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Prof Prakarsh Singh

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LEO was conceived as a space for researchers to discuss issues related to workplace behaviour. Over time, the annual LEO conference has grown into a vibrant platform where research, policy, and practice intersect. The 2025 conference at Plaksha University reaffirmed this purpose by bringing together a diverse academic community of over 40 leading academics to reflect on how India's economy and the experience of work within it is changing in fundamental ways.

India's job market today is markedly different from what it was even a decade ago. The expansion of platform work, contractual arrangements, and informal employment has altered not only how individuals work, but also how firms organize production and how institutions respond. Several important areas of research have emerged in the last few years.

(1) How is technology shaping the future of work?

AI is fundamentally altering tasks within jobs, optimal sizes of teams, selection and evaluation of employees, as well as trends in employment of skilled and unskilled workers.

(2) How inclusive is work in India? Reflections on persistent gender gaps in labour force participation and the evidence on whether skilling initiatives alone can address structural inequalities have shed new light on this question and have been included in this magazine.

(3) How will climate change impact economic outcomes? Research presented at the conference illustrated how environmental stressors such as extreme heat, floods, and urban pollution directly affect productivity, mobility, and access to opportunity. These impacts are rarely uniform; they

vary across regions, sectors, and social groups.

What truly defines the spirit of LEO, however, is the intellectual culture it fosters. The conference has featured research in wide-ranging themes in personnel and behavioral economics, along with issues encompassing industrial organization and sustainable development. Looking ahead, LEO's future vision is both ambitious and focused. It rests on four broad pillars. The first examines the social impact of artificial intelligence in organizations—how AI reshapes tasks, skills, hierarchies, pay structures, and productivity, and what this means for employment and inequality. The second pillar addresses urban stress and employment reallocation, with particular attention to the growing role of Tier-2 and Tier-3 cities in India's development trajectory. The third pillar focuses on gender, labour laws, and workforce participation, using policy changes as opportunities to rigorously assess whether institutional barriers are genuinely being reduced. The fourth pillar links worker satisfaction and organizational culture to firm performance, recognizing that well-being, retention, and productivity are deeply interconnected. Together, these pillars form the foundation of LEO's mission: to understand how organizations evolve in the face of technological, social, and institutional change and to ensure that this understanding translates into meaningful impact.

Hope you enjoy this edition that has been curated by Plaksha's students and teaching fellows based on the 2025 conference papers. We look forward to hearing from you on how we can improve this initiative!

Yours,
Prakarsh Singh





Leadership and Organisational Behaviour

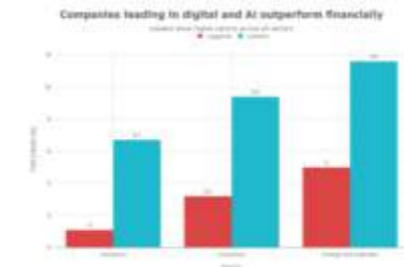
From Human Teams to Intelligent Agents: LEADERSHIP IN THE AGE OF AI

Lakshay Aggarwal

From the wheel that transformed agriculture to the assembly lines powered by industrial robots, machines have always expanded the frontiers of human productivity. Yet alongside their utility, they have inspired unease—culminating in Alan Turing's famous 1950 question: "Can machines think?" Seventy-five years later, we are no longer asking whether machines can think, but how far they can reason, predict and generate and what that means for us.

Over the past two decades, enterprises have already harvested the low-hanging fruits of digital transformation—automating operational work, digitizing information, moving customers online and migrating core infrastructure to the cloud. These efforts have been valuable, but they are no longer sufficient to drive economy-wide productivity gains.

As Nobel laureate Paul Romer reminds us, "Economic growth springs from better recipes, not just from more cooking." Today's recipe is artificial intelligence; an engine that turns data into insight, automates routine complexity, and opens new frontiers for human ingenuity and resourcefulness. This is not hype: McKinsey forecasts that AI will add \$2.6–\$4.4 trillion annually to the global economy. But every new recipe also changes the kitchen. As Joseph



Grouped bar chart showing TSR CAGR (2018-2022) for digital and AI laggards vs leaders across the three sectors.

Schumpeter famously argued, progress often comes through "creative destruction", the dismantling of old structures to make way for the new. Today, organizations confront a world rife with disruption not only by technological breakthroughs, but also by mounting geopolitical and economic shocks; from shifting trade regimes and tariffs reshaping global supply chains, to inflationary pressures and abrupt policy changes. These disruptions layered atop changing workforce expectations and cultural transformations, are rewriting the way organizations and their leaders must operate. History's greatest transformations never followed a straight line. Periods labelled as crisis have so often turned into crucibles for reinvention. Now with AI agents moving from distant possibility to daily reality, leaders face a pivotal choice: to remain custodians of legacy systems or to become architects for agile, rewired enterprises. The latest McKinsey Global Survey on AI finds that organizations are beginning to take

steps that drive bottom-line impact—for example, redesigning workflows as they deploy gen AI and putting senior leaders in critical roles, such as overseeing AI governance. In this age of metamorphosis, the question becomes urgent and existential: Will leaders hire and inspire not just human followers, but AI agents, and can they design organizations where both thrive together?

Imagine a boardroom in 2030; alongside the chief of staff sits an AI agent, fluent in strategy, capable of managing projects, and even negotiating with stakeholders. The leader turns not just to human advisors, but to digital counterparts that learn, anticipate and act. But are we collectively hallucinating our way into bad bets and unrealistic expectations? It's not about summarizing reports and drafting emails but navigating the rough terrain of organizational decision-making that demands situational awareness, complex reasoning and ability to synthesize multiple types of changing information in real time. In the late 1990s, economist Robert Solow famously remarked, "You can see the computer age everywhere but in the productivity statistics."

Albeit the economic headwinds suggest something else: the average annual cost of employing a single minimum-wage worker in the UK has jumped to £24,806 in 2025, up by over £2,300 from just a



year prior, as a response over half of UK executives are now planning to "redirect investment from staff to AI," as decisive pivot motivated by new workforce reforms and relentless cost pressures, according to a recent Boston Consulting Group survey cited by Raconteur.

Recent empirical evidence reinforces the transformative potential of AI in leadership. In a landmark study by Ben Weidmann, Yixian Xu, and David J. Deming (2025), leadership effectiveness measured through interaction with AI agents exhibits a remarkably strong correlation ($\rho = 0.81$) with leadership performance in human teams. In their large pre-registered laboratory experiment, the researchers had human leaders direct teams composed either of human followers or AI agents powered by large language models (LLMs). The study used a modified "Hidden Profile" group decision-making task, which requires pooling of unique, dispersed information among team members and flexible communication to synthesize collective knowledge into a final decision.

The AI-based assessment cost merely \$23 per participant compared to \$114 for the human equivalent. Beyond price differentials, the AI version operated

autonomously, eliminating the complex logistical coordination required for human participants and the need for simultaneous scheduling across multiple team members. Park and colleagues' groundbreaking "silicon samples" research at Stanford and Google DeepMind demonstrated that AI agents can simulate real human personalities with 85% accuracy—matching the consistency with which people replicate their own responses to the General Social Survey after a two-week interval. Using just two-hour interviews paired with large language models, they successfully created behavioural proxies for 1,052 individuals across major social science surveys and economic games

Aher, Arriaga, and Kalai's "Turing Experiments" have successfully replicated classic behavioural studies, including the Ultimatum Game, Milgram obedience experiments, and Wisdom of Crowds phenomena using LLMs as human substitutes. Their work demonstrates that AI agents can capture representative samples of human decision-making across diverse experimental paradigms, potentially democratizing access to behavioural research while maintaining scientific rigor. The study notes subtle but important

differences: AI followers performed certain analytical tasks more reliably than humans, making them effective experimental proxies, though strong human followers occasionally provided valuable meta-level strategic advice.

As businesses double down on automation and weigh the prospect of "swapping people for machines," the premium will soon rest not on who can hire the most talent, but on who can orchestrate human-AI teams that deliver real economic value in a restless and rapidly changing market.

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Sarika Bhattacharyya: ARCHITECT OF INCLUSIVE IMPACT

Lavanya Gupta



Sarika Bhattacharyya's life and leadership journey reflect what's possible when brilliance meets purpose and when leadership is fuelled not by hierarchy, but by empathy, courage, and clarity. Over the past 25 years, she has navigated the high-stakes worlds of investment banking, social entrepreneurship, and institution-building not by chasing power, but by reshaping systems to empower others.

Early Foundations: The Spark of Leadership

Sarika Bhattacharyya's leadership roots trace back to her childhood in a joint family in Kolkata, where she showed a quiet defiance of gender norms. In a formative moment that would stay with her for decades, she established a small community library. It wasn't just an act of initiative; it was the beginning of her understanding that leadership was about creating value for others, not waiting for permission to do so.

Reflecting on that moment, she notes that it was the first time she realized the impact of her contributions. "It made me feel seen," she shared. That early experience revealed something fundamental: leadership isn't bestowed, it is earned through action and anchored in empathy.

From Numbers to Narratives: The Banking Years

With an academic background in Economics from St. Xavier's College, Kolkata, and an MBA from the Management Development Institute (MDI), Sarika Bhattacharyya entered the world of finance with sharp analytical acumen. Her early career took her through the boardrooms of ICICI

Bank and Merrill Lynch, where she led major institutional banking operations across India, Europe, Southeast Asia, and the U.S.

Even then, her focus went beyond numbers. She was always attuned to the deeper question: How can capital, people, and purpose intersect to create lasting value? This curiosity set her apart—not just as a banker, but as a thinker.

