) contribute to more than 30% of the explained effect. Had there not been air-pollution, gender difference in probability of SRM will have been lower by 30%. Further the decomposition exercise is performed for different occupations, like, agriculture, construction, salaried & professionals. It is found that air-pollution explains larger part of the explained effect for the agriculture and construction workers since they are worst affected by outdoor air-pollution having greater exposure due to the nature of the job. The decomposition result suggests that SRM is a major contributor of hours of work. Thus air-pollution increases SRM of women which in turn reduces they work hours. The present analysis depicts that air-pollution which is potentially exacerbating gender gap in health and labour market outcomes in turn must call for urgent attention of the policymakers.

The Relevant Third: Threat of Coalition and Economic Development

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This paper examines the effect of political competition on economic development in a multi-party setting. We use a novel measure of political competition: the presence of a relevant third and the consequent threat of potential collusion that the incumbent faces: the possibility of coalition formation by the non-incumbents. Increased electoral/political competition results in favourable outcomes for the voters and citizens[1]. The underlying premise is that a substantial electoral advantage—or a lack of political competitors—diminishes the extent to which politicians are held accountable, allowing them to prioritize narrow self-interests without jeopardizing their re-election prospects. A growing body of literature supports the notion that increased electoral competition correlates with improved economic and political outcomes. Politicians elected within a competitive setting are less likely to renege on their policy promises, engage in rent-seeking behaviour, or prioritise special-interest policies during their term in office.

How to measure political competition, however, remains an open question. The empirical literature on political competition has employed various measures to define electoral competitiveness. We use a new definition of political competition: the presence of a Relevant Third and the threat of collusion between non-incumbents. In our framework, the third placed candidate is relevant if the number of votes received by the third placed candidate exceeds the winning margin. In such a situation, if the second and third placed candidate could arrive at some form of an agreement, together they can beat the incumbent (in the next election). Using a regression discontinuity framework comparing situations where the third-ranked candidate is barely relevant to those where they are barely not, we exogenously identify a potential threat of collusion between the non-incumbents. We are thus able to causally isolate the impacts of competition on ex-post outcomes, through a potential shock to re-election probabilities.

We find that having a *Relevant Third* results in a large an statistically significant growth in night-time lights (our primary measure of the level of economic development or prosperity), which corresponds to a 1.8—5.5% growth premium during our sample period. The results are driven by the higher growth of nightlights in the second half of the electoral term. This is not surprising given that constituency development is likely to take some time and therefore effects on luminosity should ideally show up with a lag.

We show that our results are indeed driven by the threat of collusion. When the second and third placed candidates are from ideologically opposed major parties and it is unlikely that these two parties will ever collude (i.e., the threat of collusion is not credible) we find that the Relevant Third does not have a statistically significant effect on economic growth.

As potential mediating channels for increased luminosity, we estimate impacts of having a Relevant Third on a large set of public goods. We find that having a Relevant Third results in provision of better health care goods measured by the proportion of villages in the constituency having access to a particular health facility, better education infrastructure as measured by the proportion of villages in the constituency having different types of schools, improved drainage and market infrastructure and higher electricity supply to marginal, small and medium enterprises (MSMEs). We also find that a higher fraction of Relevant Thirds in a district results in reduction in district-level crimes. Finally, turning to the impacts on electoral outcomes, we find that the existence of a Relevant Third does not affect the likelihood of the incumbent re-contesting, but conditional on re-contesting it reduces the probability of re-election of the incumbent.

[1] An election is defined as competitive or contestable if there exists an opposition party (or coalition formed prior to the election) that has chance of winning and credibly offers equivalent or superior performance to that offered by the incumbent (party).

Effect of Centrality on the Gender Pay Gap in Corporate Boards

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Ekta Selarka, Madras School of Economics

Introduction: With the implementation of the Companies Act of 2013, most of the listed companies in India have employed at least a woman director on their boards. Even though this has reduced the gender representation gap, the remuneration gap has only diverged. This was also observed by Marisetty and Prasad (2022) in a study using BSE-listed companies. Tangentially, research focusing on social network centrality often found a business case for appointing women directors with more and better social networks. Therefore, in the present study, we try to see if the network centrality of women directors can potentially reduce the gender pay gap on the corporate board. We use a panel of non-financial, privately owned NSE-listed companies from the post-reform period of 2017 to 2022. The data for the study is sourced from the Indian Boards Database and CMIE ProwessIQ. Using Blinder-Oaxaca decomposition, a huge portion of the gender remuneration gap is be due to unobserved factors and differential returns to attributes across women and men. Further analyses suggests that female directors with higher network centrality earn significantly more than their less central counterparts. Additionally, fixed effects regressions show a robust positive association between the centrality of women directors and their remuneration. Therefore, the findings emphasize the role of network centrality in reducing gender-based compensation gap on the board, particularly for non-independent directors.

Methodology: This study employs Social Network Analysis to assess the influence of directors within corporate board networks. We also utilize the Blinder-Oaxaca decomposition to decompose the gender-based compensation gap. We use board interlocks to construct director networks. Subsequently, we compute four centrality measures - Degree, Closeness, Betweenness and Eigenvector. Following Islam et al. (2023), in order to standardize these measures of centrality, the raw centralities are converted into percentiles within each year. Furthermore, an overall centrality measure is created using the first principal component of the four individual measures. In addition to network analysis, the study employs Blinder-Oaxaca decomposition to analyze the disparities in director remuneration. The decomposition separates differences in average remuneration into explained components (difference in outcome due to differences in observable factors) and unexplained components (difference in outcome due to unobservable factors like discrimination). We also employ fixed effects regression to explore the influence of network centrality on the gender pay gap. We include firm fixed effects to control for unobserved, time-invariant characteristics specific to each company, while time fixed effects account for temporal trends for macroeconomic conditions and other time-specific heterogeneity.

Results: We use an unbalanced panel consisting of 16,260 unique directors and 1,748 companies (20,597 directorship positions) over 6 years from 2017 to 2022. We perform Blinder-Oaxaca decomposition to break down the difference in the log-transformed total compensation between male and female directors. The decomposition shows that male directors earn about 81.4% higher remuneration compared to female directors. We find that, coefficient effect contributed to the major component of the gender pay gap on the board. Thus, we can see that a large portion of the pay gap arises from differences in how characteristics of male and female directors are valued (coefficients) rather than differences in characteristics themselves (endowments). We use fixed effects regression to understand the effect of network centrality on director remuneration and the effect of the former in addressing the gender pay gap. We find that the network centrality of female directors is positive and significant across all models, suggesting that higher centrality improve remuneration for female directors. This effect holds across all centrality measures, as well as for the overall centrality measure. Interestingly, network centrality did not improve remuneration outcomes for male directors. Further analyses on non-independent and independent subsamples, reveal that network centrality reduced the gender pay gap for non-independent directors. While factors like education and a longer tenure contributed to a higher pay for independent directors.

Conclusion: The study shows that network centrality - primarily the centrality of women directors- plays an important role in influencing director remuneration. All the measures of centrality exhibit a significant positive association with the female of women directors. This is particularly true for non-independent female directors, for whom the gender wage gap persists and being influential had the highest returns. These results suggest that

knowing people may serve as an important mechanism for increasing the visibility, influence, and bargaining power of female directors, thereby improving their remuneration outcomes. Thus, higher centrality mitigates the remuneration gap for women, with overall centrality having the most pronounced effect.

SESSION 2: 2.00 – 3.30

Session 2A: P. C. Mahalanobis Auditorium
Chair: Saswata Ghosh, Institute of Development Studies Kolkata
Session-in-charge: Saswatee Mukherjee

Childbirth and Gender Disparity in Labour Market Outcomes: Evidence from an Event Study

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Sankar Mukhopadhyay, University of Nevada, Reno

Introduction

Despite increasing economic growth, rising educational attainment, and lowering fertility rates, there exists persistent gender divergence in labour market outcomes in almost all countries. One of the significant factors that has been widely discussed in developed countries contributing to this existing gender gap is the 'motherhood penalty'. It is defined as the negative impact on various labour market outcomes such as labour force participation, earnings and work hours resulting from the disproportionate burden of childcare falling exclusively upon the mothers. Childcare responsibilities significantly influence mothers' labour market decisions, choice of economic activities, and years of job accumulation. The Indian labour market has consistently demonstrated significant gender inequality over the past two decades. There exists scarce literature focusing explicitly on the impact of childbirth on female labour market outcomes in the Indian context and particularly its intertemporal dynamic impact over time as a child grows up. The present study aims to estimate the causal impact of new childbirth on mothers' labour force participation, earnings, and work hours compared to fathers and non-mothers to isolate the gender-specific effect of motherhood. Our paper builds upon and extends the work of Deshpande and Singh (2021) by examining the impact on the intensive margins of the labour market – work hours and earnings, besides labour force participation. Additionally, we also explore the impact of the Maternity Benefit Amendment Act (2017) on the mother's labour market outcomes as well as household consumption expenditure patterns.

