THE ECONOPRESS'24

Kalindi College, Department of Economics

July23 - June24

Volume IV

FROM

Principal' s Desk

I extend my warmest congratulations to the Department of Economics of Kalindi College for successfully completing another academic year and for the publication of the latest edition of their annual newsletter, The EconoPress.

In these times of rapid economic and social change, it is vital that we engage in meaningful discussions and research. This year's issue of The EconoPress reflects the pressing issues of our time and showcases the department's commitment to addressing real-world challenges through rigorous academic inquiry and thoughtful dialogue.

The dedication and intellectual curiosity demonstrated by our students and faculty are truly commendable. The editorial team deserves special recognition for their hard work and meticulous effort in bringing this publication to life. Their articles not only expand our understanding but also inspire us to think critically. I am confident that the ideas and discussions presented within these pages will encourage us all to contribute positively to our society and the broader world.

I would like to extend my heartfelt appreciation to the faculty and students of the Department of Economics for their unwavering dedication and for producing such an insightful newsletter. Your efforts not only enrich the academic environment at Kalindi but also inspire future students of economics.

Best wishes for continued success.

Prof. Meena Charanda
Acting Principal
Kalindi College

FROM

Teacher Incharge

Dear Readers,
It is with pride that we present to you our annual newsletter "The Econopress". This past year has been a culmination of insightful discussions, extensive research and a deepened understanding of economics.

Our society has always sought to provide an engaging atmosphere where students may investigate and interact with economic ideas outside of their learning environment. I extend my warmest congratulations to our dedicated students for not only upholding this cherished tradition but also for delivering yet another brilliant edition of 'The Econopress'. This year's issue includes articles on various topics exploring the nuances of economics and amalgamating it with social, technological and political angles.

As we look forward to the upcoming year, I am excited about the prospects and new initiatives that our department will embark upon. Our goal remains to inspire and equip our members with the skills and knowledge to navigate and shape the economic landscapes of the future.

I extend my gratitude to the editorial board, faculty advisors, and supporters for their unwavering support and active participation and encourage each of you to delve into the pages of this newsletter with enthusiasm and curiosity. May you find inspiration, insight, and knowledge within its contents.

Best Wishes,

Prof. Indu Choudhary
Teacher in Charge
Department of Economics

Council Advisor's Desk

DR. PUNAM TYAGI

Associate Professor
Department of Economics

DR. RICHA GUPTA

Assistant Professor
Department of Economics

FROM

Council Advisor's Desk

It was quite inspiring to watch and witness the potential of our students unfolding at various stages and situations each day. Trying and testing times during the hectic semester system have elicited our students to put forth their best. During Academic Session of 2023-24, the Economics Society conducted various activities such as guest lectures, seminars, workshops and annual fest that were undertaken by the students in view of helping them reach the pinnacle of perfection and professionalism in whatever task they took on, thus strengthening their journey of achieving excellence.

The E-newsletter exemplifies the voyage transverse and exhibits the literary skills of our students.

The students have been fostered to be “humane professionals” in every act and there is no doubt that our outgoing batch of 2021-2024 will indeed reach greater heights in life.

Best wishes and blessings to our dear outgoing students.

Congratulations to the editorial team for their determined efforts in bringing out this newsletter.

Council Advisors
Dr. Punam Tyagi
Associate Professor
Department of Economics
Kalindi College

Dr. Richa Gupta
Assistant Professor
Department of Economics
Kalindi College

FROM

Faculty Advisor

It is indeed a matter of great joy and pride that The Department of Economics of Kalindi College is releasing the next issue of their annual E-Newsletter “THE ECONO PRESS” for the Academic Session 2023-24.

I congratulate THE ECONO PRESS team for their hard work in the launch of the third volume. As the faculty advisor, it has been a privilege to be a part of the journey. The following pages contain an assemblage of our students’ thoughts, ideas and opinions reflecting the enthusiasm of students in this academic year issue. This time we are bringing for our readers, a diverse selection of stimulating readings from various scholars and from our own students highlighting a plethora of issues.

I appreciate the efforts of the Chief Editor Nikita Bhardwaj, the Deputy Chief Editor Parvi Arora and the coordination of the entire team, your efforts have been vital in the successful completion of the newsletter. Special thanks to all these budding economists, for contributing their articles; and so to the team members who worked patiently, enthusiastically, and tirelessly for conceiving, collating, and drafting this edition. The entire team has made this endeavour bounteous, I would like to wish the students great success in their future endeavours as well and hope that this journey of exploration continues for them and for the coming batches as well.

Faculty Advisor
Ms. Phunchok Dolker
Assistant Professor
Kalindi College

Editor's Desk

NIKITA BHARDWAJ
Editor-in-Chief

PARVI ARORA
Deputy Editor-in-Chief

EDITOR'S NOTE

It is with immense pride and enthusiasm that we unveil the fourth edition of The Econo Press. The Econo Press endeavours to provide a space for intellectually stimulating discussions and thought-provoking ideas that explore the intersectionality between economics and a myriad of disciplines. With each edition, we strive to push the boundaries of conventional economic discourse, fostering a vibrant platform where diverse perspectives converge to shed light on the pressing issues of our time.

In this year's newsletter, our team has meticulously curated a collection of articles that span a broad array of subjects. Our contributors delve into the realms of Artificial Intelligence and Technology, examining their profound impacts on economic landscapes. We also highlight the pivotal role of data in contemporary society, providing insights into its vast applications and implications. Furthermore, we delve into the intriguing world of Sports Economics, analyzing the economic dimensions of sports industries and the emerging field of sports analytics. Additionally, this edition brings to the fore crucial discussions on the black economy, offering nuanced perspectives on its complexities. The dynamic nature of the labour market is another focal point, where we explore the evolving trends and challenges facing today's workforce. This edition also delves into an insightful conversation with Dr. Subodh Mathur, who has wide-ranging experience as an economist, teacher and consultant.

The Editorial Board would like to express our earnest gratitude to our TIC, Professor Indu Choudhary, our faculty advisor, Ms Phunchok Dolkar, our convenor Dr. Punam Tyagi and co-convener Dr Richa Gupta, for their unwavering support and guidance, and providing us with this platform for engaging in out of box ideas transcending the traditional academic discourse. We would also like to acknowledge the brilliant efforts of our dedicated team of editors, writers, graphic illustrators and guest contributors who strived to bring forth our meticulously crafted newsletter that reflects both depth and creativity. We extend our congratulations to everyone involved in curating the latest edition of EconoPress.

Lastly, we would like to extend our heartful thanks to you, the reader, for your engagement in this meaningful discourse. We hope this edition offers insightful perspectives on varying themes and ignites some curiosity among our readers about the fascinating world of economics.

Best Regards

Nikita Bhardwaj
Editor-in-Chief

Parvi Arora
Deputy Editor-in-Chief

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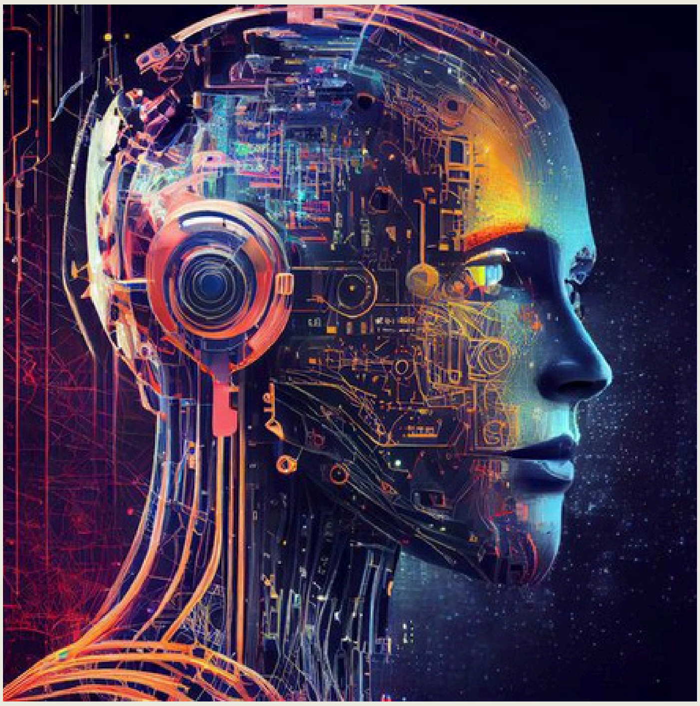


TECHONOMICS UNLEASHED:

EMPOWERING PROGRESS THROUGH DIGITAL INNOVATION

SECTION EDITOR - AGRIMA SRIVASTAV
SECTION CO-EDITOR - RIYA GUPTA
WRITER - SANJU, ARSHIA

AI & FAKE NEWS: COSTING THE TRUTH

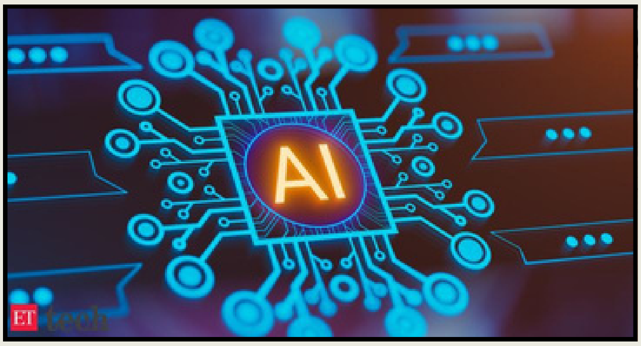
- ByAgrima Srivastav

With the advent of AI technology, the world has revolutionized various facets of society, including the way information is created, disseminated, and consumed by people. While AI promises advancement in various fields, it also brings in the challenge of AI-generated misinformation and disinformation, echoing the adage that not everything can be taken at face value in the online world.

The World Economic Forum has recently released a global risk report for 2024 which identifies AI-generated misinformation and disinformation as the most significant issue in the coming two years, it is placed above climate change, societal polarization, war, etc. The report analyzed that this is a priority concern for India, bringing major attention to this problem. The intersection of AI and misinformation has far-reaching economic implications, affecting consumer behaviour, the stock market, the regulatory landscape, and more. Governments and politicians around the world have just started using AI technology to generate text, images, and videos which might spread misinformation and blur people's vision to make the right decision while casting their votes. They can easily manipulate people's opinions in their favour, or the general public can also deepfake news to use it against the government. AI-generated content on social media is becoming increasingly prevalent, and it is hard to differentiate. For example, the number of advertisements and posts seen online are auto-generated by AI and nobody is monitoring them.

Economic Impact of AI-generated Misinformation

This article will majorly focus on the economic impact of misinformation and disinformation as it is altering the economic growth of the country. One of the primary consequences of the corrosion of trust in information sources is its significant implications on consumer behaviour and decision-making. When one is exposed to misleading or false information, their trust in online platforms shatters. People these days use social media or online platforms to nurture their businesses but when a consumer gets frauded, they lose confidence because of which even legitimate businesses suffer. This can lead to decreased engagement with digital content, reduced consumer faith, and ultimately, economic losses for businesses and advertisers.



News moves the market, even to spike trading activity. Fake news or misinformation can be considered a possible catalyst of abnormal market fluctuations and investors' overactions. The news hype in the market can lead to excessive speculation trades, which may dampen informational efficiency, and a period of great uncertainty can make the markets noisy and fluctuate. Cryptocurrency markets are particularly susceptible to manipulation due to their decentralized nature and lack of regulation. People on these platforms have experienced significant disruptions due to AI-generated misinformation campaigns. All of this can undermine investors' confidence, erode market integrity and ultimately dull the economy’s growth.

In addition, dealing with the spread of AI-driven disinformation presents significant regulatory challenges, which come with substantial costs. Governments and regulatory bodies ought to invest in the improvement and implementation of sturdy frameworks to combat misinformation efficaciously. This includes investment research into AI detection technologies, enacting regulations to hold perpetrators of misinformation accountable, and taking part with tech organizations to enhance platform safety and integrity. However, these regulatory efforts require extensive financial resources and can impose compliance burdens on organizations, possibly hindering innovation and monetary improvement.

Examining global examples offers valuable insights into the monetary influences of AI-generated incorrect information. The influence of misinformation on elections is one example that not only has significant monetary repercussions but also undermines the integrity of free and fair elections. An article published by Hindustan Times states AI has been used to speed up the production and distribution of disinformation, and it plays an important role in organised disinformation campaigns to manipulate public opinion and affect electoral outcomes. The economic results of such misinformation campaigns include political instability, regulatory uncertainty, and dwindled investor self-belief, all of which can have lengthy-term implications for financial growth and improvement. (“Combatting AI-driven,” 2024)

Another example is the economic repercussions of viral AI-generated content. Be it a deepfake video that depicts the public doing something forbidden by law or a fabricated news story designed to evoke outrage, viral misinformation will have real monetary effects. Businesses that are cited in fake content might also suffer reputational harm, which will, in turn, break customers' faith and sales will reduce. The company will also have to bear increased operational costs to manage the disaster created. Moreover, the dissemination of misinformation can create a climate of fear and uncertainty, promoting clients to withdraw from monetary sports along with spending and funding, in addition to exacerbating monetary downturns.

Finally, financial fraud facilitated by AI-generated misinformation presents a significant threat to our economy. Fraudsters use AI technology to create convincing phishing emails, fraudulent websites, and social media scams to deceive individuals and businesses. Further, they also clone the voices of those who are close to a person to emotionally blackmail the individual and take the desired sum of money they would like. Seventy-five per cent of security professionals said they have seen an uptick in cyber attacks over the past year, with 85% attributing the rise to bad actors using generative AI, according to a new generative AI and cybersecurity report by Sapio Research and Deep Instinct. The report collected responses from just over 650 cybersecurity experts and leaders. These fraudulent activities not only result in direct financial losses but also

undermine the trust in digital transactions and online commerce, which hinders the economic growth and innovation of the county. To tackle these frauds, resources are diverted from other critical economic priorities.

Addressing the economic implications of AI-generated misinformation requires a multifaceted method, including technological, regulatory, and academic interventions.

One of the key methods is the improvement and deployment of AI-pushed equipment that can detect suspicious content in actual time. These tools utilize machine learning algorithms to analyze patterns and identify inconsistencies indicative of misinformation, enabling platforms to take swift action to mitigate its spread. Furthermore, it is necessary to equip people with digital literacy and media literacy so individuals can have the critical thinking skills necessary to distinguish between credible and misleading information. Educational initiatives that aim at promoting media literacy, fact-checking, and digital citizenship can empower individuals to navigate the digital landscape responsibly and resist the influence of misinformation. Moreover, fostering collaboration between government, tech companies, civil society organizations, and researchers can add an advantage to alleviate the risk of misinformation. This collaboration will help in an effective regulatory framework and countermeasures. Policymakers must work alongside industry stakeholders to enact legislation that holds perpetrators of misinformation accountable while safeguarding freedom of expression and innovation.

The European Union Artificial Intelligence Act (EU AI Act) is the world's first concrete initiative for regulating Artificial Intelligence.

It aims to turn Europe into a global hub for trustworthy AI by laying down harmonized rules governing the development, marketing, and use of AI in the EU. The AI Act aims to ensure that AI systems in the EU are safe and respect fundamental rights and values. Moreover, its objectives are to foster investment and innovation in AI, enhance governance and enforcement, and encourage a single EU market for AI. However, there are concerns regarding the regulations stifling the benefits of AI and also increasing public costs. Governments must strive to find a balance and allocate resources to promote the responsible use of AI. Tech companies can do their part by investing in robust content moderation and platform security measures that prevent the spread of misinformation on their platform activity.

In conclusion, the economic implications of AI-generated misinformation and disinformation are profound and multifaceted as they affect consumer behaviour, market dynamics, regulatory landscape, and more. By understanding how this information is spread and how it impacts various sectors, stakeholders can work towards developing effective mitigation strategies like investing in tools that are AI-driven, enhancing digital literacy and fostering collaboration between government, tech companies, and civil societies. We must anticipate future trends and developments in AI and misinformation as it is crucial for devising effective strategies to safeguard economic systems from their advanced effects. Additionally, making investments in the field of research and development and the integration of blockchain technology and decentralization platforms may offer new avenues for combating false information by enhancing transparency, accountability, and trust in the digital ecosystem.

Proactive measures are necessary to safeguard the economic system from the adverse effects of AI-generated misinformation. As we navigate the evolving landscape of AI and misinformation, continued vigilance, innovation, and cooperation will be essential for addressing these challenges and ensuring the integrity and resilience of our economics in the digital age.

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AI FOR PUBLIC GOOD

- By Sanju

Artificial Intelligence was originally created to replicate human-like intelligence generally by computers and machines. By replicating human-like intelligence it is expected to perceive their environment, learn and analyse to create the most optimised solution for the problem efficiently. As the emergence of AI and digital infrastructure advances, humans are actively striving to transform them as public goods, prioritising the public's interest. In a rapidly evolving landscape of technology, AI stands as a transformative force to revolutionise society. Artificial Intelligence has shown unprecedented growth in the industrial sector, government administration and in the field of science. Also, chatbots such as Google Assistant, Siri, Alexa, and ChatGPT are increasingly being utilised for content creation and various other tasks in daily routines.

AI as a digital public good, can lead the digital revolution with promises to reshape industries, transform economies, and revolutionise societies. The concept of AI was first marked in the early 1950s by Alan Turing in his publication “Computer Machinery and Intelligence”. It was only then in the 1980's, the interest in Artificial Intelligence piqued. Since then, more countries have started investing in AI recognizing its urgency for the growth of digital infrastructure. The current landscape of society demands AI, not just as a technical tool but for societal well-being as well. AI has credible capabilities to serve as digital public good. Let's say in the fields of education, healthcare, defence, business, finance and many more where the use of AI can be put as a public good. This article aims to reflect on the uses of AI within different public sectors:

AI in Educational Sector and Skill Development

AI in the educational sector has created an advanced way of learning. From digital classes to search engines, technology has further evolved to encapsulate AI-based technologies, including chatbots and virtual teachers, that offer quick assistance and promote independent learning. AI offers personalized learning for the students that helps them match the capacity of their learning. Additionally, AI-driven analytics keep a personalized record of student’s performance and engagement, enabling institutions to make data driven decisions to

enhance learning. AI not only enhances effective learning but we can direct its effect towards skill development. The market now demands skilled labour to keep up with the digitalised growth of the economy. Many jobs that were traditionally managed by the human workforce have been taken over by cost and time-efficient AI tools and technology. To direct this technology, advanced and practical skills are required for which worker's efficiency is a must factor to be considered. Machine learning and AI tools offer enhanced skill development for trainees through which their efficiency can be incorporated in a serviceable manner. Firms can assess the performance of their workers and can create a personalised plan in a strategic manner using AI tools for maximum output generation. Age of Learning, Duolingo, Blue Canoe, Carnegie Learning, and Congii, are some examples of AI in Education that provide quick assistance to students with a wide range of courses. For example, Duolingo is a language learning app that provides language certificates as well has a chatbot format for assisting its users, making it a successful example of AI in the educational sector. Similarly, Age of Learning is also a leading education technology innovator, based on AI applications, creating engaging and effective learning resources to help assist students.

AI in Health Sector:

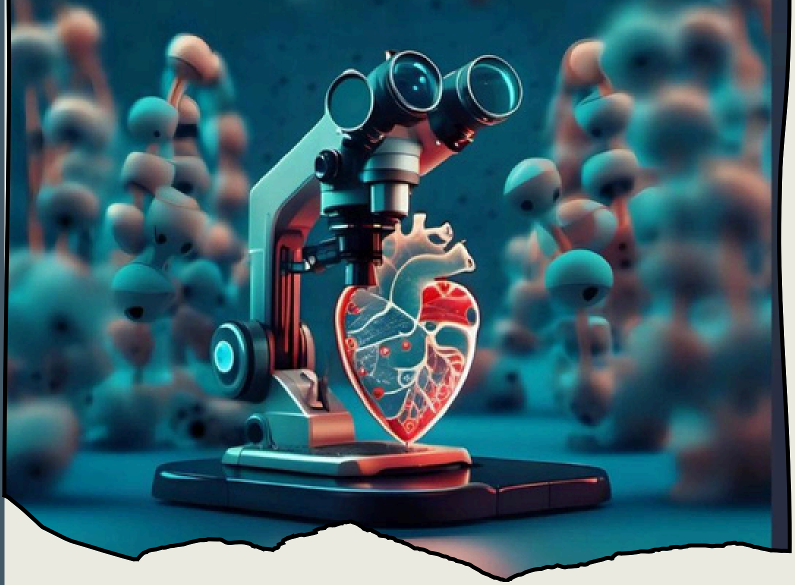
AI assistance in the health sector can seemingly improve the healthcare benefits we are getting with the current technology. Machine learning, natural language processing, deep learning and other AI technologies contribute to enhancing the experience of healthcare professionals and patients. AI-powered diagnostic tools can analyze medical images and detect diseases in early stages. Personalized health charts by AI provide assistance to patients to maintain a healthy lifestyle. AI in the field of research and drug discovery has also been proven to be efficient. The procedure of drug discovery and development is a high-cost task. The trial and rejection of drug discovery take years too. AI is proven to be both time and cost-efficient in this context. It can design drugs, predict the side effects based on their chemical composition and even identify ideal candidates for clinical trials. AI stores data and statistics that are important for the field of medical research. It can even prepare the design of medical tools that can be the foundation of research in the medical field. An AI tool developed by the NHS(National Health Service) in the UK, can detect heart disease in only 20 seconds while the patient is still in the MRI scanner, while in general, it takes 13 minutes for the doctor to analyze the MRI scan manually. Similarly, the U.S. Center for Disease Control and Prevention uses an AI tool to streamline poliovirus tracking and reporting. In 2019, Deep Mind's health team merged with Google Health to build products that support the care team and improve patient results. Google Health is exploring AI's potential to find cures for various health issues and create effective cures using AI.

AI For Environmental Welfare:

"Each decade since the 1990s has been warmer than the previous one and we can see no immediate sign of this trend reversing," said WMO Secretary-General Professor Petteri Taalas. This points out the criticality of the environmental issues growing every day severely. Unprecedented climate changes, global warming, melting of glaciers, and deforestation have become serious threats to sustainability and ecosystems worldwide. In such severity, AI stands as a major problem solving technology. AI analytical features can predict the optimal usage of energy resources. It can generate optimal solutions by analysing data for agricultural research, recycling goods, climatic change, waste management and much more, and much faster than humans could do manually. The Google flood forecasting initiative reports accurate real-time flood forecasting and alerts the affected region immediately. The Union Jal Shakti Ministry introduced sensor-based 'Internet of Things' (IoT) devices with the aim of monitoring the supply of drinkable water in more than 6 lakh villages in India. GeoAI app, an initiative by UNDP India in collaboration with Bihar State Pollution Control Board aims to improve air quality in the state. These technologies are AI-based and are designed to optimise public interest.

Its ability to collaborate with human creators has sparked a renaissance in art, design, music and storytelling. In the scientific domain, AI acts as a supporting mechanism for research and development. In addition to tracking and predicting environmental and biological events, researchers are finding out how AI can be useful in tackling social problems. Recently, Jing Li, an associate professor in the Department of Geography and Environment at the University of Denver, used machine learning to develop a precise real-time system to track and predict air quality across the Denver Metro area for her research purpose.

Notably, as AI Innovation accelerates, it has the potential to fundamentally shift how we interact with public sector services. From health, social care and welfare to employment, education and financial support services, there are numerous opportunities for how AI can support the public sector. But simultaneously, the emergence of AI creates certain risks as well. A vast amount of data managed by AI



creates a threat of data violation and breach of privacy. Apart from that it also questions the future of employment for the masses. AI-based tools and technology are suspected to replace millions of manual workers from their jobs. Whether it will replace the workforce or not remains to be seen. Contradicting the assumption of job replacement, one of the IBM studies quoted "AI won't replace people, but people who use AI will replace people who don't."

"AI and its offshoot, machine learning, will be a foundational tool for creating social good as well as business success." Said Mark Hurd, The former CEO of Oracle, implying the potential of AI in the public sector. AI, as a public good, holds the promise of democratising access to knowledge, enhancing public services, and addressing pressing societal challenges. As AI continues to evolve, there is a pressing need to address emergent challenges such as algorithmic bias, misinformation, and the erosion of privacy. To resolve them, AI should take a different, more enlightened and meaningful path. AI technology can move forward on a path guided by democratic oversights, constantly assessed and improved through better leadership and inclusive participation. It should be ensured that AI systems are developed and deployed in the interests of our diverse world.

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THE FUTURE OF SPACE TOURISM

- By Arshia Pundir

For most of history, space has been the domain of astronauts and scientists, but a new era is dawning. Space tourism is an emerging niche segment of the aviation industry that gives tourists the ability to become astronauts and experience space travel for recreational, leisure, or business purposes. Due to its extravagance, it is a case of a very small segment of consumers that are able and willing to purchase a space experience as, space travel, once a concept relegated to science fiction, is now becoming a tangible reality. The emergence of private space companies and their ambitious efforts to commercialise space travel have reignited public interest in space. This article will delve into the world of space travel, examining its evolution, the key players driving its development, the potential economic impact and challenges, and the future outlook.

The first space tourist was Dennis Tito, a multimillionaire, who spent eight days onboard the International Space Station in April of 2001. A purchase of $20 million made Tito the first private citizen to have bought a space ticket. By 2010, six more private citizens followed him to the International Space Station to become space tourists. However, the roots of space travel date back to the mid-20th century, when space agencies such as NASA and the Soviet Union's space program conducted groundbreaking missions including, launching the first human to space, carrying out the first spacewalk, sending the first woman to space, assembling the first modular space station in orbit around Earth (Mir), and the most significant: the Apollo-Soyuz Test Project, the first international human spaceflight. These early projects were funded by the federal government and focused on scientific research, astronaut training, and national prestige. The concept of private space travel remained elusive until a paradigm shift occurred in the early 21st century and it's estimated that there are now more than 15,000 firms and investors involved in the space industry. During this time, private companies such as SpaceX, Blue Origin, and Virgin Galactic entered the space industry through entrepreneurial vision and technological advances, with goals that go beyond scientific research and disrupt the status quo by focusing on accessibility and affordability for the general public. The emergence of public-private partnerships has become critical because collaboration allows the two sides to share resources, reduce risk, and accelerate progress. Key examples of the same include the International Space Station (ISS) National Laboratory, NASA, and various Fortune 500 companies, government agencies, and regional incubators. Successful sponsored programs include Boeing Mass Challenge, Massachusetts Life Sciences Center, National Science Foundation (NSF) Fluid Dynamics and Combustion sponsored program, the National Institutes of Health (NIH) National Center for Advancing Translational Sciences (NCATS) organ-on-chip technologies sponsored program, totalling more than $20 million in third-party funding.

From creating new jobs and revitalising local economies to advancing technology and related global developments, the impact of space travel extends beyond those directly involved in the industry. As more companies invest in developing spacecraft and launch infrastructure, the demand for engineers, technicians, pilots, and other skilled workers will increase. Since the space sector is not only a growth sector in itself but also a key enabler of growth and efficiency in other sectors, employment is also expected to increase in supporting industries like meteorology, energy, insurance, telecommunications, transport, maritime, aviation, and urban development to name a few. Space travel is more than just travelling to space, it is a comprehensive experience that includes everything from expedition training programs to a souvenir gift shop. As more people visit these locations for recreational purposes, they will spend more on eating and drinking at local restaurants and bars and staying at nearby hotels, ultimately contributing positively to the local economy. In addition to this increase in tourism, the space industry will also have a positive impact on the local economy near the launch site. The industry continues to expand at a tremendous growth rate due to technological innovations furthered by users' inclination toward space adventures. According to a report by Grand View Research, the global space tourism market size was valued at USD 851.4 million in 2023 and is expected to grow at a compound annual growth rate (CAGR) of 44.8% from 2024 to 2030.