A Bold Pivot: Redefining Systems through Inclusion

In 2011, she made a radical shift. Leaving behind the corporate climb, she founded BeyonDiversity, a social enterprise focused on equity, inclusion, and systemic change. What began as a niche initiative evolved into one of the world's Top 10 Global Diversity Consulting Firms, influencing over 150 organizations.

Sarika wasn't interested in box-ticking exercises or performative diversity efforts. Instead, she focused on cultural rewiring, embedding inclusion as a business advantage and leadership imperative. Under her stewardship, BeyonDiversity led strategic interventions, leadership development programs, and policy consultations that changed how organizations viewed inclusion: not as charity, but as competitive edge.

Her efforts earned her global accolades—from Hillary Clinton and Vital Voices USA to The Guardian and The Economist. Yet, through it all, she remained grounded. "Awards don't drive me," she says. "Impact does."

The Plaksha Chapter: Scaling Purpose through Philanthropy

In 2020, Sarika Bhattacharyya joined the founding leadership team at Plaksha University, a bold reimagining of what a 21st-century tech institution could be. As the head of Institutional Advancement and Industry Partnerships, she stewards one of the largest collective philanthropic initiatives in Indian higher education.

But again, her approach is not conventional. For her, philanthropy is a vehicle for dignity, a way to democratize opportunity, reimagine education, and build an inclusive future. She brings her systems thinking to fundraising, combining storytelling with strategy, and intention with impact.

Leadership Philosophy: Clarity, Courage, and Care

Sarika Bhattacharyya's leadership ethos is shaped by self-belief, empathy, and the willingness to step back so others can step up. She sees leadership as a dynamic, living process, refined by experience, reflection, and honest feedback.

"Leadership isn't about controlling outcomes," she says. "It's about creating conditions for others to thrive."

She emphasizes the importance of creating psychological safety within teams, a space where open dialogue is not just encouraged but expected, and where dissent is seen as a sign of engagement, not defiance.

Feedback, in her view, is a vital tool for growth. But she doesn't limit it to giving feedback; she values receiving it with the same level of humility and curiosity. Her leadership has been deeply shaped by experiences of reverse mentoring, where younger colleagues have offered insights into her own blind spots such as realizing that her presence in group meetings could sometimes feel unintentionally intimidating. Rather than dismissing such observations, she embraces them as opportunities for self-awareness and change.

She prefers coaching over micromanaging, stepping in not to take control but when patterns, like missed timelines or faltering communication suggest that her support is needed. Her leadership is about enabling others to lead, knowing when to guide and when to simply trust.

Her approach to 360-degree feedback reveals a deeper belief: leadership is never finished. It's about evolving, listening, and adapting—even when it's uncomfortable.



Leadership isn't about controlling outcomes. It's about creating conditions for others to thrive."

A Living Legacy: Bridging the Gap for Future Leaders

Her journey from a young girl building a library to a woman reshaping institutions is a powerful testament to lived leadership. As she contributes to Bridge the Gap, Sarika Bhattacharyya reflects that writing and sharing her story has been deeply cathartic, an invitation to unpack how personal experiences shape public impact.

Today, Sarika Bhattacharyya continues to mentor emerging women leaders, speak at global forums, contribute to policy dialogues, and serve on boards of social enterprises and startups. In every space she enters, she brings not just strategic acumen, but the conviction that real transformation happens at the intersection of courage and care.

Arvind Agrawal's Blueprint For Leadership: JUNOON, JUGALBANDI, JOURNEY

Avneet Sandhu



Leadership begins with leading yourself — becoming the best version of who you are, in service to others.”

Becoming a Leader Without a Title

Arvind Agrawal's leadership journey started not with authority but with awareness. Early in his career at American Express, he found himself mediating conflicts between teams in India and Singapore, even though he held no formal leadership title. “I realized that leadership isn't about position,” he reflects. “It's about leading yourself first and bringing your best self to work every day.”

This mindset captures Northouse's idea of emergent leadership, which arises from action and influence rather than a title. By focusing on self-discipline, empathy, and accountability, Arvind became what he describes as a “leader without a title.” His approach shows Northouse's definition of leadership as a process that is interactive, values-driven, and aimed at common goals.

Conviction, Courage, and the Power of Trust

At IBM, Arvind took charge of a struggling business unit with low morale, dissatisfied clients, and poor performance. During one crisis, senior leadership advised him to accept outside help. Instead, he chose to trust his team's capability.

“They told me, 'We will not let you down,' and I believed them,” he recalls. “I went back and told leadership that I'll back my team — and we came out with flying colors.”

This episode mirrors the essence of *transformational leadership*. Arvind inspired his team through trust and shared accountability, transforming a demotivated group into what he fondly calls his “dream team.” The experience reinforced his belief that conviction, empathy, and collective purpose drive real change — not control or fear.

Adapting Across Cultures: The 'Joker in the Pack' Strategy

Later, when leading a team of senior executives in Asia-Pacific, Arvind faced a new challenge. He had to manage leaders who were older, culturally diverse, and highly independent. “I had to figure out what leadership meant when everyone on the team was already accomplished,” he says.

His solution was different. He developed what he called the “joker in the pack” strategy, adapting his leadership style to address each team member's unique gaps. For a Korean leader who was hesitant to speak in meetings, he acted as her spokesperson. For a Chinese colleague

who struggled with English, he became his translator and advocate.

This adaptability shows Northouse's skills approach, especially the human skill, which is the ability to work well with others, and the conceptual skill, which involves understanding relationships within complex systems. It also reflects situational leadership, illustrating that effective leaders adjust their style to meet the needs and context of their followers.

Humility, Emotional Intelligence, and the Human Connection

“Machines are trying to act human, and humans are trying to act like machines,” Arvind says. “

If we can be more human, we're already ahead.” He sees *emotional intelligence* as central to leadership, framing it in three parts:

- 1. Leading yourself** – managing your own emotions and converting frustration into constructive energy.
- 2. Leading teams** – understanding people's perspectives to align them with the larger mission.
- 3. Remembering your North Star** – staying grounded in purpose and values.

Arvind's *three J's*—*Junoon* (passion), *Jugalbandi* (collaboration), and *Journey* (purpose)—capture this philosophy. His belief in empathy and human connection aligns closely with *servant leadership*,

emphasizing care, listening, and collective growth over hierarchy and control.

Mentorship Through Co-Creation

As a mentor, Arvind avoids providing easy answers. Instead, he works with his mentees to develop solutions. “My role is not to give advice, but to help them discover their own path,” he explains. He encourages them to think critically and views mentorship as a process where both parties learn together.

This method reflects a leadership style that focuses on empowerment, which aligns with Northouse's emphasis on building others' skills. For Arvind, mentorship isn't about giving solutions. It's about nurturing the mindset needed to create them.

Balancing Action and Reflection

Transitioning from corporate life to academia at Plaksha University required a new kind of patience. “In the corporate world, there's always a bias for action,” he says. “In higher education, you must create space for dialogue, debate, and reflection.”

Here, he uses conceptual skills and systems thinking. He understands that academic leadership includes multiple stakeholders, such as students, parents, faculty, and founders, each with their own priorities. His success comes from balancing urgency with inclusion, making sure that every voice adds to the larger mission.

A Practice of Reflection

When asked what occupies his thoughts at the end of the day, Arvind's answer is simple: reflection. “I ask myself—could I have done something differently to get a better outcome? If yes, I learn. If not, I rest and refocus.”

This habit of self-assessment demonstrates *authentic leadership*—a willingness to learn, adapt, and stay true to one's values. It's the humility to recognize that leadership is always *work in progress*.

A Living Philosophy

Over three decades in the corporate world and academia, Arvind Agrawal has led with humility, trust, and emotional intelligence. He sees leadership not as holding

power but as serving people, a purpose, and progress.

His experience reflects Northouse's idea that leadership involves both a process and a set of skills. It combines technical know-how, human connection, and clear thinking. However, what really sets him apart is his belief that leadership is a path of self-discovery.

As he says: There's no individual success. My success lies in the collective success of my team.”

Gender & Labour Markets

The Hidden Reality of Women's WORK IN INDIA'S ECONOMY

Abhiraaj Sharma



As an economics student examining labor markets, I have often wondered why standard metrics fail to capture the true nature of gender disparities. Dr. Shabana Mitra's presentation on *"Women's Work: Progress and Persistent Inequalities"* provides a compelling answer. While headline statistics show women's labor force participation in India rising from 23.3% to 37.0% between 2017–18 and 2022–23, Dr. Mitra's research reveals a more complex and concerning reality beneath these figures.

What makes Dr. Mitra's approach unique is her multidimensional analysis that cuts across formal and informal sectors, regions, and specific industries. Unlike traditional labor market analyses that focus primarily on participa-

tion rates, she integrates data from the Periodic Labour Force Survey and the Annual Survey of Industries to expose structural patterns of occupational segregation that persist despite overall employment growth.

The findings are striking: 60% of Indian women remain outside the labor force entirely, and those who do work are heavily concentrated in agriculture (often as unpaid family workers) and a narrow range of traditional manufacturing sectors. In formal manufacturing, an astonishing 44 out of every 100 women work in apparel production alone, with three industries - apparel, food and textiles, accounting for nearly 60% of all female manufacturing employment.

During a field visit to a textile

manufacturing unit in Delhi for my undergraduate research project, I interviewed several women workers who confirmed this reality. "Most of us come from similar backgrounds and end up in the same few industries," explained Meena, a 26-year-old machine operator. "My brothers work in automotive and electronics factories with better pay and conditions, but those places rarely hire women." This anecdotal evidence aligns closely with Dr. Mitra's quantitative findings about occupational segregation (Fernandez et al., 2024).