Data and Methods

We use longitudinal data from the Consumer Pyramids Household Survey (CPHS) conducted by the Centre for Monitoring Indian Economy (CMIE) over the period 2016 to 2023. It includes four data modules - People of India, Aspirational India, Income Pyramids, and Consumption Pyramids. We have used the People of India and Income Pyramids database which includes information on employment, earnings, work hours, and other socio-demographic indicators, which are of relevance to our study. To estimate the impact of childbirth on mothers' labour market outcomes, we use the dynamic two-way fixed effects (TWFE) difference-in-differences method, also known as the event study specification or the difference-in-differences event study. This approach allows us to estimate the causal effect based on the assumption that, without childbirth, the trend in potential outcomes would be the same for both the treatment and control groups (parallel trends). However, the event of childbirth is not random/exogenous and often planned. Individuals self-select when making fertility decisions and presence of such self-selection could compromise the validity of the parallel trends assumption. To address this issue, we use Kernel Matching based on propensity score and match the treatment and control group separately for each cohort of treatment at the base period (one year before childbirth). We also employ nearest neighbour propensity score matching and entropy balancing as robustness checks. Additionally, as a robustness check, we employ the Interaction-Weighted estimator (Sun and Abraham, 2021) in the matched sample to account for the presence of staggered treatment adoption and treatment effect heterogeneity.

Results

The main findings of the study provide contrasting suggestive evidence to those observed in the developed countries. We find no significant decline in mothers' earnings post-childbirth, rather our analysis indicates a sharp increase in earnings a year after childbirth compared to fathers in rural regions. The likelihood of mothers' labour force participation shows a marginal decline at the time of childbirth; however, this decline does not

sustain for long and becomes insignificant a year after childbirth in rural regions, while in urban regions, the participation drops significantly after childbirth compared to fathers with no effect on earnings. On the intensive margin, there is no significant impact on work hours in both rural and urban regions around childbirth. Moreover, relative to non-mothers, we find a significant increase in the likelihood of mothers' labour force participation post-childbirth in rural regions with no impact in urban regions. On the other hand, mothers' earnings increase a year after childbirth in both regions. We also find no significant impact on mothers' work hours compared to those of non-mothers.

Discussion and Conclusion

Some of the results differ significantly from those found in developed countries and these differences could be attributed to India's distinctive socio-economic and cultural factors. The decline in the probability of labour force participation of mothers compared to fathers after childbirth in the rural regions is consistent with the findings of the earlier studies. The decline reveals the immediate impact of childbirth but unlike other countries, it does not persist over time and eventually becomes negligible. The increase in mothers' earnings post-childbirth compared to fathers' is surprising and warrants further exploration. Our findings on the motherhood penalty, independent of the gender-specific effects align with the findings of Deshpande and Singh (2021) suggesting that as children age, mothers tend to concentrate more on their careers and enhance their involvement in the labour market compared to women without children, though this shift usually takes about three years to materialize. Our analysis indicates that the 'motherhood penalty' does not contribute significantly to the prevailing gender inequality in the Indian labour market.

A Wedding Gift from the Government: On Marriage Subsidies and Fertility Preference in India

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Somdeep Chatterjee, Indian Institute of Management, Calcutta
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Financial burden accompanying dowry payments in daughter's marriages often contribute to instances of female infanticide and decline in girl child preferences in South Asian countries. Marriage grants refer to financial assistance schemes which specifically aid in expenditure involved in daughter's marriage in economically disadvantaged families. Therefore, impact of such marital assistance schemes on fertility preferences and outcomes seems like a crucial question worth exploring.

In this paper, we study whether marital assistance schemes have a causal impact on fertility preferences of both men and women. Rupashree scheme, which was implemented in the state of West Bengal, India in 2018 provides a one-time cash transfer of 25,000 rupees to the eligible beneficiary's bank account prior to marriage to economically backward families living 5 years or more in West Bengal. Exploiting the exogenous variation across time, gender and geographic area with bordering states as control, we employ triple differences strategy using NFHS 4 and NFHS 5 data for both men and women to investigate the trends in male and female gender preferences of their children.

We find that the policy induces a 14.6 percentage points increase in the desire to have children on the extensive margin. However, on the intensive margin we observe a drop in the average ideal number of children by 0.13 because of the grant. In other words, comparing 100 adults who received the grant with 100 without, we estimate that there will be thirteen fewer children desired by the former group. We might expect differential impact on girl child preference as compared to boys, but we find significant reduction in both ideal number of girls and boys desired. In a sub-sample analysis, poorer and poorest quintiles of the wealth index (defined in NFHS data based on household assets one possesses) drive the results with a more pronounced effect on the intensive margin. Further, heterogeneous treatment effects across caste find increased daughter preference in backward castes as compared to the upper castes because of the scheme.

We try to decompose some potential mechanisms driving our results. A transitory income shock should have a direct positive effect on marriages unless there is an increase in marital costs involved. The policy seems to act as a security deposit to be used later when the daughter of the household is ready for marriage, thus freeing up resources at present to invest more in human capital accumulation for both her and her siblings than before. We observe a 2.5 percentage point reduction in marriages accompanied by a 4-percentage point increase in adults completing their secondary and going for higher education. Since numerous studies have documented a negative

relationship between educational attainment and fertility due to higher age at first birth as well as better contraception knowledge, our results of declining preference for the ideal number of children seem to be consistent with the literature. Actual fertility and child outcomes in the long run might be lucrative areas to probe further in future.

Affirmative action in employment and fertility outcomes: Evidence from India

Pragati Thakur, Indian Institute of Technology Kanpur*
Sounak Thakur, Indian Institute of Technology Kanpur

Fertility outcomes are a crucial aspect of demographic studies, healthcare planning, and social policy. As nations grapple with changing fertility patterns, the valid reasons leading to these dynamics needs considerable attention. A significant number of innovations around the world for instance, the contraceptive pills, family planning schemes, increase in literacy rates, and ultrasound techniques has led to a significant decline in fertility rates and the fertility preferences of people.

Employment opportunities both for women and men are crucial for enhancing the socioeconomic condition of household and for improving the well-being of families and communities. Government of India has taken steps regarding improving the condition of lower castes people since independence and runs one of the largest affirmative action programs in education and employment. One of the major steps in this direction was the introduction of 27% quotas in the year 1993 for the Other Backward classes (OBCs) in public sector Jobs so as to increase their participation in organised sector. The policy had impacts on labour force participation rates and had unintended consequences on educational outcomes for the exposed population. (Deshpande and Ramachandran (2019)). However, the indirect impacts of increase in education of women and men on some of the other major outcomes of interest for example, the fertility outcomes are less explored. We utilise this fact of an increase in education, employment and standard of living for the Other Backward classes after the introduction of Job quotas to causally estimate the impact on fertility outcomes.