This significant development has been described as a "space renaissance" – a period when technological innovation is creating new capabilities by cutting down significant costs. Public agencies, especially NASA and the US Department of Defence and Intelligence Community, have traditionally provided the most space investment. These agencies continue to be a major source of funding, as the combination of lower costs and more sophisticated technology attract more investment from special-purpose acquisition companies (SPACs) and private investors. Spacecraft design too, has evolved significantly due to advances in materials, miniaturisation, and automation and now modern spacecraft emphasise safety, efficiency, and passenger comfort.

Prominent examples include SpaceX's Crew Dragon and Boeing's Starliner, both designed for manned missions and space tourism. Besides this, these companies have also revolutionised space travel by successfully developing reusable rocket technology, which significantly cuts back on costs. Improved rocket technology allows not only for safer and more reliable travel but is also more sustainable. The advancements in space tourism technology have ripple effects across various sectors such as manufacturing, where the innovation drive resulted in competitiveness in the global market and development in the STEM workforce as the industry demands skilled professionals. In addition to this, the emergence of space data and communications and space-related technology hubs fostering economic growth are also notable changes.

Besides predictions that space launches would continue to increase as space travel expands and is more accessible, there are few recent studies on the environmental impact of space launches. Growing numbers of rocket flights and the rise of space tourism could harm Earth’s atmosphere and is a great contributor to climate change. The 9,000 tonnes of equipment that has headed into space is troublesome to say the least. There are more than 100 million pieces of space debris – at a size of one millimetre or larger – orbiting the Earth, according to NASA. Furthermore, rocket emissions contribute to climate change, with soot and pollutants released during launches. As space tourism grows, it becomes essential to manage space traffic carefully to avoid collisions and steer clear of space debris. While space exploration is exciting, we must strike a balance between progress and preservation. Responsible practices, cleaner propulsion technologies, and thoughtful regulations are essential to ensure that cosmic adventures do not harm the very environment we seek to explore. The World Economic Forum’s Space Sustainability Rating (SSR) encourages responsible behaviour in space by increasing the transparency of the organisation’s debris mitigation efforts. The SSR provides a raw score which represents a mission’s sustainability in relation to debris mitigation and alignment with international guidelines.

In addition to the environmental concerns this industry faces other major challenges like legal considerations and safety and risk management. Despite assertions to the contrary, there is no fixed definition of “outer space”, and therefore no official boundary where airspace ends and outer space begins. In the past, the International Aeronautical Federation has looked to the von Karman line, but since it is not restricted within the boundary of the atmosphere’s scientifically defined layers, and the UN Committee on the Peaceful Uses of Outer Space, has not yet resolved the question. Space tourism operators face substantial liability risks, accidents or incidents in space can have catastrophic consequences thus establishing clear liability frameworks is crucial. Operators must be accountable for passenger safety and any mishaps during the journey. Spacecraft design, manufacturing, and maintenance play a crucial role and stringent quality control and testing are essential to prevent technical failures. Rigorous safety protocols, training, and emergency procedures are necessary and medical considerations for space travellers, including physical and psychological health, must be addressed.

Having stated that , the future outlook of this industry is tremendous. The New Space industry which umbrellas space tourism is a growing market expected to be worth at least $3 billion by 2030, as stated by the World Economic Forum. Despite the access to space tourism in the immediate future being limited to wealthy passengers and private researchers , the long term agenda holds promises for ordinary citizens. Countries hosting space tourism activities stand to gain economically through job creation, tourism revenue, and technological advancements. Innovations in propulsion systems, reusable rockets, and infrastructure will drive diversification. Space tourism will be a subsector of the industry, but it will support the complete New Space industry. Once space tourism does end up standard, it will moreover emphatically affect numerous financial components on soil, making and cultivating a modern solar-based vitality foundation.

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UPI: PAYMENT FOR THE MASSES

- By Riya Gupta and Sanju

Introduction

India's digital public infrastructure, which includes initiatives such as Aadhaar, UPI, and the Digital India program, provides access to digital services and financial inclusion. These platforms deliver seamless digital identities, secure payments, and online access to government services, driving economic growth and empowering citizens with efficient, transparent, and inclusive digital solutions. The United Payments Interface (UPI), introduced by the National Payments Corporation of India (NPCI), stands as a revolutionary digital public infrastructure transforming India's financial landscape. This innovative system has significantly enhanced financial inclusion and digital banking, making everyday transactions more accessible to millions of Indians. UPI has become a key element of digital transactions in India, with remarkable growth and adoption. With more players entering the market and continuous enhancements in technology, the future of UPI in India appears to be promising. It is poised to redefine the country's payment landscape and drive financial inclusion.

Primarily, UPI's 24/7 availability ensures that users can perform financial transactions at any time, day or night, including weekends and public holidays. This continuous access eliminates the constraints of traditional banking hours, providing unparalleled convenience and flexibility for managing finances and making payments whenever needed. The widespread adoption of digital payments in India has resulted in a notable reduction in government expenditure. This transition has led to significant cost savings previously associated with the printing and distributing of physical currency. While concerns have been raised by some economists regarding the subsidies provided to digital payment platforms, the Reserve Bank of India asserts that the shift to digital payments has effectively conserved resources that can be reallocated to other critical areas. Consequently, these accrued savings can now be directed toward other essential sectors, thereby fostering a more streamlined and economical operational framework.

Furthermore, the Universal Payments Interface (UPI) has been instrumental in simplifying the process of subsidy disbursement in India. The introduction of the direct benefit transfer (DBT) mechanism has enabled the direct transfer of

subsidies into the bank accounts of beneficiaries, reducing the scope for intermediaries and middlemen who could misuse funds, leading to corruption. Widespread UPI usage has also brought transparency to the entire process, thereby establishing a new level of trust among the users and the government. This has set a new benchmark for efficient governance in India, making it easier for the government to track the flow of subsidies and ensure that it reaches the intended beneficiaries.

Security Concerns and Fraud Risks

Despite its commendable features, enhanced efficiency and convenience, concerns about security risks and fraud persist. As instances of fraud increase, security concerns among UPI users rise as well. Multiple fraud instances on UPI platforms have been reported, ranging from phishing attacks and unauthorised transactions to fake UPI apps.

Phishing Scam: One of the most common forms of fraud is phishing scams, which are deceptive attempts to obtain sensitive information, such as usernames, passwords, and financial details. Typically executed through fraudulent emails, messages, or websites, these scams often mimic legitimate communication between banks, government agencies or popular online services. According to Tanla platforms, about 30 crore people are vulnerable to phishing attacks in India, and around 5 lakh people fall prey to it. Much dismayingly, only 7% of scam victims report the crime. This low reporting rate is often due to factors such as lack of awareness, embarrassment, fear of consequences, feeling overwhelmed, mistrust in authorities, lack of

immediate harm, privacy concerns, and the belief that they can resolve the issue on their own.

Fraud Seller: Posing as a trustful entity, fraudsters often deceive consumers on digital platforms. Creating fake listings, promising unrealistically low prices, or impersonating legitimate businesses. Targeting unsuspecting buyers, fraud sellers deceive them into making payments. This leads to financial losses for the buyer and defiles the credibility of e-commerce platforms.

Deceiving UPI handles: It has emerged as a concerning practice in the realm of digital fraud. Fraudsters often create deceptive UPI handles or fake UPI QR codes to deceive users. These fake QR codes redirect users to phishing websites or malicious apps that attempt to steal their sensitive information. Additionally, scammers frequently trick users into making transactions under pretences using fake UPI handles and accounts.

According to the Financial Ministry of India, in FY21, 77,299 cases of UPI fraud were reported in India (Financial Ministry Data, 2023). While in FY22 the number of cases climbed to 84,274 and 95,402 in FY23. The statistics imply that ensuring the security of UPI transactions is paramount in today's digital age. Users should adopt best practices, such as safeguarding their personal information, using strong authentication methods, and being cautious of phishing attempts and suspicious links.

The Digital Divide

India has emerged as a global digital powerhouse. Its influence reverberates across the global economy, shaping digital innovation and progress. Despite its rapid technological advancement, India grapples with the challenge of low digital literacy and an unfair digital divide.

The foremost reason behind this gap is the income inequality among the people of India. India's population is segmented into two distinct groups: those who have the means to access and afford technology and those for whom technology is too luxurious to even think of. The affluent sections of societies often tend to have the latest digital devices, and a stable internet connection around the clock enabling them to participate in the world of digital pursuit. On the other hand, the underprivileged continuously struggle to bridge this gap due to limited financial resources. This underprivileged section of society constitutes about 30% of the total Indian population. To back this statement, an assertion has been made from the Indian inequality report of 2022 stating that approximately 70% of the population has poor or no connectivity to digital services causing their exclusion from the digital world. The glaring disparity between the urban and rural domains is no secret to the world, their plight is particularly evident in the world of digitalisation. Urban areas generally enjoy better internet services and infrastructure as compared to the rural areas which often face challenges like poor network coverage and limited access to banking services. This plays a significant barrier in the widespread adoption of UPI in rural areas. The concept of UPI and net banking remains foreign to them and cash transactions remain by and large. As stated by the Reserve Bank of India in 2020, urban areas accounted for almost all of the digital transactions at 80% while the rural areas contributed a meagre 20%. Furthermore, data from the National Sample Survey Office (NSSO) highlights that internet penetration in urban areas stands at around 34%, significantly higher than the approximately 13% in rural areas. These statistics underscore the digital divide between urban and rural India, emphasising the need for targeted interventions to improve digital infrastructure and promote financial inclusion in rural regions, thereby facilitating the transition towards a cashless economy.

Government and corporate collaboration can essentially bridge the digital gap and promote inclusive growth by addressing the multifaceted challenges hindering digital access. Governments play a crucial role in policy formulation, creating an enabling environment, and investing in digital infrastructure. Meanwhile, corporations bring technological innovations, financial support, and industry-specific knowledge to the table. Public-private partnerships can promote initiatives such as subsidised devices, improved internet connectivity, and skill development programs. Together, these collaborations can foster a synergistic approach that is instrumental in narrowing the digital gap and building a more equitable and connected future.

Comparing UPI with Pix

UPI, the Unified Payment Interface from India and the Pix from Brazil both are electronic payment systems that share the common goals of increasing bank access and promoting cashless transactions among the public. While UPI is a decentralised payment system owned by the non-profit National Payments Corporation of India (NPCI) and regulated by the Reserve Bank of India, Pix owned and regulated by the Banco Central do Brasil (BCB) is a centralised system, whose adoption is mandated in financial institutions of Brazil.

Pix was launched in November 2020 to provide a fast, secure and 24/7 payment method for individuals and businesses. Its features include instant transactions, 24-hour availability, multiple identifiers, accessibility and QR codes. Within a short period after its launch, Pix managed to acquire 114 million users, covering about 67% of Brazil's adult population.

Despite having similar goals, the two systems differ in the range of services they provide. UPI offers a wide range of services to their users. Besides fund transfers, it allows bill payments, recurring payments, mobile recharge and booking tickets. New sets of services like credit lines on UPI, and UPI lite X allow users to make payments even in poor connectivity and bad networking areas. The most recent update by UPI includes UPI tap and pay, launched in September 2023, allowing users to have access to a quick mode of payment. While Pix is still in the process of updating its servicing beyond payment transfers. It focuses on providing a simplified and interoperable framework for instant fund transfers using unique identifiers.

The rapid adoption of Pix and UPI displays the potential of digital platforms among consumers domestically and even across borders. Both systems highlight the importance of innovation in payment technologies, offering valuable lessons for other countries looking to modernise their financial infrastructure.

UPI has put India at the forefront of real-time payment transactions worldwide with 260 million users to date."In 2024, UPI is projected to grow by 60% in terms of volume above 2023 UPI transactions; P2M (Person to Merchant) will continue to trend higher than that of P2P (Person to Person) transactions; P2M will be about 60% of the total UPI volume" said Mehul Mistry, Global Head-Strategy, Digital Financial Services & Partnerships, Wibmo, A PayU Company. With its widespread adoption and continuous innovation, UPI continues to remain a cornerstone of India’s digital payment landscape, driving financial inclusion and economic growth.

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UNLOCKING CONSUMER REALITIES:

THE PUZZLE OF DATA AND POLICY-SCIENCE NAVIGATION

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THE ILLUSIONS OF WEALTH: UNRAVELLING ECONOMIC SCAMS

- By Saachika Bhambri

Imagine being on a desert hike. The sun is shining brighter than ever. The water bottle you brought has been long empty. Your legs are on a limited battery. You're thirsty, you're close to giving up, you don't have an ounce of motivation left. Then suddenly you see a sign that says "Local Shop Ahead: Water Available."

You light up as you see a sign to carry on in the scorching heat. You gather all your body parts to cooperate and gain a certain amount of determination to walk up there to get supplies. You are not only sold a necessity but hope and a promise. You do whatever it takes to go there and recharge yourself- only to find out that the place never existed and you were deceived.

This is how scams work, the only difference being that the impact is much more adverse. In a world full of people running behind success and money, some people try to take advantage of such situations and fool them into something big known as financial fraud or scam.

A financial fraud happens when a person deprives you of your share of money or harms your financial health by using false information, misleading, or other illegal practices. This can be done through a variety of methods such as identity theft or investment fraud. Financial fraud occurs when someone takes money or other assets from you through deception or criminal activity.

This article dives deep into the act of financial scams and how it affects every aspect of someone's self and life. It examines the repercussions, causes, and underlying principles of three of the most financially disruptive scams across all seven continents worldwide.

THE HARSHAD MEHTA SCAM

At the beginning of the nineties, India experienced a financial drama that rocked its economic landscape known as the Harshad Mehta scandal. This scam, which some people term the securities scam of 1992, was an example of how a stockbroker and financial engineer took advantage of a loophole in a ready-forward (RF) deal.

Mehta's technique was deceptively simple yet devastatingly effective. Exploiting the RF deal, he manipulated the interbank lending system, artificially inflating the prices of select stocks and creating a facade of growing demand. This strategy attracted investors into the market, causing a sudden jump in the Bombay Stock Exchange (BSE) Index.

The revelation of the scam was made public by financial journalist Sucheta Dalal and her colleague Debashis Basu, who exposed the irregularities in the Times of India in April 1992. The release led to an immediate probe by government bodies and regulators.

The consequences were swift and severe, Mehta's fraudulent market crashed with him at its foundation and was destroyed instantly. Sensex peaked then fell to almost 2000 points by June 1992 which caused panic among many investors who had lost their money.

Legal proceedings followed with Mehta and his partners being charged with forgery, cheating, and financial crimes. Mehta eventually received a conviction and went to prison for one of the most famous financial scandals that have ever taken place in India.

Post introspection and reform, the weaknesses in India's regulatory system were exposed, leading to the establishment of The Securities Exchange Board (SEBI) in April 1988. The primary motive of SEBI was to secure oversight and protect investor interest.

The economic impact was profound causing billions to be wiped off market capitalization, investors to be confidence shaken, and enforcement regimes to be reviewed. Such a series of events emphasized the necessity of vigilant and proactive regulations to preserve stability, as well as integrity, in India's financial system.

THE SATYAM SCAM

India's corporate corridors were shaken by a scandal in 2009 by the founder of Satyam Computers, Ramalinga Raju. Formerly viewed as India's biggest business scandal, his involvement highlighted an elaborately devised scheme to tamper with financial records for sales, earnings, and headcounts.

Raju's confession led to the revelation of a meticulously planned scheme that involved the falsification of bank statements, fabrication of invoices, and inflation of customer numbers with a view of presenting rich financial health. The scam went beyond financial manipulations, as Raju also misappropriated company funds for personal use, further breaching trust and integrity.

The impact of the Satyam scam on the economy was significant with investors losing faith in corporate governance and thereby confidence in large capital markets. This discovery led to a massive decline in Satyam's stock affecting not just shareholders but also employees and clients. The news flash about this scandal shook the global business community and raised questions about whether corporations are overseen and audited effectively.

In response, the Indian government rapidly implemented reforms to address systemic issues. The Securities Exchange Board of India (SEBI) cued the regulatory authorities to alter the corporate governance norms. These reforms demonstrated a renewed focus on ethical business practices, disclosure standards, and independent oversight.

MADOFF INVESTMENT SCAM

Bernie Madoff, initially thought to be an honest money manager, put together the most colossal financial scheme in modern history, using the Madoff Investment Scam as his main vehicle. This cleverly crafted scheme which had been going on for decades resulted in the defrauding of thousands of investors and a loss that is estimated at tens of billions of dollars.

Madoff's fraudulent scheme, a stage-managed show of financial prosperity, was cleverly designed to deceive investors by portraying himself as a man of respect and honesty and thus gaining the trust of his investors.

However, to differentiate his Ponzi scheme from others, Madoff generated opportunities that provided relatively high returns but were not alien to the extent that they appeared incredible and unrealistic. Investors were lured into his scheme by the aura of credibility, which was also fortified by his rich experience in finance and the financial industry.

The core of the scam was the "Split Strike Conversion" strategy, a term that was the beginning of the attempt to conceal the true nature of the operation. As the strategy was allegedly based on purchasing stock from other individuals through the stock options, this gave the impression that there was something legitimate behind it.

Nevertheless, the investments and profits were a myth of reality. The scheme operated on a cycle of originality. To pay returns, new investments were used. The House of Cards given by the name of the Great Recession fell apart in 2008 primarily because a mix of mounting discharge demands and the global financial crisis spelled doom for it.

The aftermath of Madoff's scheme was horrific. A huge amount of the public including investors, individuals, charities, and institutional funds suffered significant financial losses. Bernie Madoff's name became inseparable from fraud and wealth. According to a New York Times article published in June 2009, Madoff was found guilty and sentenced to 150 years in jail for running the Madoff Investment Scam.

METAMORPHOSIS OF THE STOCK EXCHANGE: A QUARTER-CENTURY EVOLUTION

The Harshad Mehta Scam, as mentioned earlier, instilled shock waves in the Indian Stock Market, which reverberated across the financial landscape.

The unveiling of this financial scam, along with the abuse of banking rules, uncovered systemic weaknesses and made investors lose confidence. As a result, the reforms were followed by increased supervision that has left a lasting mark on the economic landscape of the country.

To combat this economic loss and prevent any possibility of similar happenings in the future, there were various changes and establishments made in the Indian Stock Market.

In 1992, the settlement cycle, representing the period for brokers to complete full payment and receive stocks or deliver sold stocks, was extended to 14 days. Currently, this cycle has been reduced to two days which is the T+1 system introduced by SEBI in 2021.

There were no regulations governing the minimum balance that customers had to maintain to purchase stocks. However, the current scenario mandates customers to have a minimum balance in their account to buy stocks or hold stocks in the Demat account for selling. This rule is instrumental in mitigating systemic risk, particularly from brokers who, in the past, prioritized business gains over risk considerations.

Back then, trade settlements were reliant on paper-based processes, introducing the potential for counter-party risks. Presently, the entire trade settlement process has evolved to operate through clearing corporations (CC), eliminating paper transactions. The contemporary system ensures enhanced security and efficiency as all transactions are conducted electronically, reducing the likelihood of counter-party risks associated with manual and paper-based methods.

With reduced customer risk, thanks to margin requirements and clearing corporations (CC), obtaining broker approval is no longer a prerequisite for opening an account, contrasting to the situation in 1992. Presently, individuals can easily open a trading account online with any broker in under 15 minutes, reflecting the streamlined and accessible nature of the process.

The trades were exclusively handled by dealers, posing a significant execution risk. Nowadays, the majority of the trades are executed directly by customers themselves, reducing reliance on intermediaries and mitigating the inherent risks associated with dealer-based execution methods.

Back in 1992, customers were generally uninformed, and they incurred a brokerage fee of at least 1 percent for equity delivery trades. Contrastingly, in the present scenario, there are no charges imposed for such trades.

Finally, dealers would manipulate prices, providing customers with different figures than the actual trade price to pocket a cut. Nowadays, the process has become entirely transparent, eliminating such practices and ensuring a fair and clear representation of trade prices for customers.

THE CATACLYSMIC IMPLICATIONS OF FINANCIAL FRAUD

Financial frauds lead to havoc across economic, societal, and personal domains, leaving enduring scars on individuals and institutions alike. Such high-profile scandals reveal the dire consequences of deception and malpractice.

ECONOMIC IMPLICATIONS

Commencing with the impact of financial crimes on public finances, there are substantial repercussions, leading to noteworthy reductions in government tax revenues, and tax evasion emerging as a major contributor to financial losses. According to the Tax Justice Network findings, the global annual tax revenue loss due to evasion is estimated to reach a staggering US$312 billion, roughly equivalent to the entire GDP of the Philippines. This persistent loss severely hampers governments' capacity to allocate funds for crucial services such as healthcare, education, and infrastructure development.

In addition, financial crimes such as fraudulent activities and money laundering represent economic challenges for businesses. A report from the Association of Certified Fraud Examiners (ACFE) reveals that organizations face an annual loss of approximately 5% of their revenue due to fraud, totaling about $3.6 billion each year.

Financial offenses destabilize markets, erode investor confidence, and hinder business expansion. Vulnerability to such crimes deters investment, hampering economic growth and competitiveness. Weak anti-money laundering measures exacerbate these challenges, impacting global development. Furthermore, financial crimes also affect how incomes are hared and hamper efforts to fight poverty.

In countries where financial crimes take place, the benefits of economic growth tend to show partiality. Needless to say, these crimes can retard the achievement of the Sustainable Development Goals (SDGs) as they hamper efforts to combat poverty, promote economic growth, and curb corruption.

SOCIETAL IMPLICATIONS

Financial crimes extend beyond economic consequences, notably impacting victims through the erosion of public trust in institutions. These crimes can undermine the legitimacy of financial systems, governments, and other entities, diminishing public confidence. In a 2023 Edelman Trust Barometer survey, only 39% globally trusted their governments, and 42% trusted the media.

The erosion of trust has significant implications for political stability and social cohesion, making communities more vulnerable to populist and extremist movements. This also contributes to political polarization and social unrest.

Such financial frauds, as highlighted in a seminal 1998 IMF study titled 'Does Corruption Affect Income Inequality and Poverty?' are associated with income disparities and social unrest.

The research provided empirical evidence that countries experiencing high levels of corruption also witnessed a substantial increase in income inequality. The pandemic not only aggravated this problem but also led to a massive increase in the number of people who dropped below the extreme poverty line - roughly 120 million people. Economic inequality retards economic growth which hinders the process of distributing resources equally and provides opportunities to only a handful of people.

Such economic offenses also pose a critical threat due to their association with illicit activities like organized crime and terrorism. Money laundering, fraud, and bribery often fund these dangerous pursuits, leading to severe global security implications. These illicit funds can support the drug trade, human trafficking, and terrorist activities, with drug traffickers alone earning 1.1 to 2.1 billion dollars annually, as reported by the UNODC.

PERSONAL IMPLICATIONS

Financial misconduct can inflict intense results on individual sufferers, leading to a loss of assets, financial savings, and belongings. Those targeted via scams and fraud frequently bear monetary setbacks which might be tough to overcome, culminating in financial ruin or monetary break. In 2020, the FBI disclosed that sufferers of internet crime reported remarkable losses surpassing 10.2 billion dollars, highlighting the massive and on occasion irreparable impact on individuals.

These crimes also cause substantial harm to the professional and business reputation, particularly within the financial sector. A single incident like this can erode years of trust, leading to client loss, revenue decline, and missed business opportunities.

Individual professionals, including accountants, lawyers, and financial advisors, may have to suffer professional sanctions, fines, or license revocation for even the slightest involvement in any such financial crimes. In March 2023, the US Securities and Exchange Commission (SEC) charged Miami-based investment adviser BKCoin Management LLC. The firm allegedly misused approximately $100 million raised from 55 investors between October 2018 and September 2022, intending to make Ponzi-like payments for personal use instead of investing in crypto assets as promised.

CONCLUSION

Financial fraud, a deceptive practice that undermines the integrity of financial systems, has a long and intricate history intertwined with the evolution of human economies. From the fraudulent schemes of ancient Rome to the intricate Ponzi schemes of the 20th century, the story of financial fraud is an indication of the perpetual battle between human ingenuity and the ethical boundaries of financial dealings.

They have consequences that affect both broader societal structures and individual circumstances, such as diminished revenues, diminished public confidence, personal financial setbacks, etc. as discussed above. However, such crises also lead to regulatory reforms that depict a commitment to prevent any such crimes in the future By learning from past mistakes and embracing ethical principles, we can mitigate the impact of financial fraud and foster a more trustworthy and equitable financial landscape.

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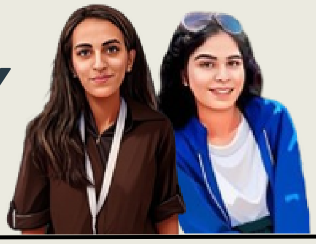
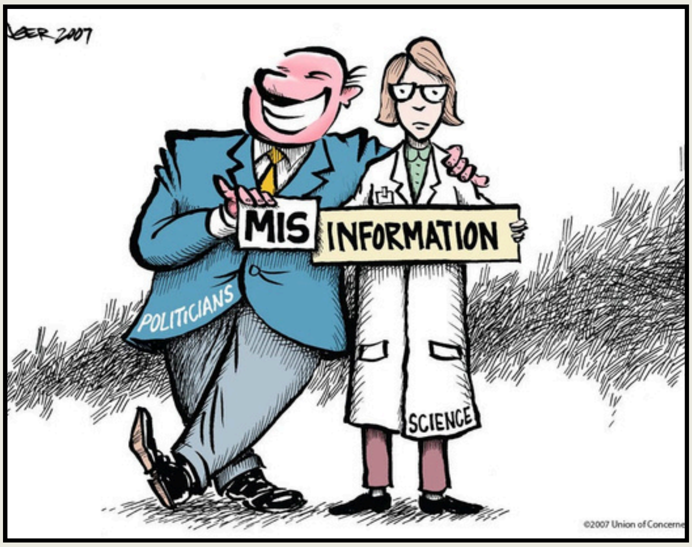
"NAVIGATING THE NEXUS": INTEGRATING SCIENCE AND POLICY FOR SUSTAINABLE DEVELOPMENT



- By Divyansha Batra & Riddhima

In a world that is divided by race, religion, caste, sex, ideologies, borders, and various other differences, civilization came up with constantly evolving concepts like laws and policies to keep humankind safe and secure and to contrive the need to regulate what generally constitutes acceptable behaviour in a civil society. Policy, which is a detailed system of guidelines, laws, regulatory measures, courses of action etc. is a statement of intent that seeks to be implemented as a procedure or protocol by a government entity in government or non-government-related sectors.

Another such rapidly developing concept that is constantly dictating how we live, do, and be certain things is science. In the ancient past, a simple fever was almost always life-threatening at best, and certainly deadly at worst. Today, with the evolution and modernity of medicine, a prominent branch of science, people are known to survive worse, more dangerous ailments.



The term "green jobs" gained popularity in the early 2000s, particularly in the context of discussions around sustainable development and the transition to a low-carbon economy. While it's difficult to attribute the coining of the term to a single individual, it gained significant attention through reports and initiatives from organizations like the United Nations Environment Programme (UNEP) and the International Labour Organization (ILO).

Green jobs exist in various sectors, with renewable energy leading the charge. The renewable energy sector, including solar, wind, and hydroelectric power, has grown remarkably, due to technological advancements and increased global commitments to decarbonization. Notably, sectors like sustainable transportation, energy efficiency, and waste management are also experiencing significant expansion, as governments and businesses prioritize sustainable development goals.

Countries around the world are adopting green jobs as a means of achieving sustainable development. Green energy investments in India, for example, have increased dramatically, propelling the country to the top of the list for green energy capacity expansion. Furthermore, programs supporting sustainable transportation and afforestation projects are on the rise, indicating a deliberate push for a greener economy.

In order to solve social concerns and make evidence-based decisions, there must be a link between science and policy. Since science provides data, facts, and study findings, it is essential to policy choices. In order to ensure that policies are founded on facts rather than conjecture, policymakers rely on scientific evidence to comprehend the possible outcomes and repercussions of their actions. With the intention of fostering trust and having an impact on decision-making in any policy area, it is important to comprehend the intricate relationships between facts, values, emotions, and policy decisions. Some of the most difficult areas of evidence-based policy-making are healthcare, vaccinations, and climate change. Policies may help turn scientific discoveries into useful applications that advance society. Thus, we may state that in the absence of coordination and collaboration of these two wheels, the economic bicycle will fall.