These patterns reflect deep-rooted structural barriers rather than women's choices or capabilities. Previous approaches to women's employment have often focused on supply-side factors such as education and skills, but Dr. Mitra's research highlights how demand-side factors and institutional structures constrain women's economic mobility. Even government initiatives like the Mahatma Gandhi National Rural Employment Guarantee Scheme, while valuable for providing basic income security, do not address these fundamental constraints (PIB, 2023).

The regional disparities her research identifies add to another crucial dimension. States such as Tamil Nadu and Karnataka show significantly lower gender gaps in manufacturing employment than others, with Tamil Nadu alone



accounting for 41% of all women in formal manufacturing. This suggests that state-level policies and industrial ecosystems play a determining role in women's economic opportunities, a finding that challenges one-size-fits-all national approaches.

Current government policies like "Make in India" aim to boost manufacturing growth but lack specific mechanisms to overcome occupational segregation by gender. This represents a significant missed opportunity, as the World Bank estimates that India's manufacturing output could increase by 9% with greater female participation in the sector.

The policy implications of Dr. Mitra's work are far-reaching. First, targeted interventions are needed to facilitate women's entry into diverse manufacturing sectors beyond the traditional ones. Second, the burden of unpaid domestic work, which women spend almost ten times more time on than men, must be addressed through expanded public services and infrastructure (Singh and

Pattanaik, 2020). Third, successful state-level models require closer examination for potential wider application.

For my fellow economics students, this research highlights the limitations of conventional labor market theories that assume perfect mobility across sectors. The reality for Indian women workers is far more constrained by both visible and invisible barriers. This understanding is essential for designing effective policy interventions that can truly transform women's economic opportunities rather than merely increasing participation within existing patterns. As India aspires to become a manufacturing powerhouse and achieve sustained economic growth, addressing these persistent inequalities is not just a social imperative but an economic necessity. Dr. Mitra's work provides a crucial roadmap for developing more nuanced, targeted approaches needed to turn the promise of women's economic empowerment into reality.



60% of Indian women remain outside the labor force entirely, and those who do work are heavily concentrated in agriculture and a narrow range of traditional manufacturing sectors."

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From Protective Exclusion to Empowering Inclusion: NIGHT-SHIFT LAWS AND WOMEN'S EMPLOYMENT IN INDIA

Anshika Arora

Globally, women's participation in the labour force has risen steadily over the past five decades — yet India remains an outlier. According to the World Bank's World Development Indicators (2024), the global female labour force participation rate (FLFPR) stands at about 49%, while India's hovers near 32.7%, one of the lowest among major economies. In contrast, neighbouring countries such as Bangladesh (46.8%), Nepal (53.9%), and Vietnam (69.1%) all record higher female engagement in paid work.

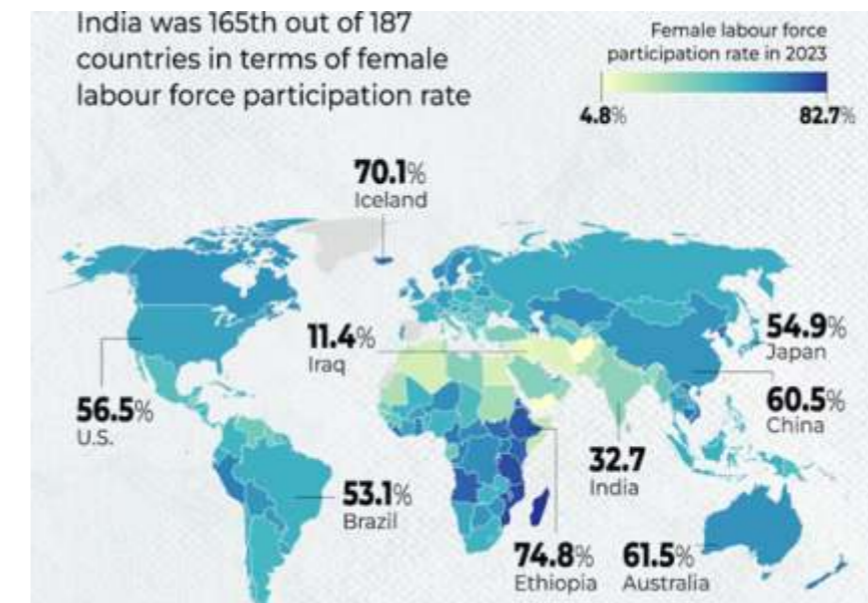
Most Indian women are concentrated in low-paying, informal, or agricultural work, with limited

mobility into higher-productivity sectors. Studies such as Klasen and Pieters (2015) show that the limited expansion of female-intensive industries has curbed women's opportunities, while Mehrotra and Parida (2017) document that rising household incomes have created "income effects" that discourage women from low-paid jobs. Yet evidence also shows that when conditions are conducive—safe transport, flexible hours, child-care facilities—women's participation increases sharply.

India's legal framework for women workers has historically aimed to protect women through special provisions. Major acts include:

- The Maternity Benefit Act, 1961, which guarantees 26 weeks of paid leave for up to two children and safeguards against dismissal during maternity.
- The Factories Act, 1948, which introduced safety measures, limits on working hours, mandatory rest intervals, and crèche facilities for establishments employing more than 30 women.
- The Equal Remuneration Act, 1976, ensuring equal pay for equal work regardless of gender.
- The Sexual Harassment of Women at Workplace Act, 2013, which mandates Internal Complaints Committees (ICCs) in all organisations and provides procedural safeguards for redressal.

These laws have been crucial in making workplaces safer and more equitable. Evidence from multiple studies confirms their welfare-enhancing effects. For instance, Goldin (1988) showed that early "maximum-hours" legislation in the United States reduced overwork for both men and women, improving well-being. Similarly, Haddad and Kattan (2024) find that 19th-century U.S. night-work restrictions increased women's participation by making work more socially acceptable. In India, firm-level analyses (e.g., Montag, 2011) show



Note: Share of female population ages 15+, modelled ILO estimate
Source: Gender Data Portal, World Bank Group, Graphic: Samrat Sharma, Jaipal Sharma

that pro-labour regulations tend to benefit women in organised industries.

However, “protective” labour laws can also act as *constraints* when they limit women's opportunities instead of enabling them. Restrictions on night work, for example, were introduced under colonial-era conventions that prohibited women from working after 7 p.m. Under the Factories Act, most states barred female employment in night shifts except with special permission. Over time, these rules—though well-intentioned—became barriers to inclusion, particularly in manufacturing, retail, hospitality and IT, where night shifts are integral.

Recent international evidence underscores that the impact of such gender-specific labour laws varies across contexts. In Taiwan, Zveglic and Rodgers (2003) found that the introduction of night-shift bans reduced women's employment by about 1 percentage point and their working hours by 6%. In contrast, when Japan relaxed its overtime limits, Kato and Kodama (2014) documented a 3.6-percentage-point rise in women's employment, highlighting the positive effect of deregulation. Similar patterns emerge elsewhere: Fishback et al. (2025) show that repealing weekly hour caps in the United States reduced women's exit from regulated industries by nearly 2 percentage points, while Gupta et al. (2025), studying India's manufacturing firms, find that lifting factory-level

night-shift bans increased the number of female workers by 13% and raised their workforce share by 3.5 percentage points without adverse effects on wages. Together, these studies suggest that laws designed to protect women can either empower or exclude, depending on how they balance safety with opportunity.

At the LEO Conference 2025, my co-author Sarvnipun Kaur presented our paper, “*Cinderella No*



More: Night-Shift Bans and Women's Employment in India,” which extends this debate to India's service sector. Building on evidence from manufacturing, we explore whether similar reforms under the Shops and Establishments Acts which allowed women to work at night subject to safety conditions in the service sector. The policy context is distinctive. Between 2017 and 2021, several states such as Kerala, Andhra Pradesh, Rajasthan, and Karnataka amended their Shops and Establishments Acts to lift

night-shift bans for women, provided employers offered transport, security, and rest facilities. We classify these as treated states and compare them with others that retained restrictions. Using data from the Periodic Labour Force Surveys (2017–2022), we apply a staggered difference-in-differences design that exploits the variation in reform timing across states. This framework allows us to isolate the causal effect of these amendments on women's employ-

ment outcomes, while accounting for state- and time-specific factors such as per-capita state domestic product, sectoral composition, and household demographics.

Our findings reveal that lifting the night-shift bans did not significantly alter overall female labour-force participation, but it reallocated women's work across sectors. Women in treatment states were 10.7% more likely to be employed in services and 5.5% less likely to work in non-service sectors such as manufacturing and

agriculture. The shift was strongest in districts with lower crime rates, suggesting that safety remains a prerequisite for empowerment. The evidence from our paper carries clear policy lessons for India's ongoing labour law reforms. The recent decision of the Delhi government (Indian Express, October 2025) to permit women to work night shifts in shops and commercial establishments subject to written consent, transport facilities, and workplace safety reflects precisely the kind of balanced approach our findings advocate.

From a policy perspective, the transition from “protective exclusion” to “empowering inclusion” requires coordination between law, infrastructure, and social norms. States implementing such reforms should complement legislative change with public-private partnerships for safe mobility, monitoring mechanisms for compliance, and awareness campaigns that normalise women's night-time work as legitimate and respectable employment. Our findings show that when safety and flexibility coexist, women move into higher-productivity jobs without imposing extra costs on firms—a win-win outcome for both equity and efficiency.