We study the impact of reservations for OBCs in Public sector jobs on fertility outcomes. Our methodology relies on the plausibly exogenous policy announcement by Government of India to provides quotas for OBCs in Public Sector Jobs in 1993. We study the impact of reservations for OBCs in Public sector jobs on fertility outcomes. Our methodology relies on the plausibly exogenous policy announcement by Government of India to provides quotas for OBCs in Public Sector Jobs in 1993. The policy led to 27% reservations for the people from Other Backward Classes in all Public Sector Jobs. This policy only applied to OBCs and did not change any employment prospects for the "General Caste Category". This quasi- experimental setting allows us to use difference in difference estimation strategy to causally estimate the impacts of this policy. OBC mothers born after 1980 comprise the treated group after (before) treatment. The "general" caste category groups, which are not entitled to any reservation in higher education, make up the control group. We select General caste category as our control group since constitution mandates 22.5% reservations for SC and STs in jobs, it is only the people from general caste category that are not given any kind of reservations in employment. We find that the overall fertility rates declined for the women who were exposed to the policy. The decline in number of daughters is greater than decline in number of sons. We also find an increase in proportion of boys as a percentage of whole. The fertility transitions are more prominent in northern regions of the country. Increase in educational attainment, increase in the age at marriage and marrying more educated spouse leads to decline in total fertility. The less employment prospects for girls in view of the affirmative action might be Increase in educational attainment, increase in the age at marriage and marrying more educated spouse leads to decline in total fertility. The less employment prospects for girls in view of the affirmative action might be driving the greater decline in number of daughters for the Other Backward classes women. We make three contributions to the literature. First, to the best of our knowledge this is the first paper to causally estimate the impact of employment quotas on fertility outcomes. Second, we also show, that gender neutral affirmative action policies have gendered impact, here women who gets exposed to the policy are participating less in the labour force whereas men's work force participation is increasing. We also show that the less employment prospects for the Other backward classes women who got exposed to the policy have impacts on son-preference.

Session 2B: Room 21
Chair: Sattwik Santra, Centre for Studies in Social Sciences
Session-in-charge: Prithviraj Guha

Access to Cash Transfers and Climate Resilience in Agriculture

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Sheetal Sekhri, University of Virginia
Sankha Mitra*, University of Maryland
Poonam Tripathi, ICIMOD

Agriculture plays a crucial role in sustainable development, but the sustainability of agriculture is being threatened by changing circumstances including climate change. Our paper focuses on the following question – can access to cash-transfers enable adopting climate-resilient adaptation practices in agriculture?
To answer the question, we focus on the bordering regions of India and Nepal – two districts (Banke in Nepal and Shravasti in India) sharing a common international boundary. Both these countries promote similar climate-smart practices. However, in India, farmers are eligible for a cash transfer under a national policy to buy agricultural inputs and promote the health of crops. This allows us to exploit a spatial regression discontinuity design to answer the question whether cash-transfers have an effect on adoption of climate-resilient practices in agriculture.

Related Literature

Our paper contributes primarily to two strands of literature. The first strand examines anticipatory transfers for floods and finds that the recipients' smooth consumption, prepare better for floods, and their development outcomes worsen less (Pople et al. 2021). The second strand clubs cash transfers with other treatments and delivers bundles (cash transfers and vocational training (Macours et al, 2012); cash transfers and productive grants (Macours et al, 2022); graduate programs (BRAC style) and cash transfers (Hirvonen et al 2023)).

Methodology

The study focuses on two similar agro-climatic regions separated by an international boundary. While farmers on both sides of the border are exposed to similar climatic shocks and agricultural conditions, farmers on one side (India) receive a cash transfer through a government policy PMKSN that enables them to improve crop health and buy agricultural inputs. Considering Indian farmers therefore to have received the treatment, we run a spatial regression discontinuity where the observation is considered "treated" if the observation belongs to India.

Results

Our RD estimates reveal a substantial difference in rice yields. We show that this is on account of investments in water efficiency practices that are capital-intensive. We also try to determine if there is any heterogeneity in effect by gender, and find that women are less likely to receive the cash transfer, adopt water-efficiency practices, and therefore have a lower relative yield.

Impacts of Community-Based Forest Management on Bird Diversity: Evidence from Nepal's CFUG program

Agnij Sur, Indian Statistical Institute, Delhi

Nepal's community forest management has increased forest cover. Our study investigates the impact of Nepal's Community Forest User Groups (CFUGs) on bird diversity to evaluate biodiversity conservation in the rejuvenated forest systems. Using eBird data from the 1980s to 2022 and the Nepal CFUG census, we leverage variation in treatment timing, repeated sightings by birdwatchers and control for relevant covariates to estimate the relationship between community managed forests and bird diversity. Our analysis indicates that an additional percentage point of community forest within a Village Development Committee (VDC) is associated with the observation of 0.31 more bird species per observer per trip which is about 0.02 standard deviation more. Birds can fly from one village to another but we show bird mobility is uncorrelated with increase in local CF share in

adjacent VDCs keeping our result unbiased. We find that bird species which are least threatened to extinction and have no specialised habitat are primarily affected by CFUG expansion.

Decomposition of Accident Loss: Another Justification

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The standard negligence rule (under which the injurer is liable for the entire loss if and only if she is negligent) is one of the most important and widely used rules for assigning liabilities for accidental losses arising from two-party interactions involving negative externalities. It has been established in the literature that when negligence is defined as a shortfall from court-specified TSC-minimizing (total social cost minimizing) due care, then the negligence rule is always efficient. However, this rule has an all-or-none character and precludes the possibility of accommodating non-efficiency concerns. To examine the scope for non-efficiency values (like distribution), Jain and Kundu (2011) introduced a generalization of the standard negligence rule called (λ,θ)-negligence rule.

A (λ,θ) - negligence rule (i) decomposes the loss into two components: specified loss and excess loss; (ii) apportions the specified loss in fixed proportions $(\lambda,1-\lambda)$ between the victim and the injurer; and (iii) apportions the excess loss to the injurer if she is negligent and to the victim otherwise. Jain and Kundu demonstrate that when negligence is defined as a shortfall from due care, then the assignment of a part of the loss (up to the loss evaluated at due care levels of the parties) does not have any efficiency implication and therefore can be assigned based on other considerations.

This paper studies efficiency properties of the class of (λ,θ)-negligence rules under an alternative notion of negligence more in harmony with the adversarial system practised in common law countries. Under this alternative, negligence is a failure to take a cost- justified precaution. Given the actual care levels of the two parties, any other care level of a party (which is higher than her actual care) is cost-justified if and only if it involves an additional cost which is less than the reduction in expected loss it would have brought about. Thus, according to this alternative notion, the injurer (victim) is considered negligent if and only if the other party can demonstrate a failure on her part to take some cost-justified precaution. Our main result in this paper shows that, although every rule in the class of (λ,θ) - negligence rules is inefficient, a $(\lambda, 1)$ -negligence rule is more efficient than a (λ,θ) - negligence rule for $\theta < 1$. This is significant in view of the fact that, in comparison to (λ,θ) - negligence rules with $\theta < 1$, a $(\lambda, 1)$ - negligence rule also has a larger scope for non-efficiency considerations.

Session 2C: Room 26
Chair: Sahana Roy Chowdhury, International Management Institute Kolkata
Session-in-charge: Gagari Chakrabarti

Comparative Advantage in the *24/7 Economy*: Time Zone Differences and Service Trade Flows

Arundhati Sinha Roy, Indian Institute of Technology Kharagpur*
Anwesha Aditya, Indian Institute of Technology Kharagpur,
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Transportation costs, a critical consideration in international economics, significantly influence cross-border trade dynamics. The existent literature on international trade consistently demonstrates that trade-related costs serve as substantial impediments to economic integration across national boundaries. The impact of geographical distance between trading partners has been extensively examined in the literature on trade theory.

The gravity model of international trade posits an inverse relationship between trade volumes and geographic distance between nations. This geographic separation vis-a-vi significant latitudinal distances among countries simultaneously leads to time differences between countries. Recent research, notably the seminal works of Marjit (2007), Marjit et al. (2010, 2020), and Kikuchi (2009), has introduced that apart from the standard basis

of trade, time differences among country pairs can act as a fourth source of comparative advantage, particularly pertinent to service-oriented trade.

Head et al. (2009) have classified the impact of time zone differences into two distinct effects. The first is the *"continuity effect,"* (CE) which allows tasks to be executed continuously across countries situated in different time zones. The second is the *"synchronization effect,"* (SE) which reflects the reduction in cultural proximity due to time zone disparities.

In the present paper, we examine the impact of these two effects via which time zone differences influence international trade dynamics. A distinguishing feature of this study is its extensive empirical scope, encompassing a comprehensive dataset of 162 World Trade Organization (WTO) member countries. This expansive sample size provides a more robust and globally representative analysis compared to previous studies, enabling more generalizable conclusions about the relationship between time zone differences and service trade.

