



St. Xavier's College (Autonomous), Kolkata
POSTGRADUATE & RESEARCH DEPARTMENT OF ECONOMICS



ECO ECHOES

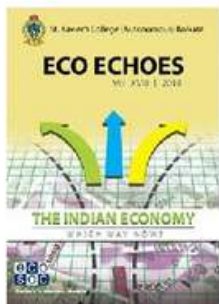
VOL: XXI ————— 2024



RESURGENT INDIA

WHICH WAY NOW?

Some Glimpses of our Departmental Activities



ECOECHOES

VOL: XXI ————— 2024

RESURGENT INDIA
WHICH WAY NOW?

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MESSAGE FROM THE RECTOR

It fills me with immense joy to congratulate the Department of Economics at St. Xavier's College (Autonomous), Kolkata, as it unveils the latest edition of its esteemed magazine, Eco Echoes. This year's theme, 'Resurgent India: Which Way Now?' is particularly thought-provoking, inviting us to reflect on the nation's evolving trajectory as we navigate a period of profound transformation.

This magazine stands as a tribute to the intellectual rigour and creative energy of our students and faculty, offering a platform for the articulation of nuanced perspectives on the critical challenges and opportunities that define contemporary India. The contributions within are not merely academic exercises but are compelling explorations of the pathways that lie ahead for our nation.

I am equally delighted to note that Confluence XVII, the Annual Summit of the Department of Economics, will once again convene a distinguished gathering of scholars and practitioners for a day of incisive discussions. This summit has become a beacon of scholarly exchange, providing a fertile ground for the kind of dialogue that is essential to understanding and shaping India's economic future.

I extend my hearty congratulations to the Department of Economics for their relentless pursuit of excellence and their commitment to fostering an environment where innovative ideas can thrive. I am confident that this edition of Eco Echoes and the deliberations at Confluence XVII will not only enlighten but also inspire all who engage with them.

Nihil Ultra!

A handwritten signature in black ink, reading 'Veluswamy Jeyaraj'. The signature is fluid and cursive, with the first name 'Veluswamy' written in a larger, more prominent script than the last name 'Jeyaraj'.

Rev. Fr. Jeyaraj Veluswamy, SJ
Rector
St. Xavier's College (Autonomous), Kolkata

MESSAGE FROM THE PRINCIPAL



I am delighted to learn about the upcoming release of the nineteenth edition of 'Eco Echoes', the esteemed magazine of the Economics Department at St. Xavier's College (Autonomous), Kolkata. The theme for this year, 'Resurgent India: Which Way Now?' is both timely and thought-provoking. India stands at a pivotal juncture in its history. With a rapidly growing economy, a vibrant democracy, and a young and dynamic population, the nation is poised to make significant strides on the global stage. However, the path forward is fraught with challenges and opportunities that require careful navigation.

This publication represents the culmination of months of dedicated work by both students and faculty members. It provides a platform for the innovative ideas and fresh perspectives of our young economists. The magazine also includes thought-provoking articles from distinguished economists and individuals from various renowned academic institutes. These contributions offer readers a unique opportunity to explore and understand the evolving role of India as a key player in the global economy.

Additionally, I am proud to note that 'Confluence', the Annual Departmental Economics Summit, is now in its 17th year. This event promises to be an enriching experience, featuring insightful discussions and debates centred around this year's theme.

My heartfelt congratulations to the Economics Department for their unwavering commitment to academic excellence and their continuous efforts in fostering intellectual growth. I extend my best wishes for the continued success of the magazine and all future endeavours.

Nihil Ultra! May God bless you!

Rev. Dr. Dominic Savio, SJ
Principal

St. Xavier's College (Autonomous), Kolkata



MESSAGE FROM THE VICE PRINCIPAL

The fact that Eco Echoes, the annual magazine published by the Postgraduate and Research Department of Economics, is now in its twenty-first year of publication is evidence enough of the department's absolute commitment to academics, research and publication. Over the past two decades, the department has continually demonstrated a steadfast dedication to fostering a rigorous academic environment, one that encourages inquiry, critical thinking, and scholarly research. The articles published in this edition of Eco Echoes are a reflection of the high standards upheld by the department and the intellectual endeavours of its students.

The magazine plays a vital role in providing students with a platform to showcase their research and ideas, enabling them to engage deeply with critical economic issues that are shaping the world today. Valuable articles from eminent academicians, administrators and industrialists have enriched the magazine and will encourage the readers to explore new dimensions of their concerned areas of discussions.

Eco Echoes also captures the ethos of the department by highlighting the dedication of both students and faculty in the form of their collaborative research works being published in this year's magazine. This is what makes Eco Echoes a bespoke magazine, designed to shape and develop a holistic development in the students of the department and for carrying on the legacy of academic excellence.

I wish the department every success in its endeavour in launching the magazine.

Prof. Bertram Da'Silva
Vice-Principal (Arts and Science)
St. Xavier's College (Autonomous), Kolkata

MESSAGE FROM THE HEAD OF DEPARTMENT



As our country journeys towards the target of a self-reliant, vibrant, inclusive and high-growth society, the question that emerges is “Resurgent India – Which Way Now?”. This is the theme for the 21st edition of our departmental magazine Eco-Echoes.

The magazine includes contributions from both undergraduate and postgraduate students as also eminent personalities from diverse fields across society. Our students benefit from experiential and participative learning as they engage in contributing articles and publishing the magazine. Their problem-solving skills are also honed in the process. Overall, it is an academic initiative which encourages students to reflect upon and critically analyse the economic scenario of the present times.

My heartfelt gratitude to our Principal Rev. Dr. Dominic Savio SJ, for his continuous support and guidance in this endeavour.

I thank all my colleagues and students who worked tirelessly to develop, organise and publish the magazine.

A handwritten signature in black ink, reading 'Partha Pratim Ghosh'.

Dr. Partha Pratim Ghosh
Head of the Department
Postgraduate and Research Department of Economics
St. Xavier's College (Autonomous), Kolkata

MESSAGE FROM THE EDITORS-IN-CHIEF



Within the multitude of opportunities provided by the Post Graduate and Research Department of Economics, St Xavier's College (Autonomous), Kolkata, to flourish the capabilities of its students, a momentous one is our departmental magazine 'Eco Echoes'. It is with enormous enthusiasm and pleasure that we present to you the 21st edition of Eco Echoes with the theme "Resurgent India: Which Way Now?"

Among the numerous discussions shaping India's future, the question of "Resurgent India: Which Way Now?" stands out as particularly crucial. As India rapidly ascends on the global stage, this significant period of transformation presents both unprecedented opportunities and complex challenges. The nation is at a crossroads, where choices made today will shape its trajectory for decades to come. With the economy rebounding, technological advancements accelerating and social dynamics evolving, the decisions surrounding growth strategies, governance, and international relations are more pivotal than ever. At this critical moment, the choices India makes will determine how it will harness its potential to become a resilient and affluent country in the future. In this era of dynamism with the existence of new challenges, this magazine has tried to reflect upon various dimensions of contemporary issues which are of particular relevance in the current scenario.

On behalf of the entire Eco Echoes team, we would like to extend our heartfelt gratitude to our Principal, Rev. Dr. Dominic Savio SJ, our Vice Principal, Professor Bertram Da Silva, the Dean of Science, Dr. Indranath Chaudhuri and the Dean of Arts, Dr. Farhat Bano for their constant support. We would also like to thank our Head of the Department, Dr. Partha Pratim Ghosh, our professors in charge of the magazine, Dr. Pia Ghoshal, Dr. Saswati Chaudhuri and the entire faculty and students of the Post Graduate and Research Department of Economics for their unwavering support and guidance. We wish to extend our heartfelt gratitude to our respected contributors for their guest articles who have shared their valuable thoughts with respect to the topics of discussions. We also wish to thank our family and friends for their support and encouragement.

We hope that the legacy of Eco Echoes continues for years to come.

Ashutosh Baveja

Ashutosh Baveja

Purusarth Gadia

Purusarth Gadia

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GUEST ARTICLES

POPULAR POLICIES, UNPOPULAR ECONOMICS

- Prof. Achin Chakraborty

Institute of Development Studies Kolkata

The apparent disconnect

In the recent decades, a good number of surveys conducted across the world with the aim of eliciting what people *think* about various public policy issues have thrown up challenges to the ‘experts’ who are increasingly uncomfortable with the emerging fact that people’s beliefs are, more often than not, orthogonal to what is known to the experts as ‘expert knowledge’. What the government ought to do according to the popular view often goes contrary to policies backed by reasonably good economic research. Banerjee and Duflo (2019) report several such cases of deep disconnect.

Common people do not understand much of what economists talk about. Economics has developed such abstract and unintuitive ways of thinking that ordinary people without proper training simply cannot grasp it. On the other hand, on policy issues economists are often frustrated at the public’s failure to see the obvious. *People do hold beliefs and entertain hunches about economics, but many of them are systematically misguided. However, people’s beliefs do affect public policies, especially in democratic regimes, and economists have long viewed it as a cause of potential conflict between economics and politics.* In this brief commentary we go beyond the typical rhetoric that the financial press frequently deploy to criticise any move by the government which is targeted to the less privileged, and try to understand the disconnect between popular beliefs and what is often claimed as ‘sound economics’. I argue that it is not hard to find an area of intersection between sound economic policies and popular viewpoints.

There are public policies ostensibly to reach out to the economically disadvantaged, what the commentators in the financial press disparagingly call ‘freebies’. Close to home, *Lokkhir*

Bhandar in West Bengal – a direct cash transfer programme targeted to women – has been under scanner ever since it was introduced. Policies of this kind are typically not advocated by a mainstream economist and would readily be dismissed by the financial press as ‘populist’. Populism is usually associated with short-termism in policies. For a greater part of the recent history of some of the Latin American countries, economic populism has been identified as the fundamental problem behind those countries’ tumultuous trajectories, in which long-term interests have been traded off with macroeconomic profligacy (Bardhan, 2022).

There are policies, on the other hand, which a typical economist would advocate on theoretical as well as empirical grounds but are unlikely to get accepted for implementation by the popularly elected governments for the fear of being unpopular. A liberal migration policy, for example, has been shown to have economically benefited both the destination and origin countries. Yet, as the popular opinion in the destination countries becomes more and more hostile to immigrants, the governments under pressure put up restrictions on entry of people crossing the borders. This contradiction, if we call it so, is the source of the frequently asked question: Can good economics be good politics as well? The underlying hint here is that good economics rarely makes good politics. Most economists are uncomfortable with arbitrary restrictions on the flow of people and commodities across the borders. Yet, popular beliefs often go contrary to this and any perturbation in the domestic economy that has repercussions on the lives of a good number of people generates reactions against the immigrants, or sometimes against imported goods from particular countries. In the recent past ultra-nationalists in India gave calls for boycotting imports from China, which, needless to say, made very little practical economic sense. Similar kind of sentiment is observed among certain political pressure groups in Bangladesh as well, who want to ban imports of Indian goods.

Plurality of views

What is good economics? Is there any consensus on what should be considered as good economics? Even if economists are able to reach a consensus on a set of causal relations that roughly explain economic phenomena applying a hypothetico-deductive method starting

from an agreed-upon set of assumptions, they may still differ in terms of the goals to be attained. Maximising the size of the pie or its just distribution? Differences in value judgments are an obvious source of disagreement among economists. However, it does not mean that there is no disagreement on positive analytic judgments, which is evident from the existence of different schools of Macroeconomics. It is hard to find any proposition on which Post Keynesians and New Classical Macroeconomists would agree. The conclusions drawn by them differ so much from each other that they unsettle those who expect Truth to be singular.

It is hard to reach a consensus on what we mean by good economics. There are several reasons for disagreements. Consider trade openness. Is liberalising trade good economics? Economic theory suggests that if restrictions on trade are lessened, increased trade between countries will benefit the factor which is in abundance in a country. Since unskilled labour is cheap in a developing country, trade expansion would increase the demand for unskilled labour and, in turn, the wages of unskilled workers will increase. The logic is not difficult to grasp. What is often ignored is that this is supposed to happen in the medium term. Adjustments in capital intensity as a response to relative prices of factors of production take time, and in the short run workers may not see improvement in their lives. They may even experience a relative decline in their living. This is one of the reasons why poorer sections of the population support those political parties who oppose radical trade reforms. Second, this trade theory is based on competitive product and factor markets. Therefore if these markets are fragmented, the players in the market exercise monopoly power, the theory falters. In the context of developing countries market imperfections, fragmented and missing markets are pervasive. Reformers who ignore these objective situations and push for liberalisation often face backlash from those who suffer from market imperfections. There are other areas as well, such as the labour market, where any attempt to reform has faced resistance. Many of the reform attempts in the labour market take a rather simplistic view about the working of the labour market and the causal connection between a so-called rigid labour market and the economic outcome. They ignore, as Robert Solow reminded us, the fact that the labour market differs significantly from other markets – it is a ‘social institution’.

Popular policies can indeed be sound economics

Here's my final take on the issue. Economics has evolved in ways that are somewhat closer to reality now than, say, fifty years ago. We now know under what conditions opening up of trade in certain commodities may not be a desirable thing to do. This of course does not justify indiscriminate protective measures. We know there is very little expected benefit from reforming the labour market in the form it is often suggested. We know the unbeatable logic in favour of public investment in education and health care flows right from the more recent developments in growth theory, and so on. It seems that it is not always the case that good economics necessarily comes in conflict with populist policies. What is dubbed as 'populism' by some 'experts' can sometimes make good economic sense only if we come out of elementary textbook economics and are ready to embrace the sophistication of recent research that has rendered the subject of economics extremely interesting. On the other hand, what is often touted as 'good economics' is neither good nor popular. The best example is the argument against Lakkhir Bhandar in West Bengal – a cash transfer programme targeted to the poor women. It is the argument ostensibly drawn from the so-called old Chinese proverb: "Don't give them fish, teach them how to catch fish". Welfare states anywhere in the world do have a variety of conditional and unconditional cash transfer programmes. Only in our part of the world a class of people argue against such a programme. This reminds me of what John Maynard Keynes said: "Practical men, who believe themselves to be quite exempt from any intellectual influences, are usually the slaves of some defunct economist". Beware of defunct economists!

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1. Banerjee, Abhijit V. and Esther Duflo (2019) Good Economics for Hard Times, New Delhi: Juggernaut Books.
2. Bardhan, Pranab (2022) A World of Insecurity, Cambridge: Harvard University Press.

THE ECONOMICS OF POWER:
WILL THE GEOPOLITICAL SHIFT FAVOUR INDIA IN FUTURE?

- Prof. Saibal Kar

Centre for Studies in Social Sciences, Calcutta

Institute of Labor Economics, Bonn

In many contemporary forums the role of economic power, and how this multidimensional phenomenon affects economic outcomes, comes up for casual discussion. The renewed interest on the matter of 'power' as a manifest of economic and political strength since the beginning and subsequently, the end of the cold-war era is often related to the varying rates at which countries around the world suffer from various political and economic turbulences and try to recover. For example, the onset of a prolonged and large-scale war in Europe and Middle-East were not commensurate with how expectations in most countries regarding economic recovery shaped up in the post pandemic world. The war on pandemic has lasted for more than two years and with occasional recurrences in pockets globally, the economic recovery has at best been slow and rocked by negative perceptions in most countries. Since one of the pillars of the modern theories of economic growth highlights the importance of growth of population and human capital, contrary to common wisdom regarding the negative impact population rise bestows on economies, the considerable loss of lives lowers growth expectations. Indeed, any vector of macroeconomic outcomes consisting of perceptible changes (growth or deceleration) in per capita income, savings and investment, fiscal deficit, exchange rates, employment levels, indices of sectoral growth, international trade, etc. is deeply influenced by a number of exogenous shocks. India, which often managed to remain insulated from various economic crises in the recent past, cannot always avoid the effects of economic and political disturbances in the rest of the world. One way to minimise the negative impacts of such changes is to command a strong and resilient domestic economy as much as an international identity of a country with strong bargaining power.

This short article expects to shed a different light on how India's macroeconomic changes are functions of the power struggle across countries. In a way it is different from the standard predictive analyses that use sectoral growth and other standard macroeconomic variables as candidates for understanding future courses for a country. This article, instead explores how

economic power is measured and how such indicators interact with the standard macroeconomic variables mentioned herein. The purpose, re-emphasized, is more exploratory than trying to provide a definitive answer given that power as a phenomenon has considerable abstraction to it apart from being subjective and often imprecise.

First, however, it is important to see how the power equations in the rest of the world have changed over time. The bipolar economic power structure in the post war decades later transformed to a unipolar configuration for a considerable period, one which subsequently became fragmented owing to the rise of eastern power and pockets of economic success. The subject of how a powerful nation with ability to influence international perception emerges is still debatable. On the one hand, the economic power that might have come from various sources could be the precursor of political power of a country, and on the other, the erstwhile colonial power that started with some economic strength but led to much bigger economic rewards, is considered the factor behind how the global distribution of power emerged over time.

The fragmentation of power has led to the more recent events of war or war-like situations across the world. Regardless, the timing of the war in East Europe has stretched the recovery from the COVID related health and economic shocks. In most analyses where the shock from the pandemic translated into economic shocks, the path of recovery has been predominantly a flat U-shaped curve. It implies that while the fall has been rapid and almost instantaneous given the exigency of the circumstances, the revival has been slow. A number of conflicts around the world concomitantly with this recovery process have slowed it down even further. While wars are hardly uncommon and the timing of wars has no discernible patterns, the present episodes added another dimension not recently observed. The invasion has been the first of its kind on any European country since the end of World War II. Many wars have happened in order to access and control the resource bases in different countries. Indeed, the great economic recession preceded and arguably might have paved the way for World War II.

Remember, in 1905, Britain was the ruler of the waves and watched with concern as the United States of America rose to become a potential challenger. While a shared heritage between the two nations helped avoid military conflict as the USA inevitably overtook British international power, the rise of Germany and Japan in the 20th-century global power

struggle did precipitate war. Many documents suggest that it shifted the axis of power for the next 100 years, which not surprisingly shifted again in favour of China and India in the 21st Century. Economists have written relatively little both on concepts of power and (dis-)incentives to engage in war (viz. Richard N. Cooper, 2003, *Economic Interdependence And War*, mimeo, Harvard University). The subject has even fewer entries on how the metric which can be used to capture the size of power shifts, is constructed. For geopolitical studies, power has traditionally been an area reserved for political scientists. However, power, even before one gets to economic power, is an elusive concept. Economists are most familiar with Bargaining Power à la John Nash with the fundamental contributions of Edgeworth and Marshall at the core of it.