Protective” labour laws can also act as constraints when they limit women's opportunities instead of enabling them.”

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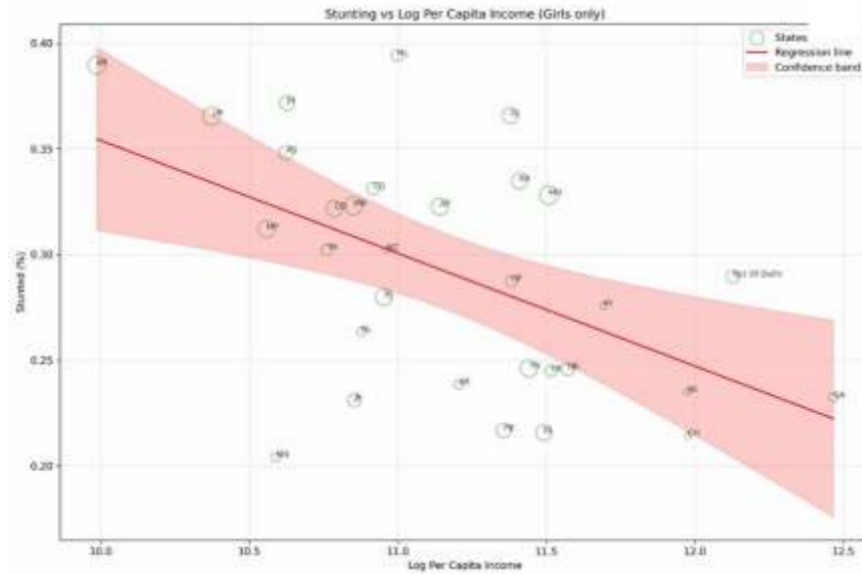
A Half-Won Battle: WHY INDIA'S GROWTH IS LEAVING A GENERATION OF WOMEN BEHIND

Prakarsh Singh & Karan Babbar

In a lane in Mohali, Sunita sees a future for her fifteen-year-old daughter that was once unimaginable. Her family's rising income means her daughter has access to modern period products and better food. She is healthier than Sunita ever was at her age. But as Sunita enters her forties, she faces her own set of health problems—chronic fatigue, painful cycles—with few answers from a system that seems built for emergencies, not for sustained wellbeing. Sunita's life tells the story of India's development: a story of remarkable progress for the next generation, shadowed by a significant neglect of the women who are raising them.

A Generational Divide

Our research, analysing State-level data from the National Family Health Survey-5 (NFHS-5), confirms this generational divide. On one hand, the fruits of economic growth are clear and encouraging. As a State's per capita income rises, malnutrition rates in girls—whether stunting, wasting, or being underweight—all decline significantly. Access to better water, sanitation and hygiene (WASH) and modern period products also improve dramatically. This is the 'good news' of



India's story: wealth is creating a healthier start for our daughters. But this story of progress stalls when we look at the health of adult women. Our data shows that as State incomes rise, the rates of complex health issues like those leading to hysterectomies (the surgical removal of the uterus) or difficult menopausal transitions show little to no improvement. Wealth is not translating into wellbeing for women over their entire life course.

The story our data tells is clear. Our development model is equipped to solve problems that can be addressed by purchasing power and basic infrastructure. But it is failing to solve the complex, chronic health issues that require a

robust public health system, high-quality preventative care, and trusted medical counsel for adult women.

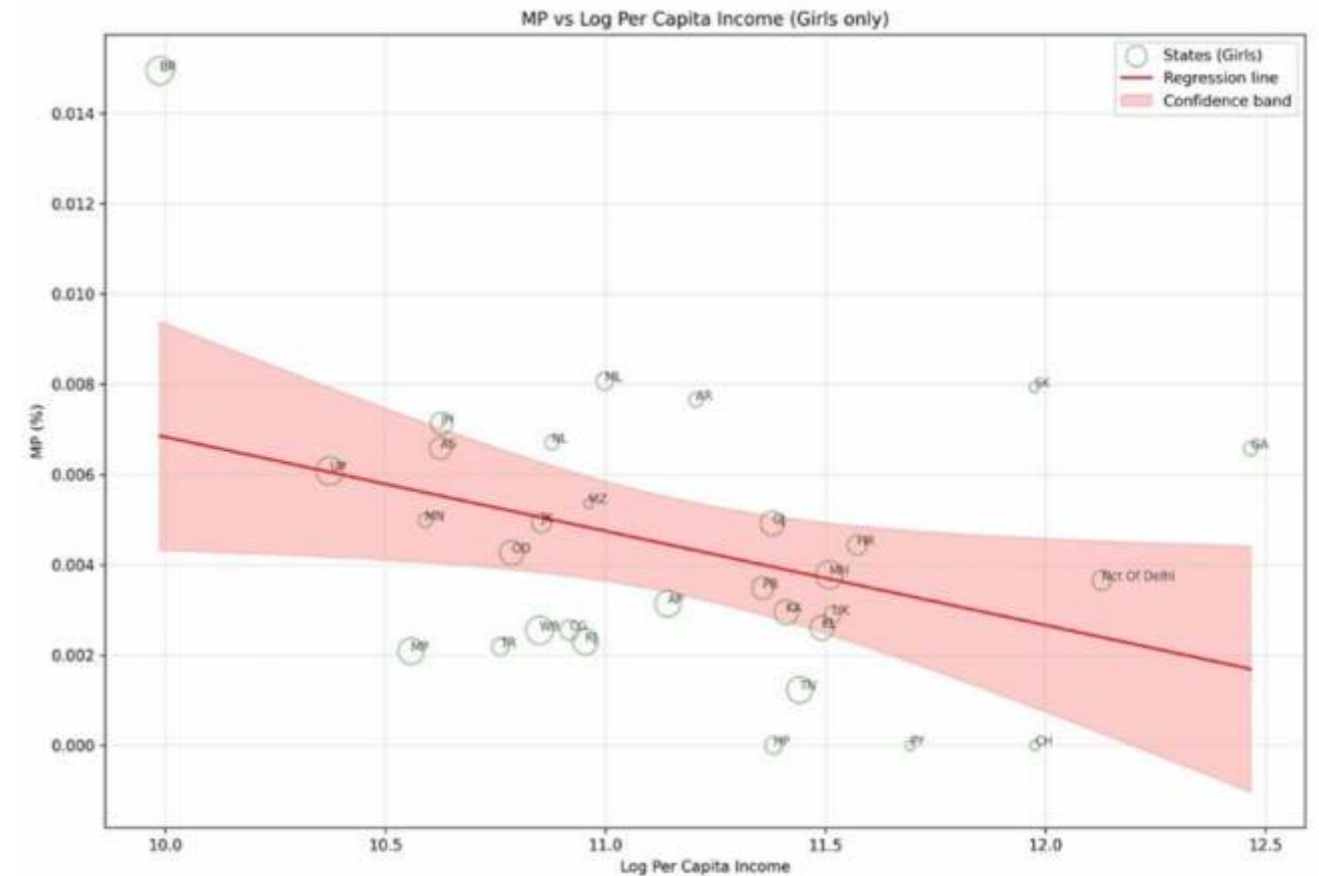
Gaps in Delivery of Care

When a woman like Sunita faces reproductive health problems, often stemming from a lifetime of nutritional deficiencies, our system defaults to a drastic surgical solution because it lacks the capacity for nuanced, long-term care. When we measure progress by what a family can buy, we miss the silent health crises unfolding across an entire generation of mothers. The path forward is not to question growth, but to ask more of it. This requires seeing a

woman's health not as a series of disconnected events, or merely just before and after childbirth, but as a continuous life-long journey. First, we must double down on what works. The strong link between income and better child nutrition proves that investments in WASH and food programs are paying off. We must strengthen

adolescence, through reproductive years, all the way until her senior years. By empowering them with better training, resources, and fair pay, we equip them to counsel a new mother on infant nutrition and support that same mother through her own mid-life health challenges and more. They are the key to shifting our system from

infant mortality and stunting. We need to measure what matters for a full life: rates of chronic disease in adult women, access to menopause support, and the prevention of unnecessary procedures. The true measure of a nation is not just in the health of its children, but in the well-being of all its citizens. On this World Population Day, let's



these, especially through mandatory food fortification of staples, to ensure the next generation is the healthiest yet. But fixing the foundation is not enough. We must bridge the generational gap. This means radically investing in the human infrastructure of our health system: the ASHA and Anganwadi workers. They are the only ones who can connect the crucial dots linking a woman's health from

acute, product-based care to continuous, relationship-based well-being.

A Shift in Policy

This, in turn, requires a fundamental shift. We must demand a smarter definition of progress. Our policies cannot stop with tracking

commit to building a future where the next generation, like Sunita's daughter, inherits not just a better start, but a healthcare system that will support them for their entire lives—a future where no generation of women is left behind

When Emotion Wears a Face: SKIN TONE, STEREOTYPES, AND THE ECONOMICS OF FEELING

Yashvi Maheshwari

What if your ability to take risks, trust your instincts, or even believe in yourself depended not just on logic, but on how you felt and what the world made you feel about yourself? What if, in the middle of a math test or a career choice, what really mattered was not just your preparation, but the color of your skin and the emotions it silently stirred?