Our research offers several substantive contributions to the existing literature. First, it introduces a comprehensive analytical framework for examining temporal effects on international trade patterns. Second, we advance the body of knowledge by conducting an in-depth analysis of the impact of time zone differentials on both aggregate services trade and at disaggregate levels. Additionally, we aim to identify optimal time zone difference ranges that maximize the benefits of CE, identifying unique ranges for three distinct service categories. These findings provide critical insights into enhancing comparative advantage and enabling partner countries to effectively utilize a 24-hour work cycle. Furthermore, our research employs alternative measures to capture SE, expanding upon existing literature. We incorporate socio-economic indicators such as government effectiveness, political stability and the absence of violence or terrorism, and utilize the Intellectual Property Rights (IPR) index as indicators. Recognizing the essential role of IPR in fostering innovation, strengthening market position, and offering legal protection in service-based industries, this approach underscores the comprehensive scope of our analysis.

Poisson pseudo maximum likelihood (PPML) estimation results reveal the existence of CE for all categories of services. However, the most suitable time zone difference for the functioning of CE varies across service categories. Interestingly, 8-10 hours' time difference is found to be most beneficial for ICT-enabled service trade, whereas, for travel and transport and aggregate services a broader range of time spectrum is observed for CE to be operative. The presence of SE is evident only for ICT-enabled services. Further, our results underscore the role of IPR in bilateral trade in ICT-enabled services along with services overall and explore the importance of human capital with linguistic similarity between trading partners. Travel and transportation services are found to rely more heavily on investment in physical capital, both domestic and foreign, compared to other service categories. Improved mobile and broadband connections contribute to the enhancement of all types of service trade. The present analysis thus advocates for improved ICT infrastructure, physical infrastructure, and transparent governance for fostering service trade. A notable finding pertains to the variation in the effective time window for CE across service categories. ICT-enabled services exhibit the narrowest optimal time difference range (8-10 hours), whereas travel-transport services and aggregate services demonstrate considerably broader ranges (7-15 hours). Further examination of country pairs within the optimal time zone ranges reveals an intriguing pattern across all three service categories South-South pairs constitute the largest proportion (70%), followed by North-South pairs (30%) and North-North pairs (less than 5%). These findings highlight that developing countries can capitalize on service trade opportunities through strategic time zone advantages. However, full benefits require robust ICT infrastructure, skilled human capital, and strong IPR regimes. This research provides empirical support and strategic insights for policymakers aiming to boost global service trade participation.

Strategic Transfer of Technology to Pre-empt Innovation in Backward Trading Partner(s)

Ranjabati Chakraborti, Jadavpur University*
Rajat Acharyya, Jadavpur University

This study investigates strategic technology transfer by an advanced country to a technologically backward trading partner to pre-empt the latter's innovation. Laying out a three-stage game in a multi-country Ricardian model, we explore how a backward nation's innovation capability impacts the possibilities of trade in

technology. We provide precise algebraic conditions, under which the technologically superior nation can always forestall innovation by a "small" backward trading partner in the latter's line of comparative advantage. Our findings also establish that, innovation capability of the less advanced nation limits the advanced country's scope to charge the maximum possible fee in exchange for technology transfer. This result holds even if the technology-recipient (or technology-innovating) country is large.

Oil price, Transport Service and Wage Inequality

Amlan Dutta*, *Jadavpur University*
Rajat Acharyya, *Jadavpur University*

This paper with the help of four sector general equilibrium model analyses the impact of oil price shock and distance change on skilled-unskilled wage inequality for a small oil importing economy. The four sectors consist of a non-traded transport sector, two traded import-export good sector and a traded skill based ITeS sector. The impact of oil price shock is transferred to skilled-unskilled wage through the resource allocation effect between the sectors. We find that even though for both the effects of oil price shock and change in distance between the trading partners, the change in skilled-unskilled wage inequality is ambiguous but still sufficient conditions can be identified for which skilled-unskilled wage inequality increases. Similarly, the change in real and nominal income was found to be positive for a range of values for the cases of oil price rise and change in distance, but the magnitude of change may be quantitatively different in both cases. On the other hand, what is more interesting is that even though rise in oil price reduces the profitability of transport sector, we identify few special cases under which the transport sector expands due to oil price shock. Similarly, for the case of change in distance also we highlight the scenarios under which the transport sector may expand.

Session 2D: Room 30A
Chair: Soumyananda Dinda, Economics Department, University of Burdwan
Session-in-charge: Jayeeta Deshmukh

Does co-residence with children lead to better access to medical care for elderly in India? The results through gender lenses

Suman Sarkar, University of Calcutta*
Arijita Dutta, University of Calcutta

Background:

Following demographic and epidemiologic transition, coupled with declining death and fertility rates along with increasing life expectancy, India tends to be ageing rapidly as reflected in increasing share of elderly population over last decade. The share of old age population (above 60 years of age) out of total population increased steadily from 5.6% in 1961 to 10.1 in 2021 (GOI 2021), with the share being significantly higher among old women (10.7%) compared to elderly men (9.6%). Culturally, old people in India prefer to live with children who offer them old-age support: both physical and financial. At old age, social transfers and family transfers are the two top most crucial sources of resources and financial support. It can be hypothesized that elderly people living with children can have better access to family finances, given the fact that these societies continue with precarious institutionalization of social transfers and traditionally low levels of investment in human capital (Paolini 2002). If this gets juxtaposed with high cost of health and disability care for the elderly along with limited dissemination of information on their access, the choice of co-residence with next generation is an automatic soft option. However, the linkage between co-residence with children and older adult's wellbeing lacks conceptual clarity. On one hand, in settings where public or private formal systems of care are inadequate, co-residence is often expected to receive better access to health care and informal support through better information and availability of family resources via younger members of the family (Samanta et al 2012; Chen & Short, 2008; UN DESA, 2005). On the other hand, other studies report tendency of neglect and hence no clear gain for older people can be always located from co-residence (Hashimoto, 1991; Sibai et al., 2009).

Given this background, there is hardly any study in Indian context, which outlines the connection between co-residence with children and access to curative health care among elderly population in India, with special focus on gender inequality and the current paper attempts to bridge the gap.

Data: The paper uses unit level LASI Wave 1 data 2017-18 (IIPS) for the analysis, which includes 31,464 elderly members aged ≥60 years.

Methodology: The study covers the sub-set of population who report some illness in the last 12 months, sample size being 25,799. Access to curative care is the outcome of interest which includes consultation /treatment for illness and treatment for injury/accident in one year preceding the survey. Co-residence with children with or without spouses of the elderly is the main predictor variable in the analysis. However, co-residence is far from an exogeneous variable and depends heavily on socio-economic-cultural characteristic of the household. We use Propensity Score Matching method to find if co-residence with children leads to increased access to curative care for both male and female elderly population in India. It considers two types of cohorts- 'Treated' and 'Controlled' (Untreated). In our analysis, the treated group consists of elderlies who live with their children with/without their spouses whereas the controlled group includes elderlies who have different living arrangement (live only with spouses/ with other members/live alone). We incorporate state fixed effect along with other covariates like age, residence, education, household highest education, monthly per capita expenditure quintile, self-rated health (SRH), access to pension as control for the initial selection regression. We perform the PSM for the entire population and for both the gender separately. Then we explore the average treatment effect on treated (ATT) for the impact of co-residence on curative care.

To capture the heterogeneity effect, we perform the similar exercise for different sub-samples. First, we try to investigate if there exists any significant gender disparity in terms of access to care for the elderly for the elderly aged ≥ 69 years (mean age of the population). Next, we attempt to find if there is any heterogeneous effect between male and female elderlies who are currently engaged in economic activity.

Results: According to the data, 69.52% of Indian elderly live with their offspring (with or without spouses). Out of the total elderly population aged 60+ in the dataset who report some illness, 77.44% receive curative care. There is a greater likelihood of co-residence with children of old elderlies who belong to the age group 60 to 68 years (71.07%), though there is no difference across genders. The elderly living in the richest quintile have a lesser possibility to co-reside, supporting the hypothesis of need for financial support from the wards for co-residence. Across religions, the likelihood of co-residence is higher among the Muslim elderly population (78.63%). As expected the time used data shows that household chores are mainly done by female elderly and it does not differ much based on the co-residence pattern.

Propensity analysis shows that co-residence with children significantly increases access to health care among older men members, whereas no effect can be identified among old women members. For male elderly population, the difference in healthcare access between the treatment group (living with children) and the control group (living with others) is positive and statistically significant at 1% level. This implies the likelihood of obtaining care rises for male elderlies when they co-reside with their offspring. The gender disparity persists even when we compare access to care for the old older adults aged ≥ 69 years.