This is not to suggest however that power as an instrument to gauge and estimate economic outcomes have been too few. A very interesting example has long been available from Kaushik Basu (*The Less Developed Economy: A Critique of Contemporary Theory*, 1998, OUP), where subtle use of power between Landlords and Serfs in a village economy shaped economic outcomes and the associated welfare. The example showed that the more powerful landlord and the subordinate serfs even in a feudal setting, came to one common resolution regarding the colour of houses in a given village. The resolution was that the village must be mono-coloured rather than multicoloured so as to increase everybody's utility from being a resident. A realistic example could be construction of a pink-city or a blue neighbourhood as seen across countries. The landlord wanted the mono-colour to be blue vis-à-vis red as chosen by the serfs. Despite the fact that the landlord could actually enforce physical power and force all to choose blue, the bargaining went into a subtler form. The landlord requested that he be given the right to choose first and then the serfs can choose their colour. In the parlance of game theory, this has a unique Nash equilibrium: the landlord shall choose blue as the first mover and the serfs will also end up choosing blue in order to maximise joint pay-offs. Similar transactions often take place between employers and workers at the firm level. In more grander contexts, countries negotiate along similar lines with respect to international trade or movement of factors of production – especially cross-border investments and migrant workers. Examples from Jagdish Bhagwati, Robert Feenstra and many others discernibly show that the outcomes of such bargaining is tilted heavily in favour of countries that display greater economic and political power, albeit with time and more diplomatic manoeuvres developing countries like India, Brazil or South Africa have been

able to persuade the multilateral organisations (say, UNCTAD) in creating more equitable forums.

Nevertheless, in the presence of conflicts, cross-border deals decrease as a share of global M&A in favour of more regional and intra-area deals. In the emerging multipolar world, companies are likely to see increased government intervention in their supply chains and apply limits on or reject cross-border investments, create export controls, restrict trade movements and enter greater regulatory scrutiny. Obviously, this is not a uniform outcome, and in fact might be helpful for (power-) neutral countries if they possess infrastructure and human capital to make the most of it. India is one such candidate that plays a good balance between warring ideologies. India is also rapidly investing in infrastructure development with an already surplus availability of manpower. The challenge is always, which is no less of an internal problem also, to skill these workers for appropriate roles in the evolving environment. The need to invest (as public investment expenditure) in education and health are among the most compelling requirements for India that remain elusive. Developed countries, including the United States of America, which has been considered as a peer for the current disposition, the lowest investment to GDP ratio for education has been 5.6% for the last 30 years. India has never managed to cross 3% of GDP as education expenditure. Consequently, the inequality of opportunity at least for education has been enormous. This is one of the factors, alongside equally poor attention to health-related matters, that is slowing down the general progress of a country with varied resources and talents – the diamonds in the rough are not seeing the light at all. That internal weaknesses of a country are likely to hurt its global power, is less understood in the relevant circuits.

Shifts in Power and Its Scope

In its shifting global economic dimensions, economic power can be thought of as consisting of several key elements which are themselves interlinked and mutually reinforcing.

First: the current and prospective relative size of economies and its power that can be unilaterally exercised largely on the basis of market size. It is the ability of individual countries, groups of countries, or even groups within countries to either compel or persuade other countries to act (or at least contemplate acting) as they otherwise would not by the threat or actual use of penalties or inducements of various forms. Examples include a

potential denial of market access via a threat of an increased trade barrier, a harsher policy towards inward foreign investment already located in the territory, or other such actions often grouped under the heading of retaliatory power. A second element of economic power is reflected in the willingness of individual countries (or groups of countries) to act cooperatively either in international negotiations on jointly agreed arrangements (rules for want of a better term) or through other jointly agreed actions.

Measurement and Forecast of Power

In discussing shifting economic power, the Shapley Value provides an operational construct for the notion of bargaining power and how shifting power affects it. As a country's size and bargaining power increases, its Shapley Value (by Lloyd Shapley – Shapley decomposition of inequality, famously Nobel laureate for 2012) should increase. More concretely, this measurement considers a two country ($i = 1, 2$) and two good ($l = 1, 2$) pure exchange general equilibrium model in which claims on future consumption enter preferences and are traded between countries. In this, each country has a single representative consumer, with endowments of the two goods (E_{il} ; $i = 1, 2, l = 1, 2$) and can either issue or buy claims on future consumption using current period income. Based on this calculation, the details of which are beyond the scope of this article, Shapley value for India (China) between 2006-2036 relative to BRICS should be 0.147(0.613); up to 2056 these would be 0.138 (0.650) respectively. Relative to OECD countries, India's (China's) Shapley scores would be 0.148 (0.420) during 2006-2036 and 0.202 (0.543) till 2056. World Share for China would be 0.267 and for India 0.064 during 2006-2036, which increased slowly till 2056.

These are obviously estimates (rather, forecasts) based on the current time period, a significant part of which is now directly observable. Inferring from these 'estimates' it should be ideal to state that India shall continue to prosper, locally and globally, although the projected rates are going to be modest. The process of improvements to these remain important internal challenges for India over the next decade.

RESURGENT INDIA: WHICH WAY NOW?

- Prof. Rudra Sensarma

Professor of Economics, Indian Institute of Management Kozhikode

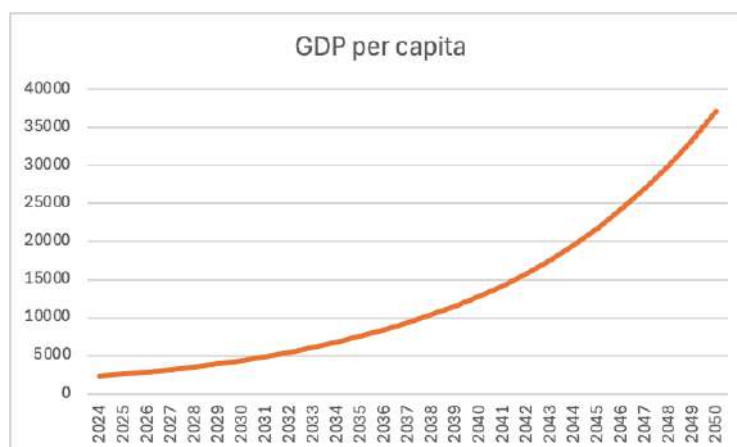
(SXC Economics Department Alumnus Of 1997 Batch)

India of today can be described as a Goldilocks economy. The children's story of Goldilocks and the three bears describes the little bear's encounter with a bowl of porridge, that was neither too hot, nor too cold, but was just right. India's economy is growing at just the right pace with the right extent of macroeconomic and financial stability. While the resurgence is clearly discernible from macro numbers, there is a lot of work remaining to be done before we can provide our youth and the rest of the population a quality of life that they aspire for and deserve. It is important therefore to reflect on the progress made so far and the remaining agenda for achieving long run prosperity.

Growth

Let us begin with an analysis of Gross Domestic Product (GDP). India's real GDP witnessed a growth of 8.2 percent in the year 2023-24 as compared to the growth rate of 7.0% in the previous year. Nominal GDP grew at 9.6% in 2023-24 which is lower than the growth rate of 14.2% in the previous year, thanks to the disinflationary trend in the economy that has reduced the growth in the GDP deflator. The GDP at current prices (nominal GDP) is currently estimated at Rupees 295.36 lakh crore which is equivalent to around 3.5 trillion dollars, making India the fifth largest economy in the world (and third largest if one considers purchasing power parity adjustment). If the economy continues to grow at the average post-Covid pace of 8 percent and assuming a GDP deflator growth of 3 percent, India's nominal GDP will cross 5 trillion dollars by 2028, 10 trillion dollars by 2035 and 30 trillion dollars by 2045 (see figure 1) by when we would become the second largest economy ahead of the United States.

Figure 1: India's GDP Per Capita Projections, Assuming Stable Population And Exchange Rate



If we assume that the World Bank's cutoff for classifying a country as a high income economy (currently 14000 dollars) will be raised by 3.8 percent every year (the current rate of adjustment), India will become a high income economy in the year 2048. However, this achievement will not happen on its own and depends on several factors falling into place.

Macro Financial Stability

I will consider three macro financial stability parameters here. First, the inflation rate which not only impacts household purchasing power but also the transaction costs of businesses. Thanks to astute inflation targeting by the Reserve Bank of India (RBI) and the fiscal prudence of the government, the inflation rate (based on the consumer price index) has come down from double digit prints in 2012-13 to 3.5 percent recently in July 2024 – the lowest in five years. This disinflationary trend has important implications. It means that price expectations of households and businesses are getting anchored. The less they expect prices to go up, the less are the chances that prices will actually go up (due to reduced tendency to hoard). A low and stable inflation rate encourages borrowing (since the real value of credit taken by the debtors will not rise as fast) and results in greater spending. Stable inflation is conducive for investments, including foreign direct investments (FDI), as it signals a lower level of risks in the economy.

On the government side, the fiscal deficit (as a percent of GDP) has been coming down since the Covid pandemic and is projected at 4.9 percent for 2024-25. While the target set by the

Fiscal Responsibility and Budget Management (FRBM) Act (3 percent) seems a long way away, the consistent consolidation in government deficit signals fiscal prudence, resulting in low sovereign risk. Fiscal consolidation has its costs though. The government needs to spend much more on health, education and rural development than it currently does. On the positive side, the expenditure is now being directed towards capital assets much more than before. Public investment of 3.4 percent of GDP is the highest in decades. Good quality government spending (i.e. on capital expenditure) crowds in private investments instead of crowding out. As a result of the reduction in deficits, the government is borrowing less from the markets, which helps bond yields to stay low. This will reduce the cost of borrowing from bond markets and banks, thereby facilitating both private investments and consumer spending.

The last macro financial stability metric I analyse here is the current account deficit. We are living in a VUCA (volatility, uncertain, complex and ambiguous) world. There are several wars going on across the globe, with trade and diplomatic tensions running high. Yet, our export performance has been commendable, particularly in services. The current account balance has surprised on the upside by turning surplus in the last quarter of 2023-24 and is likely to generate a small positive balance even in the current year. It is good news for the Indian rupee as a smaller current account deficit or a surplus manifests in an overall balance of payments surplus (since our capital account is anyway in surplus). Unless the RBI mops up the entire forex inflows, the rupee may strengthen or at least will not depreciate much in this scenario. The RBI is also sitting on massive forex reserves of 676 billion dollars providing an extra layer of stability to the external sector.

Where Do We Go From Here?

The path ahead is exciting but not easy. We need to address many challenges that the economy faces and leverage external and internal opportunities. While physical infrastructure is improving at a rapid pace, much more needs to be done, especially in rural areas, along with focus on quality of the assets and their maintenance. Social infrastructure remains a weakness with healthcare and education way below global standards. The famed demographic dividend window has already opened up and will close sometime in the 2040s. GDP will not grow sustainably unless we nurture a skilled, innovative and healthy labour force. For that, we need to increase the levels of skill by making education more futuristic,

innovative and application oriented. To improve health outcomes, we need a mix of well regulated private healthcare providers, a public healthcare system and affordable and appropriate health insurance for all. We need better quality institutions, for instance in the areas of regulation, judiciary, policing and protection of property rights.

We need to revive the unfinished agenda of reforms in factor markets such as land and labour. There is a lot of work to do even in financial markets, particularly in corporate bonds and financial inclusion. In the latter, while a lot of progress has been made on the supply side by providing households with bank accounts, we now need to pay attention to the demand side by inculcating financial literacy and fraud awareness. Schools and colleges must incorporate financial education in their curricula.

The next important challenge for the Indian economy which is also an opportunity is technology. Our technological progress has to be futuristic but also environment-friendly in order to be mindful of climate change concerns. As Artificial Intelligence (AI) takes the world by storm, India cannot afford to be left behind. Our youth, the workforce and the government must embrace this new technology which can generate massive productivity boosts if used efficiently but also hurt us (e.g. by displacing labour in repetitive tasks, increase fraud by deep fakes) if we do not understand it well. The next few decades will not be about humans versus AI, but humans with AI. Our large and rising workforce stands to benefit from this new wave of technology boom but we must smartly deploy it to solve the critical problems of the economy which human intelligence has so far failed to overcome. Digital public infrastructure (Aaadhaar, UPI and the entire India Stack) is a success story that has demonstrated the country's ability to propel growth and ease of living by investing in and adopting technology in our daily lives. AI needs to be deployed in a range of industries across education and financial services to agriculture and manufacturing. After all, we are the world's largest population that is the biggest asset for AI development. AI needs large volumes of data to train on and improve itself. The data, fortuitously lies right here.

The global economy is becoming an increasingly difficult place to compete and thrive in. The known unknowns and unknown unknowns are exploding. Therefore, it is appropriate to end with a line from Socrates that was quoted by the RBI governor in one of his speeches during the Covid pandemic: "In the face of adversity, we have a choice: we can be bitter, or we can be better".

CHARTING INDIA'S COURSE : PATHWAYS TO ECONOMIC GROWTH AND INCLUSIVE DEVELOPMENT

- *Mr. Barun Kumar Ray, IAS,
Additional Chief Secretary,
Non-Conventional and Renewable Energy Sources Department.*

India is a young nation as we attained Independence from the shackles of colonial rule in 1947 and became a Republic in 1950 when we gave ourselves a written Constitution. The British rule of nearly two hundred years undoubtedly opened up our economy to the world but, the involvement of Great Britain in the two World Wars was a drain on our resources and at the time of Independence, India was an impoverished country.

The initial years of our fledgling nation were beset with tremendous challenges and difficulties – a recently partitioned country with a huge, displaced population to care for and rehabilitate. A faltering economy due to the flight of capital and a vacuum created by the exodus of trained manpower. Belligerent Neighbours disputing our borders and ready to go to war on boundary issues.

In this difficult situation, our founding fathers set about addressing the biggest challenges that faced our nation to make it into a truly democratic and developing country. Issues of primary education, primary health, food security, universal adult suffrage, gender equality, socialistic pattern of society, planned economy confronted the nation builders and were addressed adequately.

For many years, the Indian economy grew at a slow pace, often referred to as the Hindu rate of growth. The gains of the growing economy were largely negated by the burgeoning population, which threatened to keep India poor forever. However, technological advancements in the field of agriculture resulted in food sufficiency and opening up of the Indian economy in the 1990s, resulting in faster growth and increase in per capita incomes.

The track record of the seven and half decades of development has catapulted India to become the 5th largest economy in the world, with a GDP in excess of US\$ 3 trillion. It is projected that by the year 2030, India will become the 3rd largest economy in the world after

the US and China. On the flip side, India has also become the most populous nation in the world, surpassing China. Today, our population is in excess of 1.44 billion people.

The gains of becoming the 5th largest economy in the world is largely diluted by our huge population, which decreases our per capita income drastically and reduces our per capita income to 130th in the world, making Indians amongst the poorest people in the world. Distributive justice is sadly lacking in our country as the richest individuals continue to corner resources far in excess of their needs leaving the poorest of the poor mired in poverty, barely eking out a living at a dollar a day.

This leads us to the extremely relevant question of the day – Whither India? What's the way forward?

The situation is not as bad or gloomy as it appears, mainly because India is a young nation and we are at the cusp of a demographic dividend. To reap the benefits of demographic dividend, the percentage of the young population should be more than the dependent population. India is in this uniquely advantageous position and can encash the benefits of a large working population for the next 40 to 50 years.

The second important issue to be addressed is declining birth rates. This trend has already started in India as with improving child and maternal mortality figures, the number of live births has been declining steadily. The population of India will continue to increase at a slower rate and is expected to stabilise and show a declining trend by the year 2060.

The third issue in population demographics is the addition to the workforce. Indian workforce participation is approximately 53% in males and 25% in females (Census 2011) as compared to 73% in males and 47% in females worldwide (World Bank data), which means that there is still a large percentage of people of working age, who are not gainfully employed.

It is therefore important for us to add to the working population by creating jobs, training and skilling the working age population and deploying them in economic activities, whether in paid employment or in self-employment, cutting across sectors and transcending gender boundaries.

To achieve this end, we have to focus on numerous factors and address many contentious issues to enable us to achieve our goal of becoming a developed nation and a middle-income country. Let us try and focus on some of the issues and their probable solutions :

1. The Indian economy has largely been an agrarian economy since independence with more than 50% of its population dependent on the agriculture sector, which contributes only 20% to the economy (Indian Economic Survey). Animal husbandry and fisheries sector are marginal contributors, however, these sectors are showing rapid growth over the last few years and have excellent growth potential. Technological advancements in agriculture have resulted in greater productivity of foodgrains and self-sufficiency in cereals, pulses, oilseeds and most other staples. Meat and milk production, which are essential parts of the human diet, require further development as with increased incomes, diets will become more nutritious and healthier.
2. It is necessary to move workers engaged in the farm or agrarian sector to food processing and value addition in the food chain. This will improve and ensure processing of agriculture produce on the farm itself. By providing better storage facilities at the farm level, we can reduce wastage and losses. Cold storage and cold chain facilities will ensure prolonging the shelf life of agricultural produce and ensure delivery of the same to households all over the country and ensure better price for the farmers. By ensuring quality of food production, switching over to organic methods of production and better packaging, export markets may open up, resulting in large surplus for the agriculture and food processing sector.
3. The next area of concern in the Indian economy is the manufacturing sector. Unfortunately, this sector has not seen the kind of development that would have helped India to become an industrialised nation. At present, the manufacturing sector contributes approximately 17% to the national economy. It is extremely important to double the share of manufacturing to at least 35%, if not more. India has the potential of becoming the next manufacturing hub of the world, if we can bring about a focused approach to industrial policy and ease of doing business, increase productivity by using technology and increase investment in this sector by increasing access to capital.

4. Service sector in India has shown a robust growth and contributes more than 50% to the Indian economy. It employs millions of people, specially in the IT and ITES sector. In fact, India's growth story is largely fueled by the success of the IT and ITES sector, along with logistics and e-commerce. The next growth surge in the service sector could be the proliferation of Global Capability Centres (GCCs). Presently, India has more than 1500 such centres providing back-office support to almost all the important Fortune 500 companies of the world. In the future, the GCCs will offer digital capabilities like Data & Analytics, Cloud Engineering, AI/ML, Cybersecurity and Process Automation and are poised to grow at a rapid pace. GCCs will also provide employment to a variety of professionals in many fields – accounting, engineering, legal, management, to name a few.
 5. In view of the demands of the expanding Indian economy, training and skilling of all categories of workers has become extremely important and the basic requirement of the day. Government schemes for Recognition of Prior Learning, standardisation of skill measurement, follow up training, skilling, upskilling and reskilling of workers and their redeployment have been devised and being implemented. As the manufacturing and service sectors open up, it is expected that more long term employment will be generated and the Government will no longer remain the largest employer as has been the case in India so far. Labour reforms will have to be carried out to ensure ease of hiring and firing. Minimum wages will have to be enhanced and the Government will have to ensure social benefits for the workers and provide a safety net for out of job workers. Hopefully, we will move away from the politics of dole to empowerment of individuals to become responsible and contributing citizens of the nation.
 6. Undoubtedly, the Indian economy will not be able to provide jobs for all its citizens. However, with the increasingly ageing population in the developed countries and resultant decrease in the number of workers, job opportunities are opening up in almost all the developed nations for our trained workers. Migration to foreign countries has become the aspiration of the skilled and trained workers and more and more workers are making a beeline to foreign shores to try their luck abroad.
- Already, there is a huge demand for workers in the health care, manufacturing and farm sectors. The remittances from our workers living abroad has touched 3% and is projected to double in a few years' time.