The relationship between science and politics is immensely complex and interdependent. Science often finds itself in need of government support to fund research, implement results in ways that matter, and usually hope to lead toward positive changes in the community. Politics, on the other hand, needs science to deliver the best possible medical and social care that informs policy. The productive union of science and politics can foster good societal improvements like the eradication of disease, betterment in healthcare, and evolution of living conditions.

The interrelation of these two concepts is obvious and understandable as they share one common goal: to improve the lives of the people. Most recently, the COVID-19 pandemic is an instance that has demonstrated the dynamic relationship between science and policy where scientists and doctors worked together with governments to manage a global crisis that claimed many lives.

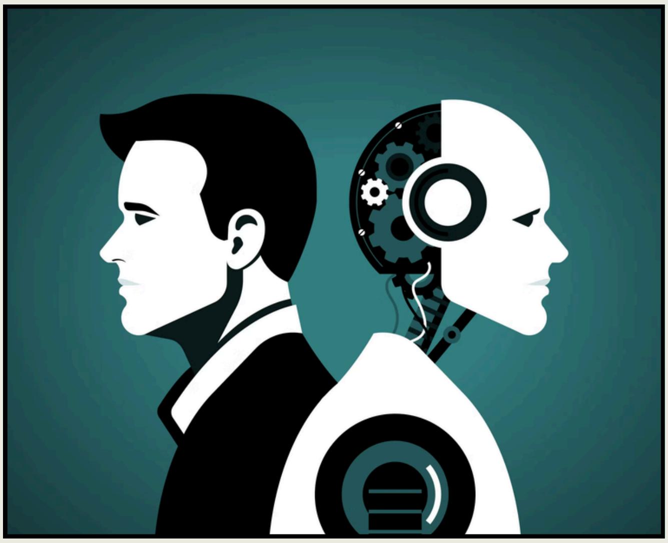
Every citizen of every country in the world turned to their government to keep them safe, secure, and alive as the government relied on science to develop vaccines and similar preventive measures and policies that they mandated to keep the death toll from rising. However, with increasing waves of anti-vaccine and anti-mask movements and beliefs, science denial is dangerously responsible for many preventable deaths and is detrimental to several vulnerable demographics. In a day and time where misinformation is rampant and spreads about three times faster than true information, policymakers should implement policies that seek to combat the widespread wave of misinformation that endangers lives and puts people at further risk. The policies should work to educate the masses in meaningful ways and deter misleading medical claims, in addition to ensuring that scientific insights are at the forefront of medical and healthcare policies, ahead of religious or political bias.

Consequently, when politics intimidates science, dreadful consequences ensue, often at the expense of the citizens. The scientific research finds itself being increasingly stifled and heavily censored, which leads to mistrust from the community, a weapon that is further used to drive wedges and disagreements between people. An infamous instance of the woeful collision is the overturning of the Roe v Wade ruling by the US Supreme Court in 2022. This ruling criminalises abortion and imposes heavy policing of personal and political beliefs on women in the country. Countries like the Philippines and Palau have extremely prohibitive legislation that hurts victims of rape and those at the short end of life-threatening health conditions by denying them the right to terminate pregnancies. Going against scientific evidence to politicise healthcare choices endangers lives by encouraging unsafe back-alley procedures that do not prioritise safety and hygiene.

This societal disconnection between the researchers and the policymakers has paved the way for the science and policy gap. The science and policy gap is the discrepancy or lack of alignment between the scientific knowledge, advancements, or recommendations available and the corresponding policies or actions taken by governments, organisations, or society at large. Thus there exists a requisite for ''bridging the gap" to address complex societal issues and achieve sustainable development goals.

The first challenge related to the disconnection and fragmentation of science and policy-making is the difference in the timelines of scientists and policymakers. Scientists often take ages to derive a conclusion through rigorous and patient analysis whereas the policymakers require quick responses for societal welfare.

In a 2018 survey conducted in Sweden among 18,000 researchers and postgraduate students, it was found that two-thirds of the 3,700 researchers who responded considered policymakers and politicians as the most crucial audience for communication. However, despite this acknowledgement, policymakers ranked only fifth among the groups with whom the respondents had communicated in the past year. This disparity highlights a significant challenge: time constraints leading to a communication gap.



Besides, there is yet another form of communication gap which is technical jargon which means the specialised language used by experts in a field, such as acronyms, abbreviations, and terms that most people are not familiar with. It is often observed that policymakers face difficulties in fully comprehending and translating highly technical and specialised language into actionable policies.

Leading international organisations, such as the United Nations Environment Programme Member States have long recognized the necessity for developing a dynamic research and policy interface and have pushed for more direction through the following decisions and resolutions:

United Nations Environment Programme Governing Council decision 27/2:

“Decides that the governing body of the United Nations Environment Programme will promote a strong science-policy interface by reviewing the state of the environment....” and *“requests the Executive Director to identify critical gaps and present a report, with recommendations, to the governing body”* (United Nations Environment Programme 2014a p. 17).

United Nations Environment Assembly (UNEA) 1 resolution 1/ 4: *“reiterates the request to the Executive Director to submit a gap analysis report on environmental data, information and assessments as well as recommendations on policy instruments for a strengthened science-policy interface to the United Nations Environment Assembly at its second session”* (United Nations Environment Programme 2014b).

The relationship between science and policy was often seen as a linear school of thought and action wherein science conducts research, collects data, and presents its findings to government agencies who then make use of the evidence and reports presented to determine the best and most suitable course of action for policy.

However, as we discussed above, this association is known to be more complex than that. Scientific data, while being an immeasurably useful source of information, can and has often conflicted with political, ethical, and economic values and sentiments.

For instance, let's say there is a lake which houses an endangered group of aquatic life which is at risk of extinction within less than a decade. The politicians and policymakers of this area may face a conundrum between preserving the ecosystem of the lake that preserves the life inside it, using it to irrigate the nearby farms, or allowing the locals to use it for recreational or tourism purposes. All of these choices carry ethical, political, and economic ramifications.

A most recent example of the importance of policy intervention in the scientific world would be the rise of Artificial Intelligence (AI) and its upsides and downsides for the world. Initially created to be an electronic helping hand that automates tasks that are usually too composite or time-consuming, it also has been praised for improving efficiency and accuracy and has also been credited with improving productivity and work rate in many industries and fields. However, every rose has its thorn.

At its best, AI has been rightly blamed for job displacements in various fields where automation was sought to perform the tasks of the workers, leading to the loss of jobs and rising rates of unemployment. At the worse end of the spectrum, AI has been used by people to create deep fakes, which is a synthetic media that is digitally manipulated to replace one person's likeness with that of another in a convincing manner.

The internet has seen a rise in several computers or artificially generated images of human subjects, which are, more often than not, without the consent and/or knowledge of the subject or person.

They gathered widespread attention for their apparent use in creating sexual abuse and pornographic material, in addition to hoaxes and fake news. The creation and circulation of AI-generated explicit pictures by her classmates pushed a 14-year-old girl in the UK to suicide.

Most recently, American celebrity artist Taylor Swift became the high-profile target of nonconsensual sexually explicit deepfake images made using artificial intelligence. Her celebrity status helped garner significant attention to the issue in the public eye and many voices asking the law and policymakers to step in were amplified.

An ethical obligation should be undertaken by both the social media companies and the policymakers that penalises and punishes the spread of digital hate and online abuse in the shape and form of non-consensual explicit imagery of real people and work towards keeping social media, a gift of science and technology, safe and secure for all its users.

In conclusion, the intersection of science and policy is a crucial gateway to address societal challenges that constantly arise and shape a future that is safe and sustainable. Bridging the gap between the two is improbable with never-ending conflicts and differences in people.

However, it is not impossible with effective communication and decision-making that prioritizes evidence. If scientists and policymakers practice honesty and transparency in their communication, the masses will be more open to trusting external sources when putting in their votes. The addition of significant real-life issues in school and college syllabi and curriculum can also help in spreading awareness among the youth and make them more informed.

When scientific evidence finds itself at the forefront of decision-making in medical and healthcare matters and strict policies that safeguard the users' interests are imposed on unregulated digital and online harassment, the world might truly begin to change for the better and humanity can lead towards a brighter and sustainable future.

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THE INFLUENCE OF DATA: SHAPING OPINIONS AND CHOICES

- By Rashi Diwan

We live in a data-driven world. Every opinion formed and every choice made today is influenced in one way or another by data. Data possesses the power to shape our perspectives and guide the decisions made by us in various aspects of life.

Apart from having the potential to sway the decisions of consumers, data provides valuable insights and challenges existing beliefs by presenting a clear picture of the society and economy and the implicit correlations. Hence, in order to better understand how information shapes our lives, it becomes crucial to first grasp the impact of data on our opinions and choices. This article explores the same by shedding light on how data shapes our perceptions and drives the decision-making process of an individual as well as the masses- be it voters deciding whom to vote during elections, a parent purchasing breakfast cereals for their children, or a businessman making strategic decisions for company expansion.

Studies have shown information, and its representation, have a significant impact on how viewers perceive facts and form opinions. Nicholas H. Lurie & Charlotte H. Mason(2007) in their article, Visual Representation: Implications for Decision Making, identified key aspects of visual representations that are likely to affect the visual decoding process and influence the final calls of decision-makers.

With a major focus on visual perspective and information context, the authors found that decision-makers' behaviour in the managerial arena varied with varied representations of information.

On a similar note, Rodger and co.'s (1987) examination of cognitive processes used by loan officers and MBA students to reach loan decisions found that conceptually driven, for example, a student relying heavily on the case information and overriding their perceptual biases in response to the demands of the task i.e. deciding to award or not award a loan, and data-driven perceptual biases, example a student deciding to take a loan based off the loan company's exceptional past performance, caused different assessments of loan information. This, in turn, resulted in divergent decision outcomes.

It's evident from pre-existing literature that data plays a crucial role in shaping our choices and decisions. However, when data is collected, assessed and presented in a skewed or incomplete way, it can lead to distorted interpretations of reality in the mind of the reader and influence their perceptions. This sort of manipulation can have far-reaching consequences specifically when it comes to major data-driven decisions.

Policymakers rely heavily on data to base their actions, and manipulated or misrepresented information can lead to inefficient policy formulations based on inaccurate premises. This applies specifically to the public policy sector. Accurate data allows policymakers to understand the situation's specifics and identify the key issues that need addressing. In sectors like health care and rural development, where accurate and reliable data is paramount, the repercussions of decisions based on manipulated or poor-quality data can be particularly severe.

Similarly, companies collect vast amounts of data on their existing and potential consumer base to create targeted advertising campaigns and customer relationship management (CRM) strategies. With misinterpreted data, consumers can be misled to make decisions that do not align with their respective preferences.

Even et al’s (2010) study involving optimization model for aiding cost-effective data management for Consumer Relationship Management found that data defects can prevent managers and analysts from having a “real picture of customers and their purchasing preferences, which can significantly affect marketing efforts that will not produce the expected results and lead to poor decisions’’.

Data manipulation can have a considerable impact on electoral outcomes as well. Misinformation and targeted advertisements have been used increasingly to create false narratives and exploit biases in the minds of the masses. This is done with the aim of altering beliefs and swaying voter opinions towards the likes of particular candidates.

Policies formulated to combat such misinformation oftentimes erode the autonomy of common citizens. Schea et al’s (2020) paper, which evaluated the threat of digital technologies being used to undermine the democratic processes of Finland, the United Kingdom and Norway concludes on a similar note on how “the lack of transparency characteristic of today’s large digital platforms has made measuring the societal impact of disinformation accurately almost impossible”.

In India itself, the spread of misinterpreted data peaks, especially during elections according to Jain and Bandhakavi (2021). A case study of Indian elections done in Deepak et al’s book, “Data Science for Fake News,” (2021) highlighted the rise of misinformation especially on WhatsApp and Facebook.

Manipulated data relating to employment, education and socio-economic issues like caste, often simplified in visual forms to appease the viewer, is circulated on these platforms exacerbating existing societal divisions. Oftentimes, allegations have been made against governments across the world, accusing them of interfering with and manipulating data, to perform well in international indices and appease the public.

In all the above cases, how data is presented matters phenomenally. It greatly influences how we perceive and interpret information. Effective visualisations can cut through the noise, highlight patterns and relationships, and guide the viewer's attention to the most crucial insights.

Data presentation and inference have psychological aspects as well. People tend to accept evidence and interpretations that support their preexisting beliefs. They may look for any evidence that supports their predetermined conclusion and stop once confirmation is obtained. This is also known as *confirmation bias*.

In contrast, individuals are suspicious of data that contradicts their preferences and views. They examine contradictory assertions more closely and search for grounds to reject their veracity. This nature is often exploited by data presenters looking to mislead the audience. Data, in its graphical form, is manipulated to fit the desired narrative, leading individuals to draw incorrect conclusions based on biased information. On the other hand, pre-existing biases in the minds of individuals also lead to misinterpretation. For example- Confirmation bias can lead individuals to interpret data selectively to match their existing beliefs, even when faced with contradictory evidence, hence reinforcing those beliefs.

Similarly, selective attention causes individuals to focus on information that supports their beliefs while disregarding conflicting information, ultimately reinforcing their worldview by filtering out opposing viewpoints. Furthermore, individuals may also exhibit motivated reasoning, wherein they engage in a biased evaluation of evidence to support their desired outcome or conclusion, which further ends up with them making misinformed decisions and choices.

These principles and biases, both from the end of the presenter and the audience, play a significant role in the overall effectiveness of decision-making and may trap the decision-maker in a loop of inefficiency and poor judgment.

With rapid technological advancements and the advent of artificial intelligence, accurate and transparent data presentation has become even more critical. AI with its increasing importance in big data and data analysis, can have a significant impact on decision making. Data collected by AI often contain errors and biases, which can lead to incorrect conclusions if not properly addressed. Khatib and Falasi, 2021 in their paper ‘Effects of Artificial Intelligence on Decision Making in Project Management’ explore a similar theme.

Working with secondary data, they found that while the possibility of risk identification with the help of AI helps in making quality decisions, there were instances where conclusions drawn with AI were in fact not as accurate.

The impact of data on forming perceptions and driving decisions cannot be underestimated in today's data-driven society. From consumer preferences to election results and policy choices, data is critical in influencing individuals and organisations.

However, it is critical to recognise the risk of data tampering and misunderstanding, which can result in skewed perceptions and biased decision-making. In essence, while data holds immense potential to inform and empower, it also necessitates a critical and discerning approach to its interpretation and application. By fostering data literacy and promoting transparency in data presentation, we can harness the full benefits of data while mitigating its risks, ultimately enabling individuals and societies to make more informed, equitable, and effective decisions.

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UNLOCKING THE POTENTIAL OF DATA-DRIVEN DECISIONS IN CAPACITY BUILDING INITIATIVES

- **By Rashi Diwan**

The twenty-first century is the age of evolving and inventive technology. In a world where nearly all information is instantly accessible, data- whether it be user or enterprise-specific, has significant importance. Understanding people's actions through analysis and inference of the trends in this data holds potential for companies and governments to make informed decisions and formulate policies.

India, in its recent G20 presidency, put a significant emphasis on the cruciality of empirically sound decisions for development policies. On the assumption of its G20 presidency, India announced that the principle of 'data for development' (D4D) would be integral to its tenure. The recognition of the transformative potential of data-driven approaches in addressing developmental challenges and advancing sustainable solutions on India's behalf came amidst the shift towards digitalisation strengthening decision-making and policy outcomes globally, especially during the COVID-19 period.

Several policies like NITI Aayog's National Data and Analytics Platform (NDAP), drafts of the National Data Governance Framework Policy (NDGFP), and the Digital Personal Data Protection Bill etc highlight India's commitment to using data for development. The concept of 'data for development' (D4D) emphasises the importance of harnessing the power of data to unlock new insights, optimise resource allocation, and maximise the impact of development efforts. A data-driven approach to development signifies a paradigm shift towards evidence-based decision-making and policy formulation, leveraging data and analytics to inform strategies, prioritise interventions, and measure outcomes.

The aim of this article is to explore the transformative potential of data in decision-making processes especially when it comes to initiatives like capacity building. One of the many significant uses or applications of data in development is the use of inference and analysis in capacity building. In the realm of capacity building, the application of data-driven strategies holds immense promise. The recent influx of studies from around the world showing the positive influence of data-driven decisions for capacity initiatives only backs this proposition.

Capacity building at its core can be explained as the process of improving one's capability to perform, produce or implement. The Organisation for Economic Co-operation and Development - Development Assistance Committee defined capacity development as "the process whereby people, organisations and society as a whole unleash, strengthen, create, adapt and maintain capacity over time." Engaging in this process is called a capacity-building intervention. Capacity is understood as "the ability of people, organisations and society as a whole to manage their affairs successfully".

The term is used pervasively in multiple sectors such as banking, legal, international affairs, education, development, public health etc.

The landscape of developing capacity-building initiatives is evolving and has undergone significant progression, especially with the advent of technology. Traditional approaches focused primarily on training and skill development. However, a broader perspective emerged in the 1980s, emphasising institutional development across government, public, and private sectors, as well as NGOs. The UNDP played a pioneering role in this evolution, offering guidance on institution-building since the 1970s. Today, capacity-building remains central to development efforts, incorporating a more holistic understanding of capacity, encompassing institutional strengthening, knowledge management, and adaptive learning.

With this shifting arena incorporating an increasing number of factors for capacity-building initiatives, the importance of data-driven approaches has emerged as a significant cornerstone, making the initiatives more effective by maximising efficiency from impact measurement and offering valuable insights.

According to a statement by UNESCO[2010] capacity building must be understood not only as human resource development but also as organisational and institutional development. Hence, the importance of data for capacity initiatives emphasises both individuals as well as corporations and governments. A recent report by McKinsey & Company (2022), highlighted the importance of process insights, which involve capturing the activities that comprise a process and enabling rapid diagnosis and documentation, further enhancing the effectiveness of data-driven approaches for capacity building for operations and employees.

With an accurate end-to-end picture facilitated by process insights, companies can derive actionable insights and ultimately improve or reengineer the capacity-building process.

In addition to the McKinsey report, numerous studies and research papers have shed light on the potential of decisions driven by data in capacity-building initiatives, especially in the education sector. Research conducted on the use of data-based capacity building within the teaching community by Datnow & Hubbard (2015), showed the transformative potential of data-driven approaches in enhancing educational outcomes. By analysing student performance data, educators can identify areas of improvement, tailor instruction to individual needs, and track progress over time.

Similarly, a study conducted by Cook et al. in 2008 on Internet-based learning in the health professions found that capacity-building interventions including internet-based instruction and manuals greatly improved the knowledge and skills of medical professionals compared to no intervention.

By collecting and analysing relevant data, organisations and governments can gain a comprehensive understanding of the challenges faced by communities- be it employees of marginalised sections like women and children.

A study conducted by Raikes and Co., 2021 in Sub-Saharan Africa on early childhood development (ECD) programs found that countries like South Africa and Rwanda demonstrated effective data-driven projects in early childhood education (ECE).

Impact reports from various forms of ECD programmes have illustrated significant gains in cognition (Woldehanna and Gebredhin, 2002) and language development and communication skills (Burchinal et al., 2000).

In South Africa especially, it was found, by Biersteker 2017, that non-centre, home-based programmes (including health, nutrition, welfare, protection and psychosocial support) for caregivers and children are effective from birth to 5 years of age. Quality ECD centre programmes are most effective from 18 months to 5 years of age; playgroup programmes with high-dose inputs aligned to school readiness are most effective from 3 to 5 years of age; and ECD practitioner and whole centre/school training and support are most effective for the beneficiary children from 3 to 9 years of age.

The encompassing potential of data in capacity-development plans is not only promising but also impressive in the sense that, with the help of data, many aspects of results observed from impact measurement are now much easier to decode and can be implemented with a new perspective to the capacity-building programs, thereby establishing a robust empirical and

analytical feedback-oriented policy formulation cycle. Hence, when it comes to accurate impact measurement, data provides the foundation for objective evaluation, allowing for a comprehensive assessment of program effectiveness, efficiency, and sustainability.

In his book Data-Driven Policy Impact Evaluation, author Pedro S Martins, 2019 illustrated the strong interplay between policy, data and (counterfactual) evaluation with an illustration from a key social and economic area —the labour market by taking the case study of the design, implementation and evaluation of Convocatórias, an Employment Activation Programme in Portugal.

Similarly, when it comes to targeted capacity-building interventions, data serves as the linchpin for informed decision-making, strategic planning, and continuous improvement driving tangible progress and outcomes. By leveraging data analytics and evidence-based insights, resource allocation can be optimised, interventions prioritised, and capacity-building programs tailored to the specific needs and contexts of target communities.

For example, a study by Abhishek Malhotra, a faculty at the School of Public Policy, Indian Institute of Technology Delhi, on institutional capacity building for climate and sustainable development goals in India, showed that the Bureau of Energy Efficiency's programs to promote energy efficiency in household appliances, light-emitting diode lamps, and energy-intensive industries, formulated based on pre-existing data, resulted in significant energy savings and CO_2 emission reductions. This demonstrates the transformative impact of data-driven capacity-building interventions on achieving developmental goals in countries like India.

In line with empirical analysis, predictive methods also play a crucial role in proactive capacity building and impact measurement by using pre-existing data and algorithms to forecast future needs and behaviours of variables in play. Predictive models enable efficient anticipation of challenges, identify needs and opportunities for intervention, and allocate resources effectively. Predictive analysis hereby enhances the effectiveness of capacity-building initiatives.

Another significant point of discussion when it comes to the potential of data for development is the growing abundance of big data. The era of big data presents unprecedented opportunities for driving positive change through policy interventions and capacity-building initia

This wealth of data, collected from diverse sources such as social media and sensors, provides valuable insights into human behaviour, societal trends, and environmental patterns.

Big data also facilitates evidence-based decision-making, enhances transparency, and fosters citizen engagement. But with big data comes bigger threats (intentional spider verse reference). Data privacy, security, and ethical use of information become crucial priorities when it comes to leveraging the power of big data.

In essence, the transformative potential of data in decision-making processes, particularly within capacity-building initiatives, cannot be overstated. From India's emphasis on empirically sound decisions during its G20 presidency to the evolving landscape of development capacity building, data-driven approaches have emerged as a cornerstone of effective policy formulation and program implementations.

As evidenced by numerous studies and research papers, data-driven capacity-building interventions have demonstrated significant impact across various sectors, from education to healthcare to sustainable development.
It would be safe to conclude that the potential of data for development is undeniable and holds the key to deriving innovative and sound decisions for addressing complex challenges.

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THE ECONOMIC PLAYBOOK

HOW SPORTS DRIVES ECONOMICS

Section Editor - Rhea Pandey
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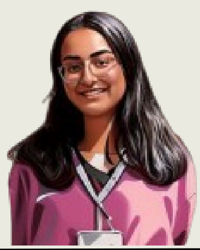
MONEYBALL REVISITED: THE ANALYTICS REVOLUTION IN SPORTS ECONOMICS

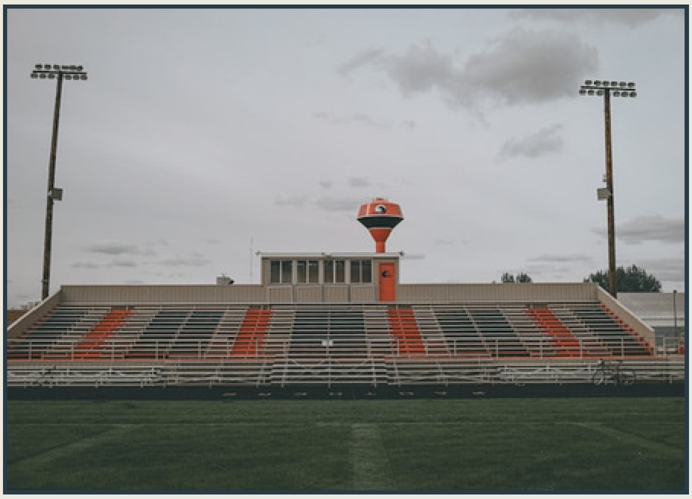


- By Rhea Pandey

How Sports Leads The Analytics Revolution

Sports analytics can be understood as the practice of conducting data analysis methodologies in different sports scenarios which is done to improve player performance, amplify team strategy, and boost the overall fan experience. Further, it can be divided into two streams: Descriptive and Predictive Analytics. The former deals with summarizing the sports data using statistics and numbers, while the latter is concerned with making predictions using the sports data. In India, sports analytics is gaining momentum, especially in fan-favourite sports like cricket where data is widely used to examine player performance, predict match results and build strategies for effective gameplay. The significance of sports analytics in India is highlighted by the country's increasing potential to become a global leader in this field. With a rich sporting history and a fast-growing tech-sector, India is well-positioned to leverage data-driven training practices to improve its athletes' performance. In addition, there is a rising demand for sports analytics professionals since more teams and organizations are on the lookout for expanding their in-house capabilities. This technique of data-driven decision-making is revolutionizing the sports industry by allowing teams and coaches to make well-informed decisions based on empirical evidence rather than intuition alone. This approach includes everything from optimizing player performance and injury prevention to talent identification and strategic game planning.

The advent of sports analytics in India builds the foundation for data-driven informed decision-making in the sports industry. Though it is still in its infancy stage when compared to global standards, Indian sports leagues, teams, and clubs are steadily leveraging data analytics to gain a competitive edge. For example, in 2019, the Indian Cricket Board BCCI began its agreement with a UK-based tech company STATSports to make use of their GPS-driven performance tracking and analysis. The deal saw a high-resolution unit embedded in a base layer vest of the players to monitor their workload. The emergence of advanced technology such as AI, machine learning, and cloud computing is transforming how performances are analyzed and gameplays are devised. Sports leagues such as the Indian Premier League (IPL) have been at the forefront of this growing trend, taking advantage of data analytics for player performance analysis, player recruitmentan, and examining fan engagement. Teams effectively exploit data analytics to conduct a SWOT analysis, enhance training techniques, and modify on-field tactics. The use of wearable technology and biometric sensors further aids in monitoring player health and fitness, contributing to injury prevention and recovery. The rising adoption of such tools in the Indian sports industry is a testament to the growing demand for sports analytics professionals and the initiation of dedicated centres for sports research and analysis, similar to the one established at IIT Madras. This trend has been elevated with the success of domestic games and the soaring awareness of the need for evidence-based decision-making in sports.



Sports analytics has become an integral part of the modern sports industry, transforming various aspects from player performance to fan engagement. Data analytics allows for a comprehensive examination of player on-field tactics, thus providing conclusions for various metrics including speed, agility, endurance, and skill accuracy. Professional leagues are witnessing increasing use of machine learning technologies for making predictions about player health and performance, analyzing potential skill or net worth, and predicting game outcomes. This data is highly useful to athletes, their coaches, and trainers, for identifying their weaknesses and working on their areas of improvement. This further leads to refined gameplans and optimized training regimes which enhance the overall performance of players. Further, sports analytics plays a significant role in injury prevention and management by scrutinizing player movements, identifying physical stress levels, and developing effective strategies to shrink the risk of injuries and command faster recovery. Moreover, data analytics is used in talent scouting to recognize promising players by conducting a thorough analysis of their performance in previous matches to assess future success rates.

Coaches and teams are the major stakeholders in gaining advantages of data analytics in sports. They procure insights into opponents' playing tactics and assess their SWOT analysis. This data enables them to build a prudent game strategy and make in-game calculated adjustments based on real-time data, thereby elevating the success probability on the field. Such analytics also lead to informed decisions on player selection and tactical formations, thus allowing a judicious upper hand during matches. Data-driven fan engagement is transforming how fans experience sports. Digital ticketing and biometric checking systems on stadiums fabricate analytics that aid teams in assessing who their audience is and fan loyalty. By evaluating fan preferences, behaviours, and sentiment data, sports organizations are able to offer targeted content, exclusive promo codes, and offers, and enhance the interactive experience to resonate with their fan base. This customized approach not only improves the ‘live game’ exposure but also opens up new revenue-generating opportunities through augmented sponsorship, merchandising, and branding deals.