Heterogeneity analysis identifies that female elderlies who live with children may obtain curative care only when they actively participate in economic activities.

Conclusion: From this analysis, a clear gender inequality is observed in case of access to health care for elderly population in India. Living arrangements with children rises the possibility for curative health care only in case of older men. Inter-generational co-residence with/without spouses cannot improve the access to health care for old women (when they are unwell), even though they participate in household chores consistently. Also, access to healthcare rises for women only if she is an earning member in the family. The paper thus negates the possible and expected externality of living with children for the elderly women in India and indicates that they continue to be somewhat ignored within their household. It is really saddening to find that Indian women, suffer from lack of access to health care not only during her early adult age, but also during her old age.

Cognitive Health of Middle-Aged and Older Adults in India: Disparities Across Social Groups

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Punarjit Roychowdhury, Shiv Nadar University, Delhi NCR, India, GLO & CDES, Monash University

The paper examines the disparities in cognitive health among middle-aged and older adults in India, focusing on social groups defined by caste affiliations. In India, in particular, discriminatory practices have resulted in poor outcomes for low-ranked social groups (Deshpande, 2011, 2019; Deshpande & Sharma, 2016; Ghosh, 2023; Hnatkovska et al., 2012; Mal & Saikia, 2024; Mosse, 2018). While it is well established that social hierarchies are linked to economic divergences (Dasgupta et al., 2023), limited research has examined their impact on cognitive health, which can also be adversely affected by social hierarchies and that are important determinants of one's ability to work, decision-making, social interactions, overall well-being, labour market outcomes and economic productivity (Charness et al., 2024; Hansen et al., 2014; Harling et al., 2020; Lee et al., 2014; Lenzen et al., 2023; Nexø et al., 2016; Nigam & Kar, 2020).

We use nationally representative data from the Longitudinal Aging Study in India (LASI) 2017-19 (Chien et al., 2023). It is the largest national health and retirement study in the world (Bloom et al., 2021). The survey includes detailed information on demographic, health, and socioeconomic indicators for adults aged 45 and above across all Indian states and union territories. LASI measured cognition in various domains, such as memory, orientation, verbal fluency, arithmetic, executive functioning, and object naming, adapted from the Health and Retirement Study (HRS). Our main outcome variable is the cognition score which is the combined score of the individuals across all the domains of cognitive function. Differences in cognition scores across caste groups are analyzed while controlling for basic demographic characteristics. Further adjustments are made to account for potential mediators such as socioeconomic indicators, childhood and housing conditions, and health. Causal mediation analysis is employed to understand the pathways through which these factors influence cognitive health disparities and to quantify the direct and indirect effects of caste group affiliation on cognitive outcomes.

The findings reveal significant cognitive health disparities across social groups. Historically marginalized groups—Scheduled Castes (SCs), Scheduled Tribes (STs), and Other Backward Classes (OBCs) exhibit significantly lower cognitive scores compared to upper castes (UCs). The cognitive gap is notably wider for older adults (60 years and above) compared to the middle-aged population (45-59 years) and for women compared to men. When socioeconomic and other life circumstances are controlled for, the cognitive disparities across social groups reduce substantially, indicating that these factors are key drivers of the observed gaps. The causal mediation analysis shows that while some of the disparities can be explained by indirect effects operating through differences in socioeconomic conditions and childhood and housing conditions, gaps in cognitive health between UCs and each of the marginalized groups are almost entirely accounted for by the group differences in the predictors.

This study provides novel evidence of significant cognitive health disparities among middle-aged and older adults from marginalized caste groups in India, emphasizing the critical role of both caste and socioeconomic factors in shaping these outcomes. The study underscores the need to prioritize disadvantaged social groups in policies targeting cognition. This is essential in addressing these persistent disparities and fostering more equitable opportunities for all.

Navigating loss and joy: How births and deaths in the household impact the self-reported health of the elderly in India

Ahan Karmakar, Indian Institute of Management Calcutta

The study investigates how two contrasting household events—birth(s) and death(s)—influence the self-reported health of older adults in India. Using data from 69,980 older individuals surveyed in consecutive rounds of the National Sample Survey Office's Social Consumption: Health Survey (2014 and 2017-18), the study first employs a two-sample z-test of proportions for exploratory insights and then applies logistic regression to estimate the effects of these events. The findings indicate that a household death within the past year decreases the probability of an older adult rating their health as Excellent/Good (instead of Poor) by 2.11 to 3.84 percentage points. Conversely, a birth event in the household within the past year increases this probability by 2.03 to 2.67 percentage points. Results are obtained after controlling for not only socio-economic parameters

and living arrangements but also physical health status, allowing these findings to reflect the psychological impact of emotional household events on older individuals, distinct from the influence of physical health conditions. Subgroup analyses reveal notable gender and rural-urban differences: older men exhibit a stronger positive association with birth events compared to older women, while rural older adults show greater sensitivity to both the positive and negative household events relative to their urban counterparts. Furthermore, the positive impact of childbirth diminishes as individuals age. These findings highlight the importance of considering family dynamics and emotional well-being in efforts to enhance the health outcomes of India's ageing population, emphasizing the need for approaches that integrate social and medical dimensions of care.

SESSION 3 – In memory of Professor Amiya Kumar Bagchi: 3.40 – 4.40

Session 3A: P. C. Mahalanobis Auditorium
Chair: Sourav Bhattacharya, Indian Institute of Management Calcutta
Session-in-charge: Prithviraj Guha

Property Inheritance Rights and Female Political Participation in India

Bharti Nandwani, Indira Gandhi Institute of Development Research, Mumbai
Punarjit Roychowdhury Shiv Nadar University, Delhi NCR, GLO & CDES, Monash University*

Women's under-representation in politics is glaring, with only 27% of parliamentary seats worldwide held by women as of April 2024. According to the World Economic Forum's 2023 Gender Gap Report, 75 out of 146 countries have 20% or fewer women in ministerial positions, and only 11 countries have 50% or more ministers who are women. Shockingly, the report estimates it will take another 162 years to achieve political gender equality.

India, like many other nations, faces challenges in improving women's political participation as election candidates. Despite marginal improvements over time, female involvement in Indian politics remains dismally low, particularly at the national and state election levels. This situation is particularly concerning for two reasons. First, unlike numerous other countries, India granted universal enfranchisement to all adult citizens, allowing them to vote and contest in elections upon gaining independence (in 1947). Second, quotas for female representation at the local government level have been implemented for more than three decades.

It is well-known that active involvement of women in politics is an essential foundation for achieving both gender equality and a truly democratic society. It enables women to directly participate in shaping public policies and ensures greater accountability to their needs. Research indicates that increased representation of women in legislative bodies leads to a heightened focus on addressing women's concerns and advancing their interests. Further, female political participation has also been shown to improve economic performance and reduce corruption. Thus, it is likely that the exceedingly high gender inequality prevailing in India across almost spheres can be attributed at least partly to the low representation of females in politics.

In this paper, we examine whether introducing legal reforms that improve women's property ownership can increase their participation in politics in India. Using a natural experiment involving staggered introduction of the property rights reform, we causally estimate the impact of equalising women's and men's property inheritance rights on their participation as election candidates in state elections for the 1974 to 2004 period. There are multiple reasons why we expect women's improved claims to property to increase their participation in politics. Contesting in elections is costly, requiring significant contribution of time and resources, and most Indian women are not financially empowered and do not tend to control household wealth. Additionally, patriarchal societies discourage women from expressing their preferences through political participation, with socially enforced sanctions for non-compliance. The reforms that improve women's property rights by contesting the core construct of patriarchy, according to which control over the relations of production — economic, social, and political—is held by the senior male in the household, can potentially remove both these barriers. These reforms can increase women's lifetime wealth or unearned income, giving them access to the financial resources required for participating in politics particularly as election candidates. Financial autonomy can also give women the ability to violate patriarchal prescriptions without having to fear repercussions.