In *Emotional Affect and Economic Decision Making*, Sujoy Chakravarty and Nishat Anjum dive headfirst into this deeply human question. At the intersection of behavioral economics and social psychology, their work offers a sobering reminder: our economic decisions are not only shaped by incentives or probabilities but also by affect, identity, and everything we have been told to feel about who we are. The experiment itself is deceptively simple. College students are given reasoning tasks, similar to those found in competitive entrance exams, and rewarded based on performance. Before the second round, however, some participants receive a subtle nudge: a lifestyle survey asking about their appearance, attractiveness, and satisfaction with skin tone. Nothing overt. No mention of stereotypes. Just a quiet reminder that the world notices how you look. That is the setup. What

follows is a careful tracking of emotional states using the PANAS (Positive and Negative Affect Schedule) scale, a respected psychological tool that measures positive and negative affect. These changes in mood, whether joy or anxiety, are then linked to three behaviors: how students perform on the test, how confidently they predict their own performance, and how much financial risk they are willing to take in an incentivized lottery.

The results are as elegant as they are unsettling. First, emotion matters. An increase in both positive and negative affect correlates with better performance and more self-confidence across the board. However, when it comes to risk-taking, the emotional lift does not affect everyone equally. Fair-skinned students who feel more positive are more likely to embrace risk. Dark-skinned students, even when they feel good, are not. The same emotional nudge leads to divergent behavioral outcomes, a finding that challenges the assumption that emotion is a universal lever.

This is where the paper moves from behavioral experiments to societal mirror. It shows that affect is not a uniform force; it bends and twists around social identity. Even when people feel more positive,

their choices are filtered through layers of social conditioning, internalized expectations, and perceived stereotypes. Emotion, in this framework, is not just about feeling happy or sad. It is about feeling seen and about what being seen means for different people.

Methodologically, the study is a standout. It adapts the well-known stereotype threat paradigm to the Indian context, anchoring it in the everyday but emotionally charged reality of skin tone. It employs real monetary incentives, robust psychological tools, and clean controls to isolate affective shifts. More importantly, it does what good social science should do: reveal hidden patterns beneath seemingly neutral behavior.

The implications are vast. If confidence, productivity, and risk appetite are all malleable and if that malleability is shaped by how society makes us feel about ourselves, then the myth of a level playing field needs urgent revisiting. From college classrooms to corporate boardrooms, this research forces us to ask: who gets to feel bold, and who is taught to be cautious? Who is emotionally free to take risks, and who carries invisible emotional baggage into every decision?

“

Our economic decisions are not only shaped by incentives or probabilities but also by affect, identity, and everything we have been told to feel about who we are.”



Chakravarty and Anjum's work does not just add to the literature on affect and decision-making; it reframes it. It asks us to stop imagining emotion as noise in the economic machine and start seeing it as the machine itself.

Because in the real world, choices are not made in a vacuum. They are made in bodies. And those bodies carry stories of pride, prejudice, power, and perception. The next time we admire someone's confidence or question

another's reluctance, we might want to ask: what were they feeling? And more importantly, who were they allowed to be?

Labor Market Penalty for SINGLE MOTHERS

Rohit Singh

In a labour market long studied for gender disparities, the paper “Labor Market Penalty for Single Mothers” makes a compelling contribution by isolating and empirically quantifying the disadvantage faced specifically by single mothers in India. While the concept of a “motherhood penalty” -where mothers receive fewer callbacks or lower wages compared to non-mothers is well documented (Gamboa & Zuluaga, 2013; Gough & Noonan, 2013), this study moves a step further by distinguishing how marital status interacts with motherhood to create additional layers of labour market disadvantage. This unique focus on single mothers, an

understudied group in the Indian context, is one of the paper’s most significant contributions.

Identifying the Gap and Research Question

Prior research has often focused on mothers in general without disentangling the impact of being unmarried and raising a child alone. Theoretically, the effect of motherhood on labour outcomes is ambiguous. On the supply side, single mothers may increase labour supply out of necessity, while on the demand side, they may face stereotypes and doubts

about their availability, reliability, and mobility due to lack of spousal support. The paper poses a critical question: Do single mothers face an additional penalty in the labour market beyond that experienced by married mothers or non-mothers?

Methodology: An Experimental Approach

To isolate causal effects and overcome the problem of endogeneity, where motherhood and marital status could be correlated with unobserved individual traits like ambition or

work ethic, the authors employ a correspondence study. This methodology, pioneered by Bertrand and Mullainathan (2004), involves sending fictitious but realistic resumes to real job postings and observing the differential callback rates. Over a three-month period (Nov 2023 – Jan 2024), the researchers submitted more than 2,500 job applications across India using four types of resumes viz. unmarried women, married women without children, married mothers, and single mothers. These resumes were identical in all respects except for marital and parental status, thus ensuring that any difference in employer response could be attributed to this status alone.

Results: Evidence of a Single Motherhood Penalty

The findings are striking. Single mothers had a 4.1 percentage point lower probability of receiving a callback compared to unmarried non-mothers. Married mothers also faced a penalty, but slightly lower at 3.1 percentage points. These results confirm the presence of both a motherhood penalty and a uniquely higher penalty for single mothers. Interestingly, this penalty was more severe in sales jobs than in customer service roles, and particularly pronounced in sectors like education and healthcare, where time availability and emotional energy are often crucial.

Probing the Mechanisms: Statistical and Implicit

Discrimination

To understand why single mothers face this penalty, the authors complemented the correspondence study with a vignette-based survey and heterogeneity analysis. First, they found that the penalty diminished in Eastern India, suggesting that local socio-cultural norms or logistical expectations about mobility may mediate employer behavior. Second, through vignettes, they identified suggestive evidence of statistical discrimination and implicit bias whereby employers use incomplete or inaccurate stereotypes and subconscious attitudes to judge applicants’ performance and shape their hiring decisions. A follow-up experiment ensured that the inclusion of marital status itself on resumes did not confound the results. Resumes that explicitly stated “unmarried” status showed no significant difference in callback rates compared to those that omitted marital information, confirming the robustness of their identification strategy.

Policy Implications

The implications are both immediate and far-reaching. While household surveys may show that single mothers are more likely to be employed than married mothers or non-mothers, this may be masking the demand-side discrimination they face.

The paper suggests that in the absence of such bias, labor market outcomes for single mothers could be significantly better. For policymakers, this research underscores the need for inclusive

labor regulations, awareness campaigns to combat stereotypes, and targeted support systems like subsidized childcare and flexible working arrangements. For firms, the findings call for introspection and structured bias training during recruitment processes. By combining a rigorous experimental design with thoughtful analysis of mechanisms, this study offers rare and vital insight into the structural disadvantages faced by single mothers, a group whose growing participation in the workforce should be met with fairness, not prejudice.



There is presence of motherhood penalty and a uniquely higher penalty for single mothers in the labour market.”

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The Persistence of DISADVANTAGES

Arya Lamba

Why do systemic disadvantages remain, even if people get an opportunity to overcome them? Through a powerful blend of theory and experiment, Nishtha Sharma uncovers a counterintuitive truth i.e., those who already hold an advantage often fight harder to keep it than the disadvantaged do to overturn it. This defensive behaviour by the privileged can actively block upward mobility, allowing inequality to survive even in systems designed to be fair.

The paper uses a dynamic contest model wherein two players

compete over two rounds for a reward. One player starts with an advantage (Player A), the other with a handicap (Player B). Effort determines the chances of winning, but an “advantage parameter” tilts the odds toward A. If B wins the first round, their handicap may shrink or disappear in the second- similar to real-world scenarios, where early success (like a promotion or scholarship) can reduce barriers. However, there is a twist. When the advantage is reversible, Player A works much harder to defend their position. Player B also increases effort, but not nearly as much, unless they are

exceptionally forward-looking. The result? The gap in effort widens, making it even harder for B to win. Ironically, the very possibility of improvement can make inequality more entrenched.

To validate this, Sharma ran a lab experiment with 422 participants, randomly assigned as advantaged or disadvantaged players. Three scenarios were tested viz. Fixed advantage (cannot change), Reducible advantage (can shrink) and Reversible advantage (can disappear). The study suggests that participants significantly bid effort points to boost their chances of



Those who already hold an advantage often fight harder to keep it than the disadvantaged do to overturn it.”

winning. The results were striking. Under reducible and reversible conditions, advantaged players increased their bids by 10.8 and 19.4 points, while disadvantaged players' increases were modest. Most dramatically, disadvantaged players were less likely to win when a path to equity existed, because incumbents fought harder to keep their edge.

In fact, the prospect of upward mobility inadvertently engaged a stronger strategic defence by the ahead-starters. This observation has far-reaching policy implications. It calls into question the belief that equal opportunity will be sufficient to eliminate inequality gaps. When early success creates higher future stakes, it can also generate defensive responses by incumbents, making mobility more difficult, not less. So, Sharma contends, we need to reengineer incentives, not merely offer openings.

For instance, cutting the long-term payoffs of early victories or diffusing rewards more evenly across time may mute the incentive to entrench privilege. Furthermore, policies that are redistributive in nature, such as reparations or progressive taxation, can assist in rebalancing structural inequalities that establish advantages to begin with. Measures such as anonymized assessments or quotas at early stages can minimize strategic

blocking and provide disadvantaged players a more equal chance. What is distinctive about Sharma's work is its integration of hard economic theory with strong behavioural experimentation to reveal a nuanced but potent mechanism of inequality. Where much current work assigns persistence of disadvantage to outside constraints or belief-based discrimination (Barron, Dittmann, Gehrig & Schweighofer-Kodritsch, 2025), Sharma brings the focus onto internalized strategic action in terms of what better-off people do when they sense their privilege under threat. Through this, she closes the distance between theory and policy-relevant evidence. In the end, The Persistence of Disadvantages is not a paper on contests, but an incisive diagnosis of why well-meaning systems can become ineffective by defensive effort. And in that is a tough truth: developing truly level playing fields takes more than equal opportunities, it takes equal struggles as well.