7. The other emerging areas that have immense opportunities are sports, space, new age industries and harnessing new technologies. With Improvement in nutritional standards, Indian sportspersons have started to make a mark in the international sporting arena. Sports equipment, infrastructure, sports medicine and training have become big business opportunities as many multinational companies have jumped into the fray.
8. Advancement in science & technology, bio-technology, non-conventional and renewable sources of energy, innovations are happening in every sphere. With increasing investment in research and development, our economy is slowly moving towards a knowledge economy with emphasis on intellectual property. Lastly, a look at the startup economy in India and the growth in this sphere is an amazing tribute to the innovation and entrepreneurial spirit of the youth of India. Numerous success stories abound.

To conclude, India is uniquely positioned to take off and make a mark on the world stage – our economy is booming and opportunities abound in every sphere. However, it is necessary to ensure good health and nutrition, appropriate training and skill upgradation, social security, gender equality, safety at the workplace and above all growth with equity for all our citizens to ensure that none is left behind as we march on towards progress.

FROM INDIA TO THE WORLD: UPI'S ROLE IN SHAPING THE FUTURE OF FINANCE

- *Mr. Jyoti Prakash Gadia*

MD and CEO of Resurgent India Limited

India is now at the core of the global digital transaction landscape, with nearly half of the world's digital payments taking place here. This incredible feat, which places India as a leader in digital transactions, is largely due to the success of UPI. The platform has revolutionised how money moves in the country and beyond.

Launched on April 11, 2016, UPI was the result of a strategic collaboration between the RBI and the National Payments Corporation of India (NPCI), supported by various banks and payment service providers. The platform was designed with a clear mission: to revolutionise digital payments and enhance financial inclusion by offering a simple, intuitive way to transfer money seamlessly.

In just four years, UPI transactions have skyrocketed ten-fold, leaping from 12.5 billion in 2019-20 to a staggering 131 billion in 2023-24. UPI now handles 80% of all digital payment volumes in India, firmly establishing itself as the backbone of the country's digital economy. One of the most significant impacts of UPI has been its ability to bridge the gap between urban and rural populations. UPI's user-friendly interface, combined with its compatibility with basic smartphones and even feature phones (through UPI 123Pay), has made digital payments accessible to people in remote areas. According to a report titled Retail-O-Nomics, UPI transactions in rural and semi-urban regions grew by 118% in 2023 compared to the previous year. This increase reflects a notable shift towards online payment methods in Tier-II cities and rural areas, with the transaction value also rising by 106% during the same period.

Beyond mere convenience, UPI has established a trail of transactional data that financial institutions increasingly employ to assess the creditworthiness of MSMEs. This digital record provides lenders with a more refined understanding of an enterprise's financial health,

especially for those lacking conventional financial documentation, such as formal financial statements.

However, the penetration of UPI within the MSME sector must deepen to achieve more holistic outcomes. With the expanding adoption of UPI, there has been a corresponding rise in cybersecurity risks. To enhance both security and functionality in UPI transactions, implementing dynamic QR codes instead of static ones could be a key improvement. These dynamic QR codes would be uniquely generated for each transaction, incorporating time-sensitive encryption keys or biometric validation. This method would significantly reduce the risk of fraudulent activities associated with cloned or tampered QR codes.

Moreover, these dynamic QR codes could be context-aware, automatically adjusting to different payment scenarios. For instance, when used at a grocery store, the QR code could instantly apply available loyalty points or discounts without any additional input from the user. This enhanced security and convenience would make UPI transactions not only safer but also more efficient, especially for high-value payments or in environments with higher fraud risks.

The rapid surge in UPI transactions has exposed significant infrastructure challenges for banks. Many are struggling to upgrade their systems fast enough to handle the increased volume, leading to frequent transaction failures that disrupt the user experience. These challenges are not just confined to the domestic landscape; they also highlight the broader implications as India seeks to export its digital payment expertise globally.

In parallel with addressing these internal challenges, NPCI and its international arm, NPCI International Payments Limited (NIPL), have begun collaborating with other countries to develop their digital payment infrastructures, creating systems similar to UPI and integrating UPI into their economies. This international expansion is part of a broader ambition by the NPCI and RBI, exemplified by Operation Rupee Global, which aims to establish UPI in 20 countries by 2028–29. The successful execution of these initiatives abroad depends not only on overcoming domestic infrastructure hurdles but also on ensuring that the system's scalability and reliability can meet global standards.

UPI's global expansion is a strategic effort that involves two main approaches. First, NPCI International focuses on building interoperability between India and other countries, allowing Indian travellers to use their UPI apps for seamless payments abroad. This is done by linking UPI with local payment systems, such as Singapore's PayNow, enabling cross-border transactions through existing domestic payment networks.

The second approach is more long-term, aiming to help other countries develop their own UPI-like ecosystems. NPCI International collaborates with central banks and authorised entities in these countries, offering both the technology and the business expertise needed to establish similar digital payment frameworks. This dual strategy not only facilitates easy payments for the Indian diaspora but also positions UPI as a global leader in digital payments, particularly for small-value, low-ticket transactions, which are common in regions like Southeast Asia.

India's commitment to enhancing its digital payment ecosystem is evident through initiatives like Digital India. Countries such as France, the UAE, Saudi Arabia, Bahrain, Singapore, the Maldives, Bhutan, and Oman have already integrated Indian payment platforms like UPI, showcasing India's growing influence in global fintech.

If Operation Rupee Global succeeds in expanding UPI globally, it could position India as a significant player in international finance, potentially strengthening the country's currency. Furthermore, the ability of UPI to bypass the SWIFT banking system introduces a strategic dimension, allowing payments with sanctioned countries such as Russia.

BRIDGING THE GAP: ADDRESSING THE MISSING MIDDLE IN INDIA'S HEALTH INSURANCE LANDSCAPE

- Mr. Rahul Agarwal

Founder and CEO, Ideal Insurance

Have you ever wondered why, despite being one of the fastest-growing economies in the world, India still struggles to provide adequate health insurance coverage to all its citizens?

With a population of over 1.4 billion people, our nation stands at a critical juncture in terms of healthcare accessibility. While there has been significant economic growth and advancements in medical technology, a substantial portion of the population remains vulnerable due to the lack of health insurance coverage.

- As of 2021, over half the world's population—4.5 billion people—was not fully covered by essential health services, according to a report by the World Health Organization and the World Bank.
- In India, approximately 514 million people were covered under health insurance schemes in 2021, covering only 37% of the population.
- According to a report by the Asian Development Bank (ADB), India needs to expand universal health coverage to meet the needs of its rapidly ageing population and sustain its growth momentum.
- Around 400 million individuals in India, referred to as the "missing middle," are without any form of health insurance.
- The total out-of-pocket expenses on healthcare in India stood at 58.7% in 2016-17, according to a study by National Health Accounts.
- In 2017, 55 million people in India were pushed into poverty due to medical expenses, as reported by the Public Health Foundation of India.

India's approach to health insurance is highly decentralised, with coverage varying widely across different regions and demographics. This disparity is particularly concerning given the high out-of-pocket expenditure that healthcare demands in India, which often leads to financial distress for families and pushes many into poverty due to the exorbitant costs of

medical treatments. Despite the presence of numerous insurance providers and a variety of products, these challenges remain unaddressed due to several critical factors.

Penetration: The Urban-Rural Divide

One of the primary reasons for the failure to cover the missing middle is the lack of penetration into rural areas. Health insurance providers predominantly target urban and semi-urban populations, leaving the vast rural audience underserved. This urban-centric approach is driven by the assumption that urban populations are more likely to purchase insurance due to higher income levels and better awareness of health risks. However, this strategy neglects the fact that nearly 65% of India's population resides in rural areas.

The rural population, although economically diverse, has largely been left behind in the insurance boom. Insurers have been hesitant to enter these markets due to perceived risks, lack of infrastructure, and the belief that the rural population may not have the purchasing power for health insurance. This has created a significant gap in coverage, contributing to the 400 million uninsured individuals.

Poverty: The Affordability Barrier

India's economy has shown impressive growth, with the GDP growing by 8.2% in the last quarter of FY24, reaching ₹47.24 lakh crore. However, this economic growth has not translated into financial stability for all. A large segment of the population still struggles to meet basic needs, making health insurance an unaffordable luxury.

For many Indians, particularly those in the lower-income brackets, health insurance is often seen as a non-essential expense. The priority for these individuals is to manage day-to-day living expenses, leaving little room for future-oriented financial products like health insurance. This is a significant challenge that insurers need to address if they are to increase penetration among the missing middle.

The Perception of Health Insurance as a Luxury

In India, health insurance is still perceived as a luxury product, primarily accessible to the higher middle class. Whole life insurance is often considered a necessity due to its direct link to financial security, health insurance is viewed as optional. This perception is deeply rooted in the traditional mindset, where the focus is more on immediate needs rather than future contingencies.

This mindset is further exacerbated by the high cost of healthcare in India. Hospitals and healthcare providers often charge exorbitant fees for treatment, leading to high premiums for health insurance policies. For many, the cost of premiums, coupled with the 18% GST on health insurance, makes it an unattractive proposition. As a result, even those who can afford health insurance may choose to forgo it, preferring to pay out-of-pocket when healthcare needs arise.

Awareness: A Major Roadblock

Awareness about the importance of health insurance is another significant hurdle. While there has been progress in educating the public about life insurance, health insurance remains a lesser-known concept in many parts of India. This lack of awareness is particularly pronounced in rural areas, where insurance literacy is low, and the benefits of health insurance are not well understood.

Many people are unaware of the financial protection that health insurance offers, particularly in the face of rising healthcare costs. This lack of awareness often leads to misconceptions about the necessity and benefits of health insurance, further contributing to the low penetration rates.

Distribution Models: The Weak Link

The distribution models currently employed by insurers are also a contributing factor to the lack of coverage for the missing middle. Traditional distribution channels such as agents and brokers are heavily concentrated in urban areas, leaving rural and remote regions underserved. Additionally, the reliance on digital platforms for distribution, while innovative, has not fully bridged the gap for those who lack access to technology or are not comfortable using digital services.

The government has taken steps to improve distribution in rural areas, such as asking banks to create awareness and provide subsidised insurance products. However, these efforts have been insufficient to reach the vast rural population effectively. A more robust and inclusive distribution model is needed to ensure that health insurance reaches every corner of the country.

Accessibility: The Challenge of Reach

Accessibility to health insurance is another major issue. In many parts of India, particularly in rural and remote areas, there is a lack of healthcare infrastructure, making it difficult for insurers to establish a presence. Even when health insurance products are available, the lack of healthcare facilities means that insured individuals may not be able to access the services they need.

This issue is compounded by the fact that many rural areas do not have easy access to insurance providers, making it difficult for individuals to purchase or renew policies. The lack of accessibility is a significant barrier that needs to be addressed if health insurance is to become truly universal in India.

Pricing of Products: The Affordability Crisis

The pricing of health insurance products is another critical issue. In the absence of strong regulatory mechanisms, healthcare providers often charge exorbitant fees for treatment, leading to high premiums for health insurance policies. For many individuals, especially those in the missing middle, these premiums are unaffordable.

Furthermore, the 18% GST on health insurance premiums adds another layer of financial burden, making it even less accessible to the average Indian. This high cost of premiums, combined with the high cost of healthcare, makes health insurance a less attractive option for many.

Product Variation: One Size Does Not Fit All

The lack of product variation is another reason why the missing middle remains uninsured. Most health insurance products in India are designed with a one-size-fits-all approach, which does not cater to the diverse needs of the population. For instance, products that work well in urban areas may not be suitable for rural populations, who have different healthcare needs and financial capabilities.

Insurers need to develop more tailored products that cater to the specific needs of different demographic segments. This includes offering lower-cost options, products with lower

coverage amounts, and policies that are designed specifically for rural populations. By diversifying their product offerings, insurers can better meet the needs of the missing middle and increase penetration rates.

Bridging the Gap

The challenges faced by the health insurance sector in India are multifaceted, and addressing them requires a comprehensive approach. To bridge the gap and provide coverage to uninsured individuals, insurers need to rethink their strategies. This includes expanding their reach into rural areas, improving awareness, offering more affordable and diverse products, and enhancing distribution models. We at Ideal Insurance have a network in over 60+ cities, with a major focus on Tier II cities.

Moreover, there is a need for greater collaboration between the government, insurers, and healthcare providers to create a more inclusive and accessible healthcare system. By working together, these stakeholders can ensure that every Indian has access to the financial protection that health insurance offers, thereby reducing the financial burden of healthcare and improving the overall health and well-being of the population.

At Ideal Insurance, we believe that health insurance is not a luxury but a necessity for every individual. It is our mission to ensure that no one is left behind when it comes to accessing quality healthcare. To achieve this, we need support from the government to create more awareness and build a robust healthcare infrastructure. By addressing the challenges discussed above, we can work towards a future where health insurance coverage is universal, and every Indian is protected from the financial risks associated with healthcare.

Together, we can build a healthier, more secure future for all.

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STUDENT ARTICLES

MONETARY POLICY AND THE MACRO ECONOMY-

AN OPEN ECONOMY AD-AS MODEL

- *Srijit Kumar Mondal, Rajanya Roy, Pramit Banerjee and Ayush Saha*

2nd Year, UG

Abstract

In this paper, we have examined the macroeconomic implications of Taylor's Rule using an open economy AD-AS model. The post-reform experience, in the vast majority of developing countries, suggests that both control of inflation and exchange rate management are major policy concerns of the Central Bank. It is also empirically established that the Central Bank chooses interest rate to manage inflation and exchange rate. What we investigate is how monetary policy produces macroeconomic outcomes. In doing so, we set up an open-economy AD-AS model which in its orientation is very close to Romer. The paper also considers the structuralist framework used by Basu, Das & Nag. The primary motivation behind the paper is an examination of complex interactions between several markets namely- the output market, money market, and foreign exchange market under both fixed & flexible exchange rate regimes.

JEL Classification

E12, E31, E43, F52, F41

Introduction

Control of inflation, mitigating exchange rate volatility and management of capital flow are key issues in the context of liberalisation. In the context of the program of liberalisation that the developing countries have embarked on during the last few decades, India is no exception. Policy initiatives and the behaviour of macro variables are interconnected. This

paper attempts to address this interconnectedness in terms of an open economy AD-AS model that applies to a large class of emerging market economies.

The building block of the model consists of the Taylor's rule, AD and AS, and the foreign exchange market. We consider both fixed and flexible exchange rates and carry out certain comparative static exercises. These comparative statics are applications of economic reforms in developing countries, in general and resurgent India in particular. The rest of the paper is organised as follows:

Section II builds up the model, section III discusses comparative static exercises under fixed exchange rate, section IV examines how the model works under flexible exchange rate, section V concludes the paper.

Section II: The Model

The Central Bank's Policy Rule

The Central bank chooses the interest rate on the basis of inflation rate and exchange rate. If the inflation rate goes up, the Central bank increases the interest rate. The logic is simple, if the interest rate goes up, AD falls which in turn tends to reduce the inflation rate. If the exchange rate increases the Central bank increases the interest rate. The underlying mechanism is as follows: If interest rate goes up net capital flow increases which in turn causes appreciation of exchange rate.

Thus, the Central bank's policy rule can be expressed as:

$$r = r(\pi, e), \quad > 0, \quad (\text{This is based on Taylor's rule})$$

where r is real interest rate, π is inflation rate, e is nominal exchange rate.

We consider real interest rate as instrument of monetary policy following David Romer's interpretation of the Taylor Rule in his article 'Keynesian Macroeconomics Without the LM Curve.' However, in the conclusion we have mentioned that Nominal interest rate targeting may also be a viable option.

The Aggregate Demand (AD) curve

The AD Curve is given by the following equation:

$$Y = C(Y-T) + I(r(\pi, e)) + G + NX((eP^*)/P, Y) \quad \dots(1)$$

where C is private final consumption expenditure, Y-T is disposable income, r is real interest rate, π is inflation rate, e is nominal exchange rate, G is government expenditure, NX is net exports, P^* is foreign price level, P is domestic price level.

Let $P^*=P=1$

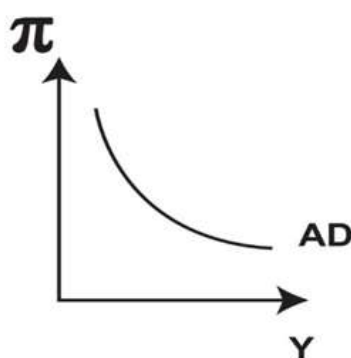


Fig 1: AD Curve

If the inflation rate increases, the Central bank increases interest rate as a result private investment falls, AD falls and hence output declines.

The Aggregate Supply (AS) curve

The expectation augmented AS curve is obtained in terms of the following equation.

$$Y = Y + \alpha (P - P^e), \alpha > 0$$

$$Y = Y + \alpha \{(P - P_{-1}) - (P^e - P_{-1}^e)\}$$

$$Y = Y + \alpha (\pi - \pi^e) \quad \dots (2)$$

P^e is the expected price level, P is the actual price level, π is the actual inflation rate, π^e is the expected inflation rate, P_{-1} is the price level in last year, Y is the natural level of output and Y

is the aggregate output, α shows how much the aggregate output responds to actual price relative to expected price level.

It follows from equation ... (2) that if increases, actual output increases. Hence, the aggregate supply curve is positively sloped.

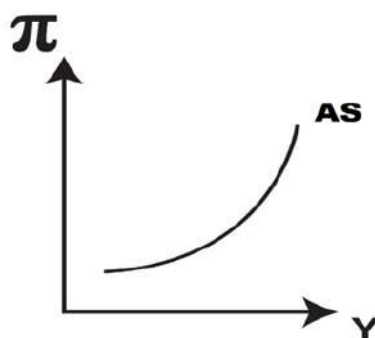


Fig 2: AS Curve

Equilibrium

The equilibrium in the model is attained when the AD curve intersects the AS curve giving equilibrium level of output at Y_0 , inflation rate at π_0 , and real interest rate at r_0 .