The property rights reforms that the paper considers involves amendments to the Hindu Succession Act (HSA) of 1956, enacted by five Indian states between 1976 and 1994. The HSA is the primary legislation that governs contemporary property rights for Hindus, Buddhists, Jains, and Sikhs. The act of 1956 states that both sons and daughters have equal inheritance rights to the private property accumulated by their father during his lifetime. Even though the act does not discriminate between men's and women's claims to individual property, there were significant gender disparities particularly with regard to joint family property. As per HSA, sons had a birth right to an independent share to joint family property, whereas daughters did not. Given that a substantial amount of property, particularly rural land, is jointly owned in India, these biased rights severely impacted the land ownership status of women in India. Recognising the inherent gender bias in the HSA, five Indian states between 1976 and 1994 made amendments to this central inheritance law granting daughters equal share in the joint family property. The amendments stated that women who got married after the reform was passed in their state could benefit from the new rules of inheritance.

Making use of the variation in timing of amendment to HSA by the five states, we employ a difference-in-difference (DID) framework to estimate the impact of enactment of HSA amendments on female political participation. We use administrative data on political participation of women from Election Commission of India (ECI) that is compiled by the Trivedi Centre for Political Data (TCPD). We compile constituency-level information on political participation of women from 1974 to 2004 for our analysis. Our DID results show that there is increase in the percentage of females contesting elections in the treatment states post the amendment as compared to states that did not amend their inheritance laws. Our specifications partial out constituency-specific factors and election-year factors that could have an influence on political participation of females. In addition, we find increase in the vote share of female candidates and increase in the likelihood of female candidates winning the elections post the amendment. We also document that it is the state and local political parties that contest more female candidates rather than the major national political parties. Further, we show that the increase in female candidates is driven by females who are relatively "new" candidates who do not have political experience. Our findings also suggest that increased entry of females in politics increases political competition.

Given that we make use of DID strategy, the main threat to identification is that the timing of amendment to HSA is correlated with unobserved factors that affect female political participation in the treatment districts. This would lead to differential trend in the outcome variable in the treatment group before the treatment is introduced. We provide suggestive evidence against this by estimating an event study specification and showing absence of pre-existing differential trends in political participation of females in the treatment states. Further, since the amendment was only applicable for Hindu women, we show that the HSA amendment has a negligible impact on female political participation in places which have very high Muslim population and the observed positive impact is driven by places with high Hindu population. Using an algorithm developed to predict the religion of candidates, we also estimate a falsification test and show that the amendment does not have any impact on political participation of Muslim female candidates.

We investigate the mechanism and examine if the improvement in political participation of female's post-inheritance rights reforms is driven by increased financial position of women as they become equal claimants to the joint family property with the amendment. The increased financial autonomy can enable women to spend resources required for contesting for elections. Land ownership and increased assets can also give women the confidence to express her political views and become active in politics. We test this mechanism using the first round of the India Human Development Survey (IHDS) conducted in the year 2004-05. IHDS provides detailed socio-economic and demographic information for women in the 15-49 age group. Using the variation in women's state of residence and age at marriage at the time of reform, we show that women exposed to the amendment have higher financial autonomy as measured by ownership of bank account, having cash to spend, participation in expenditure discussion at home and not being financially dependent on kids in future. Additionally, we find exposed women also have higher years of education level and are more likely to participate in discussion in politics at home.

Do Extracurricular Activities Matter for Future Outcomes?

Peter F. Orazem, Iowa State University

Shiva Sikdar, Keele Business School, Keele University*

Using longitudinal data from three high school graduation cohorts over three decades, we examine how participation in extracurricular activities and work in high school affect completed schooling and early career earnings. Participation in extracurricular activities is associated with increased probability of post-secondary enrolment, but is more strongly associated with degree completion and earnings upon leaving school. While extracurricular activities have fallen in importance for college entry, they retain importance as predictors for college completion and have increased in importance for earnings. They also are important predictors of college completion and earnings for Blacks, Hispanics and whites and for males and females. We show that these results are consistent with a theory in which extracurricular participation signals relatively low demand for pure leisure and potentially greater development of non-cognitive skills.

Session 3B: Room 21
Chair: Bibek Ray Chaudhuri, Indian Institute of Foreign Trade, Kolkata
Session-in-charge: Jayeeta Deshmukh

Return of the Prodigal Son: How Home Country Institutions and Policies Attract Remittance Flows to Developing Economies

Krittika Banerjee, Indian Institute of Technology Kharagpur

Introduction:

Remittances, defined as financial transfers made by migrants to their home countries, have become a crucial component of external sector and have the potential to reduce inequality and also promote better policies in countries exporting human capital. These transfers contribute to poverty reduction, especially amongst the kin of migrants [the *'altruistic'* motive (Rahman and Fee (2014)], help in consumption smoothing, and in transfer of culture and ideas indirectly helping in overall economic development through the impact on economic policies and institutions. Kunz (2008) underlines the need to harness financial remittances for development, especially, since it is a crucial source of foreign exchange. Migrant communities often also participate in the political debates back home, influencing political opinion and have the potential to drive policy decisions in developing countries through electoral funding. Consequently, remittances have attracted substantial interest, leading to a growing body of literature. In this paper, we try to understand the role of recipient country political regime, in combination with its monetary-financial policy in determining remittance flows to developing economies. The paper employs Arellano–Bond (1991) linear dynamic panel-data estimation and other advanced GMM techniques.

Although one of the basic motives for migrating is to remit a portion of earnings to the communities of origin, remittance can take various forms, for example, transfer of knowledge, ideas, values, and expectations acquired in the host country back to communities of origin have been called social and political remittances (Levitt, 2001). In this paper, we consider remittances as 'money and goods that are transmitted to households by migrant workers working outside of their origin countries' (Adams, 2007) and we consider a panel of developing countries, mostly from Asia. Remittances to Asia comprise the highest regional total in the globe, and 8 of the top 20 remittance-receiving countries in the world are in Asia (World Bank, 2013). India tops the list of remittance-receiving countries in 2022 with $111 billion USD as remittances and has a sustained growth in remittances received.

Previous research has investigated the relationship between remittances and economic growth. Additionally, studies have examined the role of remittances in shaping institutional framework of recipient countries. However, very few studies address the gamut of links between remittances, institutions, exchange rate dynamics and financial returns in developing countries. We intend to address this gap.

Literature:

The link between remittances and political institutions have been explored in Abdih *et al.* (2012), Ahmed (2012, 2013), Acemoglu and Robinson (2006), Bearce and Park (2018) *etc.* Remittances have been seen as a political

curse (Abdih *et al.* 2012; Ahmed 2013), in an argument similar to that of foreign aid and natural resources like oil, wherein, the recipient economy is more likely to adopt autocratic polices. This mainly happens due to reduced demand for state provided goods. Acemoglu and Robinson (2006) notes that the presence of additional source of income shifts state spending towards patronage and private goods, including police and military spending, which increases its ability to repress in order to delay democracy. However, there is a counter argument (Ansell and Samuels, 2010) that increased income and assets make societal groups demand greater property rights thus leading to democratic reform. Another counter-argument is that remittances facilitate democratization in party-based regimes, because dictatorships often rely on control of state resources to buy loyalty, and remittances allow the balance to move in favour of common people (Escribà-Folch *et al.* 2015). Bearce and Park (2018) provides evidence in support of how remittances lead to income growth and increased economic freedom from the state.

Causal Framework:

A preliminary review of the literature shows that the understanding of the economic dimension of remittances is lacking even though the non-economic dimensions have been discussed. We provide a causal mechanism that is based on the assumption that when migrants remit back home, they are not only driven by altruistic motive, but also by investment motive, e.g. domestic country deposit rates. Political institutions can be linked to this investment motive, since good political institutions ensure property rights, and less risk on the financial investments made back at home. We provide a framework in which remittances are driven by "push" and "pull" factors, which may complement or negate each other. We then test it with empirical data from developing countries. The "push" factors are the low interest rates in advanced economies that has direct link with developing country monetary policy, while the "pull" factors are political institutions that determine home country income level and altruistic motive that comes from a greater sense of duty to support family members back home.