In football, for example, statistics and data analytics play a crucial role in shaping winning tactics and strategies. They provide a comprehensive, judicious, scientifically proven, and statistically correct analysis that forms the basis for prudent decisions about player selection, scouting, and in-game tactics. By analyzing metrics such as pass accuracy, shot placement, and player movement, coaches can pinpoint strengths and weaknesses, both individually and collectively. Data analysis facilitates player evaluation, identifying those who excel in specific positions or circumstances. This leads to better-informed selections and wise adjustments. For instance, Expected Goals (xG) offer insights into the likelihood of a shot resulting in a goal, based on various factors including shot location which the coaches can exploit meticulously to conclude if players are underperforming or overperforming. Not only this, statistics are instrumental in match analysis, helping teams prepare against opponents by understanding their playing patterns and vulnerabilities. This strategic edge is crucial in a sport where martial gains can be the difference between the victory and defeat. Training and conditioning programs also benefit from data analytics, ensuring that players are at their peak physical condition and reducing the risk of injuries. As the sport evolves, the role of statistics will only grow, with AI and machine learning providing even deeper insights, making data analysis an indispensable tool for soccer teams aiming for the top.

Sports analytics have significantly impacted various sports in India, providing insights that help teams and athletes improve their performance. In cricket, companies such as SportsMechanics have been at the forefront of enhancing the performance of India’s national team by providing them with match coding and data conversion systems. This enables them to arrive at informed decisions after a detailed analysis of matches and performances of star players. In the field of football, data analytics is useful for evaluating player performance, scouting, on-field changes in tactics, and optimizing in-game strategy. Therefore, coaches and managers are able to make prudent decisions regarding last-minute changes and player selection during matches. Data analytics in Kabaddi involves analyzing player movements and team formations, which can be crucial for planning training sessions and match strategies. Overall, the use of analytics in sports like cricket, football, and kabaddi has led to improvements in player performance, injury prevention, and fan engagement, making it a valuable tool for teams and athletes across India.

Emerging trends such as AI machine learning and predictive modelling are revolutionizing sports analytics in India. Such advancements in technology provide a comprehensive analysis of huge amounts of data fostering more accurate predictions and personalized training regimes. AI and machine learning tools allow for effective assessment of player performance and predicting outcomes, thereby helping the teams build judicious strategies. Predictive modelling can forecast an athlete's performance, helping in scouting and recruitment. This trend of sports analytics can help create social impact and change in Indian society in various aspects, such as education, health, empowerment, inclusion, peace, etc. The advent of AI, machine learning, and predictive modelling in sports analytics in India is creating a transformative social impact. Integrating these technologies into the educational curriculum fosters interest in STEM fields and enhances critical thinking and problem-solving skills. In terms of health, personalized training regimes and performance assessments contribute to improved physical well-being and injury prevention by identifying risky movements or techniques. Sports analytics can level the playing field by providing all athletes, regardless of their background, with access to high-quality training insights. This can empower underprivileged athletes and help them compete at higher levels. The data-driven nature of these tools promotes inclusion and empowerment by identifying talent from all sections of society, thereby overcoming biases. Furthermore, as a unifying force, sports can leverage these technologies to foster peace and mutual respect among diverse groups. Lastly, the growth of sports analytics stimulates economic development by creating new jobs and revenue streams in the tech industry. This can help contribute to the social and developmental goals and challenges of India and curb the deeply-rooted social beliefs and unjust customs. The future of sports analytics in India looks promising with these technologies and advancements.They will likely lead to enhancement in player performance, better injury prevention and improved fan engagement leading to increased source of Entertainmemy for layal fans, and shaping a new era for indian sports.

Sports analytics in India has had a transformative impact on various aspects of the sports industry, for example, Performance Enhancement, where it has enabled teams and athletes to optimize training, improve tactics, and reduce injury risks, leading to better on-field performances; Fan Engagement in which insights derived from data analytics have helped in creating more engaging fan experiences, both in-stadium and through digital platforms, by personalizing content and interactions, and contributed to Business Success by playing a crucial role in the business side of sports, aiding in ticket sales, merchandise, and marketing strategies, ultimately contributing to the financial success of sports organizations. In conclusion sports analytics has become an integral part of the sports ecosystem in India, driving advancements in performance, fan experiences, and business operations. In India, it is evolving rapidly, with the sports industry embracing data-driven approaches to enhance performance, strategy, and fan experiences. The integration of analytics into sports is set to deepen, promising a new era of innovation and competitiveness in Indian sports.

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ANALYSING ECONOMIC ASPECTS OF GLOBAL SPORT COMPETITIONS

- By Rhea Pandey, Aslesha S

The Stark Difference in Sports Policies Between Developed and Developing Nations

The distinction between developed and developing nations is a defining feature of the global economic map, which is depicted with differing degrees of advancement. This division, which places countries on various rungs of the global ladder, is a basic feature of the international socioeconomic structure. Therefore, it's critical to understand the differences between the two. Developed countries are defined as having advanced industrialization, high per capita income, strong health care systems, and a higher Human Development Index (HDI), whereas developing countries are defined as having lower living standards, an underdeveloped industrial base and a lower HDI.

For the benefit of their economy, nations everywhere aspire to organize massive sporting events, but particularly emerging nations. Such an event's hosting can get very costly. On the other hand, the host government's economy might benefit from it. While some experts claim that this boost to the host economy is only temporary, others assert that it has long-term consequences. So, some nations might reap the benefits of hosting the mega events and get a return on their investment, while others accrue debt that may take decades to pay off. Securing a successful bid offers governments the chance to boost employment and tourism inflows, as well as an easy excuse to invest heavily in infrastructure upgrades. The international prestige and publicity are attractive. Numerous Olympic and World Cup host cities have previously experienced millions in visitor income and have typically turned a little profit. Particularly, the 1992 Olympic Games in Barcelona created a profound economic impact that is being sought after by candidates of the host nation.

Once a nation is selected to host, it must choose a location big enough to hold all of the ceremonies and renovate and update all athletic facilities, including ski jumps and cycling routes. The need to create new hotels, plan transit, and build roads, train lines, and airports are other general infrastructures that nations need to be mindful of. The range of these expenses is $5 billion to more than $50 billion.

On a brighter note, organising sporting events could attract foreign investment, create jobs, and encourage consumer spending. Forecasts of visitor numbers and budget surpluses were considerably muted in the run-up to the event, notwithstanding the initial jubilation in 2004 when South Africa was granted the rights to host the big event. South Africa's 2010 World Cup marketing focused on the government's investment in infrastructure and the anticipated surge in tourism. However, the organizers were forced to lower their initial forecast of 750,000 tourists to a range of 200,000 to 250,000. Mega events frequently result in exaggerated tourism benefits. Regarding India, the initial budget for the Commonwealth Games was US$ 412 million, but the final cost was estimated to be around US$ 15 billion. It has also been reported that the citizens of New Delhi will be footing the bill for the Games for the next 25 to 30 years in the form of higher prices for land, necessities, and gasoline. Mega events, according to some economists, are a worse investment for low- and middle-income nations than for wealthy ones, and the returns are almost always overstated. When junk food and alcohol corporations finance the image that certain advertising companies portray, of promoting health and contributing to societal development, there is a serious conflict between the promotion of international sport and health. For nations like South Africa and India, which are going through a health transition due to concurrent epidemics of infectious diseases, non-communicable diseases, and high rates of morbidity and mortality from alcohol-related violence and motor accidents, this specific sponsor triangle is unsuitable. Undoubtedly, India's hosting of the Commonwealth Games has been tainted by construction delays, bridge collapses, inadequate facilities and corruption

allegations, undermining the benefits of the games for "national prestige". Together with the problematic association between alcohol and debt from a health aspect, which is promoted by multinational corporations, this further tarnishes the idea of any intangible benefits of huge events to low- and middle-income countries.

Withdrawal of Australia from the Commonwealth Games 2026: Possible Causes

Recently, Australia surprisingly announced its withdrawal from the Commonwealth Games 2026 which surprised the whole international sporting community. A big decision, which alarmed the community regarding who would be the next host of such a big event. So why did Australia make such a big decision like that? The decision, announced by Prime Minister Scott Morrison, has sparked widespread speculation and debate regarding the underlying reasons behind this unexpected move.

Financial Worries

It is thought that Australia's decision to withdraw as host was primarily motivated by financial worries. It costs a lot to host a big international event like the Commonwealth Games in terms of infrastructure, security, and logistics. The Australian government probably found it difficult to defend the cost of hosting the games given the economic uncertainties brought on by international events like the COVID-19 epidemic and other domestic objectives.

Resource Prioritisation

Moreover, Australia might have decided to direct its funds in other directions, concentrating on projects that will directly and palpably benefit the people of the nation. Investments in infrastructure, healthcare, education, and other vital services that directly assist the populace may fall under this category. Australia may be better able to handle urgent domestic demands and long-term development goals if money and focus are diverted from hosting the Commonwealth Games.

Environmental considerations

Growing worries about the effects of hosting major sporting events on the environment could also have played a role in Australia's choice. It's possible that the Australian government was reluctant to commit to the large carbon footprint connected with hosting the Commonwealth Games due to growing awareness of sustainability and climate change issues. Australia may be demonstrating its commitment to environmental stewardship and looking into more environmentally friendly options for future international sporting events by declining to serve as host.

Political and social considerations :

Australia's choice to resign as host may also have been influenced by political and social considerations. Major athletic events are frequently the subject of intense public

scrutiny, especially when it comes to topics like governance, labour rights, and human rights. Australia might be avoiding certain controversies and bad press that could surface in the run-up to and during the games by pulling its application. Given the economic, environmental, and social aspects involved, Australia's decision to step out as the host nation for the Commonwealth Games in 2026 seems to have been made with consideration for practical considerations. Australia might be exhibiting responsible governance and a dedication to long-term sustainability by setting priorities for resources and attending to urgent domestic needs. International sporting event hosting, however, can also have a number of positive effects, such as increased worldwide exposure, cultural interchange, and economic stimulation. Consequently, even while it would make sense to step down as host, Australia must consider other options for taking advantage of similar chances in the future while juggling conflicting demands. Therefore, the economic aspects of global sports competitions are a multifaceted issue that intertwines with national policies and global dynamics. The stark difference in sports policies between developed and developing nations highlights the disparity in resources, priorities, and strategic approaches towards sports. This disparity is a reflection of broader socio-economic conditions and has significant implications for the participation and performance of nations in global sports competitions. The withdrawal of Australia from the Commonwealth Games 2026 further underscores the complexities involved. It is a testament to the fact that even developed economies face challenges in participating in or hosting global events, possibly due to economic, logistical, or other reasons. As one continues to analyze these economic aspects, it becomes increasingly clear that sports competitions are not just about the games themselves, but are also a mirror of the global society and its diverse economic landscapes.

India's Bid to Host the Olympics 2036s

India's proposal to host the 2036 Olympic Games is subject to both excitement and scepticism. Through this prestigious hosting, India- the world's most populous nation and a rising economic power- aims to display its global ranking and prowess. This ambition is a matter of both national pride and a testament to its growing global influence. PM Modi's announcement that India will "leave no stone unturned" showcases India's bid to secure the event's global coverage and the country's assurance to exploit its capabilities to the maximum. India's aspirations align with those for a UN Security Council seat and G-20 Presidency. Hosting the Games, would not only raise the bar for other developing nations but also project India as a promising player on the world platform. Hosting a magnum event such as the Olympics is a mammoth task that requires meticulous planning, substantial financial investment, and a vision for legacy. India must strike a balance between ambition and fiscal prudence.

India shall reap potential benefits due to this colossal undertaking, such as a boost in tourism, and catalyzation of infrastructure development. This further would lead to a spur in economic growth and prosperity, and provide a platform for promoting India's cultural history while also fostering sports development. India's bid is not just about the 2036 Games; it's a long-term vision that includes hosting the 2029 Youth Olympic Games as a stepping stone. This strategic approach demonstrates India's holistic commitment to the Olympic movement and its desire to build a lasting sports legacy. The competition to host the Olympics is fierce, with countries like Mexico and Indonesia also expressing interest. India must therefore present a compelling case to the International Olympic Committee (IOC), highlighting not just its readiness to host but also its unique value proposition. A careful examination of the implications of this decision is the need of the hour since the challenges are significant. This is because the events of the 2010 Commonwealth Games which were marked by corruption and poor infrastructure still raise eyebrows about India's bid for the Olympics. To avoid a repetition of this, India must ensure transparency and deliver its promise of world-class facilities. The environmental impact of such a large-scale affair is another apprehension, demanding sustainable practices in all aspects of the Games. With this being said, it is evident that the profitability of organizing the Olympic Games is influenced by numerous factors. For instance, the cost of hosting the Games has shot up over the years, with the costs skyrocketing from over $20 billion in the 2016 Summer Games (Brazil) to $50 billion in the 2014 Winter Games (Russia). It is also noteworthy that from 2000-2018, the organizing committee's budgets were entirely privately funded and broke even or generated profit; with the profit sourced from sponsorships, tourism, ticket sales, and broadcasting. The cost of developing the requisite infrastructure for the Olympics is enormous; including the construction of sports facilities, state-of-the-art stadiums and athlete villages, accommodation for athletes and staff, and transportation systems. A detailed budget should be prepared, considering all possible expenses. Public-private partnerships could be explored to share the financial burden. Existing infrastructure should be utilized to the maximum extent to reduce costs, and the authorities should be ready to face the risk of overrun costs beyond the estimate. Contingency funds should be set aside to handle unexpected expenses. An environmental impact valuation should be directed before construction, so that sustainable practices are adopted in all aspects of the Olympics, from building to waste management. Ensuring the safety of athletes, officials, and spectators is another challenge, for which a well-thought-out security plan and robust security protocols should be developed in collaboration with international security agencies. Adequate resources should be allocated for security measures, in the estimated budget. It is also crucial to ensure that the investments benefit the country beyond the event. For this, planning for post-Olympic utilization of infrastructure, e.g., converting stadiums into multi-purpose venues and investing in sports development programs to nurture talent, is a must.

India's bid to host the Olympics is a bold statement of intent. If successful, it could transform the nation's sporting landscape and create a new chapter in its history. The road ahead is challenging, but with careful planning, thorough execution, and a focus on sustainability, India has the potential to deliver an unforgettable sporting experience.

In conclusion, the economic aspects of global sports competitions are a complex interplay of policies, national priorities, and global ambitions. The clear-cut variation in sports policies between developed and developing nations underlines the fluctuating degrees of investment and focus on the sports sector. Australia's withdrawal from the Commonwealth Games 2026 serves as a reminder of the potential challenges and considerations that countries face when deciding to participate in or host such mega-events. On the other hand, India's bid to host the Olympics in 2036 reflects the aspirations of emerging economies to leverage such platforms for economic growth, infrastructure development, and global recognition. However, the journey is troubled with challenges, including the need for transparency, world-class facilities, and sustainable practices. As nations navigate these complexities, the role of global sports competitions in driving economic and social change continues to evolve, making it a fascinating area of study and discussion.

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SPORTS POLICY ANALYSIS: UNVEILING THE ECONOMICS

- By Aslesha S

Introduction

Sports have long been deeply engrained in the cultural fabric of India, ranging from traditional games played in rural villages to modern sports facilities found in cities across the country. This evolution reflects India's pursuit of excellence and showcases the nation's rich cultural heritage such as wrestling's strength and chess strategy. Following the implementation of the National Sports Policy in 1984, India made a substantial shift in its approach to sports. The policy's update in 2011 placed greater emphasis on sports as a means of personal growth and enhancing productivity, and its significance has since been widely recognized. The central focus of this transformation is the Khelo India Program, which aims to create an inclusive environment where education and sports can coexist. The primary responsibility of promoting sports lies with the state governments, while the central government actively supports their efforts. This includes tapping into the hidden talent in rural and tribal areas. The incentives offered to distinguished sports persons include cash awards, scholarships, and well-paid salaries.

The lack of financial resources has been a major obstacle in promoting sports in India. The government's budgetary allocations for sports would have to be increased significantly because funding is necessary to build and maintain world-class sports facilities across the country, which are essential for athletes to train and compete at the highest levels. To discover

and nurture talent from a young age, investments in grassroots programs like Khelo India are vital. Higher budgetary allocations can also ensure that athletes receive the best financial support without financial strain. Investing in sports science, medicine, and technology is essential for the advancement of sports and the well-being of athletes. Encouraging investments through PPP models for mega-sports infrastructure projects and sports technology innovation, corporate funding, and the set up of a Sports Goods Export Council (SGEC) to attract corporate investments in sports manufacturing are needed as special initiatives to create a robust sports ecosystem in India. The Department of Youth Affairs is currently developing a portal specifically for younger individuals, aiming to enhance their decision-making abilities and ultimately increase their chances of achieving financial stability. A digital and financial literacy program on the portal can be particularly beneficial for athletes from rural areas who often lack exposure to such resources. It can educate them on managing earnings from sports, seeking sponsorships, and understanding the economics of sports contracts. This initiative can also help connect young sports talents with local sports bodies, clubs, and academies, thereby fostering a supportive network for their growth.

ECONOMIC CONTRIBUTIONS OF THE INDIAN SPORTS SECTOR

The sports sector in India is one of the largest industries in terms of revenue and employment. The Indian Premier League (IPL), for instance, has not only generated a significant number of jobs but has also attracted investments and boosted tourism. The league's brand value was estimated at $4.7 billion as of February 2022, with media rights comprising 60% of its revenues. From an economic perspective, the IPL and other sports events contribute to the economy through direct and indirect means. Direct contributions include the creation of jobs, such as those related to event management, broadcasting, and merchandising. Indirect contributions come from the boost to local economies via tourism, as fans travel and spend on accommodation, food, and other services. Moreover, the sports industry in India has recorded a 49% growth in 2022, reaching Rs 14,209 crore, with sponsorship growing 105% to reach Rs 5,907 crore, as estimated by the Financial Express (April 2023).

This comprehensive economic contribution underscores the sports sector's potential as a significant driver of economic growth and development in India. Public-private partnerships (PPPs) have also become a key strategy for sports development in India. These partnerships involve collaboration between government entities and private sector companies to achieve common goals in creating public assets or providing public services. Odisha, for example, has been highlighted as a role model for implementing PPPs in sports, contributing to both economic growth and improved athlete performances.

Sponsorship deals are another crucial element in the sports industry, providing essential funding for events, teams, and athletes. In 2022, the total sports sponsorship spending in India saw a remarkable increase, reaching ₽59.07 billion. This growth is attributed to factors such as the addition of new IPL teams, the ICC T20 World Cup, and the return of professional leagues like the Indian Super League (football) and Pro Kabaddi League. The sports market is driven by the growing interest in sports and fitness, digital transformation, and the need for data-driven insights in sports. The sports technology market in India is leveraging innovations in wearables, data analytics, and virtual reality to improve training, provide in-depth game insights, and create immersive experiences for fans.

REGIONAL ANALYSIS

Haryana, despite being small in terms of geographical area and population, has emerged as a leading state in sports. The culture of hard work, fitness, and sports in the state, shaped by engagement in agriculture and a long tradition of joining forces, has contributed to this success. In a bid to boost sports tourism, the Haryana government has announced plans to establish an air sports policy. This activity will increase work openings for neighbourhood individuals and might energize nearby diversions that have been played for a long time.

Haryana's Sports Policy is designed to foster a culture of excellence in sports through a comprehensive approach that includes several key initiatives. The policy prioritizes the development of sports from the grassroots level, recognizing the importance of nurturing talent from an early age. This involves creating opportunities for participation in sports across the state, ensuring that young athletes have the necessary support to develop their skills. A systematic approach to talent identification allows the state to discover and nurture athletes who show potential in various sports. This is achieved through targeted programs that scout for talent and provide them with the training and resources needed to excel at higher levels of competition. The state government offers a range of financial incentives, including cash awards, to sportspersons who achieve excellence at national and international levels. Additionally, job opportunities are provided to successful sportspersons, ensuring they have stable careers alongside their sporting endeavours. The policy underscores the importance of fairness in sports. It promotes doping-free sports by adhering to strict anti-doping regulations to ensure a level playing field. The policy's multifaceted approach aims not only to produce elite athletes but also to encourage widespread participation in sports for community development.

Meanwhile, competitors from the Northeast locale of India have illustrated their potential and been pulled into consideration by both the government and the individuals. In reaction, the government is building sports foundations within the Northeast, such as the foundation of a National Sports College in Manipur, to empower neighbourhood youth involvement. Yet, compared to the rest of India, the Northeast has gifted competitors who were compelled to desert their careers since it isn't a monetarily fulfilling calling. Northeast India has a rich sporting culture, producing a slew of medalists and world champions. The region's favourable sports culture, despite challenges such as lack of infrastructure, has made a significant impact on the international scene. The growth in financial resources has led to more job openings for athletes, coaches, and other sports-related positions in Meghalaya. The state has a rich history of sports, particularly football, which has been widely popular since its establishment as a separate entity from Assam in 1972. Over the years, Meghalaya has produced several international players who have represented their country on the global stage.

The state of Meghalaya has the potential to produce outstanding athletes in various sports, and this is being realized with the development of advanced sports infrastructure. Currently, the aspiration to cultivate athletic talent in the state is being successfully fulfilled. The NPP government has introduced a talent identification program for athletes. This initiative is designed to discover young athletes with potential and provide them with specialized training to enhance their skills. In the initial phase of the program, 4,600 kids between the ages of 10 and 18 were subjected to international athletic standards testing to assess their physical abilities. In terms of marketing strategies, advertising initiatives are implemented focussing on ruggedness and trustworthiness. Additionally, efforts have been made to enhance the region's infrastructure and adventure tourist experience to improve its competency.

In conclusion, India's sports policy has undergone a significant transformation, embracing a more inclusive and economically savvy approach. The strategic shift towards public-private partnerships, increased sponsorship, and investment in sports technology reflects a deeper understanding of the economic potential within the sports sector. As India continues to refine its policies and capitalize on these developments, the nation stands poised to not only enhance its sporting prowess but also to bolster its economic landscape through the power of sports.

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SPORTS BETTING- THE RISE OF A MULTIBILLION-DOLLAR INDUSTRY

- By Aslesha S

"Sport is a mirror of society, and the problems of society are also reflected in sport".

Sport has been among the most popular human activities since ancient times. It involves hard work, engagement, loyalty, respect for others, fair competition, friendship, and communication and is based on human and social values, ethics, and integrity, which establish it as a valued human moral practice. All these traits have turned unlawful practices in sports into a universal and global phenomenon that, at the elite level, attracts considerable support from industry. In many countries, the term "corruption heritage" is well known and can also be identified as a part of an intangible cultural heritage through its process, abilities, and knowledge, as well as a tangible cultural heritage through its financial consequences and other material damages involved. The wide adoption of this expression suggests that these countries believe that a culture of corruption exists.

Transparency and the lack of best practices in administration are other significant factors. Organisations involved in match-fixing and other sports-related activities do so in order to conceal their illicit gains and make substantial profits with little chance of being discovered. To solve these problems, law enforcement agencies, governmental organisations, regulators of sports betting, the gaming sector, and sportsmen must collaborate on a national and international level.

Many team owners across sports carefully employ the money they raise from financial doping to acquire the best human capital in the league. To entice elite players to leave their previous club and join a new and unidentified one, copious quantities of money are awarded to them. Due to the inflow of elite players, the power of the team utilising financial doping increases, but the calibre of the other teams declines because elite players are being taken advantage of. The team succeeds by using money as its primary tool rather than athletic prowess and cunning to push its way to the top.

Finance, branding and endorsements are crucial pillars of the sporting industry, thus sponsorships are significant. Athletes, sports teams, and events can provide marketing advantages for brands. With visibility to millions of customers, these sponsorship opportunities are very noticeable. By influencing fans to use their brand name, logo, and mission when they are most interested in sports, brands may propel marketing. Sales are directly influenced by sports teams, stadiums, sporting events, and athletes. Giving a brand the advantage of stadium concession stands, an event booth, or the use of athletes to publicise a Kickstarter, Indiegogo, Amazon, or e-commerce campaign can all be simple ways to do this.

THE INDIAN DISPERSION

Although India has a long and varied history in sports, many of its gifted athletes struggle to get the support of the government, media attention, and public recognition. While cricket stars enjoy the spotlight, many other athletes frequently fail to get the credit they merit. One reason for this is that cricket's enormous popularity frequently eclipses that of other sports. There may be a biased resource allocation for the Indian Premier League (IPL) and international cricket events due to their significant media coverage and sponsorships. Lack of funding, training resources, and community-based infrastructure have had a significant impact on the sporting industry. In Indian society, professional and academic endeavours have historically been valued above athletics. This discouragement keeps the cycle of underrepresentation alive and reduces the pool of talent entering sports. The public's perception is greatly influenced by the media. Some sports receive little airtime and newspaper space, but cricket receives a great deal of coverage. In India, social media influencers and celebrities in the entertainment and media industries are frequently considered symbols of success and influence. It is difficult for athletes to compete with these celebrities for publicity and sponsorship opportunities, particularly in lesser-known sports.

Exposing the Financial Consequences of Sports Gambling and Match-Fixing

Sports developed into a wealthy industry with substantial economic implications, transcending their original uses as a source of passion and enjoyment. But as it has grown, serious problems like match-fixing and sports gambling have surfaced, undermining competition integrity and having an impact on economies all around the world. Stakeholders must comprehend the economic ramifications of these events to devise efficacious measures for control and mitigation.

Sports gambling has an economic impact that goes beyond the money that bookmakers make. It includes a variety of elements that mainly consist of revenue generation wherein, sports leagues, broadcasters, and betting providers receive a substantial portion of their revenue from sports betting in the form of taxes and licence fees. The sports betting industry creates jobs in marketing, customer service, data research, and bookkeeping, among other

businesses. However, concerns over addiction and the social implications of these works are common. Athletic events stimulate the local economy by drawing tourists and strengthening the hotel sector. The allure of betting opportunities during significant events could spur tourism and related industries even more.

While we delve into the negative side, scandals involving match-fixing erode public trust and harm the reputations of sportsmen, sports teams, and organisations. This fall in credibility could turn off sponsors, pundits, and fans, costing money and decreasing interest in the sport. The financial responsibility of stopping, identifying, and prosecuting match-fixing activities may fall on governments, law enforcement agencies, and athletic organizations. Betting sites, casino operators, and honest bettors all lose money as a result of match-fixing, which compromises the integrity of betting markets. Anyone discovered to be involved in suspicious betting trends or irregularities may face penalties, fines, and licence revocations as a result of the investigation. The economic impacts of match-fixing are long-term and extend beyond brief financial difficulties. It will remain an expense

for society and sports stakeholders to restore integrity, rebuild trust, and implement preventative measures. In order to address the financial repercussions of sports gambling and match-fixing, governments, regulatory agencies, and other stakeholders must collaborate with sports organisations. Some of the major strategies include strengthening regulations to establish comprehensive regulatory frameworks to manage the hazards of match-fixing and regulate sports betting. Regulatory authorities must prioritise integrity measures, such as reporting, monitoring, and fines. By enhancing transparency in financial transactions, gambling marketplaces, and sports administration can deter unethical activity and boost confidence among stakeholders. Procedures for accountability, open communication, and technology suppliers are essential for creativity and efficacy in maintaining integrity.

In summary, there are significant and varied economic ramifications associated with sports gambling and match-fixing. These include the creation of jobs, income, integrity, and reputation. Even while there are chances for economic expansion from sports gambling, match-fixing threatens the viability and integrity of sports itself. Regulatory actions, investments in integrity measures, and coordinated efforts are needed to mitigate these threats. Stakeholders can maintain the economic sustainability and societal significance of this international phenomenon by protecting sports integrity.