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Market Structure & Dynamics in a Globalized World

When Mergers Matter: INNOVATION, COMPETITION AND THE QUEST FOR BREAKTHROUGHS

Arman Ghosh

Every day, policymakers wrestle with a pressing question: does allowing two companies to merge spur the next life-saving drug, or suffocate the very competition that drives discovery? This dilemma plays out in boardrooms and regulatory chambers worldwide, from the Biden administration's heightened merger scrutiny in pharmaceuticals to the European Commission's debates over technology consolidations. Behind these policy discussions lies a deeper social concern: in an era of rapid technological change, how can societies ensure that market structures neither stifle nor misdirect innovation?

Innovation fuels economic growth, improves living standards, and addresses global challenges such as climate change and pandemic preparedness. Yet it often walks a tightrope between two competing pressures. On one side, intense rivalry compels companies to invest heavily in high-risk, high-reward projects that can transform entire industries. On the other, fierce competition can fragment R&D efforts, leaving firms too cautious to pursue "moonshot" ideas with uncertain outcomes. This tension is most evident in merger reviews, where regulators must weigh the risk of monopolistic complacency against the



potential benefits of resource consolidation. Economist Saish Nevrekar's paper, "Can Mergers Drive Drastic Innovations?", enters this debate with fresh rigor by modeling firms' R&D portfolios rather than single projects. Drawing on continuous-time patent race theory, Nevrekar distinguishes between:

- Drastic innovations (A): Radical breakthroughs yielding monopoly-level returns, such as a new vaccine platform.
- Incremental innovations (B): Safer improvements that deliver profits only if no radical rival emerges first, such as next-generation formulations.

This dual-project framework reflects real-world industries. In

biotechnology, for instance, firms juggle early-stage gene-therapy research (a drastic gamble) alongside reformulations of existing biologics (incremental work). By capturing how investments in type A projects can invalidate type B efforts, both for a firm and its competitors, Nevrekar quantifies the positive and negative externalities that each R&D choice creates.

A recent OECD report finds that industries with moderate concentration (Herfindahl-Hirschman Index between 1,500 and 2,500) achieve the highest ratio of patent citations per R&D dollar (Calligaris, 2024). This suggests a "sweet spot" where firms innovate intensely without stifling rivals. In contrast, highly fragmented sectors often

see duplicated efforts and underfunded moonshots, while ultra-concentrated markets exhibit excessive caution toward radical projects. These empirical patterns align with Nevrekar's theoretical thresholds, underscoring that context matters.

Case studies further illustrate the real-world implications. The failed AbbVie-Allergan merger, blocked by U.S. regulators in 2020, reflected fears that combining two leading biologics pipelines would weaken incentives for breakthrough therapies. In contrast, investors in a recent mid-tier specialty-chemicals merger credited consolidation with enabling larger shared R&D facilities, which accelerated a novel polymer innovation by nearly 18 months.

In highly competitive markets, where numerous firms aggressively pursue breakthroughs, Nevrekar's model predicts that mergers reduce the number of active players, thereby diminishing the urgency to take big R&D risks. The net effect of internalized externalities is often negative, as combined firms tend to scale back drastic

projects. This lowers the industry's overall chance of radical discovery and, ultimately, consumer welfare.

By contrast, in markets with limited competition and few R&D participants, firms tend to underinvest in ambitious projects due to the fear of sunk costs. In such cases, merging portfolios can eliminate redundant incremental races and redirect resources toward high-impact research. Nevrekar's findings suggest that these mergers can raise the likelihood of breakthroughs, yielding substantial social benefits when innovations target urgent needs such as clean-energy technologies.

For students of economics, this research emphasizes the value of modeling realistic, multi-project R&D scenarios. For policymakers, it calls for a nuanced merger-review framework that:

- 1. Assesses R&D structure:** Map how many firms are engaged in radical versus incremental projects and identify overlaps.
- 2. Measures externalities:** Quantify how one firm's R&D

decisions influence competitors' breakthrough and reformulation prospects.

3. Applies concentration thresholds: Recognize that moderate consolidation in underdeveloped innovation races may enhance consumer welfare, while further concentration can foster complacency.

Rather than adopting a blanket presumption against consolidation, regulators should use tools such as innovation-market definitions and R&D portfolio analyses to determine whether a proposed merger is likely to suppress or stimulate breakthroughs.

In a world hungry for transformative solutions, from next-generation vaccines to sustainable energy, mergers occupy an ambiguous yet pivotal role. As Nevrekar's work shows, their impact on innovation depends on market structure, portfolio dynamics, and the balance of competitive pressures. By situating merger policy within this richer analytical framework, grounded in empirical evidence, real-world cases, and robust economic modeling, regulators can better safeguard the social mission of innovation: delivering breakthroughs that improve lives while preserving the dynamism of competitive markets.

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Network Dynamics in GLOBAL OIL TRADE

Ronak Latief

I walked into Ritu Singh's session at LEO Economics Conference 2025 half-expecting another run-of-the-mill oil-price talk. Instead, she took us on a tour of crude-oil trade's hidden highways, showing us not just how much oil moves, but who's shaking hands with whom, and why those partnerships flare up or fizzle out.

Ritu kicked things off by pointing out that most studies treat trade like a static spreadsheet: "Country A exports X barrels to Country B,"

end of story. She flipped the script with two simple questions: "What makes two countries start trading oil in the first place? And what makes them stop?" It felt a bit like social-media link-prediction, except instead of friend requests, we're talking oil shipments worth billions. That move from volumes to connections gave the whole topic fresh energy, reminding me of those network-dynamics lectures I loved, but applied to geopolitics.

Instead of pushing one "shiny new"

algorithm, Ritu walked us through her full toolbox: plain and ridge logistic regression, random forests, Support Vector Machines (SVMs), and even a touch of neural nets. She explained how each classifier ingested features ranging from GDP and oil reserves to sea-lane distances, treaty counts, and sentiment scores from Global Database of Events, Language, and Tone (GDELT). When someone asked, "Do neural nets really outperform decision-tree forests here?" she simply showed us the

ROC curves, and it turned out the random forest held its own. It was a clear reminder that in messy economic data, more complexity doesn't always translate to better results.

One of the liveliest moments came when Ritu labeled years like 2003 and 2020 "regime-breakers," the Iraq War, the financial crisis, the pandemic, and price-war combo. In those crunch periods, her models stumbled. She didn't gloss over it, she paused and said, "Change the rules, and even our best algorithms trip up." That honesty sparked a wave of side conversations, turning the room into a real exchange rather than a lecture.

Curious to see how her approach fits into existing research, I explored a few classic works:

- Fagiolo, Reyes & Schiavo (2009) in *The World-Trade Web: Topological Properties, Dynamics, and Evolution*, observe that "all node-statistic distributions and their correlation structure ... have remained surprisingly stable in the last 20 years, and are likely to do so in the future."
- Duenas & Fagiolo's (2013) gravity-residual analysis shows that "the GM successfully replicates the weighted-network structure of the ITN, only if one fixes its binary architecture equal to the observed one."
- Barigozzi, Fagiolo & Mangioni (2011) find that commodity-specific community structures align more with geography than with formal trade agreements.

Putting these together made it clear why stable topology, gravity residuals, and community

clustering are such powerful complements to Singh's link-prediction framework. Later, I caught Ritu in the hallway and asked, "Could real-time political tensions help us catch those ripple affects you mentioned?" She nodded, explaining that combining network-autocorrelation metrics with streaming sentiment feeds does sharpen early warnings, but truly unprecedented shocks still slip through the cracks.

What really struck me was picturing India spotting a brewing crisis in the Middle East before supplies nosedive, or a small African nation lining up new buyers just as Europe pivots. By predicting link formation, policymakers could preempt shocks, negotiate smarter deals, hedge risks, or even guide green-energy transitions. For someone who cares about both numbers and real-world impact, that felt like the "aha" moment.

Ritu Singh's talk wasn't just another academic exercise. It was an open invitation to rethink how we map global trade, dynamic, networked, and rich with surprises. I left with fresh questions, new perspectives, and a genuine sense that the future of trade analysis lies at the intersection of economics, data science, and a willingness to look beyond mere price tags.



By predicting link formation, policymakers could preempt shocks, negotiate smarter deals, hedge risks, or even guide green-energy transitions."



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DSEB Spotlight

Know Your Majors (DSEB) IN CONVERSATION WITH JAYATI DE, SENIOR DIRECTOR, FLIPKART



business thinking converge in the real world.