Following Acemoglu (2006), we employ GMM technique to address the issue of endogeneity between institutions and economic variables. The preliminary specification is:

Initial model: $\mathbf{lnY_{it} = \beta_0 + \beta_1 lnY_{it-1} + \beta_2 lnX_{it} + \beta_3 Z_{it} + \beta_4 C_{it} + \lambda_{it} + u_{it}}$

Transformed model: $\mathbf{\Delta\, lnY_{it} = \beta_1 \Delta lnY_{it-1} + \beta_2 \Delta lnX_{it} + \beta_3 \Delta Z_{it} + \beta_4 \Delta C_{it} + \Delta u_{it}}$

where Y is remittances received, X is the dummy for political regime, C matrix consists of accounting factors like unemployment rate, GDP, and crisis dummy, Z is the domestic depreciation. The first difference of all the exogenous variables were used as standard instruments.

We address the following questions. *One,* is there a significant role of political regime, categorised from full democracy to complete autocracy, in attracting remittances, *Two,* is there a shift in democracy–remittance relationship with varying stages of political liberalization, *Three,* how does interest rate differential impact remittance flows and does this change with the institutional framework of the nation. Preliminary analysis with a set of 30 developing economies show that, over 1998-2023, remittances have been driven by better political institutions, with more remittances going to democratic nations. Exchange rate depreciation also has a positive impact on remittances, implying the role of interest rate parity condition in driving remittances.

Choosing Wisely: Evaluating Latent Factor Models in the Presence of Contaminated Instrumental Variable(s) with Differing Strengths

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Introduction: Causal inference methods are widely used in empirical research; however, there is a paucity of evidence on the use of latent factor methods for causal identification when a strong instrumental variable (IV) may not be available and the instrument may not be strictly exogenous. We aim to build on and extend the work of Banerjee and Basu (2021) in multiple ways: (i) we discuss the identification criteria for the shared latent factor (SLF) and SLF+IV models, (ii) we provide a theoretical framework to illustrate how strength of an IV and degree of contamination (i.e. correlation between IV and error term of the outcome equation) together determine the optimal choice between Ordinary Least Squares (OLS), Two Stage Least Squares (2SLS), SLF, and SLF+IV estimators, (iii) we compare the finite sample properties of the OLS, SLF, 2SLS, and SLF+IV estimators in terms of percentage bias, standard error, coverage probability, and Mean Squared Error (MSE) for different

degrees of contamination and strength of the IV, (iv) we illustrate the applicability of the OLS, 2SLS, SLF, and SLF+IV estimators using survey data to assess the causal impact of obesity on different health indicators, and (v) we demonstrate the virtue of latent factor models to control for effects of omitted variable(s).

Methods: We present a theoretical formulation to depict how the strength of an IV and contamination simultaneously determine the optimal choice between traditional IV estimators and shared latent factor estimators. We determine the minimum number of outcomes required to identify the structural parameters of the SLF and SLF+IV models, extending the work of Banerjee and Basu (2021). We performed Monte Carlo simulations with four outcome variables and an endogenous treatment variable, with sample sizes varying between 500 and 1000, and for 1000 iterations, to compare the finite sample properties of the OLS, 2SLS, SLF, and SLF+IV estimators. Finally, we exhibit the applicability of the proposed estimators to study the causal impact of obesity (body mass index greater than 30 kg/m^2) on health indicators (diastolic blood pressure reading, systolic blood pressure reading, blood glucose level, and haemoglobin level), using the arm circumference as an IV, and the 2019-2021 Round 5 of the National Family Health Survey (NFHS-5) data. The outcomes of the obese individuals have been compared with those of healthy-weight individuals (body mass index between 18.5 kg/m^2 and 24.9 kg/m^2). The control variables include place of residence (rural or urban) and frequency of consumption of food items like dairy products, pulses, meat, fried food, aerated drinks, etc. Diastolic and systolic blood pressure readings are indicators of the presence of hypertension; blood glucose level is an indicator of the presence of diabetes; and haemoglobin level is an indicator of the presence of anaemia. If obesity is associated with higher (lower) diastolic and systolic blood pressure readings, blood glucose levels, and haemoglobin levels, then it shall indicate that obese individuals are at a higher (lower) risk of being hypertensive and diabetic while at a lower (higher) risk of being anaemic. Finally, we tested whether the coefficient of the latent factor controls for the effect of the place of residence when deliberately omitted from the analysis.

Results: We find that a minimum of 4 and 2 outcome variables are required for the identification of the SLF and SLF+IV models, respectively. We find that, for a given strength of the IV, there exists a threshold degree of contamination, such that the SLF+IV estimator has a lower (greater) bias than the SLF estimator when the degree of contamination lies below (above) that threshold (e.g., when the sample size is 500 and the strength of the IV is 0.16, the threshold degree of contamination lies between 0.025 and 0.035). Similarly, we find that, for a given degree of contamination of the IV, there exists a threshold strength of the IV, such that the SLF+IV has a lower (greater) bias than the SLF estimator if the strength of the IV lies above (below) that threshold (e.g., when the sample size is 500, and the degree of contamination is 0.045, the threshold strength of the IV lies between 0.2 and 0.24). The simulation results are consistent and align with our theoretical propositions. So, the thresholds for the strength of the IV and degree of contamination indicate that SLF+IV (SLF) is preferred over SLF (SLF+IV) when the IV is strong (weak) and less (moderately/severely) contaminated. In our empirical application, all four models indicate that obesity is significantly positively associated with diastolic and systolic blood pressure readings, blood sugar levels, and haemoglobin levels, which suggests that obese individuals are at a higher risk of being hypertensive and diabetic and at lower risk of being anaemic, vis-à-vis healthy weight individuals. Finally, we found that as we deliberately do not control for the place of residence, the absolute coefficient of the latent factor in the SLF model increases. At the same time, there is no significant change in the absolute coefficient of the treatment variable. This indicates that the latent factor in the SLF model controls for all the omitted control variables, and the estimated treatment effect remains unaffected by the number of control variables considered in the empirical application.

Conclusion: The choice between SLF and SLF+IV estimators based on the estimator bias is determined jointly by the strength of the IV and the degree of contamination. SLF+IV (SLF) is the optimal choice when the strength of the IV lies above (below) and the degree of contamination lies below (above) certain thresholds. SLF+IV model can be identified with two outcomes fewer than the number of outcomes required for the identification of the SLF model. Our empirical application shows that obesity is positively associated with diastolic and systolic blood pressure readings, blood sugar levels, and haemoglobin levels. Moreover, the latent factor models have the virtue of controlling for the effect(s) of variable(s) that is (are) omitted from the analysis.

Session 3C: Room 26
Chair: Manisha Chakrabarty, Indian Institute of Management Calcutta
Session-in-charge: Gagari Chakrabarti

Socioeconomic Disparities: Their Role in COVID-19 Spread and Impact on the Labor Market

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The COVID-19 pandemic showed an increasing socioeconomic disparity in the United States, leading to unequal patterns of disease transmission across different communities. This study investigates the causal relationship between socioeconomic factors and the spread of COVID-19 across three distinct regions in the USA during two critical periods: the early phase (February–July 2020) and the later phase (August 2020–January 2021). By analyzing the influence of socioeconomic metrics, we aim to provide insights into how disparities aggravated the pandemic's spread and how such insights can inform future health policies.

We employed socioeconomic data from the U.S. Census Bureau at the county level, focusing on key indicators such as population density, income levels, and racial composition. These variables were modeled using a robust regression model, allowing us to explore the highly multivariate nature of the data. We identify and quantify the contribution of each socioeconomic metric to the spread of COVID-19. By understanding the causal pathways, we aim to clarify how socioeconomic disadvantages contributed to disproportionate disease transmission in vulnerable communities.

The regions analyzed in this study include (1) high-density population states, such as the District of Columbia, New York, and New Jersey; (2) southern states like Texas, Florida, and Georgia; and (3) west coast states including California, Oregon, and Washington. These regions were chosen based on the varying patterns of COVID-19 spread observed during the two phases. During Phase I, the disease primarily impacted densely populated areas on the East and West Coasts, while rural and southern regions remained largely unaffected. In contrast, Phase II saw a surge in COVID-19 cases across the southern states, previously spared by the pandemic's first wave. This shift in disease spread provided an opportunity to study how socioeconomic factors influenced the pandemic's trajectory over time.

We found that socioeconomic disparities had a more pronounced impact on the initial spread of COVID-19. During Phase I, the disease spread disproportionately in areas with higher levels of poverty, lower education, and larger non-white populations. These areas, often marked by structural disadvantages, faced challenges in mobilizing adequate public health responses. Lower average education levels, poverty, and a significant fraction of non-white populations contributed to a higher transmission rate in these regions. Although education was not explicitly included in the model, it was found to be highly correlated with poverty and the non-white population fraction, suggesting that areas with a lower degree of education experienced a more rapid spread of the virus.