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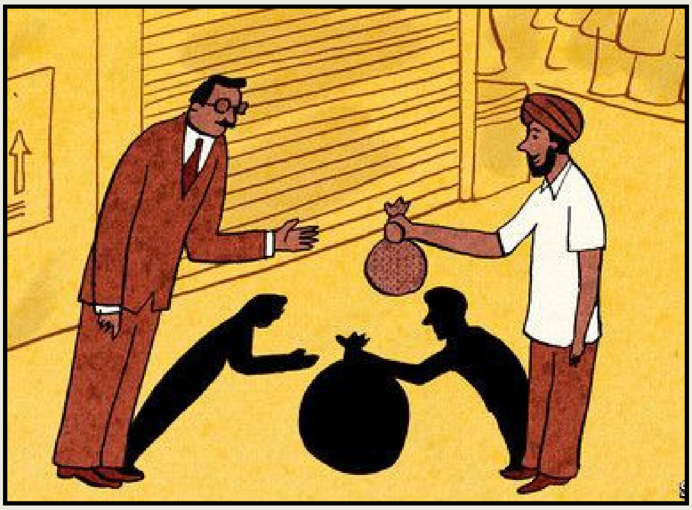
Beyond the Veil :

Unravelling the Threads of Black Economy

SECTION EDITOR - PARI AGGARWAL
SECTION CO-EDITOR - AAVISHI SINGHAL

UNVEILING THE SHADOW ECONOMY AND ITS LABOUR FORCE

By Pari Aggarwal and Aavishi Singhal



Addressing the Shadow Economy

The shadow economy, often termed the informal or underground economy, encompasses a spectrum of unregulated and unreported economic activities that evade official oversight and government regulation. The shadow economy spans various activities, from unreported employment and income and informal street trading to more severe crimes like smuggling and illegal gambling. Key drivers of this hidden sector include high tax burdens, excessive regulatory frameworks, pervasive corruption, and the desire to avoid social security contributions and legal labour standards. In developing nations like India, the shadow economy is particularly pervasive, exerting a significant impact on the formal economic structure. The mystery surrounding India's underground economy stems from its decentralised and informal structure, posing difficulties for authorities in monitoring and governing it. Elements such as cash dealings, absence of formal records and widespread informal employment all contribute to its elusive nature. Estimates suggest that India's shadow economy constitutes a considerable portion of the country's GDP. Although the precise size is challenging to ascertain due to the inherently unrecorded nature of these activities, it is widely acknowledged to be a substantial fraction of the formal economy. This extensive sector includes various forms of unregistered employment, undeclared business activities, and transactions that evade national accounts. Contributing factors such as high levels of poverty, unemployment, and stringent labour market regulations further fuel the expansion of the shadow economy in India. Many individuals and small businesses opt to operate informally to avoid the complexities and costs of formal registration and compliance with tax and labour laws, perpetuating the cycle of informality and its economic ramifications.

The implications of the shadow economy are profound and multifaceted. While it provides livelihoods for millions who might otherwise be unemployed, thereby playing a crucial role in poverty alleviation and sustaining consumer spending, it also has several adverse effects. The shadow economy leads to substantial losses in tax revenue for the government, funds that could otherwise be used to enhance public services and infrastructure. This loss of revenue often forces the government to cut spending or increase the tax burden on the formal sector, further incentivizing informal operations. The shadow economy's lack of regulation and oversight can also foster environments where criminal activities flourish, further undermining law and order. Moreover, workers in the shadow economy are typically deprived of basic labour rights and social protections, leading to exploitation and poor working conditions. The dynamic between the underground economy and formal employment, encompassing unregistered work, is often marked by informal working arrangements and lacking social safety nets. This segment of the economy is particularly significant in developing countries, where formal employment opportunities are limited, and many workers turn to the informal sector for livelihoods.

Furthermore, the shadow economy distorts official economic statistics, making it challenging for policymakers to accurately assess the state of the economy and formulate effective policies. It hampers economic growth by creating an uneven playing field where formal businesses, which comply with regulations and pay taxes, have to compete against informal businesses that do not bear these costs. This can discourage investment in the formal sector and stifle innovation and productivity improvements. Additionally, the prevalence of the shadow economy can undermine trust in government institutions, as widespread non-compliance can be both a symptom and a cause of weak governance. Effective enforcement of laws and regulations, coupled with measures to increase public awareness about the benefits of formalisation, are essential steps towards achieving a more balanced and inclusive economic growth.

Shadow Economy Labor Force

The shadow economy labour force can be defined as that part of the official labour force which is actively participating in and also maintains ‘tight relationships’ in the shadow economy. This definition includes all the people, employers or employees, who hold a certain position in the shadow economy. Now the question arises, why do people participate in shadow labour? The firms in the formal labour market have to pay a lot for labour as the wages include tax and social contributions. Apart from this, the firms also have to bear the cost of legal administrative regulation to control economic activity. Consequently, these costs lower the effective wage earned by the employee and this provides strong incentives to work in the shadow economy, evade tax, and not report their full incomes.

The underground labour market is mainly made up of people who are working part-time in the underground market. They hold second jobs in this economy and work part-time, in addition to working regular hours in the official labour markets. The other part of the shadow market labour force consists of people who don’t participate in the official market at all, or

people who are not allowed to work in the official labour market, for instance, illegal immigrants.

According to OECD (2009), which provided worldwide figures, more than 900 million workers, which made up more than half of all the jobs in the non-agricultural sectors in the developing countries, were informal. If we also included the agricultural sector in the developing nations, this size increased to over 2000 million people. According to this particular study, the informal sector is majorly made up of people who have either opted out of the formal sector or the ones who have been excluded. Mostly, these people are self-employed and own and manage their small enterprises.

This data brings us to the natural conclusion that the existence of the informal sector or “shadow economy”, especially in developing nations, is a norm and not an exception. Only 1.2 billion people worked and benefited from the formal sector and the social security norms, while the other 1.8 billion worked in the informal sector (OECD 2009). Not only this, the paper also presented that the majority of the people survive on less than $1.25 daily in the shadow market.

The increase in the shadow market labour force is also due to the turbulence in the economies. Therefore, a strong relationship between the economic growth and participation rate of the labour force in the shadow economy can be inferred.

Conclusion

The black economy has become a significant global issue, contributing to the erosion of financial stability, especially in developing nations. Activities such as tax evasion, illegal smuggling, and counterfeiting are major concerns for governments, particularly given the vast size of this economy. As highlighted by the OECD (2009) data, a significant portion of the labour force prefers working in the informal sector over the formal one for various reasons. This substantial participation directly contributes to the expanding black economy.
Addressing the challenges posed by the shadow economy requires a comprehensive approach. Effective enforcement of laws and regulations is crucial, along with initiatives to raise public awareness about the benefits of formalising economic activities. While the shadow economy provides essential support for many individuals, particularly in developing countries, it also presents serious challenges that need to be tackled to achieve sustainable and equitable economic development. A multifaceted strategy that includes stronger regulatory enforcement, increased public awareness, and incentives for formalisation is vital to mitigate the adverse impacts of the shadow economy and improve overall economic well-being.

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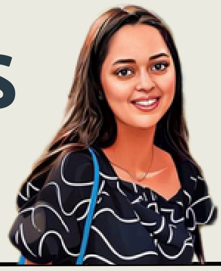
HOW LEGALISATION SHAPES THE BLACK MARKET



By Pari Aggarwal

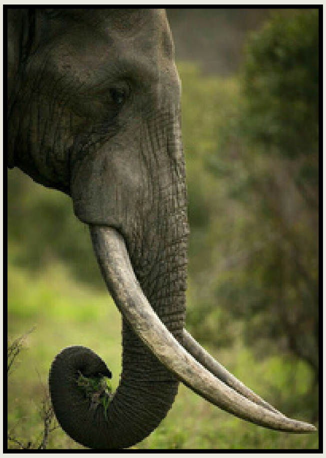
The black market, often referred to as the 'illicit market' or 'clandestine economy', has been a challenge for governments worldwide, as it operates outside the legal framework, fostering illegal trades and evading regulatory oversight. Governments frequently strive to prohibit the trade of illegal products and services, such as drugs, weapons, gambling, human organs, abortions, and prostitution. Ongoing debate still exists about whether legalisation eliminates the black market, generates harmful externalities, or enhances social welfare because the legalisation of previously banned goods and services is a contentious topic. All of these factors pave the way for us to think about it with a more comprehensive approach. Black markets are estimated to represent a fifth of the global economic activity but their response to legalisation is misunderstood due to the covert actions of participants. Usually, when a product is banned, its production and trade move underground, preventing observers from

accessing the economic data that would allow us to identify the net effect of legalisation experiments on black market activities. The debate over the legalisation process typically involves two opposing parties: those in favour of legalisation and those against it. Opponents argue that legalisation would diminish the need for law enforcement and consequently, reduce government control over illegal goods. On the other hand, proponents contend that legalisation would help decrease everyday crimes, violence, and corruption. The question is: which party is correct, and whom should we believe? The answer is not straightforward, as both perspectives have their own advantages and disadvantages. The process of legalisation began with the problem of the usage of drugs among teens. It was thought that besides the black market issue, the legalisation process if not completely, could at least reduce the other social problems associated with drug marketing- crime, violence and corruption. There was also another side of people who thought that legalising drugs would eliminate black marketing and decrease law enforcement too. They predicted that the government would benefit from a new source of tax revenue and that drug-related crime would fall if drugs became routinely available in the markets, akin to tobacco and alcohol.

The Ivory Trade Paradox

One pertinent example of the debate on the legalization of illicit goods is the global ivory trade. The ivory markets and elephant poaching present a unique empirical opportunity to examine the effects of legalization. When poachers illegally harvest tusks from elephants, they leave the carcasses behind, creating a tangible record of illegal activity. Ecologists have systematically gathered data on these carcasses through a global network of field scientists. This comprehensive dataset allows us to analyse the impact of a one-time legal international sale of ivory, which was unexpectedly announced in 2008. This analysis occurs within the context of an international ivory trade ban that has been in place since 1989. The illegal trade in ivory has had devastating effects on elephant populations, prompting international efforts to curb this activity. In 1989, the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) imposed a comprehensive ban on the international trade of ivory to protect elephants from poaching. While initially effective, the resurgence of poaching in the mid-1990s led to questions about the ban's long-term efficacy and sparked discussions on the potential benefits of a controlled legal ivory trade. The debate majorly voiced two concerns. Firstly, whenever a ban exists, demand is reduced because some potential buyers are deterred by the social stigma and fear of punishment associated with purchasing banned items. Consequently, easing these policies can bring these hesitant buyers back into the market, increasing overall demand. Secondly, relaxing a ban complicates the authorities' efforts to distinguish between illegal and legal articles. This difficulty lowers the risk and cost associated with selling illegal ivory, thereby increasing the supply at a given price. In response to concerns regarding the illicit ivory trade, CITES sanctioned a single lawful transaction of ivory in 2008. This sale involved accumulated ivory from elephants that had perished naturally or had been culled as part of population management efforts in Botswana, Namibia, South Africa, and Zimbabwe. The concept of competitive displacement posits that illegal market demand should decline as some demand is met through legal articles.

However, there's a possibility that legalization might actually increase demand by attracting new consumers to the market. This could happen if visible legal consumption alters societal attitudes, diminishing the stigma associated with purchasing illegal goods. Additionally, if the risk of legal repercussions for buying illegal goods decreases due to a disguise in the supply chain, it might lead to increased participation in the black market. Moreover, consumers might unknowingly engage in the illegal market due to misunderstandings about which goods are legal. The ivory was sold to China and Japan, with the hope that the legal supply would curb some of the demand, thereby lessening the incentive for illegal poaching. This sale was positioned as an economic trial to examine the hypothesis of whether legalizing a regulated ivory trade could competitively supplant the black market and diminish poaching activities. Contrary to the hypothesis that legal ivory would displace illegal ivory and reduce poaching, the results indicate a significant increase in illegal ivory production following the legal sale. Specifically, the announcement of the sale was associated with a 66% rise in illegal ivory production and a possible ten-fold increase in its trend. Additionally, there was a 71% increase in ivory smuggling out of Africa. These results suggest that rather than curbing the black market, the legal sale may have inadvertently stimulated it by reducing the costs and risks associated with illegal trade and increasing overall demand. It is also clear that legalization does not necessarily kill the black market. Instead, it can lead to increased illegal activity by lowering the costs of illegal production and increasing demand for the previously banned good. Therefore, policymakers should carefully evaluate the potential unintended consequences of legalization and consider more holistic strategies to reduce black market activity effectively. This case study highlights the complex dynamics between legal and illegal markets and the unintended consequences of partial legalization. The ivory trade experiment provides critical insights into the challenges of using legalization as a strategy to combat black markets. The findings underscore the need for a nuanced understanding of market dynamics and careful consideration of policy interventions aimed at protecting endangered species.



Navigating California’s Cannabis Legalization

The exploration of cannabis and its legalization remains a contentious issue, deeply intertwined with the history of the United States. During the establishment of American colonies, hemp, a derivative of the cannabis plant, held significant economic value as a crucial crop. In fact, Virginia even mandated its farmers to cultivate hemp, highlighting its importance. Furthermore, hemp served as a currency and was accepted for tax payments during colonial times. Despite its prominence, hemp gradually lost its popularity with the rise of cotton during the Civil War era. Concurrently, marijuana began to gain traction for medicinal applications. California notably permitted medical marijuana use starting in 1996. Beyond its reputation as a recreational drug, cannabis has long been celebrated as a renowned medicinal plant, ranking among the top five in history. In Ayurvedic medicine, it was utilized as an analgesic, antispasmodic, sedative, and more. Smoking cannabis has been recognized for its ability to alleviate pain associated with various ailments, serving as an effective pain reliever.

Moreover, it aids in alleviating insomnia, stress, and anxiety. However, caution is warranted in its usage, as like other drugs, it possesses the potential to affect the brain and foster dependency over time. Advocates of legalization in California anticipated that the state would emerge as the leading global hub for legalized recreational marijuana. However, contrary to these optimistic projections, many Californians did not share the same enthusiasm for legalization. This lack of excitement stemmed from the fact that marijuana had already been deeply rooted in California's culture for a significant period. Even prior to

the establishment of a legal market, individuals had convenient access to marijuana through means such as acquiring a medical marijuana card or purchasing from the black market, often with minimal fear of legal repercussions.
Legalization proved to be a challenging endeavour in the USA due to the apparent prevalence of cannabis providers in the black market compared to the legal market. Additionally, California's underground market adds another layer of complexity. This underground market can be delineated into two distinct categories: the black market, characterized by illegal activities involving drug dealers who illicitly cultivate and distribute cannabis, and the grey market. The grey market consists of companies operating in California despite their inability or reluctance to obtain licenses due to the associated time and financial investments.

The coexistence of California's black and grey markets poses significant obstacles for law-abiding businesses striving to thrive within the legal framework. The state also struggled with pricing dilemmas. Ultimately, retailers were the ones who dictated the prices, but the state also contributed to pricing challenges by imposing hefty regulatory expenses on legal cannabis enterprises. To remain profitable, companies find themselves compelled to levy higher prices for cannabis products compared to the black market, in order to offset costly licensing fees and other regulatory expenditures.

The state had to contemplate alleviating some of these regulatory burdens to empower licensed cannabis providers to compete more effectively with the black market on pricing. California legislators put forth a proposal known as the Temporary Cannabis Tax Reduction Bill, aiming to provide legal cannabis companies with temporary tax relief to enhance their competitiveness against the black market. The bill suggests reducing the state excise tax for legal marijuana retailers from fifteen to eleven per cent temporarily. Proponents anticipate that these tax cuts will level the playing field against California's grey- and black-market competitors. This initiative is expected to curtail the black market by enabling licensed dispensaries to offer more competitive prices and stimulate the growth of legal cannabis providers by allowing them to retain a larger portion of their revenue. However, the primary concern with this approach is its potential impact on the goal of generating tax revenue through legalization. While temporarily cutting taxes may diminish tax revenues for states, proponents argue that it could lead to long-term benefits by fostering the growth of licensed dispensaries and cultivating a loyal customer base. Ultimately, the hope is that once taxes are reinstated, the increased business activity within the legal cannabis sector will result in higher tax revenues overall.

Conclusion

In conclusion, examining black markets and the effects of legalisation reveals the intricate challenges and potential unintended outcomes of such policy decisions. The examples of the ivory trade and cannabis legalisation in California demonstrate that while legalisation can lead to benefits like reduced crime and increased tax revenue, it can also unintentionally boost illegal markets by decreasing the costs and risks of illicit activities. These cases underscore the importance of a nuanced and comprehensive approach to policymaking, incorporating both quantitative and qualitative analysis to address the complex nature of black markets.

Policymakers must thoroughly assess the potential impacts of legalisation on both legal and illegal markets and develop strategies that effectively reduce black market activities while supporting the growth of legal markets. This might involve measures like temporary tax cuts to improve competitiveness, stricter enforcement of regulations, and continuous monitoring and adjustment of policies based on empirical evidence and market trends. By adopting a balanced and informed approach, governments can better navigate the challenges posed by black markets, reduce illegal trade, protect public welfare, and maximise economic benefits.

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WHY BLACK ECONOMY FIGURES MATTER FOR INDIAN POLICY?

By Aavishi Singhal

The black economy, essentially described as the economic activities or transactions that are made without the knowledge of the government and often involve certain illegal activities like selling of prohibited commodities or tax evasion, is a worldwide phenomenon that is thriving in every aspect or sector of the economy. Be it accepting cash donations, accepting bribes from big business tycoons, selling human organs or humans for a matter of fact, or selling weapons illegally, the black economy can plague the whole economy. We, as citizens, are often unable to comprehend the full extent of the effects it can have on the economy and its subjects. One of the affected areas is the macroeconomic linkages and the public policy.

Economic policies and theories are often based on a perception of how the economy should be and the idea of how it should operate with some goals that might be desirable to all. To facilitate this, policymakers and economists often come together to run analyses on key variables of the economy, unravel the correlations amongst them and then use these connections to formulate policies that will help achieve the goals. However, Indian policies often fail to achieve the intended goal. This can happen because of two major reasons-
1) the policy made itself is erroneous and does not suit the country and the underlying situations or
2) the implementation is faulty.

In India's case, both factors apply to the failure of policies. While there are many factors for this to happen, one of the factors it can be blamed on is the existence of a black market of substantial size. The existence of the black market affects the numbers and data. Due to this, the economists usually get a distorted picture of the variables as the data is only partly observable and consequently, the analysis gets affected. This can be best explained by taking the example of savings and investment in any economy. According to theory, the two should be equal in the economy and while, in reality, they are not, there is a very minute difference between the two. The black market distorts this data to the extent that there can be seen a huge difference between savings and investment in the economy. We can also look at BOP data, as it can be strongly influenced by the smuggling of commodities, the over-invoicing or under-invoicing etc, and these are not taken into account while formulating policies.

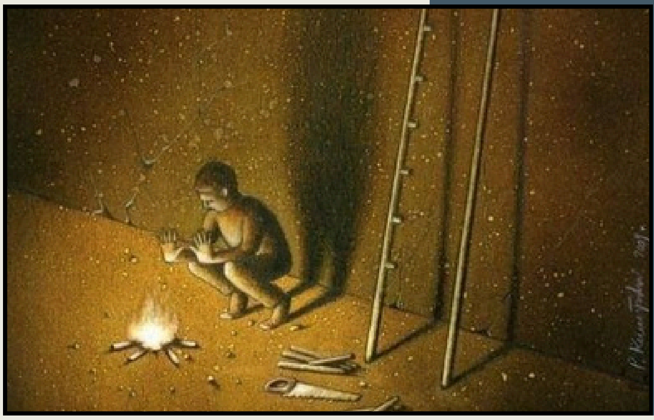
If the size of the black economy in the country was, by any chance, small and controllable then these distortions would have been very miniscule and the errors could have been considered as the first approximations. This would have been considered legitimate as precision in economics is seldom feasible.

By using various methods of measurement, the economists were able to calculate the size of the black economy. Acharya and associates(1985) calculated it to be 20% of the white economy in the year 1980-81. In 1992, Gupta pointed out errors in the previously used method and calculated it to be 42% of the GDP for 1981-82 and 51% of the GDP for 1987-88. Many more methods were introduced and many more figures were declared. This happened due to differences in various definitions and interpretations of the black economy, hence leading to double counting, capital gains and transfer payments being clubbed with the factor payments. But the consensus we get from these figures is that the black economy was huge during the 1980s and it was uncontrollable. Some data figures from that decade also indicate that the black economy was prevalent in the primary and secondary sectors and with the start of the 1990s, the size of the black economy increased in the tertiary sector, more so than the other two. (Kumar, 1999)

A major mistake committed by the policymakers during those years was that they used the data gained from the white economy as the proxy for the whole economy and formulated policies around it. This was flawed because the ratios between the black and white variables are not constant and thus it is necessary to include the black variables in the economic analysis and policy formulation.

The Indian government introduced the New Economic Policy (NEP) as a step towards economic reforms to address the problems that the economy was facing in 1990. The policy was introduced in the hopes that it would help combat issues like growing fiscal deficit, huge debt in the country, increasing inflation, and caterpillar-paced economic growth. The policy advocated opening up the economy for exports and imports, privatisation of the companies and liberalising the firms. The opening of the economy was supposed to increase the inflow of foreign investment in the domestic industries, consequently providing the firms an opportunity to grow. Cuts in expenditures were made by decreasing the subsidies and transfer payments to handle the huge fiscal deficit and eliminate the BOP crisis. In all, the New Economic Policy was like a lifeboat given to a sinking economy and the policymakers hoped that it would save the whole country.

However, they did not take the black economy into account before formulating the policy. They took only the official data (white data) into account while doing their analysis. They ignored the informal economy, leading to errors in understanding the causations and interrelationships between various variables. Since the black economy data was ignored, the data taken for analysis was taken as a proxy for the whole economy but it did not even represent half the actual numbers. The actual magnitude of investments and savings in the economy was completely different from what it was considered to be. This occurred because of leakages occurring in the savings of the economy in the form of capital flight and smuggling of drugs and precious metals. Due to syphoning off of funds, the true investment in the public sector was always lower than proposed in the budget. Savings of the public sector were also affected as the profits were skimmed off during purchases and then transferred to the private sector. Such were the gaps that have affected the formulation of NEP. (Kumar, 1999)



If we look at the external sector too, which opened up after NEP 1991, the size of the black economy is considerably significant. The official reports stated that the exports in 1990-91 were $18 billion, while 170 tonnes of gold valued at Rs. 6000 crores or $2.2 billion was smuggled inside the borders at the then-current domestic prices. Not only this, there was smuggling of other commodities such as silver, electronic goods, synthetics etc. worth at least $15 billion. Activities such as smuggling, capital flight, illegal transactions like over-invoicing etc. short circuit the accrual of foreign currency in the government reserves. The government bore a loss of at least $15 billion worth of foreign exchange, almost equivalent to 80% of exports shown in official reports. This affected the country's balance of payments, increased the import intensity, and saving-investment behaviour of the people. (Kumar, 1999)

Another aspect that the black market infects is unemployment. In India, the unemployment rate is judged through surveys like the one conducted by the National Sample Survey, but

these surveys don't give the whole picture. People not only tend to hide their black income but also try to fudge their white income, giving inaccurate numbers to policymakers and economists. This causes them to overestimate unemployment and underemployment. According to Kumar (2006), these numbers gave the impression that our economy was experiencing jobless growth since it had a GDP growth of 7% but even with the increase in the investment-GDP ratio, employment was not improving in the country. Not only this, but the black economy also lowered the multiplier by increasing the rate of savings in the economy, lowering the potential of employment, and preventing the economy from reaching its potential output level (Kumar, 1999). This all led to failures in policies and made it difficult to achieve targets in areas like education, infrastructure, health, sanitation etc.

In conclusion, the black economy in India is of quite significant size and has huge implications, especially when it comes to macroeconomics and public policy. The evasion of taxes and increase in savings causes stagflationary pressure on the economy. Not only this, there is a growing fiscal deficit which hinders the growth and stability of the economy. The black economy erodes the public sector's profits by transferring the money to private hands. Policymakers in the country have repeatedly made the mistake of not accounting for the size of the black economy before formulating the policy and it has cost them. Many of the major macroeconomic problems in the country are integrally linked to the growing size of the black economy and thus its non-inclusion has led to a partial understanding of the problems, and consequently faulty policies. These errors in policies can be mitigated by either controlling the size of the black economy or by inculcating the data on the black economy while formulating the policies.

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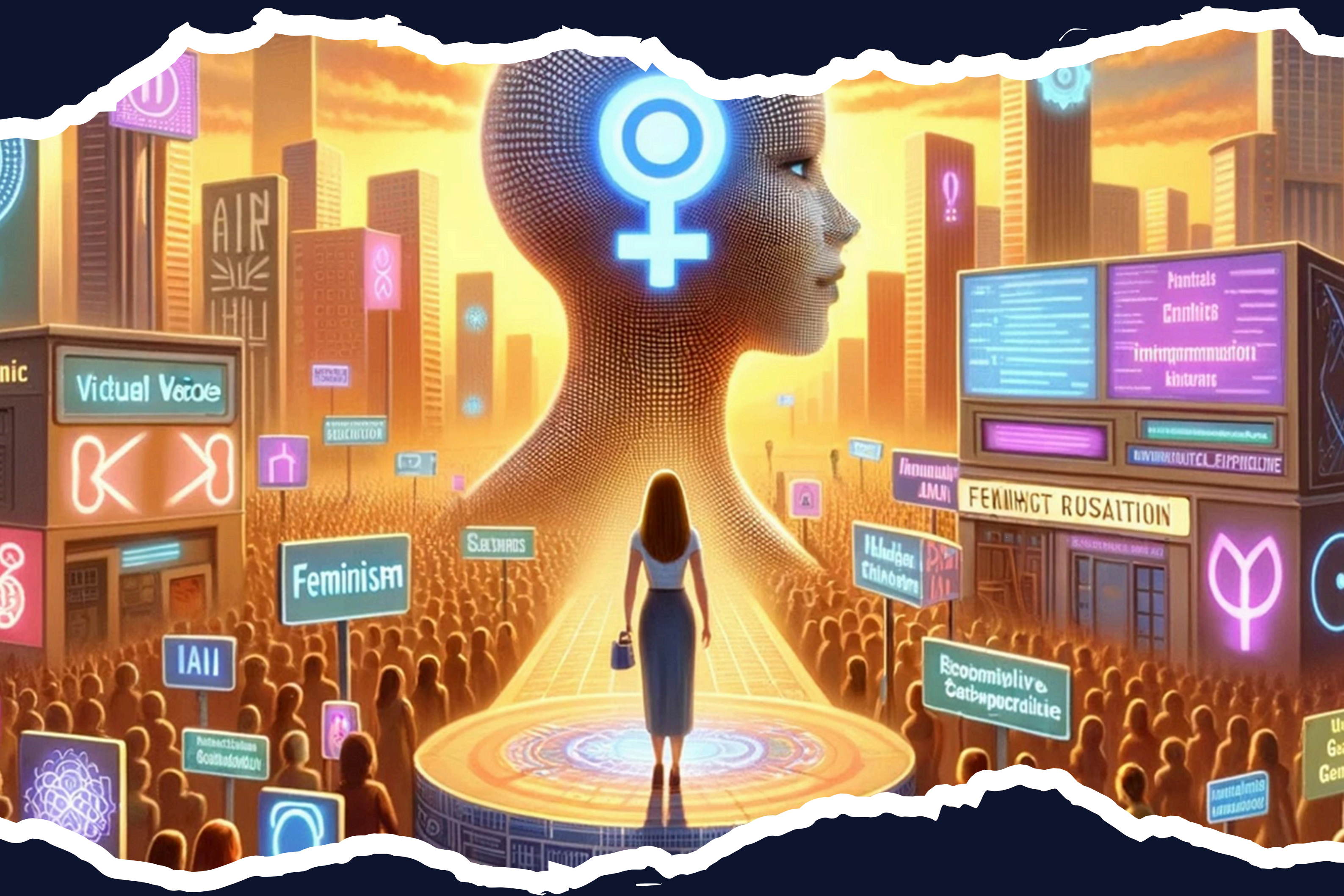

FEMINISM AND FUTURE WORKFORCE

SECTION EDITOR - MYESHA SAIYED
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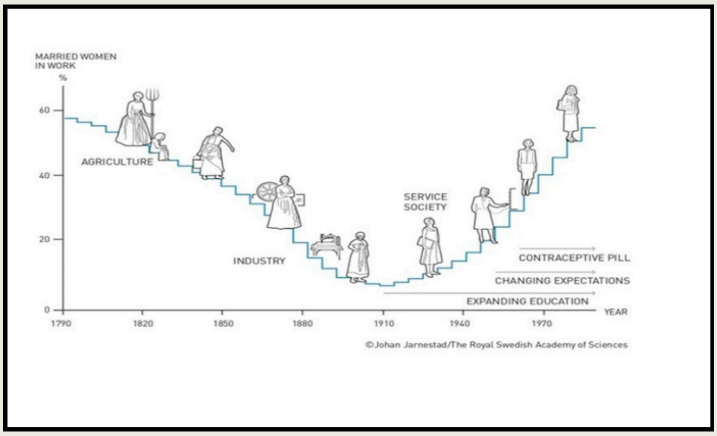
WOMEN EMPOWERMENT IN LABOR, EDUCATION AND SOCIETY

By Myesha Saiyed and Prabhneet Kaur

In 2023, Professor Claudia Goldin received the Sveriges Riksbank Prize in Economic Sciences in recognition of her innovative studies on the results of women participation in the labour market. In terms of economics, Goldin's work was among the first to recognise the contributions of women. It provided insights into the historical pattern of the pay gap and its underlying causes. She has produced "the first comprehensive account of women's earnings and labour market participation through the centuries," according to the jury.