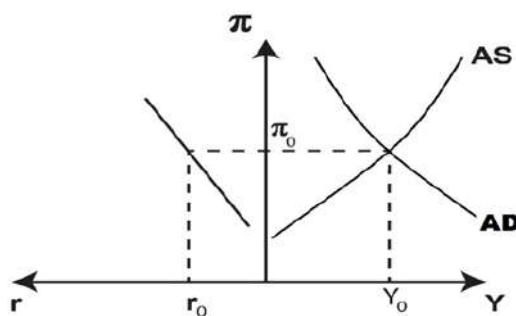


Fig 3: Equilibrium in AD-AS Model

Section III: Comparative Static Exercises Under Fixed Exchange Rate:

1. Parametric Increase In Expected Inflation Rate

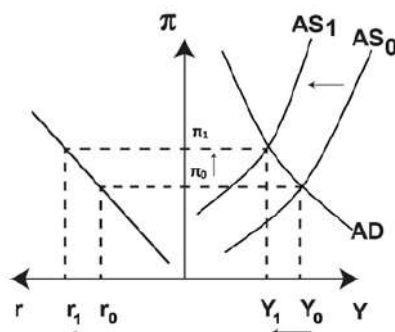


Fig 4: Parametric Increase in π^e in Fixed Exchange Rate Model

The AS curve shifts leftward or upward, output(Y) decreases, inflation rate (π) increases, and interest rate rises due to rise in inflation rate.

2. We Consider Rise In G

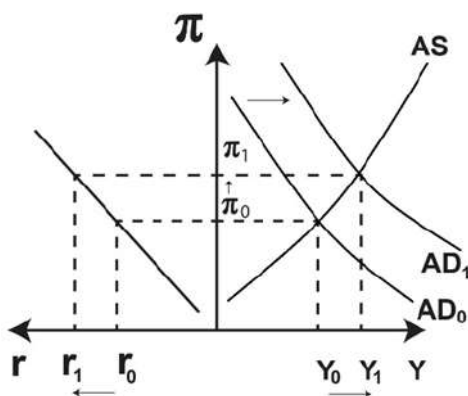


Fig 5: Rise in G in Fixed Exchange Rate Model

Expansionary fiscal policy causes a rightward shift of the AD curve. The new equilibrium corresponds to the higher output level and higher inflation rate which in turn increases interest rate.

3. We consider Devaluation

Given the Marshall Lerner condition the net export increases. Again, devaluation causes a rise in the interest rate by the Central bank. This in turn reduces private investment. Accordingly, there are two opposite effects on AD. If increase in net export dominates the fall in investment, the AD curve shifts rightward otherwise AD curve shifts leftward.

Case 1

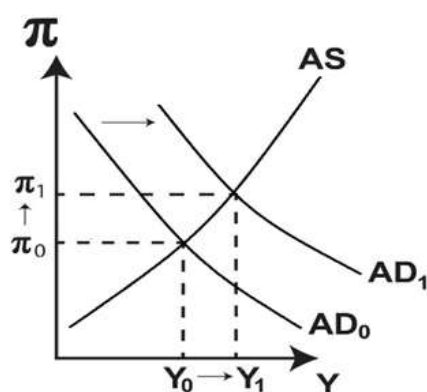


Fig 6: Net Export Dominates the fall in Investment

Case 2

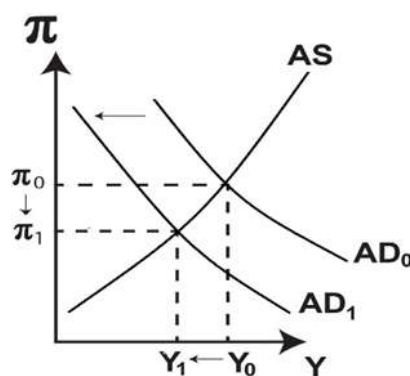


Fig 7: Investment dominates increase in Net Exports

In case I, Y and π increase along with increase in interest rate. In case II, both Y and π decrease. However, the effect on interest rate is ambiguous. Rise in e causes r to rise, on the other hand fall in π tends to reduce r .

Section IV: Model Under Flexible Exchange Rate

Under a flexible exchange rate the nominal exchange rate is determined by forces of demand and supply in the foreign exchange market. In case of BOP surplus there is excess supply of foreign currency and exchange rate appreciates. If there is a BOP deficit there is excess demand for foreign currency and nominal exchange rate depreciates.

The model is given by the following set of equations:

$$Y = C(Y - T) + I\{r(\pi, e)\} + G + NX(\left[\frac{eP}{P^*}\right], Y) \quad - (1)$$

$$Y = Y + \alpha(-e), \quad \alpha > 0 \quad - (2)$$

$$NX\left(\left[\frac{eP}{P^*}\right], Y\right) + F\{r(e) - r^*\} = 0 \quad - (3)$$

Where F is net capital inflow, and r^* is foreign interest rate.

[If difference $r - r^*$ increases (decreases), net capital inflow increases (decreases)]

From this system of equations, we determine Y , π , and e . Once π & e are determined we get interest rate.

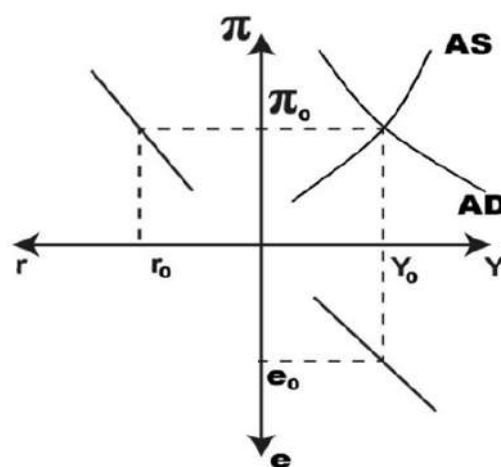


Fig 8: Model under flexible exchange rate

We have already discussed the AD & AS curve & also the relation between r & π . Now the relation between Y & e is shown in the figure. If Y increases, NX decreases, and there is a BOP deficit. Hence, the exchange rate goes up i.e. depreciates. We have also shown the relationship between r & e . If r increases, net capital inflow rises and there occurs BOP surplus, accordingly, exchange rate appreciates i.e. falls.

Next, we consider 2 comparative statics exercises.

1. We Consider Increase In r^*

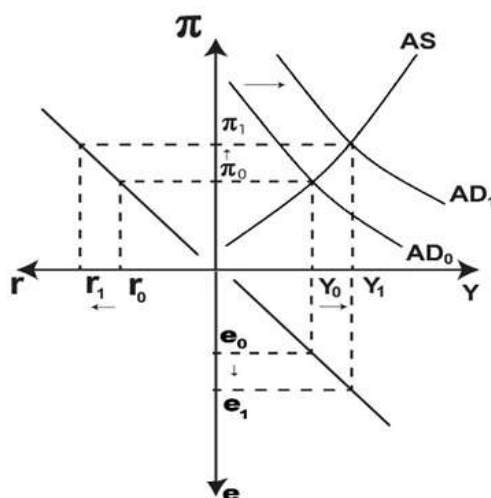


Fig 9: Increase in r^* in Flexible Exchange Rate

As r^* increases, net capital inflow decreases, BOP deficit, exchange rate depreciates, Net export increases, AD increases, inflation rate increases, since both e and π increase, interest rate increases.

2. Now We Consider Autonomous Increase In Capital Flow

From the BOP equilibrium condition, rise in capital flow implies fall in net export. The underlying logic is simple. When capital inflow rises, there is a BOP surplus as a result of which exchange rate appreciates and net export declines. The AD curve shifts inwards and both output & inflation rate fall.

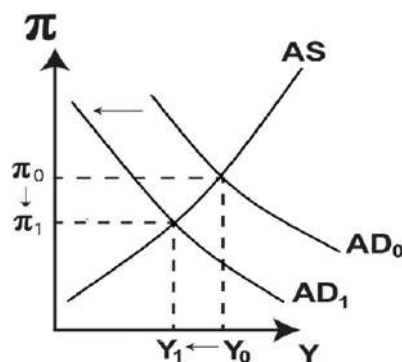


Fig 10: Autonomous increase in capital flow in Flexible Exchange Rate

Thus, we see that additional capital flow is both contractionary and deflationary.

Section V: Conclusion

In this section we sum up findings of the model. Under fixed exchange rate we have performed certain comparative static exercises pertaining to rise in expected inflation rate, fiscal expansion and devaluation. Rise in expected inflation rate causes real interest rate to rise and contraction of output. Expansionary fiscal policy entails rise in inflation and output expansion. Devaluation has ambiguous effects. Output may or may not increase. This is attributed to opposite effects of devaluation on AD. On one hand, devaluation causes expansion of demand by boosting net export. On the other hand, it reduces investment and tends to be contractionary. Next, we have also considered the Flexible Exchange Rate under which we have performed certain comparative static exercises namely: rise in foreign interest rate & rise in autonomous capital inflow.

The outcomes from the rise in foreign interest rate are depreciation of exchange rate, output expansion, rise in inflation & domestic real interest rate. The consequences of increase in autonomous capital inflow are output contraction, appreciation of nominal exchange rate and fall in inflation rate and domestic interest rate.

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THE RESURGENCE OF INDIAN MEDICAL TOURISM AND ITS ECONOMIC IMPACT: AN ANALYSIS

- *Anushree Mondal*

2nd Year, UG

Abstract

Medical Tourism is quickly escalating in developing countries. India, being one of them, is a popular destination for medical tourism due to its skilled medical professionals and affordable healthcare (Ministry of Tourism, 2024). Medical tourism in India is set to get a boost with projections indicating that the number of medical tourists will exceed pre-pandemic levels. According to data released by credit rating agency Crisil, the number of medical tourists visiting India is projected to be around 7.3 million in calendar year (CY) 2024, up from 6.1 million estimated in CY 2023. A synchronisation of modern medicine with AYUSH emphasises the country's resurgence as a hub for medical tourism. This article examines the factors contributing to the rapid growth of the Indian medical tourism industry and its economic impact.

JEL Classification

I11, I15, I18

Introduction

Medical tourism refers to travelling to another country for medical treatment, often due to lower costs, better quality care, or shorter waiting times. While medical tourism has been a recent trend, it has rapidly grown and has become a significant force in the growth of service exports worldwide. Today medical tourism in Belgium, Cuba, Dubai, Singapore, Malaysia, Israel, and India has become a multi-billion-dollar industry. In India, this industry has witnessed exponential growth, driven by factors such as world-class medical facilities, skilled healthcare professionals, and cost-effective treatments. The Tourism and Hospitality sector is an integral part of the Make in India initiative, serving as a vital economic catalyst that fuels job creation and rapid development. The Ministry of Tourism data (2023) reveals that around 634,561 foreign tourists came for medical treatment in India in 2023, nearly 6.87% of the total international tourists who visited the nation.

Moreover, the post-Covid era also presents opportunities for innovation, transformation, and growth in India's healthcare sector. Digital Health Technologies: The pandemic accelerated the adoption of digital health technologies in India. Telemedicine, remote patient monitoring, health apps, and artificial intelligence have gained prominence, providing opportunities for increased accessibility and improved healthcare delivery. The successful development and distribution of COVID-19 vaccines in India have showcased the country's capabilities in vaccine manufacturing. This presents an opportunity for India to emerge as a global hub for vaccine production and research, attracting investments and fostering innovation in the pharmaceutical sector.

Key Contributors To The Quick Surge Of Medical Tourism In India

- ***Reputed Healthcare Professionals:*** Most medical practitioners and surgeons at Indian Hospitals have a reputation for high-quality medical training. Most medical practitioners and nurses are fluent in English.
- ***Financial Savings:*** The cost of quality of medical procedures and services is low in India when compared to other competitors in the field.

Cost of Common Medical Procedures Across Major Destinations for Medical Value Travel, 2021 (US\$)							
Medical procedure	India	Thailand	Mexico	Singapore*	Colombia	South Korea*	USA
Heart bypass	7,000	17,188	121,00	17,200	11,200	26,000	123,000
Heart valve replacement	11,500-8,500	21,800	35,000	16,900	20,000	39,990	170,000
IVF treatment	6,500	3,750-15,625	6,500	14,900	13,000	7,900	15,400
Hip replacement	7,200-14000	7,813	13,500	13,900	8,000	25,000	40,364

Source: Medical Tourism Association

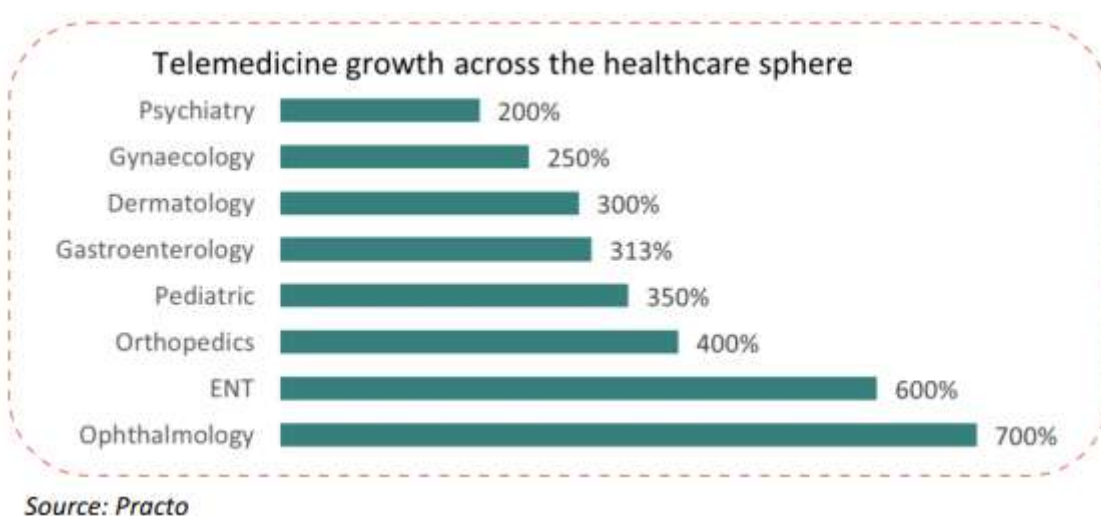
Note: Data for countries marked with * is for 2019.

Graphic© Asia Briefing Ltd.

- ***Fast Track Appoints:*** There is no waiting time and the patients can get immediate treatment.
- ***Accreditation of Hospitals:*** India has a good number of JCI (Joint Commission International) accredited hospitals and compares well with other countries in Asia. In

addition, there are a large number of NABH-accredited hospitals. This set of approved hospitals in India provides care at par or above global standards.

- ***Rising popularity of Telemedicine:*** In India, in the field of telemedicine, large hospitals like Apollo and AIIMS have embraced telemedicine and joined several public-private partnerships (PPPs). eSanjeevani which is a telemedicine facility by the Health Ministry that enables patient-to-doctor and doctor-to-doctor consultations from the comfort of their own homes, has reached 12 million teleconsultations by September 21, 2021.

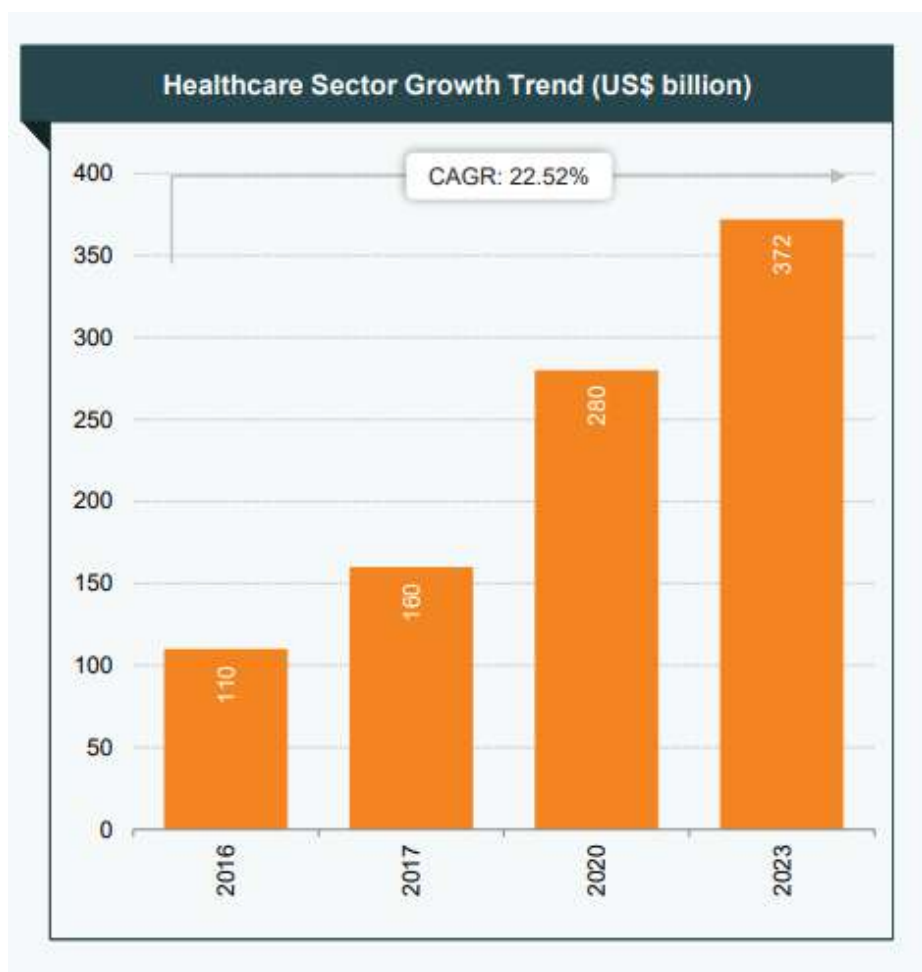


- ***Inclination towards Artificial Intelligence:*** Tata Trust's Indian Health Fund (IHF) confirmed the incorporation of two AI startups namely TrakItNow Technologies and Stellar Diagnostics. TrakItNow Technologies is an IoT and AI-based solutions are in progress with enormous power to impact mosquito-borne illnesses.
- ***Liberalised Visa Policy:*** The newly introduced e-Medical Visa for self and the accompanying attendant has been a tipping point for the medical tourism sector in India. Citizens from 166 countries can arrive in India to seek medical treatment through five authorised seaports and 26 designated airports on an e-Medical Visa issued by the authority.
- ***AYUSH (Ayurveda, Yoga & Naturopathy, Unani, Siddha, Sowa Rigpa and Homoeopathy):*** The overall Ayush industry in the country is worth over US\$ 50 billion.- in 2024. The Government of India liberalised its policy by providing 100% FDI in the AYUSH sector for the wellness and medical tourism segment.