Phase II of the pandemic revealed a more homogeneous spread of the disease, suggesting that the influence of socioeconomic disparities diminished as the pandemic progressed. Several factors likely contributed to this. First, the initial lack of preparedness in disadvantaged areas gave way to improved responses as public health measures, such as social distancing and mask mandates, became more uniformly enforced. Additionally, the early vulnerabilities faced by poorer, less-educated populations may have been mitigated by better-targeted interventions over time. Nevertheless, the findings highlight that a population-wide health crisis such as COVID-19 requires greater resources and attention in regions suffering from socioeconomic disparities to effectively curb the spread of the disease.

This study underscores the critical role those socioeconomic disparities played in the early stages of the COVID-19 pandemic and the importance of addressing these disparities in public health planning. Policymakers must consider the socioeconomic landscape when crafting interventions to mitigate future health crises. By addressing the unique challenges faced by disadvantaged communities, more equitable health outcomes can be achieved, ultimately preventing the disproportionate impact of pandemics on vulnerable populations.

We further study the impact of state-level emergency declarations and business closure, employment, wages, and hours worked, utilizing a unique dataset of hourly employee information from over one million U.S. small businesses. Our findings reveal that these policies led to substantial reductions in the number of employees, weekly hours worked, and total weekly wages within small businesses.

Moreover, we observe a trend where prolonged implementation of social distancing policies resulted in fewer workers voluntarily choosing to stay home. Despite potential concerns over endogeneity, our results underscore the labor market disruptions caused by COVID-19-related policies and suggest that political beliefs affect individual compliance with health guidelines. To mitigate long-term economic damage, particularly for small businesses, targeted public policies are essential to strengthen employment and prevent business closures.
These findings provide valuable insights for policymakers in balancing public health priorities with economic outcomes, especially in politically polarized environments.

Does better health seeking behavior ensure improved health outcomes? Evidence from the Muthulakshmi Reddy Maternity Benefit Scheme in India

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Over the past two decades, maternal cash transfer programs have emerged as critical instruments to assist vulnerable families in meeting the basic needs of pregnant and lactating mothers and children in the low and middle income countries. Our study examines the effects of MRMBS, which is a maternal CCT program with dual objectives of reducing maternal and infant mortality rates in the state of TN while providing partial wage protection during pregnancy and the first two childbirths of a woman at least 19 years of age during childbirth. The cash transfer initially Rs. 6,000 (~ $72) from September 2006 and was later increased to Rs. 12,000 (~ $144) from 2011. The cash transfers made before September 2006 were a meager sum of money- Rs. 200, which was increased to Rs. 300 and then Rs. 500. By focusing on mothers, during pregnancy and post-childbirth, the program recognizes importance of interventions spanning the entire reproductive timeline and its potential implications on maternal and child health. Additionally, post-childbirth support aims to ensure sustained health-seeking behavior during the crucial early stages of child development, including immediate initiation of breastfeeding, immunization, and positive health practices.
Utilizing multiple rounds of the National Family Health Survey (NFHS) datasets, representative at the national and state levels, the paper assesses the impact of MRMBS on a set of health-seeking behavior and health outcomes. In particular, we consider health behavior that constitute the pre-condition for receiving cash like institutional delivery and immunization and also a set of health indicators that were not explicitly linked to the program like ante-natal checkups (ANC), consumption of iron tablet during pregnancy, tetanus shot taken by pregnant mothers, and initiating breastfeeding immediately after birth. Additionally, we estimate the program gains, if any, on child anthropometric outcomes. To study the situation before the cash transfer of Rs. 6,000 was offered, we used the third round of the NFHS survey conducted in 2005-06. To study the situation post-transfer of Rs. 12,000 under the program, we use the fourth NFHS round conducted in 2015-16. We utilize the exogenous timing of a substantial increase in cash transfer from Rs. 500 to Rs. 6,000 and apply the triple difference regression framework to assess the program gains. All children under the age of 5 years form our study sample. The first two births of a woman who is at least 19 years old at the time of childbirth are the children who constitute the eligible cohort. The neighboring state of Karnataka form the control group. Telangana is included in Andhra Pradesh in our analysis.
The findings indicate a significant improvement in conditional health-seeking indicators, including institutional delivery and immunization. We also find a discernible improvement in other unconditional health-seeking behavior like breastfeeding and taking tetanus injection during pregnancy. Despite these positive impacts, we fail to find any evidence on improvement in child nutritional outcomes like the likelihood of being stunted and underweight. These findings remain robust to the alternate choice of control states. We are also able to negate the potential effects of alternate interventions in TN like the Free Laptop Scheme or the Baby Care Kit. Importantly, the gains from the program are observed for the deprived social groups consisting of the Scheduled Castes and the Scheduled Tribes. While assessing the reasons behind failing to document any impact on nutritional outcomes that are linked with the MRMBS, we first consider the avenues where the cash transfers from MRMBS are spent. While we do not find any evidence of the money being spent on temptation goods or durable assets, we find suggestive evidence of beneficiary households investing in toilets or piped water. Initially this appear as counter intuitive because improved WASH practices can effectively improve children

health outcomes. However, our analysis indicates no such improvement. We provide three potential reasons to explain this negligible effect. First, the program failed to alter the food practices as we find children from beneficiary households were not more likely to exhibit higher dietary diversity compared to others. Second, the engagement of beneficiaries with health workers did not increase among the beneficiaries despite the higher likelihood of receiving ante-natal care or having institutional delivery during pregnancy. Third, despite the cash being transferred to the women, we observe no improvement in autonomy of mothers, which is often key to achieving better health outcomes for children.

The paper makes several important contributions. First, it adds to the growing literature on the effects of CCTs on health-seeking behavior as well as health outcomes. Our study adds to this literature by documenting a significant impact of MRMBS on the health behavior, either directly or indirectly linked to the program. Second, with respect to the intervention, this study is among the first to explore the effects of the MRMBS, implemented in the state of TN. TN is substantially developed in terms of economic and social well-being, and is considered among the best-performing states. To this end, this paper explores the marginal returns from a maternal support CCT in a state that has already made significant progress with respect to child and maternal health outcomes and health seeking behavior.

Session 3D: Room 30A
Chair: Siddhartha Chattopadhyay, Indian Institute of Technology, Kharagpur
Session-in-charge: Saswatee Mukherjee

Gendered Transport Subsidy and its Short Run Effect on Female Employment: Evidence from Delhi's Pink Pass Scheme

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How does gender-specific transport subsidy for urban women affect their participation in the labour force? To answer this question, we study the Government of Delhi's pink pass scheme that made bus travel free for women since October 2019. Using the Time Use Survey of 2019 and employing two alternative difference-in-difference (DID) strategies and a triple difference (DDD) approach, we find women from economically marginalized households experience large and statistically significant increases in paid work and employment at both the intensive and extensive margins. In particular, we observe an increase in time-use on employment ranging from 100 to 165 minutes and an increase in work participation by 15 to 25 percentage points for women in the marginalized group. Our study has important policy insights for addressing supply-side bottlenecks in improving female participation in paid work.

Leveraging Upward Inter-generational Spillovers for Sustainable Living: Evidence from a Randomized Control Trial in India

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Evidence on upward spillovers of information and knowledge from children to parents is largely limited to within-household human capital investments and impacts on adult outcomes, rarely involving mechanisms to internalize negative externalities imposed on the society. In this paper, we provide novel evidence of such spillovers of environmental awareness from children to parents resulting in sustainable choices made by the households. We conduct a randomized control trial in 110-day care centers in India with two treatment arms, viz, information and awareness creation and in-kind transfers over and above awareness creation. We find evidence of decreased usage of single-use plastics as well as enhanced environmental consciousness among parents of treated children. Additionally, the intervention also leads to higher willingnesses to pay for sustainable alternatives, if made available. We identify that information appears to be the binding constraint in the counterfactual, as opposed to the lack of a market for sustainable products. Our study provides a low-fixed

cost and near-zero marginal cost policy alternative, exploiting upward inter- generational spillovers, to promote the use of environment friendly substitutes for single-use plastics.