Dr. Goldin's research spans 200 years and reveals a U-shaped curve between the GDP per capita and women's labour force participation suggesting that women are highly engaged in the labour force in both wealthy and poor nations, whereas middle-income nations have relatively low female labour force involvement.

This results in a U-shaped pattern that shows that women's labour force participation initially decreases with economic expansion but then increases as per capita incomes rise. She analyses elements that influence gender differences, such as the work-family balance, educational choices, technology, legislative changes, and economic developments. Dr. Goldin emphasises the negative repercussions for all genders, with men sacrificing family time and women sacrificing professions, and provides a complete explanation of gender dynamics in the labour market across time.



Source: nobelprize.org

Professor Goldin's study also focuses on changes in married women's labour force participation. Initially dropping during industrialization, it increased as the services sector expanded. Here, the income effect comes into play. With husbands bringing home a factory paycheck, many families in the industrial age felt they could finally afford for he wife to stay home, especially if the couple had children. This meant some women, particularly mothers, stepped back from their jobs. There was also a stigma of blue-collar jobs. Women faced many obstacles when working in factories, including physically taxing jobs, long workdays, and little prospects for career advancement.

The rise of the service sector opened doors to a whole new world of work for women. These jobs weren't just about long hours on your feet; they offered a wider variety, from shops and offices to hospitals and schools. Moreover, the hours were often more flexible, and there was a chance to climb the ladder, not just stay stuck in the same place.

Dr. Goldin draws attention to census inaccuracies. The traditional census approach categorised women primarily by their marital status, labelling them simply as "wife." This method completely overlooked any work women might have been doing outside of the home, such as running a family farm, managing a business, or taking on paid domestic jobs. Reanalysis of the data revealed a significantly higher labour force participation rate for married women in the late 1890s than previously estimated. This suggests that earlier data may have underestimated female economic activity.

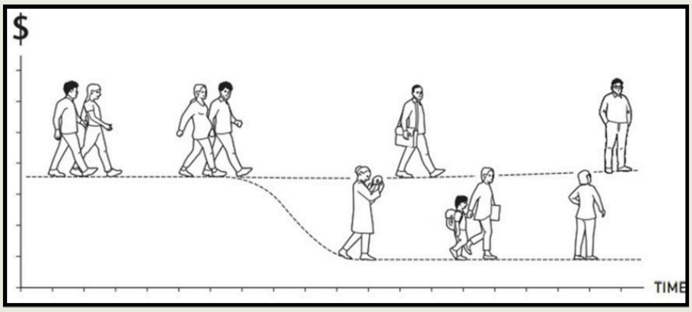
What happens if the curve moves upwards?

Higher levels of education, the expansion of the service sector, and technical advancements all contributed to an increase in female labour force participation in the early 20th century. But "marriage bars," institutional impediments, and societal stigma restricted their influence. Professor Claudia Goldin draws attention to the fact that these marriage restrictions, which reached their height during the Great Depression of the 1930s, required married women to give up employment like office or teaching. Women were expected to quit the workforce after marriage and return only after their children were older, based on previous educational decisions made when jobs were not anticipated. This was one of the major roles performed by societal expectations. As more young women made educational investments, the undervaluation of women's education started to shift in the 1970s.

Despite more women entering the labour force, average employment levels increased little. Moreover, the introduction of birth control drugs facilitated career planning, influencing educational and employment decisions.

The Parenthood Effect and Wage Differentials

There remains a ten to twenty percent wage discrepancy between men and women in high-income countries. Professor Goldin, along with co-authors Bertrand and Katz, believes parenting has a substantial impact. After the first child, women's earnings dip and do not rise as quickly as men with the same degrees and professions.



Source: Harvard Publications

Dr. Goldin and coauthors examine elite MBA graduates and discover that male and female MBAs receive almost identical salaries after graduation. Motherhood, on the opposite hand, causes career interruptions, reduced hours, and increased preferences for flexibility, all of which contribute to the growing gender disparity between female MBAs and male MBAs.

This "parenthood effect" is global, owing to competitive labour markets that prevent women—who frequently provide childcare—from moving up in their careers. Combining chores with part-time work is difficult, affecting women's salaries and career advancement.

The Peculiar Case of Female Workforce Participation in India

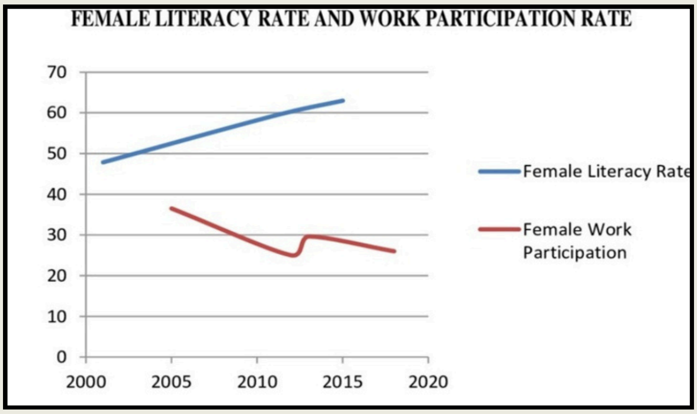


Fig.1
Source: researchgate.net

Indian women's literacy rate has increased over time. Between 1981 and 2015, the percentage of literate women rose by 20% to 70%. According to a World Bank India estimate, only one in every eleven girls, or approximately 9% of the population, had literacy abilities when India attained independence. The most recent estimates reveal that India's literacy rate climbed to 77.7% in 2023. During her Budget 2024 speech, Finance Minister Ms. Sitharaman drew attention to a notable 28% rise in the enrollment of women in higher education within a span of 10 years.

As Fig. 1 elucidates, the monotonic increase in India's female literacy rates between 40% and 70% has not translated into a commensurate increase in the female workforce participation rate. Workforce participation has decreased over the years since 2005. According to the Institute of Labour Economics, despite economic expansion, strong fertility drop, and fast-expanding female education over the previous two decades, educated women's workforce participation rate remains lower than that of men.

Traditionally, many Indian women participated in agriculture alongside men. However, with economic development, these agricultural jobs have become less attractive due to the rising incomes of their male counterparts, or women might be pushed out due to increasing mechanisation. This results in an initial dip in participation. As Dr. Goldin suggests, societal expectations often pressure women to take on primary childcare roles. This, coupled with a lack of affordable and accessible childcare options, can lead to women leaving the workforce or switching to informal, part-time jobs that offer more flexibility but limited career growth. Even in the formal sector, inflexible work schedules and a lack of support systems for working mothers can create challenges. Long commutes, limited parental leave policies, and a cultural expectation of prioritising family over work can discourage women from pursuing long-term careers. According to Indiaspend, women in large Indian cities like Bengaluru and Ahmedabad suffer from safety issues that affect their mobility and career choices as they take up lower-paying jobs closer to their homes because of family limitations and media-fueled fears of violence. ("Women at work", 2022)

Most studies (Das and Desai, 2003; Mitra, 2019; Rao et al., 2010) highlight that Goldin's U-shaped hypothesis does not hold in India. Despite sustained growth in GDP and increasing urbanisation in the last three decades, the female labour force participation rate (FLFPR) has declined in India. Studies have found that urbanisation in fact has a negative impact on FLFPR (Mitra, 2019; Lama, 2021). However, Chatterjee et al. (2015) argue that this impact is overstated and India might have had a prolonged stay at the bottom of the curve and has the potential to turn upward soon, provided gender-inclusive urbanisation is focussed upon.

Lama (2021) points out that there are demand-side constraints to female employment as well because the employment in sectors appropriate for or preferred by women is growing less than the supply of educated women workers who thus prefer to withdraw from the labour market. Furthermore, low urban FLFPR but rising education levels can also be explained by the high preference for educated daughter-in-laws in a society where working post-marriage is stigmatised.

Thus, contrary to Goldin's research, the U-shaped hypothesis of increasing FLFPR with economic growth has weak grounds in the Indian context.

To conclude, in order to encourage more women's participation in the labour market, policymakers must address childcare burdens, social attitudes, and the private sector's role in implementing flexible work schedules, parental leave benefits, and investing in upskilling programs. Initiatives promoting digital literacy among women and ensuring their online safety are essential to ensure equitable access to the digital economy. Additionally, the supply of jobs that are preferable to women must be augmented, particularly in the formal sector. These comprehensive programmes would enable India to make the most of the potential of its female population. Undoubtedly, social and economic growth will be accelerated by a more diversified workforce that makes use of the skills of both men and women. India's remarkable record of raising female literacy holds the potential for a promising future where education results in economic equality and female empowerment.

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THE NEW ECONOMY: CHANGING DYNAMICS OF THE LABOUR MARKET

- By Myesha Saiyed, Asmita Pandey and Prabhneet Kaur

The world economy is evolving at a rapid pace and with it, the labour market is setting into a new normal. In this article, we attempt to understand three forces reshaping the world of work- a surge in labour demand in the green industry, new definitions of working age and a wave of workers working independently, job by job.

Rise of Green Jobs within the Labor Market

Green jobs refer to employment opportunities that contribute to environmental sustainability and address the challenges of climate change and resource depletion. These jobs are typically associated with industries and sectors which focus on renewable energy, energy efficiency, conservation, pollution reduction, waste management, and other environmentally friendly practices.

The term "green jobs" gained popularity in the early 2000s, particularly in the context of discussions around sustainable development and the transition to a low-carbon economy. While it's difficult to attribute the coining of the term to a single individual, it gained significant attention through reports and initiatives from organizations like the United Nations Environment Programme (UNEP) and the International Labour Organization (ILO).
Green jobs exist in various sectors, with renewable energy leading the charge. The renewable energy sector, including solar, wind, and hydroelectric power, has grown remarkably, due to technological advancements and increased global commitments to decarbonization. Notably, sectors like sustainable transportation, energy efficiency, and waste management are also experiencing significant expansion, as governments and businesses prioritize sustainable development goals.

Countries around the world are adopting green jobs as a means of achieving sustainable development. Green energy investments in India, for example, have increased dramatically, propelling the country to the top of the list for green energy capacity expansion. Furthermore, programs supporting sustainable transportation and afforestation projects are on the rise, indicating a deliberate push for a greener economy.

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India, a country with enormous potential for hiring skilled labour, is experiencing a growing demand for green jobs in fields like waste management, renewable energy, urban farming, and green transportation. Solar panel installers, electric car engineers, environmental scientists, sustainability supervisors, and recycling plant technicians are a few of the common green jobs in India.

"The green industry in India employs 18.5 million people, and it is anticipated that we will grow and add about 4 million more jobs by FY25," stated Nidhi Pant, co-founder of S4S Technologies and 2023 UK Earthshot Prize winner, in a World Bank interview. Up to 30 million "green" employment in renewable energy and low-emission technologies might be created by the shift away from fossil fuels by 2030. According to a recent IBM survey, 82% of business leaders in India are actively seeking to hire experts in green and sustainable technologies.

According to a World Economic Forum analysis, India's GDP may increase by $1 trillion by 2030 and as much as $15 trillion by 2070 by utilising green growth. The industry for renewable energy is one of the main growing sectors. Greater employment possibilities are being developed as a result of increased investments in the sector. In fact, in January 2023 the number of green jobs available in the nation has increased annually by 81% according to data released by foundit (formerly Monster APAC and ME).

Urban India is where the demand for green jobs is greatest, with Bangalore, Mumbai, and Delhi/NCR experiencing the fastest increase. Understandably, the need to handle waste management, soil degradation, and air pollution as a result of urbanisation explains this tendency.

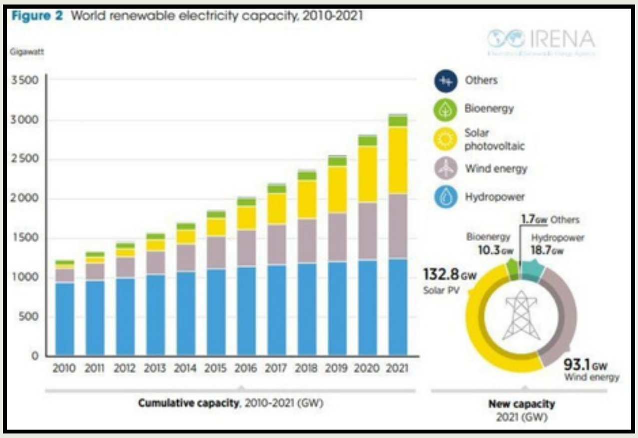

Fig. 1
Source: theprint.in

Figure 1 shows the sectoral classification of renewable energy employment over the years. Hydropower stands out as a steady generator followed by wind energy and solar photovoltaic. This may come as a surprise since India has an abundance of sunshine inducing people to think that it may stand at the top. However, the infrastructural requirements to properly utilize solar are still in the works. Though solar panels have been adopted in huge numbers; there is yet to be done on other innovative ways of harnessing solar power.

Apart from the renewable energy domain, green jobs are part of a broader spectrum. Attitudinal change among people with regard to adopting a sustainable lifestyle has invoked many such green jobs. The range is quite wide from sustainable products, eco-friendly packaging, building sustainable technology etc.

However, implementation is where the problem lies; typically, such attitudinal changes in large numbers in a country with a huge population might be dissolved due to the exorbitant costs and lack of skilled workers, particularly in rural areas. Largely, sustainability is deemed as a luxury preserved for the most profitable. But what is overlooked is the mere shift in practices could be a start for companies who are eyeing profitability.

Lastly, green jobs can be pivotal to sustaining the economy both literally and metaphorically. It can bring about the cultivation of the preservation of the environment amidst productive activities. It will be a lucrative opportunity in the near future which might remove the resistance of small companies to adapt to it. Small companies eyeing profitability may see this as an opportunity instead of a threat since the green job will help in the self-selection of the candidates who are passionate towards sustainability and hiring such individuals might help in driving innovation and R&D of such products. Also, they will help in marketing them and raising awareness, cutting marketing and advertising costs. This will further help in boosting demand for sustainable products and services.

Analyzing the Impact of Increased Silver Workforce

The term silver workforce refers to the increasing participation of older individuals in the workforce, either delaying retirement or re-entering it after leaving. It comprises individuals aged 55 or above. As populations around the globe continue to age, understanding the implications of this demographic shift becomes imperative for businesses, policymakers, and society at large.

Analyzing the impact of the silver workforce is important for various reasons. Firstly, it provides insights into the changing dynamics of labour markets, where old concepts of retirement are being redefined. Secondly, as older individuals bring a wealth of their experience and expertise to the workforce, maximizing their potential can boost productivity and innovation. Thirdly, with advancements in healthcare leading to longer life expectancies, financial considerations, such as inadequate retirement savings, prompt many individuals to extend their working years.

In this section, we delve into the implications of the silver workforce, examining its effects on economies, businesses, and individuals. By understanding the motivations behind this trend and its broader societal impact, we can better navigate the complexities of an ageing workforce and harness the opportunities it presents for sustainable growth and development.

The OECD estimates that building multigenerational workforces and giving older employees greater opportunities to work could raise GDP per capita by 19% over the next three decades. Further, the employment of older people becomes increasingly important for the long-term financial viability of pension systems as the population ages. Increasing their employment helps society and guarantees that future retirees—including younger workers—have sustainable pension systems.

Silver workers are typically regarded as possessing high levels of responsibility and social competence. Additionally, they benefit from a deep understanding of their strengths and abilities, enabling them to assess their performance effectively.

Senior citizens are in high demand as specialists, advisors, and board members because they have specialized knowledge and abilities that have been developed over years of experience. Their considerable competence is widely valued in areas related to finance and engineering, where they perform exceptionally well. They also act as mentors, offering advice and important insights to younger workers. They are also renowned for having strong work ethics, which can improve the professionalism of the team.

All things considered, the silver workforce makes a substantial contribution to the success of the organization by utilizing their knowledge, professionalism and mentoring skills. The skills of the silver workforce can thus result in better decision-making, increased team performance and an enriching work environment.

According to the partner and national head of Ernst & Young, companies across various sectors, including accountancy firms, NGOs, BPO/KPOs, banking & insurance, and telecom operators, are increasingly hiring older individuals for senior positions.

Table 1: Composition of the workforce by age group (%)

Year	Share of >15 and <30 in workforce (in %)	Share of 30 to <45 in workforce (in %)	Share of 45 years and more in workforce (in %)
2016-17	25	38	37
2017-18	23	38	39
2018-19	22	38	40
2019-20	21	37	42
2020-21	18	36	45
2021-22	18	35	47
2022-23	17	33	49

Fig. 2
Source: CMIE's Economic Outlook and Indian Express Research

The yearly trend (as given in Figure 2) analyses data over a period of 7 years from 2016-17 to 2022-23 indicates the proportion of the workforce with respect to a younger, middle-aged and older(silver) population.

The younger population in the workforce exhibits a significant decline from 25% in 2016-17 to 17% in 2022-23. Moreover, the middle-aged population has also shown a downward trend, however, it has been a rather steady
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decline. However, the older workforce has escalated from 37% to nearly half of the workforce.

While this may seem like a rise in opportunities for the older population, it also means that youngsters are in a disadvantageous position when it comes to employment. Although seniors are known to have experience, youngsters bring in a plethora of ideas which may be crucial in the upcoming ever-changing world that is constantly facing technological changes. Further, since they are in touch with the current trends, they are more likely to drive research and innovation within companies.

To conclude, it can be ascertained that striking a balance between generating equal opportunities for all can be done through strategically sorting tasks through positions of expertise and having set benchmarks classifying the number of people in an organisation with respect to age-group classification.

Understanding the Gig Economy

Having a predefined schedule of working may not resonate with everyone and certainly not the coming generation which expects flexibility and self-selecting routines, which they say, help them produce a better output. The gap here is filled by gig work.

Although, not an alien term but gig economy is being talked about now more than ever. The gig economy differs from traditional employment in the sense that it isn't a permanent full-time job; rather, it is more of a task-based employment where people are hired temporarily for a specific task. Freelancing is now a widely popular source of income which ironically people have been pursuing full-time.

It opens doors to a plethora of opportunities, working with different clientele and fulfilling the different needs of each one of them. But the gig economy isn't just confined to freelancing. Freelancing is just a chunk of it. Currently, India holds nearly 7 million gig workers and this number is expected to increase to 25 million by 2030, with a CAGR of almost 12% ("A Budget Solution", 2024).

For instance, Uber, better known as an app popularised for its taxi-based service, now has expanded its features involving vehicles other than cars. It has also begun a package delivery service. Uber is one of the many companies that bring together many gig workers in one place. It allows car owners who voluntarily wish to put up their private cars for commercial use by providing cab services in return for wages set by the company. Another such company, Urban Company, an Indian service-based startup, also has gig workers forming a major chunk of the workforce.

A Growing Choice

India deals with a major demand-supply crisis in work opportunities. The skyrocketing population and skill deficit can be blamed for this. The lack of quality education or should we say tunnel-vision hierarchy of education is yet to evolve and diversify with the changing generation and skill-based needs of the industry. The shift towards a gig economy can help tackle this by matching the demand-supply scenario. Also, potential candidates can choose the skills to learn which may be lucrative.

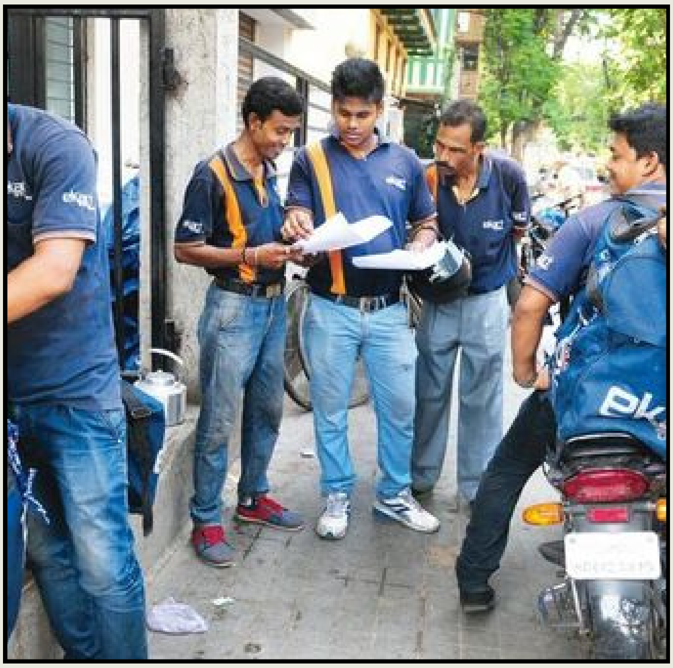
Tackling Unemployment

India being the diverse & secular country that it is, has an unemployment rate closing at a massive 8%, according to the Periodic Labour Force Survey (PLFS) conducted by the National Sample Survey Office (NSSO) in 2022-23. The job search is a standard process of acquiring a degree, going through a streamlined approach of creating a resume, applying through job portals, and referrals and weighing options in case of multiple job offers or applying continuously in case of rejections. This may lead to dissatisfaction among potential candidates driving down their morale. Gig work cuts through such a monotonous and mainstream process by replacing a resume with a portfolio and allowing individuals to acquire niche skills as and when required by industries, ensuring that the individual preserves his/her individuality.
It is fueling the labour market of India with niche workers who are much more dedicated to their work, owing to the flexibility and independence it offers.

Paradox of Gig

However, the downside is worse, with the gig economy becoming mainstream, it will become the same rat race of a job search with everyone competing for the best gigs, clients and plagiarism of portfolios. Also, the lack of job security, stability and labour rights may diminish labour unionisation and bargaining power. This may lead to exploitation of labour in some cases.

Currently, gig workers are yet to be absorbed into the corporate world, although the process has already begun in several developed nations. A gig economy seems more feasible pertaining to the needs of the current generation and the flexibility it seeks. Currently, the retail and trade sales sector accounts for the highest number of gig workers.



Although not a substitute for traditional employment, the gig economy, if provided with enough resources and regulated efficiently, can give a major boost to India's growth. Employment can have new set-ups and meanings under the gig economy, incentivising the upcoming population to redefine work.

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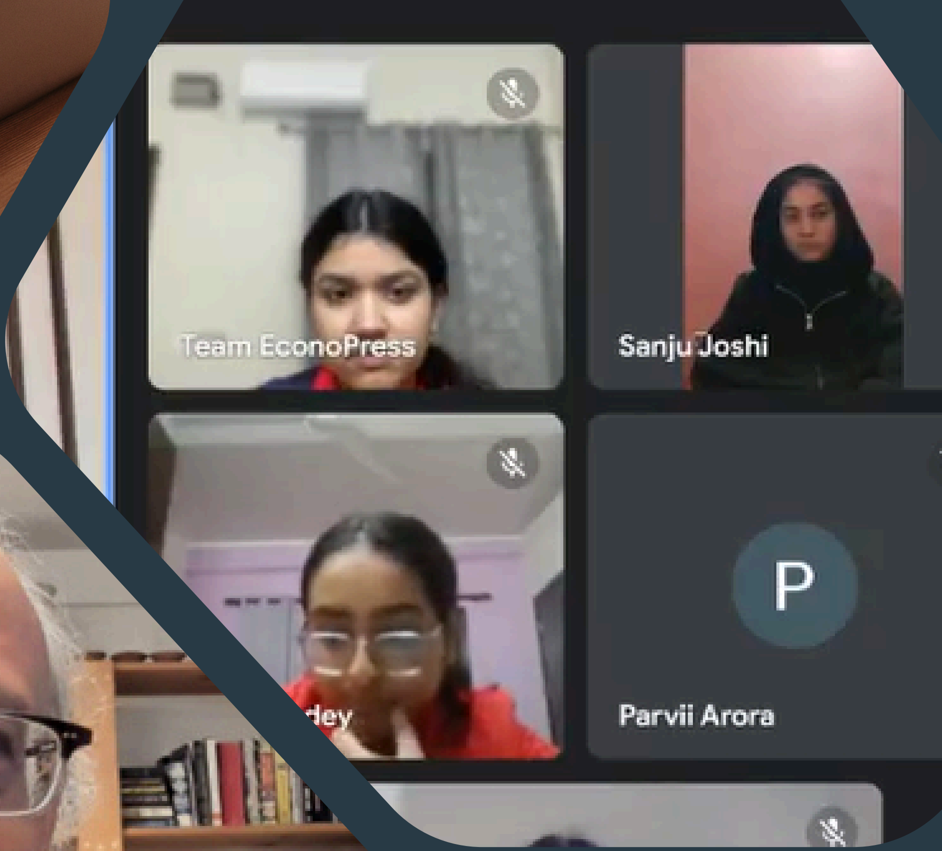


IN CONVERSATION WITH DR. SUBODH MATHUR

INTERVIEW WITH DR. SUBODH MATHUR

Dr Subodh Mathur, an economist, professor, consultant, in a vidpeds stylized conversation (read further to know what it is) with the team members of Econopress, shedding insight on his journey from getting his PhD from MIT to working in the World Bank.

Q: Can you tell us about your experience as an economics student at St. Stephen's and the Delhi School of Economics?

A: My college days at St. Stephen's were quite different from today. The world has changed so much since then. Back then, exploring the city and making friends was a major focus, and academic pressure was minimal. Today, I see students involved in many pursuits outside college to build an appealing profile, however, things were relatively simpler during our times, although accessibility of resources was a major challenge. At the Delhi School of Economics, it was a completely different story. The curriculum was rigorous, and the expectations were high. The faculty, including renowned figures like Professor Amartya Sen, Professor Javed Baboti, and Manmohan Singh, made it quite challenging but definitely a worthy experience. Many students, including myself, initially struggled to adjust. I had to teach myself calculus after my MA since I had neglected to take mathematics earlier.

Q: How did your career progress further, after completing your masters degree from DSE?

A: In those days, the main options for students at that time were pursuing a PhD to become an economist, preparing for the UPSC exams, or delving into literature, although that was considered risky. After completing my degree, I received a job offer to teach Economics at St. Stephen's in Delhi. However, I decided to return to Jaipur and secured a teaching position at a university there. It was a risk due to job uncertainty, but I believed in the possibility and took the chance. It turned out to be a fulfilling experience with a more relaxed environment compared to the Delhi School of Economics. After some time, I decided to do my PhD. There were limited options for applying to universities since applications were sent by airmail, which was expensive. Ultimately, I was accepted into MIT.