- ***Policy Support:*** The Indian Government has introduced policies that favour FDI in the private industry. Customs duty and other charges on life-saving devices are being slashed. The WHO and G20 India presidency launched the Global Initiative on Digital Health (GIDH) at the G20 Summit's Health Minister's Meeting, aiming to leverage digital health for universal coverage and Sustainable Development Goals by 2030.

Influence Of Medical Tourism On India's Economic Landscape

- ***The inflow of Foreign Currency:*** Medical tourism contributes significantly to India's healthcare industry's revenue. Foreign patients visiting India for medical treatment spend money on hospitals, doctors' fees, diagnostic tests, accommodation, transportation, and other related services. This influx of foreign exchange earnings boosts the healthcare sector and economy.
- ***Job Creation:*** Increasing medical tourism will raise employment in the healthcare industry, local businesses, tourism business and other related employment opportunities. As of 2024, the healthcare sector is one of India's largest employers, employing a total of 7.5 million people.
- ***Expansion of R&D and distribution facilities in India:*** Public-private partnerships facilitate collaborative research aimed at addressing specific medical challenges in India. The government provides financial grants, tax breaks, and subsidies to encourage pharmaceutical research and development.



Source: IBEF

The Indian healthcare market enjoyed a robust Compound Annual Growth Rate (CAGR) of 22.52% between 2016 and 2022, highlighting its rapid growth trajectory.

- **Mergers & Acquisitions (M&A):** India's increasing M&A activity in healthcare, driven by rising private and public spending, positions the country as a leader in the Asia Pacific region. This trend is supported by substantial inorganic growth through M&A, joint ventures, and partnerships. Strategic M&A is fueled by the demand for quality healthcare, digital innovation, and government initiatives like 'Make in India'.
- **FDI Inflow:** 100% FDI is allowed under the automatic route for greenfield projects. Up to 100% FDI is permitted under the government route for brownfield project investments. Demand growth, cost advantages and policy support have been instrumental in attracting FDI.

- ***Boost in Health Insurance:*** Health insurance for medical tourists in India saves medical tourists' incomes from 65% to 90%. Aetna is one of the renowned insurance companies in the US that has teamed up with “Apollo Hospital in India” to develop an insurance package for Americans seeking medical attention there.
- ***Fostering Diplomatic Connections:*** Medical tourism catalyses enhancing diplomatic relations between countries. The growth of international tourism is regarded as a contributor to the development of the economy, social cooperation, politics, and cultural relations.

Conclusion

India's rank of 10th of 46 countries in medical tourism shows India's strength in medical tourism and is emerging as a preferred healthcare destination for patients across the globe. Medical tourism has earned a prominent position in statistics related to tourist influx as well as revenue generation for the services sector. It significantly contributes to the country's GDP and generates foreign exchange earnings, positively impacting the balance of payments. It also creates employment opportunities in healthcare, hospitality, transportation, and ancillary services, contributing to skill development and capacity building in the healthcare workforce. Even, foreign direct investment (FDI) in the healthcare sector in India has been on an upward trajectory.

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MICRO, SMALL AND MEDIUM ENTERPRISES:
REVIVAL OF THE SECTOR POST COVID-19 PANDEMIC

- *Oishee Roy*

2nd Year, UG

Abstract

The outburst of the COVID-19 pandemic has been a severe blow to all the economies across the globe. The Indian economy too, faced the wrath of the pandemic, with its social and economic activities hampered. Among them, MSMEs are one of the sectors that were badly hit during the pandemic. Being an indispensable sector in promoting entrepreneurship and generating employment, the shutdown of businesses and temporary closures of the same has affected productivity, innovation, employment, economic growth, and development. Instead of the contractions that MSMEs faced throughout the pandemic, several policies and strategies have been adapted to prevent the ceasing of businesses and encourage entrepreneurship amidst the uncertainties of the pandemic. This article attempts to highlight the importance of reviving the sustainable growth of MSMEs, discuss the revival strategies and policy reforms adopted by the government to revive the sector and propose strategies, analyse their outcomes, and figure out ideas as a way forward to not only revive the MSME sector but pave the path of a growing, resurgent Indian economy.

JEL Classification

L60, L80, L88, O14, O43

Introduction

The Micro, Small, and Medium Enterprises Development (MSMED) Act enacted by the Government of India in 2006 classified micro, small, and medium into SMEs for the manufacturing sector and the service sector. Engaged in production and manufacturing, they are spread across rural and urban areas all over India. Two-thirds of MSMEs are operated by

socially vulnerable groups (Scheduled Castes/Scheduled Tribes/Other Backward Classes) and 20 percent by women. Being the second largest to generate employment after the agriculture sector, MSMEs do hold a place of pride for India. However, they face manifold challenges, particularly during the pandemic, regarding credit availability, limited access to finance, low productivity, high cost of business operations, and mainly lack of congruence in policies. The idea is to discuss the relevance of the policies in the current context of MSMEs and recommend ways to make further resurgence of the sector as well as India.

Problems Aggravated During Covid-19

As the pandemic struck the world, the very first blow to the MSMEs came down in the form of labour scarcity. MSMEs are labour-intensive industries, requiring a sufficient amount of labour to continue production processes, particularly in small-scale and cottage industries. At the onset of the pandemic, the migrant labourers returned to their states, thereby creating a lack of labour productivity. The total lockdown resulted in acute unavailability of cash further instilling a threat to the existence of MSMEs and subsequently resulting in job losses. A series of lockdowns disrupted input supplies as well and scarcity of resources deepened. Lack of finance and credit availability results in MSMEs failing to cope with including advanced technologies during lockdowns. MSMEs are not able to adapt to data analytics or artificial intelligence. This is primarily due to a lack of finances and credit availability. MSMEs have started facing even greater competition from international manufacturing companies which use Industry 4.0. This is because industries adopting Industry 4.0 can provide better quality goods at cheaper prices (Behera, M., et al., 2020). All these contractions ultimately led to subsequent poor infrastructure and low capacities of production against high production costs. Some MSMEs had to shut themselves down amidst the pandemic as they were unable to adopt advanced technologies.

Policies And Initiatives Introduced To Tackle The Challenge Post Covid-19

- MSMEs have backed up many innumerable policies, stimulations, and loans to prevent the industries from crippling off and shutting down. The central government has impressed upon the revival and survival of MSMEs ardently through the 'Make in India Policy': what we popularly call the 'Atma Nirbhar Bharat Abhiyaan' or the

Self-Reliant India scheme. This scheme aims to provide economic assistance to all the sectors in the economy including MSMEs in the form of credit, subsidies, and funds. Under Atmanirbhar Bharat, a special package of Rs. 20 lakh crores was announced by the Government for all sections of the society, especially Industries and MSMEs. Apart from that, other initiatives by the government include – Rs 20,000 crore in subordinate debt for MSMEs, Rs 3 lakh crore in Collateral Automatic loans for business, including MSMEs, Rs 50,000 crore equity infusion through MSMEs, revised criteria for the classification of MSMEs, new procedures for registration through 'Udyam Registration', no global tenders for procurement up to Rs 200 crores, which will help MSMEs. (PNS New Delhi, Chaurey, R. and Chiplunkar, G.)

- Complementing this scheme, a Central Sector Scheme called 'Raising and Accelerating MSME Productivity' was launched on 30th June 2022. This was done to generate innovation, foster ideation of incubating new businesses, develop standards, enhance access to marketing and consultation, and incorporate technological tools to make Industry 4.0 accessible to MSMEs making them self-dependent and competitive. With a target improvement in the sector, the scheme explores avenues to address issues of delayed payments and enhancing centre-state partnerships for having access to credit facilities. In particular, RAMP addresses COVID-related challenges by impacting the enhancement of existing schemes, boosting the inadequately addressed blocks of skill development, technological upgradation, and digitalization. In a broad sense, RAMP aims to be a job source, market promoter, and finance facilitator, supporting vulnerable sections of society. (Kumar, R. et al., 2021)
- Several other schemes undertaken by the government post Covid-19 include the Prime Minister's Employment Guarantee Scheme (PMGEP) promising subsidies to be distributed among beneficiaries. Similarly, another initiative called the Scheme of Fund for Regeneration of Traditional Industries (SFURTI) aimed at strengthening traditional industries. The ASPIRE scheme is driven towards building a network of technology centres to promote startups for innovation in agro-industry. The Credit Guarantee Fund Scheme for Micro and Small Enterprises (CGTMSE) was launched by the government to make collateral credit accessible to the MSME sector, as is the Pradhan Mantri Mudra Yojana (PMMY). (PNS New Delhi, Chaurey, R. and Chiplunkar, G.)

- Government bodies have taken several steps for strengthening the MSME Industry post-Covid-19. The KYIC Board has set up Community Kitchens to provide food packets to migrants and released Rs. 1000 per month to register artisans from the Artisan Welfare Fund Trust. The COIR Board provides food to coir workers. These have served as incentives to the labourers such that productivity in the small-scale industries continues afloat. (PNS New Delhi, Chaurey, R. and Chiplunkar, G.)

India has adopted a long-term strategy for the sustainability of the MSME sector post-Covid-19 to reach an inclusive and equitable growth model with percolation of wealth' and encourage 'de-centralized economic structure to avoid concentration of the population resulting into the exodus of migrant workers' – which is a nothing but the 'Small Industrial Village' Policy. Promotion of 'Swadeshi' ideology through Policy drafting induces import substitution, product development by price advantage, access to Information Technology Enabled Services at an affordable cost, promotes innovation and upscale MSMEs, technological upgradation of MSMEs to minimise external risks, formulation of timely payment receipts, collateral-free and MUDRA small loans to encourage self-employment were some of the other initiatives to revive entrepreneurship and incubation through the MSMEs.

Recommendations For Reigniting The MSME Sector

Although the government has taken up several initiatives to revive the MSME sector, some reforms need to be inculcated into the policies so that MSMEs can be revamped into a growing developed sector of the Indian Economy. MSMEs, in the first place, need congruence, alignment, uniformity, and standardisation in policies and schemes. MSMEs are mostly unregistered due to which they often skip out the provisions and benefits of government schemes. Registration for MSMEs should be encouraged to avail benefits under various promotional schemes. Serious administrative reforms through an industry-academia-government interface so that all stakeholders can assist in the revamp of District Industries Centres. District administrations should have incubation centres with modern technological resources where entrepreneurs can learn about the new technology (Kumar, R. et al., 2021).

Banking services should be responsive and inclusive for MSMEs' easy availability of affordable credit. Alternative approaches such as microfinance institutions, non-banking financial institutions, fintechs, and debt and equity markets should be explored in the MSME sector. Common KYC databases should be developed using digital tools to make the micro units acceptable enough to reputed, conventional lenders. Addressing the issue of delayed payments, a platform where MSMEs can upload every invoice raised under the framework of GSTN is mandated. This will induce the banks to purchase invoices and give money right away to the MSME supplier (Kumar, R. et al., 2021). The MSMEs need developed infrastructure in smaller towns to promote the shift of enterprises and local areas. The competitiveness of MSMEs should be propelled further by reducing the operational cost of small businesses and developing strategies in collaboration with employers, employees, professionals, and associations to address the issue of underperformance of low productivity of MSMEs. Across different levels of MSMEs, there needs to be a clear tracking of the rate of their exit, innovation, and inter-firm linkages, for which a reliable database has to be set up.

However, in the post-Covid world, the biggest challenge is to remain competitive while reducing costs and developing new products within a short time. Technology centres and the promotion of public-private partnership models should be set up to improve manufacturing quality in the era of e-commerce and keep the supply chain flexible for the same.

Conclusion

Overall, MSMEs are a dynamic and contributing sector to the economy. To ensure that it's not crunched down permanently and to guarantee the efficiency of the MSMEs, the government has been involved in uplifting the situation, facilities, and provisions not only to expand the sector but also to revive the Indian economy as a whole. The government's main motive right now should be to expand the 'Make in India' policy such that it is instrumental enough for overall performance and development through raising cumulative loan limits, incentives to entrepreneurs, skill development, proper registrations, initiatives by the RBI, credible data handling and especially, technological upgradation and digitalization. All these will

effectively result in the growth and expansion of the MSME sector and have a long-term impact on India's resurgence.

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INDIAN DOMESTIC AVIATION SECTOR: AN EMERGING MONOPOLY?

- *Astha Thakur and Soumyajit Ghosh*

2nd Year, UG

Abstract

India witnessed a remarkable growth in its domestic aviation sector in the last decade. It is now quite evident that the growing aviation industry has a positive correlation with India's flourishing economy. In any country, an efficient aviation sector is essential to foster tourism, employment opportunities and so on. In recent years, the domestic sky has been the playground of two major players – Indigo and Air India. Indigo with a market share of 62% has emerged as a lion in the industry. On the other hand, the second major player, Air India has a market share of merely 28% (Srivastava, 2015). While other airlines were experiencing crises all through the past decade, Indigo, with its low price, better service and efficient management techniques has managed to rule domestic airspace. Observing the transition of market shareholding in the domestic aviation sector throughout the last decade, a question arises whether the industry is on the verge of monopoly. This article aims to study the motive of the lion shareholder, Indigo, by closely analysing its behaviour in the past years.

Jel Classification

L93

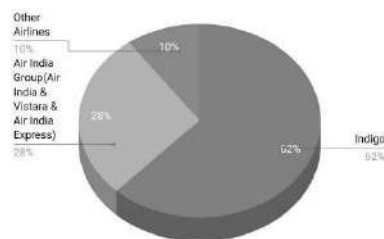
Introduction

With more people taking to the skies amidst the developing economy, we find India emerging as the third largest domestic aviation market in the world, after the United States of America and China. Post liberalisation, flying is not restricted to the upper class. According to the International Air Transport Association (IATA), by the year 2030, India is expected to overtake China and USA as the world's largest domestic air passenger market. Being the third largest economy, it will not be surprising for a nation with a population of 1.4 billion to have the biggest domestic aviation industry in the world (Raj and Kumar, 2022). However, it would be a definite matter of concern if the industry has only one major player with a lion's

share. In general, across the globe, all the big economies have a domestic aviation sector which is oligopolistic¹ in nature. However, there are a few small economies in which the domestic aviation sector is completely dominated by a single airline. In the context of the Indian economy however, it would be significantly different due to the size of the market. A few decades later, assuming a time when domestic aviation would be affordable to almost every economic strata, one could imagine themselves at the airport surrounded by the same 'Indigo' logo. This brings the existence of a monopoly in the domestic aviation sector.

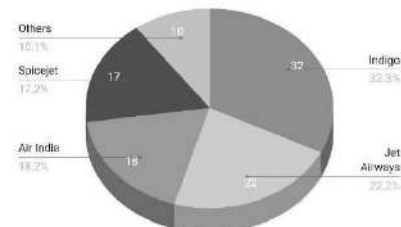
Market Share of Different Airlines

2014



source: livemint.com

2024



source: skift.com

Status Of The Industry In The Recent Past

The industry has grown dramatically averaging 8.7% growth annually which includes Indigo's growth of 13.3% (between 2005-2024) as compared to average international growth of 6% annually. In 2014, with the new government coming into power, the domestic sky was experiencing a number of turbulences. Many renowned names of the industry went through significant changes, for instance, the transfer of ownership of SpiceJet and the grounding of Kingfisher Airlines, both of which were major players of the sector at the time (Basnet and

¹ Though there is a difference in opinion amongst economists regarding whether aviation is a form of oligopoly or monopolistic competition, since all airlines sell homogeneous products (air-transportation) we consider it to be an oligopoly. Either of the opinions goes with our work.

Sharma, 2024). In the last five years, two major airlines Jet Airways and Go First shut their operations due to financial crises. COVID-19 catalysed the collapse of other smaller players in the sector. A notable change in the industry has been the privatisation of the highly loss-making Air India, a major player in the domestic airspace. Government schemes like Ude Desh Ka Aam Nagrik (UDAN) have also impacted the industry positively. Fast forward to the present times, there is emergence of two biggest players in the sector. Indigo has been instrumental to India's strong domestic growth in the last decade. From 32% in 2014 to 62% today, it has nearly doubled its market share, and emerged as the biggest player in the aviation sector (Raj and Kumar, 2022). Following it, Air India (including Air India express and Vistara) is the next largest player in the domestic market with a share of 28%. These two players have already captured 90% of the Indian sky leaving too little scope for others to prosper.

Microeconomics Behind the Scene

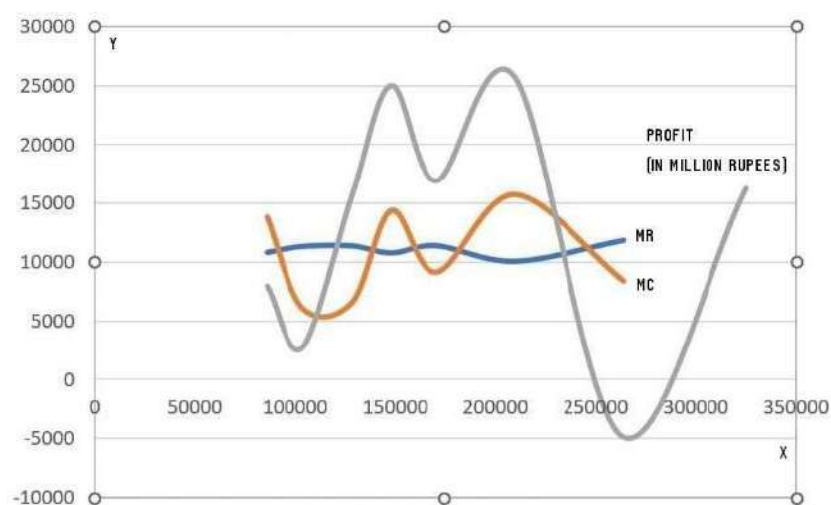
This article aims to analyse the path of the Indian aviation sector in the last decade, that is, whether it is still a monopolistic competition which it used to be a decade ago or if there is an emergence of monopoly of Indigo in the domestic air.. Our approach includes gathering the consolidated data which consist of number of passengers travelled (as quantity output), operating revenues and operating cost of Indigo Airlines for the last decade (2012 to 2020). 2021 and 2022 have been excluded due to turbulence in the sector during the pandemic.