Understanding the World of Data

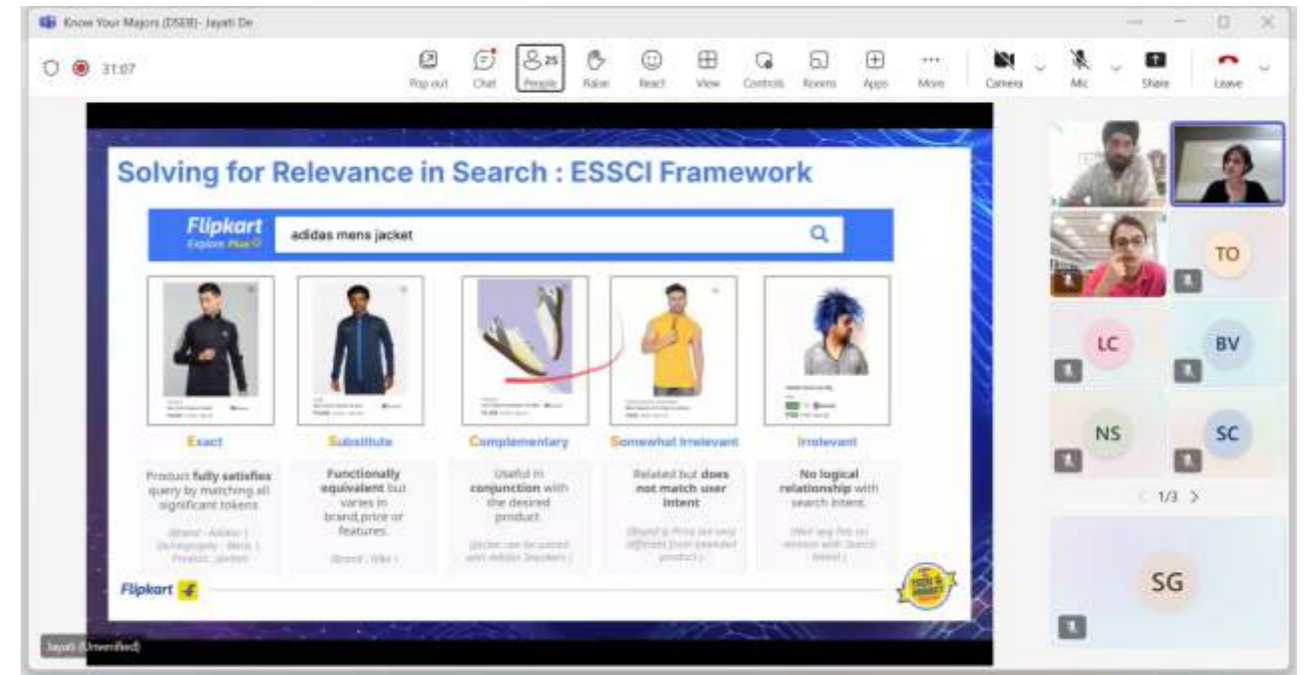
“Data,” Jayati began, “is not one job, it’s a family of disciplines.” She unpacked the ecosystem for students: data engineers build and maintain systems; analysts interpret trends and generate insights; data scientists design algorithms and deploy them in production; research scientists explore unsolved problems using econometrics, game theory, and modelling. Each role, she said, demands a distinct mix of technical ability and business understanding. So, what does a day in the life of a data professional look like? It’s a mix of stakeholder meetings, team discussions, solution design, and iterative problem-solving. Whiteboarding sessions, stand-ups, and of course, coffee breaks make up the rhythm of the day. “You spend your day figuring out priorities, solving problems, talking to teams, and iterating,” she said. “It’s about learning and communicating constantly.”

When Data Shapes Business

To illustrate how analytics powers decision-making, Jayati shared an example from Flipkart’s search optimization project. Her team noticed that users searching for a product, say *Nike shoes*, were occasionally shown unrelated results. To tackle the same, they developed the ESSCI framework to classify search results as *Exact*, *Substitute*, *Somewhat Irrelevant*, *Complementary*, or *Irrelevant*, to diagnose why certain queries failed. By combining large language models (LLMs) with business logic, they identified and corrected issues in brand matching, product categorization, and query spelling. The result was: a more accurate, responsive search experience for millions of users. This, she explained, is where data science and business intersect. “You’re not just coding or analyzing numbers, you’re improving customer journeys, one query at a time.”

The Role of AI and the Future of Work

Asked whether LLMs would replace traditional data science, Jayati was pragmatic: “They’ll change how we work, not replace what we do.” LLMs are non-deterministic, she noted; they generate predictions that are not always exact, whereas



many business problems require deterministic solutions. “Traditional models like regression or XGBoost are still critical. The key is knowing when to use which tool.”

Skills That Matter

When it comes to technical skills, Jayati emphasized three essentials: SQL, Python, and problem-solving. SQL helps analysts extract and aggregate data; Python enables modelling and automation; and problem-solving underpins it all. “Be curious,” she advised. “Understand how to approach a problem, ask questions, and structure your thinking. That’s what we look for in interviews.” For interns, she described projects that blend autonomy and mentorship. Interns at Flipkart are given

standalone problem statements like designing self-serve dashboards or evaluating catalog

quality and guided by mentors to navigate large, messy datasets. “Industry data isn’t neat,” she smiled. “Your insights are only as good as the data you work with.”

From Good to Great: The Analyst's Mindset

What makes a great data scientist? “Curiosity and business understanding,” Jayati replied. The best analysts, she said, are those who not only build accurate models but also know how those models change business outcomes. “You can have perfect accuracy or R^2 values, but if your insights don’t move a business metric, they’re not useful.” She likened data scientists to chefs with a set of tools i.e., algorithms, but stressed that domain expertise gives direction. “When you combine both, you create real impact.”

Advice to Students

Closing the conversation, Jayati urged students to follow both their curiosity and intuition. “You’ll discover what you enjoy as you go, some of you will love the technical side, others the business logic. Go deep into what excites you. The rest will follow.” For a generation stepping into a world shaped by data and intelligence, her message was clear, success in DSEB lies not just in mastering tools, but in learning how to think.

“AI will change how we work, not replace what Data Scientists do.”

Know Your Faculty

ALOK RANJAN, ASSISTANT PROFESSOR OF ECONOMICS AT PLAKSHA



Every academic journey begins with curiosity, and Professor Alok Ranjan's path is a testament to that. In this edition of Know Your Faculty, we feature Professor Alok Ranjan, Assistant Professor of Economics at Plaksha. From discovering economics in high school to advancing his research at IIT Kanpur and the University of Illinois Urbana-Champaign, his work spans public and urban economics, explores the role of machine learning in policy analysis, and addresses questions critical to India's future. In this conversation, he shares insights on his research, teaching philosophy, and what excites him about being part of Plaksha's vibrant academic community. Read on to learn more-

1. What inspired you to pursue economics, and how did your academic journey from IIT Kanpur to the University of Illinois Urbana-Champaign shape your research interests?

My interest in economics began quite early around Class 9, when I first encountered the subject in school. Over the years, that initial spark grew steadily. At IIT Kanpur, where I completed both my undergraduate and master's degrees, I was fortunate to have mentors and advisors who played a meaningful role in shaping my academic direction. Their guidance helped me understand what research in economics really involves and why it matters. Looking back, it wasn't a single transformative moment, it was an organic process, shaped by supportive mentors and experiences that gradually pointed me toward a research path.

2. Public and urban economics are at the heart of your research. What drew you to these areas, and why do they matter today?

Public economics appealed to me because of the sheer scale at which it operates. Public policies influence millions of people and studying them offers the chance to create meaningful impact. That breadth and relevance drew me in. Urban economics became increas-

ingly important as I reflected on India's rapid urbanization. Our urban population is expected to double very soon. Cities offer tremendous opportunities, but they also face challenges, especially related to density, infrastructure, and readiness for expansion. Understanding how cities function, how people interact within them, and how policies shape urban life is essential. For me, these questions are central to India's future. That is what makes research in these areas indispensable.

3. Machine learning is increasingly shaping economic research. In your work, how do these techniques go beyond traditional econometric methods, and what opportunities or challenges do they bring to policy analysis?

Machine learning has become very relevant to my work. Traditional economics is often centred around estimating causal effects, but ML allows us to push the boundaries beyond that. One of its biggest strengths is the ability to uncover heterogeneous relationships, how the same policy or intervention affects different groups of individuals differently. This has direct implications for policy design. If we understand how effects vary across people, we can target interventions more effectively. ML also unlocks data sources that were previously hard to use, allowing us to work with

richer and more complex datasets. The challenge, however, lies in applying ML tools appropriately. Ensuring that ML is applied in ways best suited to the problem, and not merely for novelty is crucial.

4. What motivated you to join Plaksha University, and what has stood out most about your experience so far?

Plaksha offered a combination that really appealed to me i.e., a strong support for research and a stimulating teaching environment. The ecosystem here encourages you to pursue ambitious ideas, and the institution backs you with the resources and freedom needed to pursue them. But the most striking part of my experience has been the students. They are exceptionally curious and sharp. As a teacher, that kind of intellectual engagement pushes your limits. It keeps you on your toes and makes teaching deeply rewarding. For me, the quality of students has been the standout feature of Plaksha.

5. Are there any research projects or collaborations at Plaksha that you're particularly excited about right now?

Yes, there's an ongoing project on AI and engineering education that I'm working on with Professor Brainerd and Professor Prakarsh. Plaksha, being a tech university, is a great place to study how AI affects student learning. With the rapid growth of AI in the education sector, universities face real dilemmas about how to integrate it. We're looking at its impact on learning outcomes and trying to understand both the opportunities and the downsides.

6. For students who want to go beyond textbooks, what's your advice on exploring economics in a hands-on way?

My advice is simple: be observant. Economics is fundamentally the study of human behaviour. Textbooks give you the framework, but the real insights come from observing how people behave around you, in markets, in everyday interactions, etc.. Think actively about how the concepts you learn apply in real-world settings. That habit of connecting theory with observation is what brings economics alive.

7. Teaching, research, mentoring—how do you juggle these roles without losing focus?

I don't see these roles as separate or competing. They actually feed into one another. Many times, a classroom discussion sparks a research question, and insights from my research find their way back into how I teach. Mentoring sits naturally in between the two and guiding students often sharpens my own thinking. So instead of pulling me in different directions, these roles act like catalysts for each other. That interdependence makes balancing them much more fluid.