Q: How was your experience at MIT as a student and a professor?

A: Unlike today, there was a lack of knowledge about what to expect. MIT's economics department was world-class, with faculty like Samuelson, Robert Solow, and Franklin Fisher. Everyone was at the pinnacle of their field. The environment was highly competitive, with even undergraduate students surpassing graduate students, capable of handling six courses effortlessly and still considering it a joke. After graduating, I had the opportunity to teach at MIT. I recall an interaction with a student who was reading a newspaper during my lecture. When I questioned him, he said he'd listen when I taught something he didn't already know.

Q: Can you tell us about your extensive work experience, from academia to consulting and founding Lift Up India2047 and now the vidpeds youtube channel?

A: After some time in academia, I felt it lacked independence. A senior colleague invited me to work as a consultant at her firm. My analytical skills made finding consultancy jobs relatively easy. I worked on various energy projects for the World Bank in Tanzania, focusing on rural electrification. Later, I co-founded Glen Echo, a firm providing personalized services in economics and econometrics.

I would say that one of the most significant developments in my professional life was when I encountered hardworking and accountable students in college interviews, without sufficient guidance and opportunities. I felt that I should do something to fill this guidance gap. I then started the 'Vidpeds' channel, less than 2 years ago, to give young people a platform to express themselves and share their professional and academic journey. I believe it has now found its purpose, which was not entirely clear in the beginning. This platform has allowed us to connect with a wide range of perspectives and younger individuals to learn from older ones outside of their usual circles. I believe in making this information accessible without a cost and still have a lot to explore in my professional journey and am constantly striving to innovate.

In light of the inevitable automation of high-wage jobs and the formal sector, I founded Lift Up India 2047. Our focus is on exploring small towns with populations around one lakh, starting with our flagship town in the Birbhum district of West Bengal. We aim to create jobs and increase incomes through various means. Lift Up India 2047 is a non-profit institution operating as a Section 8 company, dedicated to assessing local situations, identifying opportunities, overcoming barriers, and leveraging resources from state, national, and international levels. Our six-point work plan is aimed at creating employment opportunities and increasing incomes through any means possible, without being fixated on digitalization. We pride ourselves on being an open-source, multi-sectoral, multi-state economic non-profit institution, not just a think tank but a proactive entity making a tangible impact think tank but a proactive entity making a tangible impact.

Currently, I'm also mentoring young people aged 18 to 25 in India, through the NGO FEA. These individuals come from families that cannot afford a quality education, where FEA provides them with one year of free soft skills training and interview preparation to help them land a job.

Q: Do you have any professional regrets?

A: Despite the unconventional choice of not pursuing a job after my PhD, I have no regrets. At 50, I opted for a university position before transitioning to self-employment. This choice worked well for me, though it may not suit everyone. For me, job stability felt constricting, and I'm committed to my current path for the foreseeable future.

Q: What are your thoughts on the difference between academia in India and America?

Q: What are your thoughts on the difference between academia in India and America?

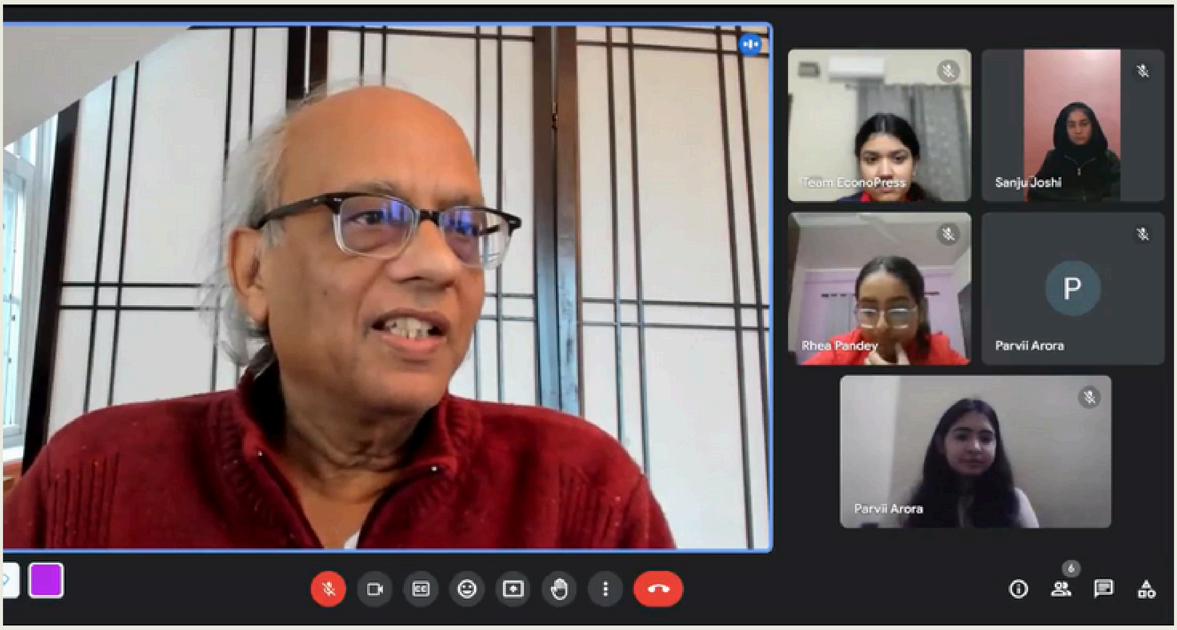
A:The Indian education system emphasizes more on memorisation, while the US system encourages more independent learning and critical thinking. For example, my daughter attended college in the US, and during her first semester, she found her initial paper challenging. However, the college provided her with the tools and guidance to improve. By the time she finished her degree and wrote her BA dissertation, her writing skills had developed significantly. Basically, the system here allows students the space to grow and learn independently, along with the focus on application based learning, adding more value to education and hence the better learning outcomes.

Q: What do you think about India's New Education Policy?

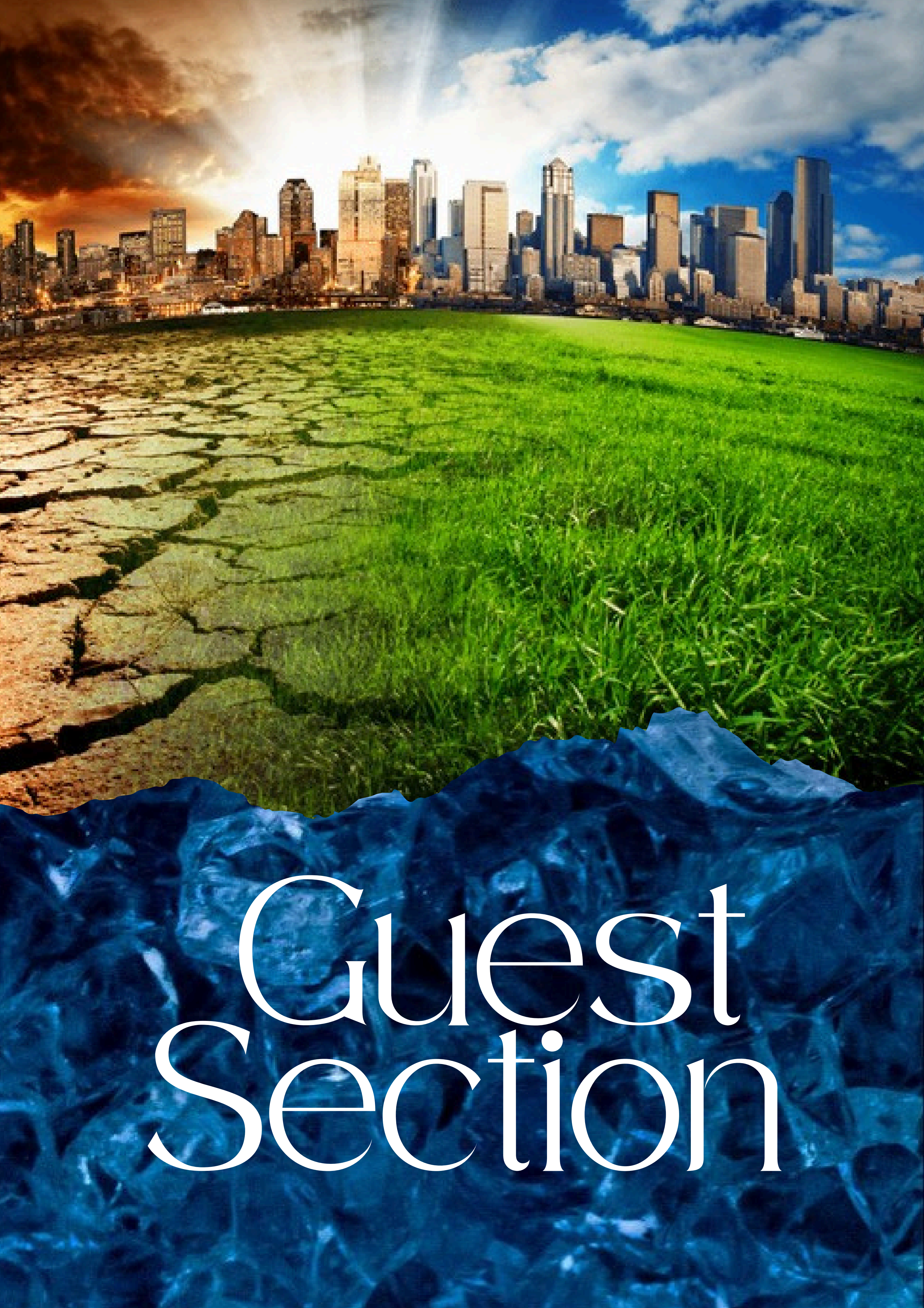
A: The new policies make minor adjustments but don't address the fundamental issues. The situation worsens when it comes to mass education in universities, especially in the poorer states, courses aren't completed within the designated time due to delayed exams and other issues. No education policy is sufficient in itself, and will not result in a highly beneficial approach. The solution lies with young individuals taking charge of their own education through various courses and knowledge sources to compensate for the shortcomings of the education system.

Q: What advice do you have for students looking to further their career in economics?

A: The competition is intense, and students need to put in the work. The key is to learn to educate oneself. Discover what makes you unique, embrace the latest technology, leverage it to your advantage, and be ready to seize opportunities that arise, like the emergence of AI. Find your own path and be ready to take on whatever comes your way. That's all.



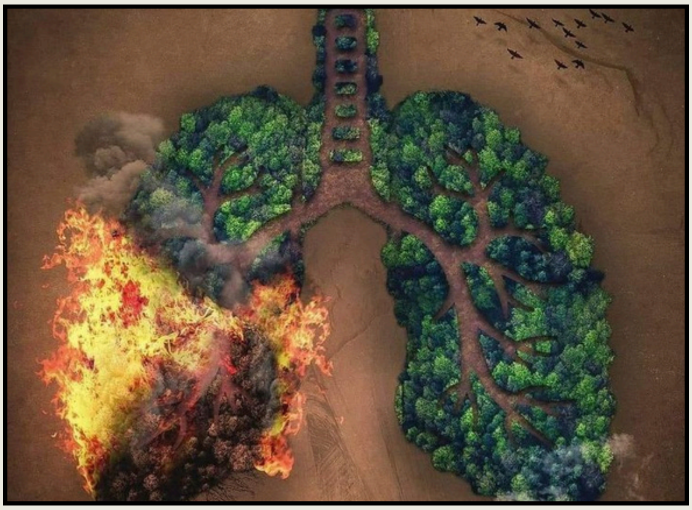
Mr. Subodh Mathur



Guest Section

CLIMATE CHANGE: RISK TO FINANCIAL STABILITY

- **By Mahima Agrawal**



Former general secretary of the UN quotes "Climate Change is the single greatest threat to a sustainable future but, at the same time, addressing the climate challenge presents a golden opportunity to promote prosperity, security and a brighter future for all."
Economics of climate change is the study of the economic costs and benefits of climate change and its impacts while focusing on limiting its effects on growth and development. This study has become all the more important as the global temperature has risen at an unprecedented pace in this decade, leading to an ncreased risk of fast-paced global warming, owing to high concentrations of greenhouse gases which were not as prevalent in the past eight hundred years. The changes in the climatic conditions lead to irreversible consequences in the form of heat waves, increased oceanic pressure, epidemics, droughts and many more, which hinder the growth of an economy by putting pressure on already limited resources.

Major developing countries, presently experiencing industrialisation, emit soaring levels of carbon dioxide and other harmful gases into the environment, likewise, the developed countries did during their industrialisation phase. These adverse environmental conditions affect the basic elements of life for people around the world in the form of clean water accessibility, healthy living conditions, food production and others due to which hundreds of millions of people suffer from hunger, water shortage and coastal flooding as the world warms.

Ringing the bell to save Economies in the Long Run

Climate change has a very serious impact on growth and development, and it has been estimated that if actions are not taken, the concentration of greenhouse gases will reach double its pre-industrial level as early as 2035, indicating that the average global temperature will rise by over 2-degree celsius, acting as the biggest threat to the world's economy. The poorest countries or LDCs (least developed countries) are most vulnerable to climate change. Although it is not possible to control the climatic conditions for the next two to three decades, it is equally possible to protect the economies in the long run if actions for sustainable growth and development are taken at the earliest. As witnessed by the United Nations Framework Convention on Climate Change (UNFCCC), the Kyoto Protocol, and the

Paris Agreement, the world has indeed taken actions on paper but there are existing interlinked consequences to a worsening climate, for instance, the risk to the financial sector and its stability.

The Risky Relationship

There exists a strong relation between climate risk, financial risk and risk to economic activity. Climate change poses long-term risks to the global economy in the form of transition risks and physical risks. Now, climate risk is a systemic risk that has implicit and explicit effects on the economy and the people in the financial sector. This risk needs to be addressed at a global level so that measures can be taken to limit its impact by agreeing to various climate and environmental agreements. Further, climate change causes financial instability as it leads to a change in the value of financial assets, increases the cost and availability of liquidity or credit and increases operational losses. This risk leads to an increase in the costs of production and hampers the productivity of the human capital, leading to a change in the employment division.

Risk has Types:-

Transition risk refers to the risk that arises from policy measures of the government like putting restrictions on carbon emissions that lead to a shift to a low-carbon economy, whereas physical risk refers to risk to the financial assets and liabilities due to worsening climatic conditions like droughts, floods etc, which causes massive risk to the financial institutions. It has been studied that economic output will be affected by efforts to transition towards net-zero emission. Results of the analysis conducted by a group have shown that stricter environmental policies are consistent with meeting the goals of the Paris Agreement and that it will exert a 5% to 8% drag on global GDP by 2050. Avoiding or delaying these transition risks to a greemer economy would lead to an increase in the physical risk and this,in turn,would increase the requirement for more resources for the reconstruction of the supply chain, to combat the reduced investment for increasing the future growth that has been affected by the climate change.

As climate risk leads to physical risk in the form of decreased value of the assets, it reduces the capacity to repay the loans leading to increased risk of default and losses on their credit portfolios which is a financial risk to the economy. Climate change does not pose any additional risk to financial institutions but adds to the existing market risk, operational risk, credit risk and liquidity risk.

Ways to mitigate risk:-

Avoiding the risk of climate change completely is impossible, but the climate risk effect can be lessened by taking measures like disclosure of the firm's carbon emission and exposure to climate risk, measuring carbon footprint and social cost of carbon for all firms, engaging investors in corporate activism and bringing together public and private sectors to accelerate the transition to net zero.Investment in low carbon producing technologies and green bonds is a smooth way to withstand climate risk but it is hard to apply to the real world as it brings associated risk which needs to be analysed in order to proceed ahead without taking a step back.

Conclusion

Climate change is one of the biggest challenges that mankind is trapped in, it leads to shocks and vulnerabilities to economic growth and development. We conclude that due to the interaction between physical and transition risks, climate change has affected the financial system of an economy and may lead to financial instability. Earth is the responsibility of all countries whether they are rich or poor and this should not cap the aspirations for the growth of LDCs especially. The way to a climate risk-free economy brings with it many challenges and associated risks but can be brought about by taking quick actions through a sustainable plan of strategies and well-researched, highly responsive measures.

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ECONOMICS OF "FREEBIES" AND ITS BURDEN ON THE ECONOMY

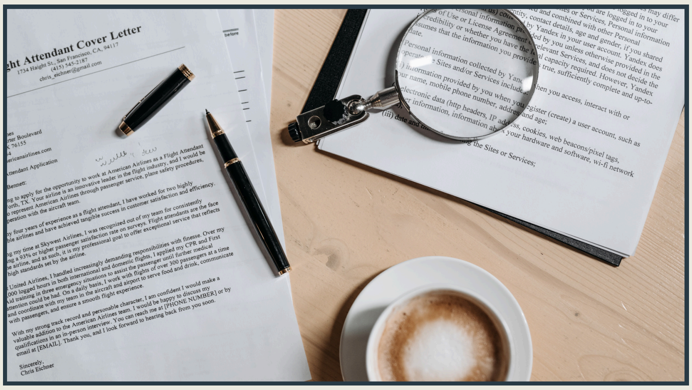
- By Vasu Chhabra, Prince Kumar

Abstract

This research paper delves into the economic implications of freebies, defined by the Reserve Bank of India (RBI) as public welfare measures provided free of charge. This paper explores the impact of freebies on various facets of the economy.

The study highlights the positive impacts of freebies, including enhanced public trust in the government, economic growth through improved skills and income opportunities for the less privileged, and the reduction of income inequality and poverty. A case in point is the provision of free bicycles to schoolgirls in Bihar and West Bengal, which led to increased enrollment and retention rates, decreased dropout rates, and improved learning outcomes. However, the paper also addresses the potential burden of freebies on the economy. It critically examines the strain on public finances.

Overall, this research paper provides a comprehensive analysis of the economic impacts of freebies, offering valuable insights for policymakers and economists alike.



Introduction

The Reserve Bank of India (RBI) in a bulletin in June 2022 defined 'freebies' as "a public welfare measure that is provided free of charge." RBI adds that freebies can be distinguished from public or merit goods such as education and healthcare, and other state expenditures that have wider and long-term benefits.

According to this, freebies include provisions for things like free transport, water, energy, and waivers of past-due debts and utility bills. So, when the government provides health-related or education-related benefits, we cannot term them as freebies because those are for the enhancement of social productivity. But things like free transport, electricity, and loan waivers are naturally termed freebies. Now, the question is what is the difference between freebies and welfare? The difference between freebies and welfare schemes is not always clear, but a general way to distinguish them is by their long-term impact on beneficiaries and society. Welfare schemes have a positive impact, while freebies can create dependency or distortions.

Freebies are goods and services given free without any charge to the users. They are generally aimed at benefiting the targeted population in the short term. Some examples of freebies are free laptops, TVs, bicycles, electricity, water, etc.

Welfare schemes, on the other hand, are well-thought-out plans that aim to benefit the target population and improve their standard of living and access to resources. Some examples of welfare schemes are the Public Distribution System (PDS), the Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA), the mid-day meal scheme, etc.

Literature Review

- Rohan Bavadekar's article "Freebies: The Political Path to Economic Disorder" provides a critical examination of the growing trend of offering free goods and services as political promises in India. The author highlights the adverse impact of this practice on the economy, including the consequences of reckless promises made by political parties in their pursuit of winning over voters. Bavadekar explores the economic and public finance aspects of freebies, discussing their origins and the issues they have caused, such as the 2008 loan waiver program and its disruptive effects on the banking system. The author mainly focuses on sustainable development over short-term populist measures.

- Saksham Vashishtha (“The Role of Freebies in Indian Politics”) concludes that the practice of pre-election handouts or "freebies" by political parties is a topic of concern due to their effects on state finances and governance. Notably, fiscal responsibility and stringent regulation of such practices are necessary according to the Supreme Court. Lessons learned from global experiences with "freebies," such as universal basic income, point towards the importance of their thoughtful design and evaluation. This review highlights the need for sustainable approaches, targeting the root causes of poverty and inequality alongside enhancing transparency in governance.

POSITIVE IMPACTS OF FREEBIES

1. Public Outreach and Engagement: Freebies, such as laptops, bicycles, or sewing machines, can enhance public trust in the government, showcasing its responsiveness and commitment to the people, thereby promoting transparency and democracy.

2. Economic Growth: Freebies can boost economic growth by enhancing the skills, mobility, and income opportunities of the less privileged, particularly in underdeveloped areas. For instance, providing free bicycles to schoolgirls in Bihar and West Bengal led to increased enrollment and retention rates, reduced dropout rates, and improved learning outcomes, as cited in a report by the NITI Aayog.

3. Income Equality: Freebies contribute to reducing income inequality and poverty through the fairer redistribution of wealth and resources. Measures like loan waivers and cash transfers empower indebted or low-income households by providing access to assets, credit, or income support. The Reserve Bank of India's report highlighted that loan waivers relieved the debt burden and enhanced the creditworthiness of distressed farmers.

DRAWBACKS OF FREEBIES

1. Inflation Increase: Offering products at no cost can lead to a surge in demand without a corresponding impact on supply, potentially causing inflation as per the law of demand.

2. Dependency Syndrome: Freebies can foster a culture of dependency and entitlement among recipients, reducing their motivation to work and contribute to the economy.

3. Fiscal Burden: Freebies like loan waivers and pension schemes can strain government budgets, impacting investment in vital sectors and fiscal stability.

4. Resource Misallocation: Freebies can divert funds from essential sectors such as infrastructure and industry, affecting overall economic development.

5. Quality Compromise: Freebies may lower the quality of goods and services provided, potentially hindering innovation and competitiveness.

Weighing in both the positives and negatives of freebies we can evaluate further its impacts with some examples.

THE DISASTROUS CASE OF PUNJAB

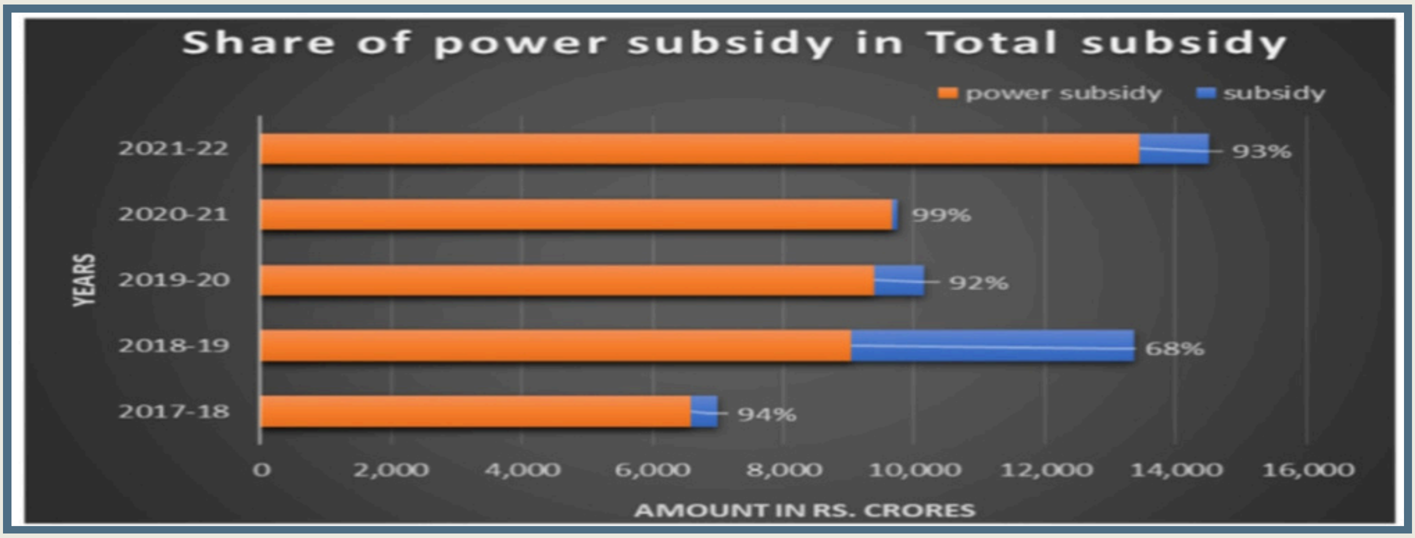
Punjab's high subsidy expenditure, particularly in power, has led to concerns about its fiscal deficit and outstanding debt. The CAG recommends reforms in the power sector to reduce the deficit. The Finance Commission estimates that implementing these reforms will reduce Punjab's outstanding debt and improve its fiscal situation. Moreover, the 15th Finance Commission also notes that the provision of free power to farmers has resulted in significant groundwater depletion, recommending a rationalisation of this provision to address soil fertility and water table issues.

Year	Revenue Expenditure	Revenue Receipts	Subsidy	Power Subsidy	Fiscal Deficit	Revenue Deficit
2017-18	62,465	53,010	6,982	6,578	12,494	9,455
2018-19	75,404	62,269	13,361	9,036	16,059	13,135
2019-20	75,860	61,575	10,161	9,394	16,826	14,285
2020-21	86,345	69,048	9,748	9,657	22,584	17,297
2021-22	96,637	78,168	14,516	13,443	27,847	18,469

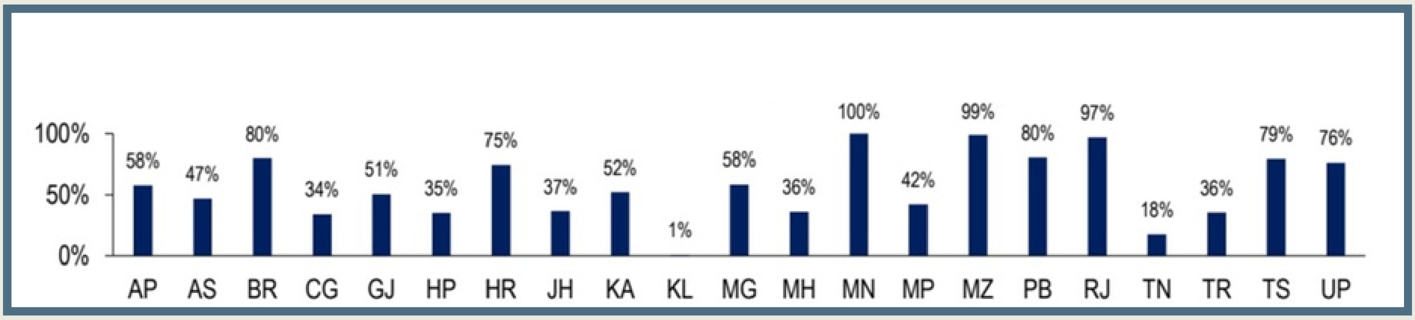
ALL FIGURES IN INR CRORES

Source: PRS, Punjab Budget Analysis 2023-24.

DATA FOR PUNJAB, INDIA



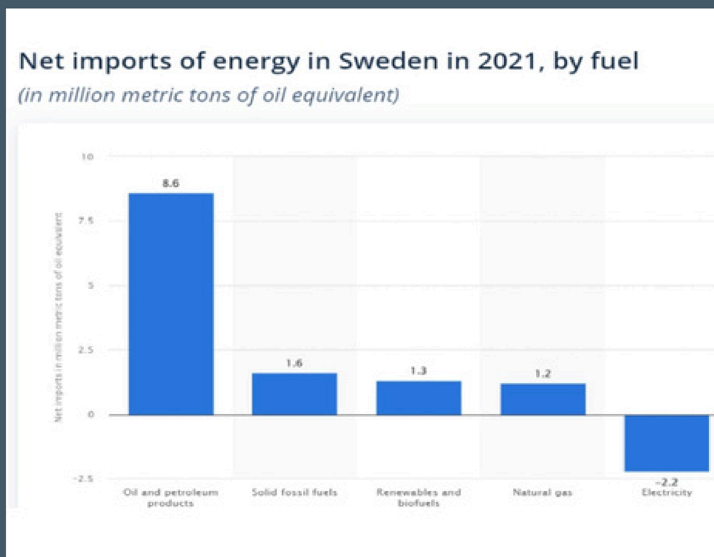
Power Subsidy as a Percentage of Total Subsidies for Various States (2021-22)



SOME CASES SHOW POSITIVE IMPACTS OF FREEBIES

- The Brazilian government's Program Bolsa Família (PBF) is a conditional cash transfer program that aims to reduce poverty among low-income families. In 2022, Brazil's tax-to-GDP ratio was about 25%, almost 6 times more than India's. A higher ratio indicates a better financial position for the country. This means it doesn't impact the financial health of the country and also reduces poverty.