Data Inputs

q(in 100's)	tr(in millions)	tc(in millions)	d(tr)	d(tc)	d(q)	mr	mc	profit
85817.8	92030.8	84072.9						7957.9
103510	111166	108466.9	19135	24394	17691.8	10815.7	13788.3	2699.1
128340	139253	123578.6	28087.6	15111.7	24830.8	11311.6	6085.87	15674.4
147836	161399	136370.7	22145.7	12792.1	19495.5	11359.4	6561.65	25028.3
170505	185805	168897	24405.9	32526.3	22669.4	10766	14348.1	16908
209515	230209	204442.5	44403.9	35545.5	39009.9	11382.7	9111.92	25766.5
263945	284968	289872	54758.8	85429.5	54430.1	10060.4	15695.3	-4904
325326	357560	341299.4	72592.3	51427.4	61380.2	11826.7	8378.5	16260.6

Source: Indiatat.com

Diagrammatic Representation of the Profit Maximising Equilibrium Condition



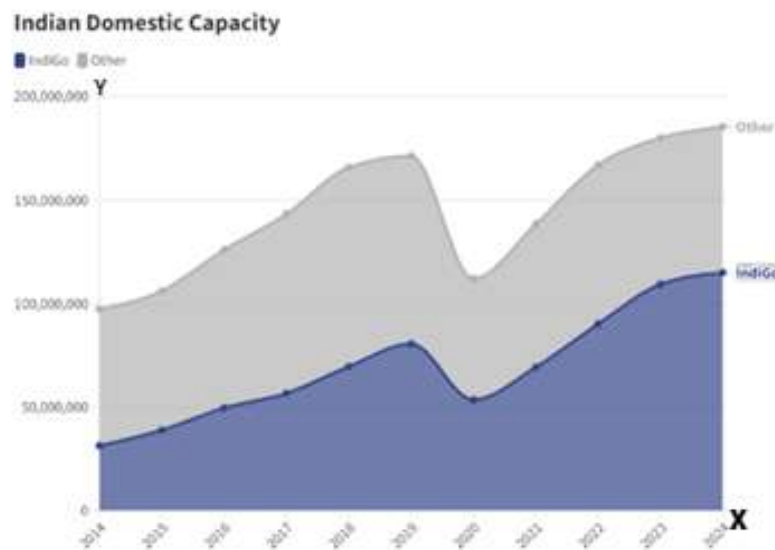
X axis: Quantity of output passengers in hundreds (passengers travelled)

Y axis: MR, MC and Profit

Plotting the Marginal cost (MC), Marginal Revenue (MR) and profit curves, we observe oscillations in the MC curve which occur due to the technological changes in the capital and other assets (e.g. new aircrafts, bigger crew, land support, etc); whereas quite surprisingly the MR curve stands out to be almost horizontally linear. Herein we get two points where the MC curve cuts the MR curve from below, that is, the MC curve is upward sloping at the point of intersection. This implies there are two possible points where the company can maximise its profit given the output level. Theoretically, the company should choose the point where the amount of profit is higher. However, in reality this choice doesn't seem to be the rational one from the Lion's perspective because the aviation market is still a growing one and will continue to do so for a few more decades. In this scenario, sticking to a particular output level just for maximising profit in theory will definitely lead Indigo to lose the Lion's share of the market. Thus, it is inferred that Indigo is prioritising capturing market share and not maximising profit. From the graph we can further predict that there will be more equilibrium points in future where the company can maximise its profit since the aviation sector is still mushrooming. Thus, the company is more concerned in capturing the market rather than maximising its profit, which is quite evident from the fact that it has already captured 62% of the market and has emerged as a dominant shareholder in the domestic air space in recent

years. The collapse of several major airlines over the last decade has also catalysed the success of Indigo. Thus, through strategic financial decisions, innovative business ideas and good understanding of the domestic Indian aviation sector, Indigo has seized all the opportunities that came its way and is gradually turning the industry into a monopoly.

Graph showing Indian Domestic Capacity Through the Years



Source: oag.com

X axis: time (in years)

Y axis: domestic capacity

Conclusion

Indigo's roaring market share is alarming. It is raising concerns of us seeing a monopoly in the Indian domestic aviation industry. Every alternate ticket sold in India is now from Indigo and on specific routes, there is a scarcity of options apart from it. Indigo's present market share reflects its rapid growth in the past decade. Since its inception, India's aviation sector had been a loss-making venture till Indigo's entry in the game. It is the only airline that has seen continuous growth in the past decade. Coping with Indigo's expanding market share has proved to be challenging for the rest of the players in the industry. They need strategic measures and better understanding of the aviation sector in order to survive in this perilous situation. Indigo has turned the pandemic malediction into an opportunity. While other domestic airlines were collapsing one after the other, Indigo rose to take over the market. It

bought a large number of aircrafts and hence sustained its profitability. With their exceptional performance, Indigo has attracted a huge number of investors from all over the world. With all situations in its favour, Indigo's future moves would determine the destiny of the aviation sector in the upcoming times.

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THE MULTIFACETED CRISIS: UNDERSTANDING THE DIMENSIONS OF INEQUALITY IN INDIA

- *Stuti Saraf and Prachi Modi*

3rd Year, UG

Abstract

This article helps get a comprehensive outlook at India's multidimensional struggle and unveils the various layers of inequality portraying it as an issue beyond simply money but as an absence of opportunities and a lack of proper targeted programs which stems from government policies itself, rendering them as futile in tackling this issue. Since 1947, India has come a long way. From battling the 'Hindu Rate of Growth' of about a meagre 4% for three decades from 1950s-1980s, to becoming the 5th largest economy in 2024, India has proved to be victorious in many aspects. However, we still lag in many measures. As Nobel Laureate Amartya Sen once said, "I believe that virtually all the problems in the world come from inequality of one kind or another." We will analyse how this has impacted the Indian economy in greater detail to understand the root cause of 'Why India is still a developing nation, despite achieving milestones in the sectors of sports, technology and health?.' Despite rapid growth of the technological era, a significant proportion of our population remains aloof from its benefits, creating a digital divide that amplifies socio-economic disparities. We have discussed the consequences of digital illiteracy emerging as a critical challenge for India.

JEL Classification

I32, O15, O33, I24

Introduction

The government has been launching various programs from time to time to support the poor and working class, it has even been focusing on its direct implementation so that those needy get its benefits, however the benefits of the programs and subsidies still accrue? Why?

The answer to this question lies in accepting that inequality lies in the base of all programs. Clearly all subsidies given by the government have a particular aim like food and gas subsidy,

but one thing to be noted is that by giving a gas subsidy the government is leaving out all those people who don't even have a burner at their home. Instead, the government should leave the end goal of monetary help to the people themselves who will best utilise it according to their priorities and needs. Let us understand this better.

Why Targeted Subsidies Do Not Help

Let's take an example to understand why targeted subsidies do not help.

A woman used to sell mobile covers on the streets, she was given a subsidy by the government to set up a shop. However, after a year when the government officials came to check on her, they still found her on the streets. When they asked her what she did with that money, she took them to her house and showed them the locked windows, gates and a television which kept her kid enclosed at home. As a result, she was not worried about them running on the streets and could do her business peacefully which helped her earn greater profits, so much so that now she could set up a shop on her own.

An alternative could be money transfers. This has been a debatable issue, proponents of money transfer say that economists and policymakers do not know the exact needs of the targeted groups, and hence, should not take decisions on their behalf. Instead, it should be left to their discretion as to how they can use the money. Opponents argue that when the poor are handed free money, they tend to misuse it by buying alcohol but this is not the case with the majority, they are a part of the exceptions.

The Multidimensional Inequality

Inequality being a multi-dimensional topic does not singularly translate to income inequality as a layman would understand it to be. These impact all the major sectors of the Indian economy in many ways.

From facilities ranging from healthcare to the quality of education, the availability of transport and banking infrastructure to the digital gap, there is a huge difference in the quality of lives between the urban and rural people. The root cause of this, ultimately boils down to 'income inequality'.

But it is a big misconception. Inequality is a vicious trap with it being the cause and the reason. Lack of education, awareness and opportunities gives birth to inequality in the levels of knowledge and skills which again reaps inequality of opportunity and hence income inequality. In such a situation giving food or income subsidy to a handful of a majority of the rural population seems to be of no use.

Digital Illiteracy

Among all the above-mentioned pressing issues, we would like to elaborate more upon the problem of digital literacy and how digital barriers are a hindrance in India's journey to becoming a developed nation.

India, a fast-developing nation is undergoing a dynamic phase of transition. Currently it is experiencing the growth of a cashless-gig economy, with rising awareness regarding cryptocurrency and increasing use of Artificial Intelligence (AI) in every sector.

All the above require digital literacy, the lack of which creates a digital barrier or gap which eventually exacerbates prevalent inequality in the economy. Let us see how-

- 1) Our government has been emphasising on the need to go cashless and switch to digital modes of payment like net banking, debit and credit cards to curb illegal activities and financial crimes. All financial facilities have been made quite user friendly. However, the benefits have still not been reaped because the majority of India's population, especially in the rural areas, don't have a cell phone and thus, are far from doing online payments.
- 2) Reports have shown that people with high levels of education and income are more aware about AI than the ones with lower education or income which ultimately, leads to disparities. Jobs today require digital knowledge and skill due to the fast-innovating technological world outside, where demand and methods of work can change instantly. In such a situation, digital illiteracy makes a significant number of people unsuitable for jobs.

Why Do We Need A Digitally Literate Population

- 1) A digitally literate population can drive entrepreneurship and give impetus to the booming startup culture in our nation. Since such a population can understand leveraging technology and accordingly devise solutions to address local needs which can lead to enhanced productivity and growth.
- 2) Digital literacy can help bridge the gap between urban and rural areas and among various socio-economic groups, thus ensuring that everyone can have access to and enjoy the benefits and ease of digital services.
- 3) A digitally literate population will be competent enough to face the global world and effectively tackle the challenges of the fast-changing environment.
- 4) A digitally literate population would not become victims of online frauds easily as they would be aware of the nitty gritty of it.
- 5) A digitally literate population could enjoy all the benefits of online shopping and online streaming services, along with assistants such as Alexa and Google.
- 6) With a significant proportion of population digitally illiterate, India can never achieve the goal of being 'Aatmanirbhar' by 2047.

Conclusion

To mitigate the impact of digital illiteracy on inequality, a quick a multi-faceted approach is required:

- 1) Digital infrastructure such as mobile networks and internet centres have to develop on a faster scale to improve their accessibility and reach, thereby bridging the connectivity gap.
- 2) The government through its organisations should recruit people to implement programs to spread digital literacy with required suitability to various demographics, including rural populations, older adults and low-income communities.
- 3) Digital skills or technology as a separate subject should be integrated into educational curriculum from an early age so that future generations can thrive in a digital economy.

By addressing digital illiteracy with comprehensive and inclusive strategies, India can work towards reducing inequality and fostering a more equitable society where all citizens have the opportunity to thrive in the digital age.

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NAVIGATING INDIA'S FUTURE THROUGH AFFIRMATIVE ACTION

- *Raima Chatterjee Ray*

3rd Year, UG

Abstract

This article examines the role of affirmative action, specifically reservation policies, in shaping India's economic and social landscape in the 21st century. Affirmative action, designed to empower marginalised communities by reserving seats in education and employment, has been instrumental in fostering inclusive growth and economic participation, indispensable to India's resurgent journey. The article delves into the impact of these policies on education and employment, highlighting how they have enhanced access to quality education and job opportunities for Scheduled Castes (SC), Scheduled Tribes (ST), and Other Backward Classes (OBC) [referred to as 'SC', 'ST' and 'OBC' hereon]. The analysis also considers criticisms, particularly regarding the overemphasis on caste rather than economic status, and the uneven distribution of benefits among marginalised communities. While acknowledging these challenges, the article argues that reservations remain a necessary tool for addressing historical injustices and promoting social justice in India. The conclusion emphasises the need for complementary measures, such as improving primary and secondary education, to ensure that reservation policies meet their intended goals. Ultimately, the article posits that despite its flaws, affirmative action is crucial to India's aspirations for a more inclusive and resilient economy.

JEL Classification

I28, I38, J15, J78

Introduction

Amidst the contrasting economic struggles of its neighbours, India in the 21st century has charted a path of resurgence, partly due to the strategic implementation of affirmative action. These government policies, designed to empower historically 'disadvantaged' groups by reserving seats and opportunities, have played a pivotal role in levelling the playing field for marginalised communities. The essence of these policies lies in their commitment to

rectifying the deep-seated inequalities rooted in caste, gender, and religion, providing them with the tools to compete with 'forward castes' on more equal terms.

While historical injustices based on caste, gender and religion cannot be completely erased, the progress driven by reservation policies is undeniable, being instrumental in driving inclusive growth and increasing economic participation among disenfranchised communities. By focusing on education and employment, the analysis underscores the necessity of these policies, despite their contentious nature and the debate over their impact on meritocracy. In a country as diverse and sensitive as India, such measures are crucial to addressing present challenges and achieving a future where economic and social justice are not merely aspirations but realities.

Education and Affirmative Action: An Analysis

Education has long been regarded as a powerful catalyst for empowerment and social transformation. Both sociological and economic theories highlight education not only as a crucial avenue for individual development and the enhancement of human capital but also as a vital instrument for breaking the cycles of poverty and combating discrimination. Amartya Sen's concept of Capability emphasises how education can expand an individual's freedoms, while Pierre Bourdieu's idea of cultural capital underscores the role of education in transmitting and accumulating social capital. Thus, the significance of education extends across various dimensions of empowerment. Reservation policies extending to inclusive educational opportunities are based on these very principles.

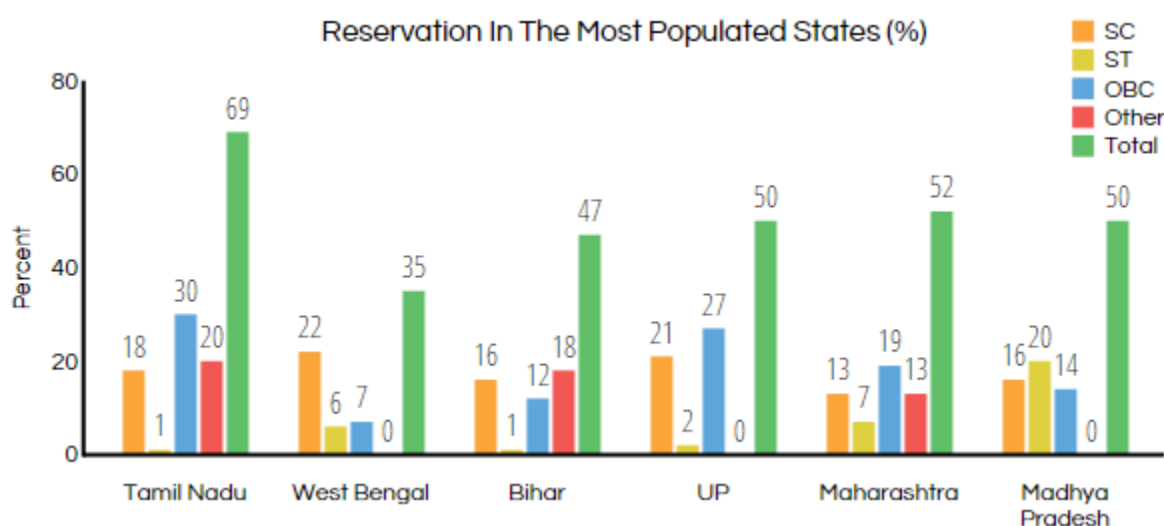
Focusing on the chain reaction initiated by affirmative action, it is observed that easier access to education serves as a socio-economic propellor in multiple ways: While enrollment rates have definitely risen among the SC, ST and OBC when it comes to matriculation education, this transcends into individuals of these communities receiving quality education also in prestigious higher education institutes like the Indian Institutes of Management and Indian Institutes of Technology.

While a part of this development is also aided by increased infrastructure, more efficient implementation of policies, rising awareness among the masses over the years, the extent of reservation policies' contribution, though sometimes debated, is significant. In the long run this grants the weaker sections of society economic mobility in terms of higher income

generating opportunities for them and their next-of-kin as well. Impact is therefore augmented.

Currently, the Indian reservation policy in India includes approximately 15%, 7.5%, 27% and 10% reservations for SCs, STs, OBCs and EWS in government jobs and educational institutions. This is applicable to all government-backed educational institutions. Private institutions are also required to reserve a certain % of seats for these communities, but the exact % varies from state to state.

SC, ST, OBC, Other and Total Reservation %s In India's Most Populated States



Source: Scroll India

Conclusively, the education reservation system that currently exists in India demonstrates the nation's commitment to a future of social justice and equality for its citizens. However, challenges do persist, such as problems related to identification and verification of beneficiaries, negative impact on merit-based allocations of seats and constant adaptations in the formulation and implementation of the rules to keep up with the evolving needs and inequalities.

Employment and Affirmative Action: An Analysis

Quality education is a fragment of human capital formation. Converting that into employment opportunities is the tangible output that the positive discrimination policies seek. Even as an independent metric to adjudge the effectiveness of reservation policies, employment is highly

relevant because the livelihood of an individual largely determines his standard of living and sustenance.

We wish to examine the extent to which job reservations have helped individuals from the SCs and STs secure a greater share of regular salaried and wage employment compared to what they might have achieved without such reservations. However, direct evaluation of this impact is challenging, as job reservations are a nationwide policy, making it difficult to compare regions where the policy is implemented with those where it is not. However, an indirect approach can be taken by examining a group that is similarly deprived as the SC and ST but does not receive the benefits of job reservations, such as the Muslims from OBC.

A committee established by the Prime Minister of India to examine employment among Muslims revealed that, despite making up 14.7% of the country's population, they constitute only a small portion of the workforce. Additionally, in terms of educational attainment, Muslims are lagging behind individuals from the SC and ST (Ramesh, 2006). Therefore, it is reasonable to consider Muslims from the OBC as a benchmark for what the employment situation of SC and ST individuals might have been without the protection of job reservations.