8. Outside of research and teaching, what activities or hobbies help you unwind?

I have quite a few hobbies that help me disconnect and recharge. I can spend hours playing board games- something I really enjoy. I'm also passionate about photography, especially bird photography, which get me outdoors and help me slow down. Cooking is another way I unwind, and I love playing chess and badminton whenever I get the chance!

Stitches That Save: HOW BANGLADESH'S GARMENT BOOM WOVE EMPOWERMENT INTO CHILD SURVIVAL

Devansh Upadhyaya

For most of modern development history, we've celebrated women's workforce participation as a moral and economic victory that bestowed women with more autonomy, more income, more representation. But what if that participation went a step further? What if simply living near a workplace opportunity for women, like a garment factory, could lower a child's risk of dying in infancy?

That's the central, compelling question in *Weaving Well-being: The Changing Landscape of Female Job Opportunities and Child Survival in Bangladesh* by Kirti Tater, Shampa Bhattacharjee, and Arka Roy Chaudhuri. The paper breaks new ground by showing how the geography of industrial growth can translate into life-saving outcomes for children, mediated through shifts in maternal agency and health-seeking behaviour. It is a story of how labour markets quietly shape lives and save them far beyond the factory gates.

The backdrop is Bangladesh's Ready-Made Garment (RMG) industry, a sector that exploded in the 1980s and now employs millions, with women making up over 60% of the workforce. The authors leverage this boom to

examine a causal link that has not been rigorously studied in this context: does proximity to these jobs improve child health? The hypothesis is intuitive but underexplored, suggesting that access to female-dominated jobs strengthens women's bargaining power, which in turn boosts maternal investment in child health and survival.

What makes the study distinctive is its fusion of spatial economics, demographic data, and quasi-experimental techniques. Using six rounds of nationally representative Demographic and Health Survey (DHS) data and precise GPS coordinates from both households and garment factories (via Mapped in Bangladesh), the authors construct a clean measure of exposure: whether a child was born in a household located within five kilometers of an operating garment factory in their birth year.

The empirical strategy is robust and grounded in a difference-in-differences style design with rich fixed effects. Regression controls for a wide array of potentially confounding variables, including maternal age, religion, urban status, and child gender, and includes layered fixed effects for birth year, month, location, and

survey round. The authors also explore threats to identification such as selective migration, differences in maternal characteristics, and timing of factory openings using placebo tests and alternative model specifications. They even incorporate recent methodological advances, such as Oster bounds and the Borusyak et al. Correction for heterogeneous treatment effects in staggered adoption settings (Oster, 2019; Borusyak et al. 2024).

The results are both statistically significant and socially striking. Across specifications, children born near a factory had lower infant and neonatal mortality rates, with the effect particularly strong for younger mothers. Mechanism analysis reveals how this impact likely unfolds: women living near factories were more likely to work, had greater say in household decisions (from purchases to healthcare), and reported increased use of antenatal care and institutional delivery services. Simply put, economic opportunity expanded women's choices, and those choices improved child survival. In doing so, the paper speaks to and advances several strands of literature. It complements findings from Bobonis (2009) and Duflo &



Udry (2004) on intra-household resource allocation, while extending the lens of labour empowerment to demographic outcomes such as infant mortality. It also adds spatial and temporal richness that many earlier studies lacked, grounding theory in the everyday realities of industrial expansion.

The policy implications are profound. Often, women's employment is framed only in terms of personal or economic benefit. But this research demands a broader lens: when we invest in equitable, accessible job markets for women, we are not just empowering individuals, we are shaping household behaviour, maternal health outcomes, and even the survival of the next generation. Development interventions should take note that the path to improved public health may run through the labour market.

What is most powerful, perhaps, is how quietly this all happens. No sweeping reforms, no massive aid programs, just the steady hum of a factory nearby, reshaping norms and shifting choices. In a world often obsessed with grand gestures, this paper reminds us that sometimes, structural change starts with something as simple as a woman clocking in to work and walking home with more power than she had before.



Economic opportunity expands women's choices, and those choices improve child survival."

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Climate Change and POVERTY IN INDIA

Dhirain Vij

Introduction

Climate change is reshaping India's future, with its most devastating impacts falling on the nation's poorest communities. From scorching heat waves to catastrophic floods, these environmental shifts threaten livelihoods, deepen inequality, and challenge decades of progress in poverty reduction. A study by Rohini Somanathan, presented at LEO conference, Plaksha University, provides critical insights into this crisis through detailed case studies that illustrate how rising temperatures, extreme weather, and policy transitions exacerbate poverty in India.

The Climate–Poverty Nexus in India

India's vulnerability to climate change stems from its large population, heavy reliance on agriculture, and exposure to extreme weather events. The World Bank projects that climate change could erode India's GDP by 2.8% by 2050, with nearly half the population facing reduced living standards (World Bank). The Overseas Development Institute (ODI) estimates that declining agricultural productivity and rising food prices could push an additional 50 million people into poverty by 2040 (Picciariello,



Colenbrander & Roy, 2021). These projections underscore the profound link between climate change and poverty, particularly for the 37.2% of India's population (roughly 500 million people) living below the poverty line (The Tribune).

Somanathan's Groundbreaking Research

Case Study 1: Heat Stress in Manufacturing

The first case study examines how rising temperatures affect worker productivity and attendance in Indian factories. Using high-frequency data from factories in Surat, Hyderabad, and the National Capital Region, Somanathan's team matched daily temperature records with worker output and attendance. The study found that

temperatures above 35°C significantly increase absenteeism by 8 to 11% in garment factories and reduce productivity, particularly in non-climate-controlled settings. For example, in a diamond manufacturing plant, the introduction of cooling systems mitigated these effects, but only in some locations, highlighting the role of infrastructure in adaptation. This granular approach reveals the direct economic toll on low-wage workers, whose incomes suffer when they cannot work due to heat stress.

Case Study 2: 2008 Kosi Flood in Bihar

The second case study analyzes the 2008 Kosi flood in Bihar, which affected 4.8 million people and caused 33 deaths across surveyed villages. Leveraging a natural experiment, Somanathan compared villages unexpectedly flooded due to a breached embankment with those regularly flooded. The study surveyed 280 households across 10 villages, finding that unexpectedly flooded areas, such as those near the breach, suffered greater losses in cultivable land (covered with alluvium sand), crop yields, and employment. For instance, in Bishunpur Ghanshyam, days worked dropped from 23 to 2 post-flood, and government relief was limited to 3,750 Rs. in one village in 2009. Migration was temporary, with 5,444 households returning

within a year, indicating a lack of viable opportunities elsewhere. This case underscores the need for tailored disaster response and long-term rehabilitation strategies.

Case Study 3: Clean Transport Transition in Kolkata

The third case study explores the transition from "katatel" (a petrol-kerosene mix) to LPG in Kolkata's auto-rickshaws, a policy implemented in 2001 to reduce emissions. Surveys conducted in 2010, 2012, and 2013 revealed significant distributional challenges. While the shift improved air quality, renters of auto-rickshaws paid higher fuel costs (46.1 vs. 37.1 for owners in the previous period), reducing their support for the policy. Owners, who benefited more from lower fuel costs, were more supportive. Resistance, including violence in 2009, delayed implementation, highlighting the need for equitable policy design. Somanathan's analysis shows how well-intentioned climate policies can inadvertently burden the poor if economic disparities are not addressed.

Policy Implications and Challenges

Somanathan's paper outlines several policy recommendations to mitigate climate-driven poverty, aligning with broader calls for climate justice. It emphasizes urgent need to reduce greenhouse gas emissions to limit warming to 1.5°C. A failure to do so, could snowball into 3.5 billion people facing mean annual temperatures above 29°C by 2070 (Xu et al., 2020). Some adaptation strategies suggested by the paper include

workplace interventions like climate control or adjusted work hours to combat heat stress. For disaster management, the paper advocates for improved infrastructure and social insurance programs like NREGA to support communities hit by unexpected events, such as the Kosi flood.

Institutional reforms are critical, as countries most affected by climate change, including India, often have weak social safety nets, poor labor laws, and high corruption levels. Somanathan suggests strengthening governance to enhance climate resilience, a point echoed in the Kolkata case, where equitable policy design could have mitigated resistance to the fuel transition. Specifically, these reforms could encompass better transparency in fund allocation or decentralizing relief distribution. The paper also calls for rethinking traditional measurement approaches and advocating for metrics that capture the distributional impacts of climate policies.

India's broader policy landscape includes a commitment to net-zero emissions by 2070 and significant renewable energy expansion. However, challenges persist. The FAO reports that poor households lose 5% of income annually due to heat stress and 4.4% due to floods, urging targeted policies for vulnerable farmers. Yet, inadequate technology transfer, insufficient climate finance, and institutional weaknesses hinder progress.

Conclusion

The intersection of climate change and poverty in India is a complex, urgent crisis that demands immediate action. Somanathan's

research provides critical micro-level insights, complemented by secondary research showing widespread economic and social impacts. Integrating climate considerations into poverty reduction strategies is essential for sustainable development. Further research and action are needed to ensure that the poorest are not left behind in this critical fight.

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ABOUT THE LAB

Lab for Economic Behaviour in Organisations (LEO)

LEO at Plaksha University researches personnel issues through an economics and data science lens. It explores productivity, compensation, talent management, remote work, and trainings —blending insights from economics, psychology, and public policy. Using empirical research, LEO aims to deliver data-driven solutions for firms and policymakers, driving innovation in workplace practices.

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