- In Sweden, a few cities like Avesta, Ockelbo, and Stockholm offer free public transport. This scheme has several benefits, including reducing inequality by alleviating financial burdens on low-income residents, lowering air and noise pollution, and decreasing greenhouse gas emissions and congestion. Additionally, Sweden's reliance on oil imports can be reduced by promoting public transport use.



SOME SUGGESTIONS AND CONCLUSION

Most policies related to freebies are focused on social welfare, but they also have implications for fiscal health. Brazil's tax-to-GDP ratio is higher than India's, supporting the idea that effective taxation is essential for financing social programs.

The 15th Finance Commission's observations on Punjab's free power supply and Brazil's Bolsa Família program offer insights into the importance of balancing short-term benefits against long-term consequences. Targeted welfare programs like Bolsa Família can reduce poverty, but freebies should be aimed at citizen welfare rather than political motivations. In India, providing minimal-priced electricity up to a certain threshold could be an alternative to free electricity, benefiting both the state and consumers.

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THE NEW ERA OF REMOTE WORK: UNLEASHING ECONOMIC OPPORTUNITIES

- By Harshaa Kawatra

In recent years, remote working has evolved from a fringe benefit into a mainstream model, reshaping economic landscapes and redefining how businesses operate. The COVID-19 pandemic acted as a catalyst, accelerating the adoption of remote work and demonstrating its viability on a global scale. Delving into this new era, it's crucial to understand the multifaceted impacts of remote work on economic opportunities, encompassing macroeconomic variables such as productivity, employment, real estate, and regional economic development.

One of the most significant impacts of remote work is its effect on productivity. Contrary to early scepticism, numerous studies have found that remote work can enhance productivity. A study by Stanford University revealed that remote workers were 13% more productive than their in-office counterparts. This increase is attributed to fewer distractions, reduced commuting time, and greater flexibility in work hours. When employees can structure their work environment to suit their personal needs, they tend to be more focused and efficient. From a macroeconomic perspective, increased productivity can lead to higher output and economic growth. As companies become more efficient, they can produce more goods and services with the same or fewer resources, boosting the overall economy. This can also lead to higher wages and improved living standards for employees, further stimulating economic activity.

This new model has significantly altered labour market dynamics. It has expanded the talent pool for employers, allowing them to hire the best talent regardless of geographic location. This is particularly beneficial for specialised roles where local talent may be scarce. For employees, remote work offers access to job opportunities that were previously unavailable due to geographical constraints. The ability to work remotely also impacts labour force participation. It can bring more people into the workforce, including those who may have been unable to work in a traditional office setting due to physical disabilities or other personal constraints. Moreover, remote working has the potential to significantly boost women's labour force participation by offering greater flexibility and reducing geographical and commuting barriers. For instance, a study by McKinsey found that 80% of women believe flexible working arrangements are critical for balancing work and family responsibilities. However, remote work also presents challenges, such as maintaining work-life balance and ensuring visibility for career advancement. The OECD reports that women still spend twice as much time on unpaid household work compared to men, which can impact their productivity and job performance when working from home. To harness the benefits of remote work, businesses and policymakers must create supportive environments that address these challenges, ensuring that remote work leads to genuine progress and gender equality in the workforce. This inclusivity can enhance economic participation and reduce unemployment rates.

This essential shift has had profound implications for the real estate market. As companies adopt flexible work policies, the demand for office space in major urban centres has decreased; their need for resources in an office setup has declined. This has led to a reevaluation of commercial real estate values and a potential repurposing of office buildings for residential or mixed-use purposes. Simultaneously, residential real estate markets in suburban and rural areas have experienced a surge. We see people no longer employed in city offices opting for more spacious and affordable living conditions outside metropolitan areas. This can create new business opportunities and revitalise local economies.

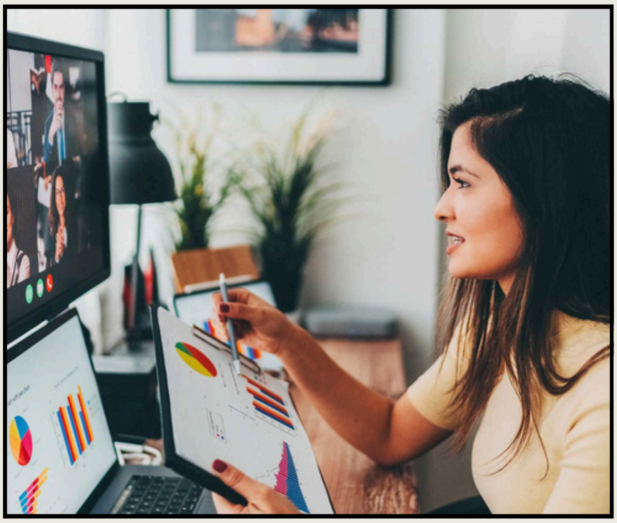
Remote work can thus act as a powerful tool for regional economic development. It allows for a more balanced distribution of economic activity, reducing the concentration of wealth and opportunities in major cities. Smaller towns and rural areas can attract remote workers seeking a higher quality of life, leading to increased demand for local services and infrastructure. For instance, cities like Tulsa, Oklahoma, and Bentonville, Arkansas, have launched programs to attract

remote workers by offering financial incentives and community support. These initiatives aim to diversify and strengthen local economies, reduce brain drain, and foster innovation. On a global scale, we see it facilitating greater economic integration. It enables businesses to operate across borders more seamlessly and tap into global markets with greater ease. Companies can establish distributed teams that work around the clock, enhancing productivity and competitiveness.

For emerging economies, it presents an opportunity to participate more actively in the global economy. Skilled professionals in countries with lower living costs can offer their services at competitive rates, attracting business from higher-income nations. This can lead to increased income levels and impact economic development in these regions.

This culture is more than a passing trend; it's a significant shift that is transforming economic opportunities around the world. As businesses and policymakers adapt to this new reality, it is crucial to embrace the advantages of remote work while tackling its challenges to ensure sustainable and fair economic growth.

Remote working can sometimes create gaps in productivity, authenticity, and the quality of employer-employee relationships. However, with thoughtful and effective implementation, remote work has the potential to bring about meaningful and positive changes. By focusing on flexibility, communication, and trust, we can build a future where remote work enhances our professional lives and drives us toward genuine progress and success.



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DIGGING THE ATOMS OF A SUPPLY CHAIN

V Praveenaa & Esha Khanna

> *“Through all of the uncertainty that we face today, our mandate is clear. Complacency is not an option. We must adapt and pursue an unapologetically positive vision for building a tomorrow where all of us—including the most underserved and vulnerable—are more secure, more prosperous, and more equal.”*
> *-Ambassador Katherine Tai, United States Trade Representative*

INTRODUCTION

Inspired by an old saying from chemistry that suggests "if you keep dividing a paper or any object in half, you'll ultimately reach the atom," a man of the 21st century named John Dalton embarked on a journey akin to the curiosity of the 18th-century John Dalton, who famously discovered the atom. In this modern-day adventure, John sought to deconstruct his beloved iPhone to uncover a global system that showcases a remarkable fusion of cooperation and necessity among diverse countries.

This system seamlessly intertwines with the fabric of human existence, presenting an astonishing embodiment of everyday magic!

John's voyage commenced with the disassembly of his iPhone 13 Pro Max, revealing various components such as the touchscreen, sensors (including accelerometers, magnetometers, and barometers), battery, camera, and liquid contact indicator.

Through reverse engineering and studying Apple Inc.'s "People and Environment in Our Supply Chain - 2023 Annual Progress Report," it became evident that each hardware component was manufactured differently and later assembled into a unified device. The design process occurs in California, USA, with collaboration from a global network of suppliers.

The journey of these components extends to raw material suppliers responsible for extracting minerals like lithium from Australia, Chile, and Argentina; aluminium from Russia and China; copper from China, Chile, and Peru; cobalt from the Democratic Republic of Congo, Australia, and Canada; as well as rare earth elements like neodymium and praseodymium from China, the United States, and Australia.

After extraction, these raw materials are sent to manufacturers worldwide for the production of different hardware components. For instance, displays are manufactured in South Korea (Samsung, LG Display), China (BOE Technology), and Japan (Japan Display Inc.); processors are produced in Taiwan (TSMC - Taiwan Semiconductor Manufacturing Company); memory components come from South Korea (Samsung, SK Hynix); batteries, casings, cameras, and ports are made in China; sensors originate from the US and South Korea; and wireless connectivity components come from the US (Broadcom, Qualcomm).

Products from American-based companies are then sent to China for final assembly, where everything from the display to the logic board, battery, camera module, enclosure, button, switch, connector, port, speaker, microphone, and sensor assembly takes place.

This final assembly is typically carried out by contract manufacturers such as Foxconn, Pegatron, or Wistron. Subsequently, the finished products are distributed to Apple's markets worldwide, including India, China, the USA, Europe, South Asia, Latin America, and other regions, through Apple's retail and online services.

The entire process, from manufacturing to delivery, involves rigorous quality control, packaging, distribution, and logistics. Post-sales services are provided through customer care and post-delivery service offices to offer support and assistance to customers.

This exemplary system is known as "Supply Chain Management," encompassing the entire production flow of a good or service, from raw components to delivering the final product to consumers. The key steps involved in supply chain management include planning, sourcing, manufacturing, delivery and logistics, and returning defective or unwanted products.

DIGITAL TRANSFORMATION AND AUTOMATION

As per the Indo-Pacific Economic Forum, the supply chain is one of the key pillars of their framework which emphasizes the digital transformation and automation by governments for enhanced efficiency and productivity, real-time visibility and transparency, improved accuracy and quality, data-driven insights and decision-making, agility and resilience, improved customer experience and competitive advantage.

India, an integrated part of the Indo-Pacific Economic Forum, understands the need to invest in digital infrastructure to foster innovation and economic growth given its lofty goal of tripling its economy in five years.

India's digital transformation offers a large potential for corporations, entrepreneurs, and innovators both domestically and outside to invest in cutting-edge technologies specifically suited to India's requirements. The government's emphasis on Smart Cities and Smart Health, as well as the quick uptake of cutting-edge technologies like AI, Blockchain, and IoT, call for the expansion of India's digital infrastructure. A strong digital infrastructure framework needs to be developed in order to fully utilize new technologies like 5G, AI, IoT, and robotics. This infrastructure will support developments in automation, smart cities, smart agriculture, cyber security, and defence while tackling practical issues. India can speed up its economic growth and establish itself as a global leader in the digital age by encouraging the development of digital infrastructure and easing the use of cutting-edge technologies.

SUSTAINABLE SUPPLY CHAIN

The significance of sustainability in semiconductor operations emphasizes the requirement for semiconductor firms to concentrate on lowering greenhouse gas (GHG) emissions in order to reach net-zero manufacturing. It emphasizes that semiconductor businesses should prioritize decreasing emissions in order to alleviate the effects of climate change as they increase output to keep up with rising demand.

According to the data, some semiconductor companies have already committed to and set ambitious goals for reducing their emissions to achieve net-zero emissions.

For instance, Infineon wants to reach carbon neutrality for emissions directly under its control by the end of 2030 and plans to reduce GHG emissions by 70% by 2025 compared to its 2019 baseline. With a 100% interim goal, Intel has committed to having net-zero GHG emissions in its global operations by 2040.

Collaboration with peers and suppliers, the adoption of new technologies, creative thinking, and the full involvement of fabrication facilities (fabs) are necessary to accomplish significant emission reductions. Fabs can replace outdated equipment with more energy-efficient models and put in place smart management systems for their buildings and equipment to reduce their energy usage. They can also take actions like obtaining energy from renewable sources, enhancing building energy efficiency, and switching to LED lighting fixtures. Fabs can seek efficiency enhancements and alternative fuels for off-grid power plants to optimize the energy supply.

GEO-POLITICS IN SUPPLY CHAIN MANAGEMENT

"United by paper policies but divided by practices", is the current status quo of the international government standards, despite having several international economic institutions like the International Monetary Fund, World Trade Organisation, The Organisation for Economic Co-operation and Development, The World Bank, The World Economic Forum and most significantly the European Union. These institutes are not just remarkable examples of multilateralism and global cooperation towards shared responsibility but also a forum for showcasing divided interests and differences. In fact, the entropy of differences has been rising since the Cold War due to uncertain global events like the war between Ukraine and Russia, the COVID-19 pandemic and the Resurgence of Afghanistan by the Taliban etc.

Amid these global crises, the cost of living is increasing and inflation rates are touching new records. As per the reports by The Economist, the Nord Stream, the pipeline which supplies oil to Germany from Russia was sabotaged which has put the economy of Germany on the brink of recession which could lead to a ripple effect on others and disrupt the global supply chain of other products. Apart from the West, there is an increasingly unhealthy competition between America and China over global supply chain management dominance.

The policy of ambiguity over the One-China policy has created tension between both countries. For example, upon US House Speaker Nancy Pelosi's visit to Taiwan, despite warnings from America, China ended the share market on a mark where Hong Kong's Hang Seng Index fell 2.4%, and mainland China's Shanghai Composite Index ended down 2.3%, also Germany's DAX and France's CAC 40 dropped 0.3% and 0.4%, respectively, while the FTSE 100 in London was flat, leading to all three major US stock indexes opened in the red, according to the CNN Business reports.

Apart from the concurrent global issues there have always been few permanent shortcomings of the international institutions.

The lack of democratic accountability: Disproportionate power distribution leads to disparity among developing and developed nations upon policy making. The governance structures of these institutions often give disproportionate power to developed countries, limiting the influence of developing nations and potentially ignoring their needs and priorities.

The Conditionality and Policy Prescriptions: International economic institutions often attach conditions to their financial assistance or loans, known as conditionality. These conditions often require recipient countries to implement specific economic policies, such as austerity measures or market liberalization.

Unequal voting power: Some international economic institutions operate under a weighted voting system that favours the major economies or founding members. This can result in a concentration of decision-making power in the hands of a few dominant countries, limiting the representation and influence of smaller and less powerful nations.

Lack of transparency: The decision-making processes and operations of international economic institutions are sometimes criticized for being opaque. This can lead to a perception that decisions are made behind closed doors without sufficient public scrutiny or accountability.

CONCLUSION

Reform! Innovation! Willingness!

The common global supply chain crisis could occur due to uncertain events like political instability, natural disasters, trade disputes, and pandemics. This could also occur due to low supply chain visibility, weak communication or collaboration and poor inventory management among other reasons. As stated before, the stability lies in risk management and resilience which could be done by conducting comprehensive risk assessment, developing contingency plans, diversifying suppliers from vivid geographical regions and maintaining decent inventories.

Adopting all the traditional and conventional solutions will by all means improve the supply chain management problems, but all the stakeholders should share equal responsibility over their personal interests to safeguard the routine of normal people, the consumers. Political stunts and disparity could lead to disruption of the supply chain which could be dangerous in this interdependent world. Robert Garrison from Fobes stated 2023 to be the year of "correction of errors" a chance to use first principles to redesign a supply chain that enables growth. The article concludes that Yes, in hard times, they'll (supply chain) manage to survive, but in good times, they'll thrive.

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ACADEMIC SESSION

2023–24

KaCES Academic Year 2023-24

1. Movie Screening of "Ship of Theseus"

The Editorial Board of the Department of Economics organised a screening of the acclaimed movie "Ship of Theseus" on 28th October 2023. The event aimed to explore philosophical and ethical dimensions portrayed in the movie.

The screening commenced at 11:30 am with an attentive audience of 42 students. "Ship of Theseus," directed by Anand Gandhi, is renowned for its profound exploration of identity, morality, and existentialism. The narrative intertwines three disparate stories, each grappling with profound questions about individuality and societal responsibility. Refreshments were also provided to all students.

Following the screening, a vibrant discussion ensued among the attendees. Students shared their interpretations of the film, delving into its implications on social structures and personal ethics. Students also attempted to interlink the movie with economic concepts. The exchange of perspectives facilitated a deeper understanding of complex issues embedded within the movie's narrative.

The event concluded with the words of Ms. Phunchok Dolkar, the convener of the Editorial Board. Ms. Dolkar expressed gratitude to the attendees for their active participation and insightful contributions to the discussion. She emphasised the importance of engaging with diverse forms of art and media to broaden one's perspective.

The screening of "Ship of Theseus" facilitated a thought-provoking dialogue on the intersections of philosophy and morality. Through cinematic exploration, students gained valuable insights into the complexities of human behaviour and societal dynamics. The event underscored the Department of Economics' commitment to fostering interdisciplinary learning and critical thinking among its students.

2. Seminar on “Career in Economics: Exploring Opportunities and Insights”

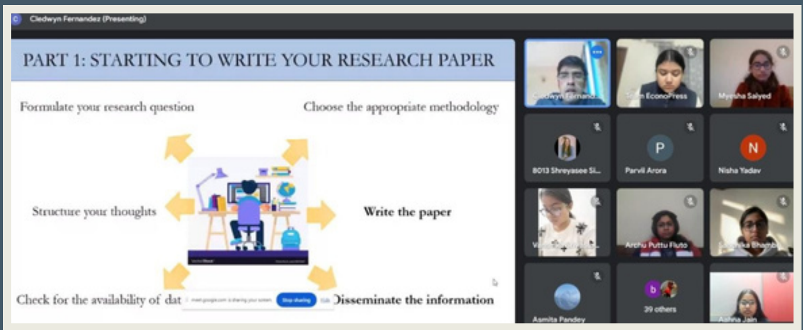
The "Careers in Economics" seminar, led by Dr. Shruti Jain and her team, provided Economics Honours students with invaluable insights into various career paths. Keynote speakers shared personal insights, illuminating the dynamic landscape of economics careers. Discussions covered transitioning between academia, industry, and government roles, emphasising essential skills and qualifications. Interactive sessions facilitated networking and guidance-seeking. Overall, attendees left feeling informed and empowered to make confident career decisions in economics.

3. Seminar on “The MBA Labyrinth”

On 11th of December 2023, Prof Rahul K. Mishra conducted an informative session at 12.30pm in the seminar room of Kalindi College. He conducted an hour-long session elucidating the scope for masters in business administration and the key points they should keep in mind while embracing their journeys in business school. He shared his insights about the preparation for CAT, how to make your profile standout and the importance of networking in business schools.

The speaker addressed queries and doubts of the attendees and ended the session by emphasising the importance of developing marketable skills and building a unique profile.

4. Virtual Research Cohort



The Editorial Board of the Department of Economics hosted a 2-day virtual research cohort on 19th and 20th January 2024, attracting participation from over 70 students. The cohort was a series of three sessions. Day 1 featured a session on 'Fundamentals of Research' by Hamza Syed, a Ph.D. candidate at The London School of Economics, who talked about the essence of academic research drawing on his personal experiences conducting research in the field of political and development economics.

Dr Cledwyn Fernandez, a distinguished fellow at the Indian Council for Research on International Economic Relations (ICRIER), led the first session on day 2 on the topic 'How to write a Research Paper.' He explained about the intricacies of research paper writing and the challenges one may come across during the process. The second session on Day 2 was 'Careers in Research and Public Policy' by Poorva Mathur, Assistant Manager at Grant Thornton Bharat LLP. She shared her varied experiences as a public policy professional and guided students on how to carve a career for themselves in the field of research and public policy.

Following each session, a Q&A round was hosted where the speakers engaged with the intriguing questions of the attendees. The cohort provided the attendees with comprehensive insights to begin their research journey, from choosing a research topic and formulating the research question to analysing the data and presenting the research findings. E-certificates were awarded by the organising team to all attendees.

5. Educational Visit to Pradhanmantri Sanghralaya

On February 7th, 26 third-year economics students accompanied by 2 teachers of the economics department; Dr. Richa Gupta and Ms. Phunchok Dolkar, visited the Pradhanmantri Sangrahalaya (PM Sangrahalaya) to explore India's political history and cultural heritage. They began their educational journey at 11 am, ensuring simultaneous entry with prebooked tickets.

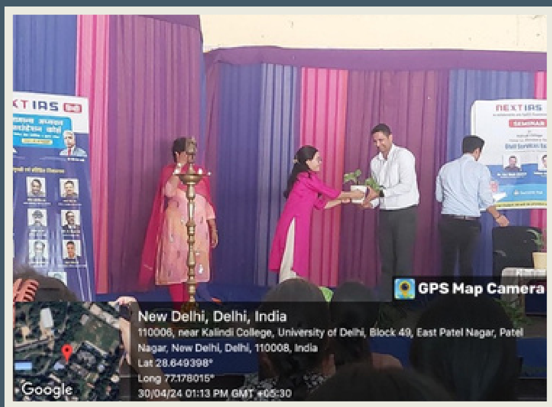
Divided into Teen Murti Bhavan and the 'House of Democracy', the visit provided a rich experience. Teen Murti Bhavan, the former residence of India's first Prime Minister Jawaharlal Nehru, offered insights into his life and role in India's independence movement. Students explored galleries showcasing his personal belongings and the Toshakhana section, displaying gifts from global leaders.

The 'House of Democracy' featured artefacts and memorabilia from all Prime Ministers since Independence, offering a comprehensive understanding of India's political landscape. Modern technology like digital archives and multimedia displays enriched the experience.

Students explored the personal memorabilia belonging to all the Prime Ministers of India, letters, and items of historical significance in order to gain deeper understanding. After the museum exploration, students and teachers captured memories in the museum gardens. This educational outing combined academic learning with real-life exploration, fostering a deeper understanding of India's political journey and democratic values.

6. Seminar on "How to Prepare for Civil Services Exam"

Next IAS hosted a seminar catering to college students aspiring for success in the IAS exam. The event featured seasoned experts such as Mr. Vaibhav Anand Sharma, who secured rank 58 in CSE 2023, and Mr. Ajay Singh Ahlawat, Assistant Faculty at Next IAS. They shared insights into exam preparation strategies, offering personal advice and views. Interactive sessions allowed attendees to seek personalised advice and share aspirations, fostering a supportive community. The seminar not only imparted practical knowledge but also motivated participants to pursue their civil services goals with determination.

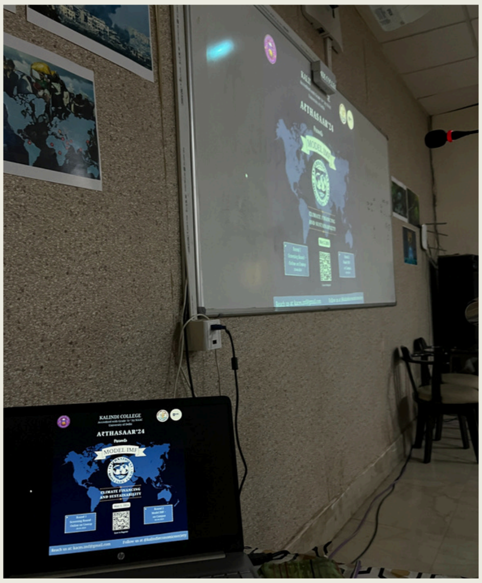


7. Seminar on “Climate Change and Growth in Indian States”

On April 30th, 2024, Dr. Dibyendu Maiti, a distinguished professor from the Delhi School of Economics, delivered a compelling lecture at Kalindi College. He explained the broad aspects of his research “Structural Change and Economics Dynamic” where he enlightened students about the impact of climate change on the economic growth of countries with respect to Total Factor Productivity Analysis.

He discussed the profound impact of climate change on economic growth, particularly emphasising the importance of mitigation strategies for emerging market economies.

Engaging with faculty members and students, Dr. Maiti concluded that developing countries are disproportionately affected by climate change. His lecture left a lasting impression on the Economics Honors students present.



8. IMF

KaCES organised Model IMF as one of the competitions under Arthasaar’24 on May 2, 2024. The agenda for the committee was ‘Climate Financing and Sustainability.’

With 93 participants, the event had a screening round followed by the Model IMF round with 9 participants from various colleges. Sessions included General Speakers' List and moderated caucuses on topics like sustainability through innovation technology and climate crisis.

The winners including Samarth Bhardwaj (Best Delegate), Anushka Singh (High Commendation), and V Praveenaa (Special Mention), were awarded with cash prizes and certificates. This event was a new and enriching experience for all the delegates as well as for the audience.

9. Borderless Bargains

KaCES organised "Borderless Bargains," as part of ARTHASAAR’24 on May 2, 2024. Participants engaged in an international trade simulation which involved dynamic marketplace interactions and chit-based initial endowment selection.

From the given resources, teams were asked to create different shapes which were assigned different prices and sell them to the international commodity trader.

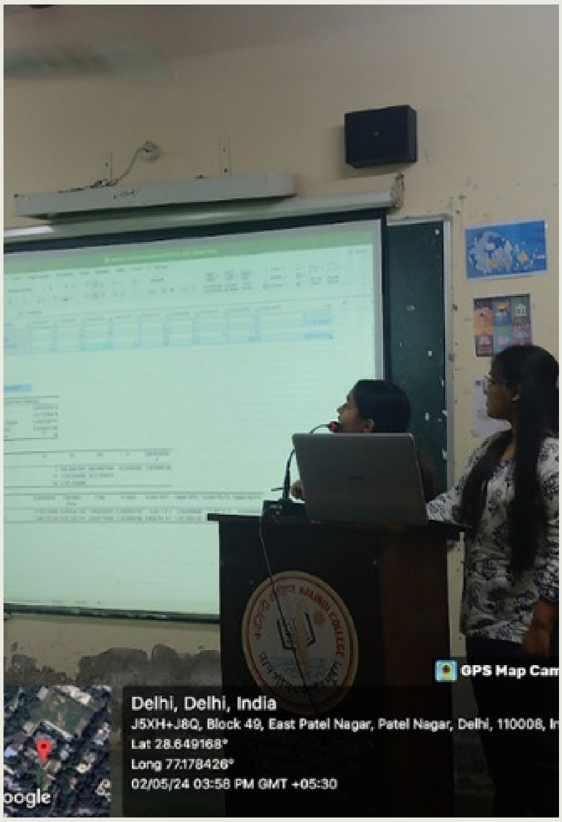
Teams, representing various income-level countries, competed to maximise wealth and make friendly relations with each other along the way. The winning team, comprising two low-income countries - Team Buzz and Team HT, received certificates from Dr. Indu Chaudhary and Dr. Poonam Tyagi.

10. Economic Feud

KaCES organised "Economic Feud" as part of ARTHASAAR’24 on May 2, 2024. The competition comprised three rounds: an online quiz, EconoBuzz, and Intentional Error. Sixteen teams participated initially, with seven shortlisted for the offline round. EconoBuzz tested teams' ability to identify economic concepts from video clips, while Intentional Error challenged them to spot and rectify deliberate inconsistencies in economic statements. Aanya Singhal and Saanvi Arora clinched the top position, followed by Anurag Kumar and Nimish Sehgal who secured 2nd position.

11. Quant Quest

KaCES organised "Quant Quest" as part of Arthasaar’24 on 2nd May, 2024. The competition featured an online quiz followed by an offline round for shortlisted teams. Five teams were shortlisted for the offline round. Participants were given 50 minutes to analyse datasets using Excel and formulate policies addressing the problems identified from the dataset which was followed by a presentation round. Judging criteria included analysis quality, economic model rigour, policy creativity, and presentation effectiveness. Harshita and Ananya from Satyawati College secured first place, with Rashi from Gargi College coming in second. The event saw enthusiastic participation and successful outcomes, with winners awarded certificates and cash prizes.



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