Economic Status and Caste/Religion of Men between 25 and 45 Years of age (1999-2000)

	SE	EMP	UPFW	RSWW	CWL	SKW	Total
ST (non-Christian)	1,982	18	522	713	2,401	51	5,687
	34.85%	0.32%	9.18%	12.54%	42.22%	0.90%	100.00%
	6.65%	1.76%	6.16%	4.12%	12.44%	3.11%	7.33%
ST (Christian)	149	1	34	50	95	6	335
	44.48%	0.30%	10.15%	14.93%	28.36%	1.79%	100.00%
	0.50%	0.10%	0.40%	0.29%	0.49%	0.37%	0.43%
SC	3,477	42	628	2,267	5,919	212	12,545
	27.72%	0.33%	5.01%	18.07%	47.18%	1.69%	100.00%
	11.67%	4.11%	7.41%	13.09%	30.67%	12.93%	16.18%
OBC (non-Muslim)	9,904	308	3,012	4,656	6,073	386	24,339
	40.69%	1.27%	12.38%	19.13%	24.95%	1.59%	100.00%
	33.25%	30.11%	35.54%	26.89%	31.47%	23.55%	31.39%
OBC (Muslim)	1,222	60	245	416	728	46	2,717
	44.98%	2.21%	9.02%	15.31%	26.79%	1.69%	100.00%
	4.10%	5.87%	2.89%	2.40%	3.77%	2.81%	3.50%
Hindu (non-ST/SC/OBC)	9,350	451	3,157	7,430	2,410	754	23,552
	39.70%	1.91%	13.40%	31.55%	10.23%	3.20%	100.00%
	31.39%	44.09%	37.25%	42.91%	12.49%	46.00%	30.38%
Muslim (non-ST/SC/OBC)	2,927	77	484	1,254	1,450	134	6,326
	46.27%	1.22%	7.65%	19.82%	22.92%	2.12%	100.00%
	9.83%	7.53%	5.71%	7.24%	7.51%	8.18%	8.16%
Christian (non-ST/SC/OBC)	200	46	37	296	176	35	790
	25.32%	5.82%	4.68%	37.47%	22.28%	4.43%	100.00%
	0.67%	4.50%	0.44%	1.71%	0.91%	2.14%	1.02%
Sikh (non-ST/SC/OBC)	576	20	357	232	44	15	1,244
	46.30%	1.61%	28.70%	18.65%	3.54%	1.21%	100.00%
	1.93%	1.96%	4.21%	1.34%	0.23%	0.92%	1.60%
Total	29,787	1,023	8,476	17,314	19,296	1,639	77,535
	38.42%	1.32%	10.93%	22.33%	24.89%	2.11%	100.00%
	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%

Notes:

SE = self-employed; EMP = employer; RSWW = regular salaried or wage worker; CWW = casual wage worker; SKW = seeking work.

First figure in column is total in caste/religion category; second figure is row percentage; third figure is column percentage.

Source: NSS 55th round

The table above shows the distribution of prime-age men across the categories of economic status by religion and caste showing two important aspects. First, Muslim OBC men were more likely to be self-employed (45%) than men from the SC (28%). Second, Muslim OBC men were less likely to work as casual labourers (27%) than men from the SC (47%). Hence, Muslim OBC men, representative of SC/ST members without reservation policy upliftment, are more likely to be disproportionately employed compared to SC/ST members with the existing policies in their assistance.

Criticisms

In determining eligibility for reservation, caste has often been prioritised over income or wealth. This has led to the situation where groups classified as "socially and educationally backward classes," as per Article 15 of the Indian Constitution, have received reservation benefits. However, in reality, not all members of these groups can truly be considered "socially and educationally backward." Conversely, there are individuals from non-backward classes who may legitimately be considered "socially and educationally backward" but do not qualify for reservation benefits. This discrepancy is further complicated by the fact that more affluent segments within the marginalised classes (such as chamars) have disproportionately benefited from reservation policies, while poorer sub-groups (such as Bhangis) have not gained as much. Unfortunately, this study cannot explore this issue further due to the lack of data that disaggregates the Scheduled Castes by sub-caste.

Conclusion

The primary objective of reservations in India has been to enhance the welfare of those who have long been economically and socially marginalised.

The overarching conclusion is that reservation policies have not placed sufficient emphasis on improving the job-related skills and attributes of SC and ST individuals. Given the significant disparity in educational standards between forward caste Hindus and those from SC and ST communities, another critical aspect of policy should focus on enhancing the educational standards of SC and ST individuals. This effort should go beyond merely reserving seats in management, engineering, and medical schools. Such reservations, given the overall backwardness of such communities, are largely superficial, mainly benefiting those in urban areas who are least in need of assistance.

The root of the issue lies in the many dysfunctional primary and secondary schools in India's villages and towns, characterised by a lack of learning materials, teachers, and sometimes even basic facilities like classrooms. These are the schools where millions of children, including many from SC and ST communities, are deprived of meaningful education. This problem is further exacerbated by the poverty of parents, who cannot afford to keep their children in school. Given the poor quality of education their children receive, these parents often see little reason to make sacrifices for their children's education. This educational issue percolates into the employment realm. Hence, many different problems need to be addressed simultaneously along with marginalisation of communities to truly make an effective impact on the socio-economic landscape of India in its fierce 21st century avatar.

To sum up, though reservation policies act as positive discriminatory tools for the Government to cater to the 'disregarded', it is discriminatory nonetheless. Leading to many a court ruling, amendments, agitation (sometimes strong enough to coerce the fall of a government in the case of Bangladesh) and violence, there is acknowledgement of the significant scope for improvement in terms of fair ascertaining of 'minority' status, as well as for ethical utilisation of privileges gained due to reservation, however, this is a coin whose virtues outweigh vices in the context of a resurgent economy such as India's. Hence, we can conclude confidently that the said policies, coupled with complementary measures, form a pillar on which Resurgent India's economy balances.

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THE RESERVE BANK OF INDIA: PAVING THE WAY FOR A RESURGENT INDIA

- *Abantika Chakraborty and Shubhayam Kaushik*

3rd Year, UG

Abstract

India stands at a crucial juncture, poised between the challenges of a volatile global economy and the promise of a resurgent future. The Reserve Bank of India (RBI), as the nation's central bank, is a key force driving this transformation. Through its pivotal role in steering monetary policy, embracing digital innovation, and ensuring financial stability, the RBI is laying the groundwork for a vibrant and resilient economy, empowering the Indian economy to rise and thrive. By safeguarding the nation's financial destiny through strategic interventions and policy frameworks, the RBI not only strengthens the current economic landscape but also lays the foundation for future growth, stability, and innovation. This article explores how the RBI's strategic interventions are shaping the trajectory of the Indian economy.

JEL Classification

E52, E58, O16, O33

Introduction

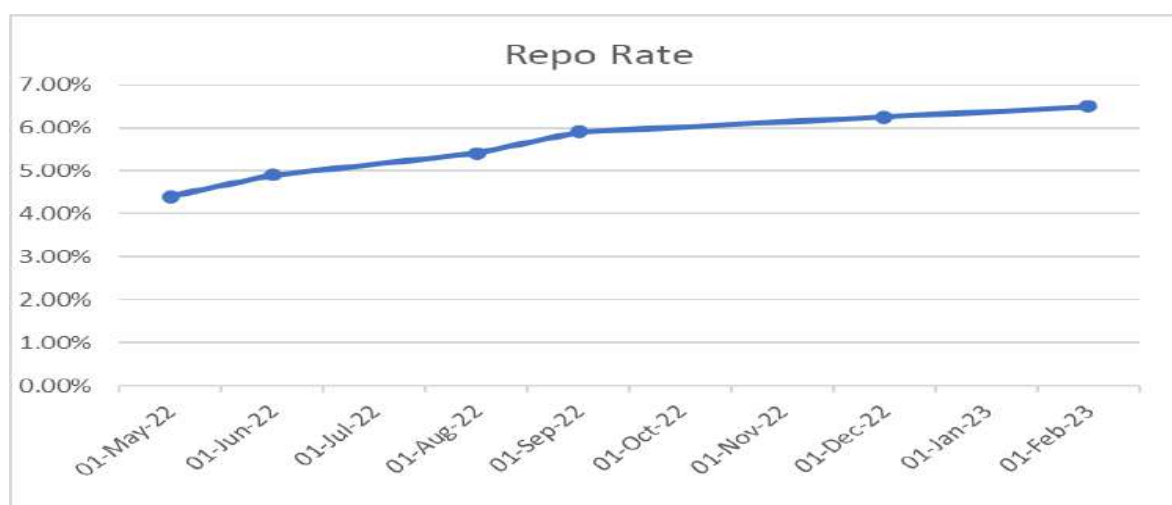
India's economic landscape is undergoing a transformative shift, marked by the challenges of global volatility and the opportunities of a resurgent domestic economy. At the core of this evolution is the Reserve Bank of India (RBI), which plays a pivotal role in steering the nation's monetary policy, driving financial innovation, and maintaining stability. As the central bank of India, the RBI is not just a guardian of economic stability but a catalyst for growth and resilience. In this article, we delve into the various ways in which the RBI has played a pivotal role in shaping India's economic landscape, examining the key interventions that have boosted the nation's growth and stability.

Anchoring Economic Stability

In a world marked by economic uncertainties, the RBI has emerged as a steady anchor for the Indian economy. Amid global slowdowns, geopolitical tensions, and environmental challenges, the RBI has played a pivotal role in reinforcing India's economic foundations. By maintaining robust foreign exchange reserves and ensuring fiscal discipline, the RBI has positioned India as one of the world's largest economies.

The RBI's strategic interventions, including a series of decisive monetary policy measures, have been instrumental in controlling inflation and stabilising prices. Between May 2022 and February 2023, the RBI raised the repo rate by 250 basis points (*Reserve Bank of India - Speeches*, n.d.-e) to manage inflationary pressures effectively. This proactive measure, along with strategic liquidity rebalancing, has steered inflation towards targeted levels, showcasing the RBI's commitment to sustainable growth and price stability.

Figure 1: Trend in Repo Rate Adjustments (May 2022 - February 2023)



Source: (Repo Rate 2024. Bank Bazaar)

The RBI's flexible inflation targeting framework has proven to be a valuable tool in achieving price stability and has been instrumental in moderating inflation and steering it towards the target rate of 4% on a durable basis. By keeping inflation under control, the RBI's policy helps safeguard the purchasing power of households, which encourages domestic

consumption, a key driver of Indian economic growth. By doing so, it also fosters an environment of economic certainty, enabling businesses to plan for the future with confidence. Furthermore, the RBI's vigilant oversight of banks and Non-Banking Financial Companies (NBFCs) ensures the health and stability of the financial system, facilitating the smooth flow of credit to businesses and individuals alike.

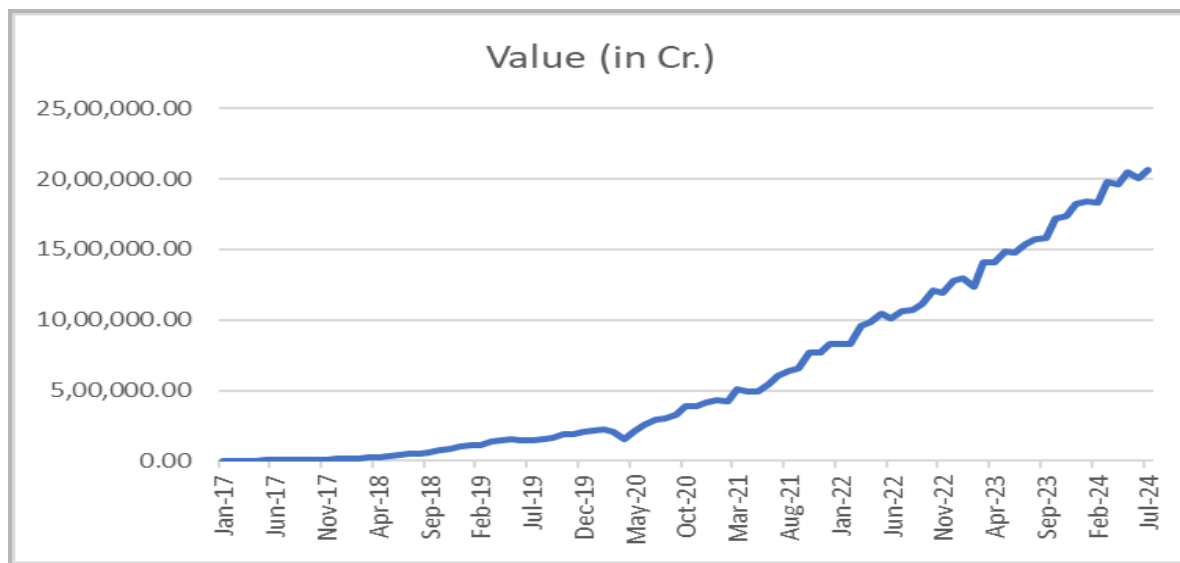
Figure 2: Comparative Overview of CPI Inflation Rates for 2023 and 2024



Source: (Inflation Rate in India 2024: A closer look at economic trends. Forbes India)

Robust FinTech and Payments Ecosystem

As India advances towards a digitally empowered future, the RBI has been at the forefront of driving financial innovation. The nation's fintech revolution, exemplified by the success of the Unified Payments Interface (UPI), has transformed the way Indians transact and engage with the financial system. UPI's meteoric rise, from 43 crore transactions in 2017 to 11,761 crore transactions in 2023, has made India responsible for nearly 46% of the world's digital transactions as of 2023, underscoring India's leadership in digital payments on the global stage.

Figure 3: UPI Payments Growth in India (January 2017 - July 2024)

Source: (UPI Product Statistics. NPCI)

The RBI's initiatives to promote financial inclusion through digital channels have expanded access to financial services for millions of Indians. Through the introduction of innovative features like offline payments via near-field communication (NFC) technology (UPI Lite X) and payments through feature phones (UPI123Pay) (*Reserve Bank of India - Speeches*, n.d.-a), the RBI has democratised digital payments, ensuring that technology reaches even the most remote corners of the country. Moreover, the integration of UPI with Singapore's PayNow, in collaboration with the Monetary Authority of Singapore, has enabled swift, cost-effective cross-border peer-to-peer (P2P) transactions (*Reserve Bank of India - Speeches*, n.d.-c).

The RBI's introduction of the Central Bank Digital Currency (CBDC) (*Reserve Bank of India - Speeches*, n.d.-d) marks a significant leap in financial innovation, setting a precedent for other nations. By embracing such forward-looking policies and initiatives, the RBI is not only enhancing the efficiency of the financial system but also positioning India as a pioneer in the realm of digital finance.

Building Resilience in the Face of Adversity

The COVID-19 pandemic presented an unprecedented challenge to economies worldwide, and India was no exception. In response to this crisis, the RBI implemented a series of bold measures to support the economy and ensure its resilience. By enacting targeted long-term repo operations (TLTROs) up to Rs. 1,00,000 crore and a temporary reduction in the cash reserve ratio (CRR) by 1 percentage point (*Reserve Bank of India - Speeches*, n.d.-b), the RBI injected much-needed liquidity into the banking system, stabilising the financial sector and supporting economic recovery.

The RBI's comprehensive liquidity-enhancing measures, amounting to 8.7 percent of GDP, played a crucial role in mitigating the impact of the pandemic and fostering a swift recovery in the post-pandemic period. These measures demonstrated the RBI's agility and resolve in navigating complex economic landscapes, steering the nation towards sustainable growth even in the face of adversity.

Shaping a Vision for the Future

As India charts its course in the global economic arena, the RBI's strategic vision will be instrumental in shaping the nation's future. By fostering economic cooperation and stability, the RBI amplifies India's voice on international platforms. The Reserve Bank of India's pivotal role on the global stage, particularly as the chair of the SEACEN (South East Asian Central Banks) forum, is a testament to its commitment to fostering economic cooperation and stability not just within India but across Asia. Through its strategic engagements on international platforms, the RBI shares valuable insights on monetary policy, financial regulation, and the pathways to economic development that have underpinned its successes.

The RBI's synergy between monetary policy and financial inclusion forms a virtuous cycle, driving economic activity, generating employment, and promoting overall growth. By cultivating trust in the financial system and catalysing sustainable economic development, the RBI creates a fertile environment for innovation and entrepreneurship.

Conclusion

India stands on the cusp of a new era, and the RBI's strategic vision and policies resonate with the nation's aspirations and potential. The Reserve Bank of India, through its strategic

interventions, innovative policies, and unwavering commitment to stability, is guiding India toward a future of resilience and prosperity. The path ahead is not without challenges, but with the RBI at the helm, India is well-positioned to navigate the complexities of the global economy and emerge stronger than ever.

In this resurgent journey, the RBI's leadership will continue to illuminate the way forward, ensuring that India's economic narrative remains one of growth, innovation, and inclusion. The nation's trajectory is clear—towards a brighter, more prosperous future where the promise of resurgence becomes a reality.

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REASSESSING RATIONALITY: AN UNDERSTANDING OF DEVIATIONS IN DECISION – MAKING

- *Rupsa Seth*
3rd Year, UG

Abstract

This article aims to explore and enhance our understanding of human rationality by examining how and why people deviate from rational decision-making. This interdisciplinary topic integrates insights from economics, psychology, behavioural science, and cognitive science to analyse factors such as biases, heuristics, and emotional influences that impact decision-making processes. By investigating historical and contemporary case studies, the article seeks to identify patterns and mechanisms behind irrational behaviour, and propose strategies to improve decision-making in both individual and organisational contexts. The ultimate goal is to advance theories of rationality and apply these insights to improve decision-making frameworks across various domains.

JEL Classification

D8

Introduction

Be it the game theory or the theory of demand, the key assumption in most economic models is that: Individuals are RATIONAL. However, what does this rationality mean? Here we want to discuss rationality in decision making.

- Sen (1977) states that it means maximising one's self interest, wherein, it makes little sense to say that someone is rational when they are achieving something they don't want, even if they are consistent in doing so.
- He then defines rationality as a correspondence between the choices that a person makes and the interests the person holds.

However, are there no breaches of this rationality at all? No assumption, no model, no theory and no thesis in economics lives without a drawback.

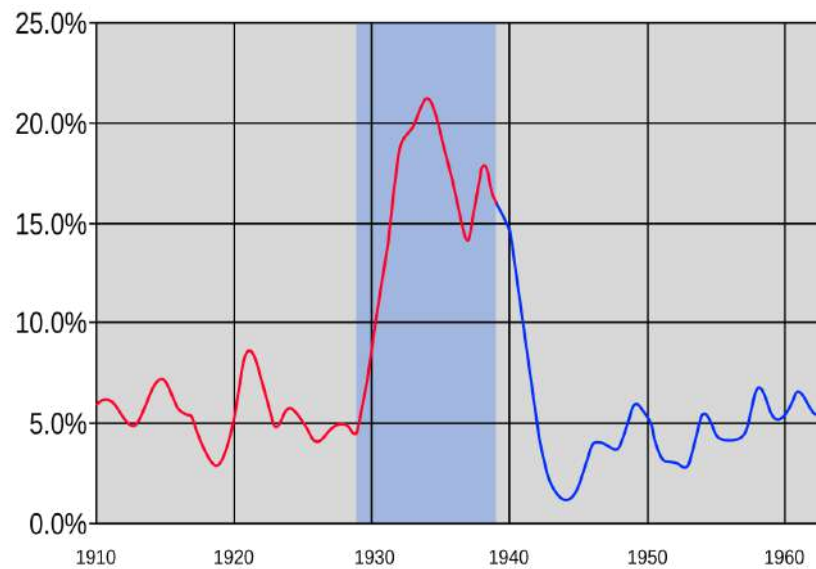
The main point of discussion here is : **Breach of Rationality**

Rationality is rather subjective. What seems rational to an individual might not be rational according to another person's opinion. For example, if the prices of scooters increase to a lakh or above in India, most teenagers or even middle aged bikers would rather purchase Royal Enfield(s) worth Rs. 1,73,562 instead of the age-old scooter models. They would rather pay a little more price for it and reach a supposedly, higher indifference curve, achieving higher utility, by extending their budget even if that requires extending loans in any form. Can this be called rational behaviour?

Human beings, who have been the pivot of most or all economic actions, are assumed to be rational. However, there have been instances in economic history, where individuals or markets did not act in line with classical notions of rationality. Here are a few notable cases:

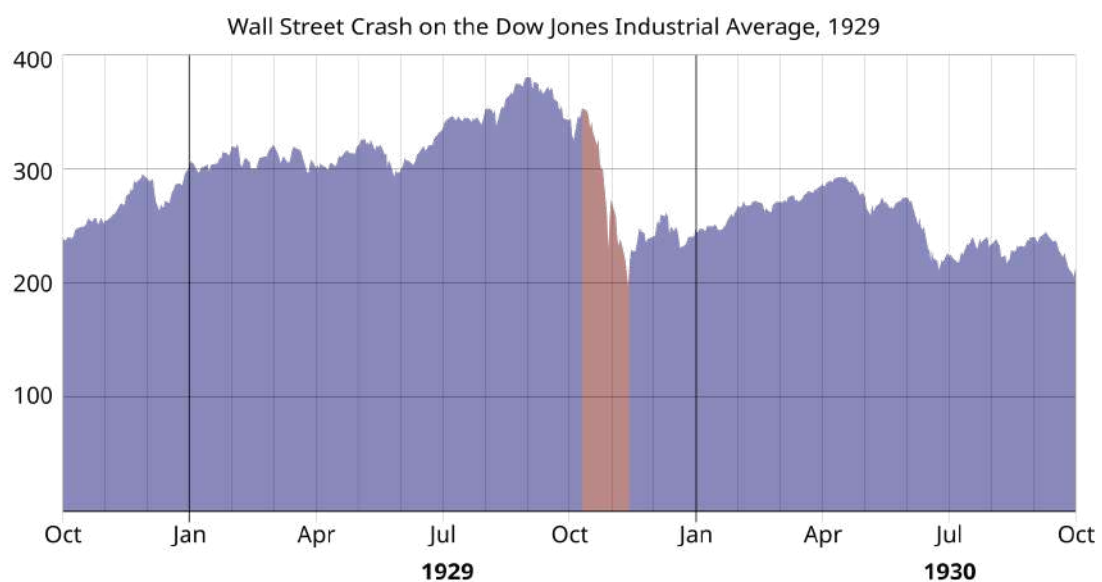
1. ***Tulip Mania (1630s Netherlands):*** The tulip bulb craze was one of the earliest documented examples of the 'Greater Fool Theory'—the willingness to buy an asset not because of its fundamental value but because of the belief that someone else is likely to pay an even higher price than you did. Tulip prices soared to extraordinary levels before crashing dramatically.
2. ***The South Sea Bubble (1720 Britain):*** The South Sea Company promised immense profits from trade with South America, leading to massive overvaluation of its stock. Investor frenzy, speculation, and misinformation led to an unsustainable bubble, which burst with severe economic consequences.
3. ***The Great Depression (1929-1939):*** During the Great Depression, irrational behaviour was observed in the stock markets, where speculative investments and panic selling contributed to the market crash. Economic theories at the time struggled to explain the prolonged and severe nature of the depression.

The Unemployment Rate in the U.S. During 1910–60, with the Years of The Great Depression (1929–39) Highlighted



Source : The U.S. Bureau of Labour Statistics

The Dow Jones Industrial Average, 1928–1930



Source: TradingView

4. *The Dot-Com Bubble (1990s-2000):*

- Investors heavily invested in internet-based companies with little regard for their actual profitability or business models.
- The value of equity markets grew exponentially during the dotcom bubble, with the Nasdaq rising from under 1,000 to more than 5,000 between 1995 and 2000.
- Equities entered a bear market after the bubble burst in 2001.
- The Nasdaq, which rose five-fold between 1995 and 2000, saw an almost 77% drop, resulting in a loss of billions of dollars.
- The bubble also caused several Internet companies to go bust.

5. *The Housing Bubble (2000s):* Leading up to the 2008 financial crisis, irrational exuberance drove housing prices to unsustainable levels. Risky mortgage practices and over-leveraging by financial institutions contributed to the bubble, which burst and led to a global financial crisis wherein-

- During the boom years, mortgage brokers, enticed by the lure of huge commissions, talked buyers with poor credit into accepting housing mortgages with little or no down payment and without credit checks.
- People, even though they are rational, fell into this trap because everyone else was doing it. Hence, rationality failed in this case.
- According to the "Financial Crisis Inquiry Report" by the USA: 'We conclude this financial crisis was avoidable. The crisis was the result of human action and inaction, not of Mother Nature or computer models gone haywire. The captains of finance and the public stewards of our financial system ignored warnings and failed to question, understand, and manage evolving risks within a system essential to the well-being of the American public. Theirs was a big miss, not a stumble. While the business cycle cannot be repealed, a crisis of this magnitude need not have occurred. To paraphrase Shakespeare, the fault lies not in the stars, but in us.'

In these cases, market participants acted on over-optimism, herd behaviour, and speculative frenzy rather than rational analysis, leading to significant economic upheaval.

Strategies to Improve Decision-Making

1. ***Gather Comprehensive Information:*** Ensure you have all relevant data before deciding. This helps in making informed choices rather than relying on incomplete or biased information.
2. ***Avoid Cognitive Biases:*** Be aware of common biases such as confirmation bias, overconfidence, and anchoring. Actively seek out information that challenges your existing beliefs and assumptions.
3. ***Consider Long-Term Impacts:*** Assess both the immediate and long-term consequences of your decisions. Rational decisions often involve evaluating the future impact and potential risks.
4. ***Seek Diverse Perspectives:*** Consult with others who might have different viewpoints or expertise. This can provide a broader understanding and reduce the likelihood of overlooking important factors.
5. ***Evaluate Alternatives:*** Explore multiple options and compare them thoroughly rather than settling for the first solution that comes to mind.

Conclusion

The examination of rationality in decision-making reveals a complex interplay between idealised economic models and real-world behaviour. While traditional economic theories often assume that individuals act rationally to maximise their self-interest, historical and contemporary case studies demonstrate that deviations from this ideal are not uncommon. Events such as Tulip Mania, the South Sea Bubble, and the 2008 financial crisis highlight how irrational behaviour—driven by biases, heuristics, and emotional factors—can lead to significant economic disruptions. These instances underscore the limitations of assuming perfect rationality in economic models and suggest that a nuanced understanding of human behaviour is crucial for more accurate predictions and effective decision-making.

To improve rational decision-making, it is essential to gather comprehensive information, avoid cognitive biases, consider long-term impacts, seek diverse perspectives, and evaluate alternatives thoroughly.

Ultimately, while the assumption of rationality simplifies economic modelling, acknowledging and addressing deviations from rational behaviour can enhance the robustness

of both theoretical models and practical decision-making frameworks. Future research should continue to explore these deviations and refine strategies to better align decision-making processes with rational principles, contributing to more resilient and effective economic systems.

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THE FUTURE OF WORK: HOW THE GIG ECONOMY HAS REDEFINED WORK FOR AN ENTIRE GENERATION

- *Adrita Dey*

3rd Year, UG

Abstract

The gig economy has swiftly emerged as a defining characteristic of the contemporary labour market, fundamentally changing the way work is perceived and executed, particularly by Generation Z. Unlike traditional employment, the gig economy is defined by short-term contracts, freelance projects, and platform-based roles, offering unprecedented levels of flexibility and autonomy. For Generation Z, this new work paradigm aligns with their desire for independence, diverse work experiences, and the ability to balance personal and professional lives. However, this new model is not without its drawbacks. The lack of job security, traditional employee benefits, and steady income streams poses significant risks. Additionally, the gig economy often blurs the lines between work and personal life, leading to potential burnout as Generation Z increasingly embraces this work model. This article critically examines the economic and societal implications, particularly concerning workforce dynamics, the future of employment, career development, and the long-term viability of such a system.

JEL Classification

J21, J24, J31, L26, 033

Introduction

The traditional 9-5 job has long been the cornerstone of the global workforce, offering stability, benefits, and a clear career progression. However, the advent of the gig economy has disrupted this model, particularly for Generation Z, who are entering the workforce with different expectations and priorities. Born into a digital world, Gen Z has witnessed the rise of platforms like Uber, Fiverr, and Airbnb, which have made gig work more accessible and attractive. The flexibility and autonomy offered by gig work align with Gen Z's desire for a work-life balance, personal fulfilment and the ability to pursue multiple interests. Yet, the shift towards gig work also presents challenges, including the lack of traditional job security,

benefits, and long-term financial stability. This article delves into how the gig economy has redefined work for Generation Z and the economic implications of this shift.

The Appeal of the Gig Economy to Gen Z

Generation Z, is the first generation to grow up with the internet and digital technology at their fingertips. This digital-native status has shaped their expectations and preferences in the workforce. Unlike previous generations who valued long-term job security and a clear career path, Gen Z places a higher premium on flexibility, autonomy, and the ability to work remotely. The gig economy offers precisely these attributes, making it an attractive option for this cohort.

The gig economy primarily revolves around three essential components: first, independent workers who are paid per gig, such as a task or project, rather than receiving hourly wages or a salary like traditional employees, second, consumers who seek specific services; and third, enterprises that connect gig workers with these consumers, often through digital-first technology platforms. (Gig Economy and its Impact Report 2022, Times of India). Thus, allowing Gen Z workers to take control of their schedules, choose projects that align with their interests, and avoid the rigidity of traditional employment. For many, the appeal lies in the ability to balance work with other life pursuits, such as education, travel, or entrepreneurship. The variety of work available in the gig economy also allows Gen Z to explore different career paths without being tied down to a single employer or industry.

However, this freedom comes with trade-offs. Gig workers often lack the benefits that come with traditional employment, such as health insurance, retirement plans, and paid leave. For a generation that is just beginning to enter the workforce, these missing elements raise concerns about long-term financial security and the ability to build a stable future.

Economic Implications of the Gig Economy

The rise of the gig economy has profound implications for the broader economy. It has created new opportunities for income generation and economic participation. The flexibility of gig work allows individuals who might otherwise struggle to find traditional employment—such as students, caregivers, or retirees—to contribute to the economy. This

inclusivity is particularly beneficial in times of economic downturn, as gig work can provide a safety net for those who have lost their jobs or need additional income.

For businesses, the gig economy offers a more flexible and cost-effective workforce. Companies can scale their labour needs up or down based on demand without the long-term financial commitment of hiring full-time employees. This agility can lead to increased efficiency and competitiveness, particularly in industries that experience fluctuating demand. However, the gig economy also presents challenges for economic stability. The lack of job security and benefits for gig workers can lead to financial instability, which has broader economic implications. Workers with unpredictable incomes are less likely to make significant purchases, such as homes or cars, which can dampen consumer spending, a key driver of economic growth. Additionally, the gig economy can exacerbate income inequality, as gig workers often earn less than their counterparts in traditional employment. This disparity can have long-term effects on economic mobility and social cohesion. (LinkedIn Article 2023)

Moreover, the gig economy poses challenges for government revenues. Gig workers are typically classified as independent contractors, which means they are not subject to the same level of taxation as traditional employees. This can lead to a reduction in tax revenues, which in turn affects public services and infrastructure. As the gig economy continues to grow, policymakers will need to address these issues to ensure a fair and sustainable economic landscape.

The Impact on Work-Life Balance and Mental Health

One of the most significant appeals of the gig economy for Generation Z is the potential for a better work-life balance. The flexibility to choose when and where to work allows gig workers to align their professional commitments with personal interests and responsibilities. For many, this means being able to spend more time with family, pursue hobbies, or continue education while earning an income (The Evolution of Traditional Work in India, Mint). This flexibility is especially valuable for those with caregiving responsibilities or health issues that make traditional employment challenging.

However, the flexibility of gig work can also blur the boundaries between work and personal life, leading to longer hours and increased stress. Without the clear separation provided by traditional office hours and workspaces, gig workers may find themselves working at all times of the day and night, leading to burnout. The unpredictability of gig work, with fluctuating income and uncertain job prospects, can also contribute to stress and anxiety, particularly for those who rely on gig work as their primary source of income. (Challenges of Flexible Work Market, TOI)

The gig economy's impact on mental health is further complicated by the lack of social interaction and workplace community. Traditional employment often provides a sense of belonging and support through team interactions and a shared workplace culture. In contrast, gig workers often work in isolation, which can lead to feelings of loneliness and disconnection. As the gig economy continues to grow, it will be essential to find ways to mitigate these challenges, such as creating support networks for gig workers and promoting mental health awareness tailored to the unique challenges of gig work.

The Future of Work in the Gig Economy Era

As Gen Z continues to enter the workforce, the gig economy is likely to play an increasingly significant role in shaping the future of work. However, the challenges associated with gig work, such as the lack of job security, benefits, and social support, cannot be ignored. To ensure a sustainable and equitable future for all workers, it is crucial to address these issues proactively.

One potential solution is the development of new policies and regulations that provide gig workers with access to benefits and protections similar to those enjoyed by traditional employees. This could include initiatives such as portable benefits, which allow workers to carry their benefits from one gig job to another, or the establishment of minimum wage standards for gig work. Additionally, there is a need for greater investment in skills development and career progression for gig workers (India's transformation in conventional work methods, Economic Times). Online learning platforms, community-based skill-sharing workshops, and new frameworks for recognizing and credentialing skills acquired through gig work could help gig workers build a stable and fulfilling career.

Finally, it is essential for Generation Z workers themselves to take an active role in shaping their careers in the gig economy. By being proactive about skills development, seeking out opportunities for networking and collaboration, and advocating for their rights and needs, Gen Z workers can help ensure that the gig economy evolves in a way that benefits all stakeholders.

Conclusion

The gig economy has undoubtedly redefined work for Generation Z, offering new opportunities for flexibility, autonomy, and income generation. However, it also presents significant challenges, particularly in terms of job security, benefits, and financial stability. As the gig economy continues to grow, it will be essential for policymakers, businesses, and workers to collaborate to address these challenges and create a more sustainable and equitable future of work.

Generation Z is at the forefront of this shift, and how they navigate the gig economy will have lasting implications for the broader workforce and economy. By embracing the opportunities offered by the gig economy while proactively addressing its challenges, Gen Z can help shape a future of work that is both dynamic and inclusive.

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HEALTH SECTOR REVIVAL: FUELING INDIA'S RISE

- *Sumana Sarkar*

3rd year, UG

Abstract

Embarking on a journey towards a healthier tomorrow, this article delves into the roadmap for transforming India's healthcare system. By addressing current challenges, exploring government initiatives, integrating technology, fostering public-private partnerships, emphasising preventive healthcare, and ensuring sustainable financing, India aims to build a robust healthcare ecosystem. Join us as we navigate the path towards a healthier nation, where quality healthcare is accessible to all, paving the way for India's resurgence.

JEL Classification

I10, I12, I15, I18

Introduction

India stands at a critical juncture in its healthcare landscape, grappling with a myriad of health issues while striving for a resurgent future. From the persistent challenges of malnutrition, infectious diseases, and non-communicable diseases to the pressing issues of maternal and child health, sanitation, mental health, and air pollution, the country faces a complex web of health concerns that demand urgent attention and innovative solutions.

However, amidst these challenges, there lies a beacon of hope for a resurgent India in the realm of healthcare. The path to a healthier and more robust future involves a multi-pronged approach that encompasses government initiatives, technological advancements, community engagement, and policy reforms. Initiatives like Ayushman Bharat and the National Health Mission are paving the way for universal health coverage and improved healthcare

infrastructure, while telemedicine and digital health solutions are bridging the gap in healthcare accessibility, particularly in remote areas.

Moreover, the integration of traditional Indian medicine systems, public-private partnerships, and a focus on healthcare innovation are reshaping the healthcare landscape in India. By leveraging its rich heritage of traditional medicine, fostering collaborations between the public and private sectors, and nurturing a culture of innovation in healthcare, India is poised to overcome its health challenges and emerge as a beacon of healthcare excellence.

As India marches towards a resurgent future, it must prioritise addressing the root causes of health issues, investing in preventive healthcare measures, strengthening healthcare systems, and ensuring equitable access to quality healthcare for all its citizens. By embracing innovation, fostering partnerships, and prioritising the health and well-being of its people, India can pave the way for a healthier, more resilient, and truly resurgent nation in the realm of healthcare.

Some Of The Key Health Issues That India Is Facing Today Include:

1. **Malnutrition:** India continues to grapple with high rates of malnutrition, affecting both children and adults, leading to stunted growth, underweight individuals, and deficiencies in essential nutrients.
2. **Non-Communicable Diseases (NCDs):** The rising burden of non-communicable diseases such as diabetes, cardiovascular diseases, cancer, and respiratory illnesses is a significant health challenge in India due to lifestyle changes, urbanisation, and an ageing population.
3. **Infectious Diseases:** Despite progress, infectious diseases like tuberculosis, malaria, dengue, and HIV/AIDS remain prevalent in various parts of the country, posing a significant public health concern.
4. **Maternal and Child Health:** Maternal mortality rates, infant mortality rates, and issues related to maternal and child nutrition and healthcare access are still areas of concern in India.

5. ***Sanitation and Hygiene:*** Poor sanitation and lack of access to clean water contribute to the spread of diseases like diarrhoea, typhoid, and other water-borne illnesses, particularly affecting rural communities.
6. ***Mental Health:*** Mental health issues are increasingly recognized as a major health challenge in India, with stigma, lack of awareness, and limited mental health services hindering effective treatment and support.
7. ***Air Pollution:*** India faces severe air pollution levels in many cities, leading to respiratory problems, cardiovascular diseases, and other health issues among the population.
8. ***Healthcare Infrastructure Disparities:*** Everyone has the right to the best possible level of bodily and mental health, as guaranteed by the Indian Constitution. But healthcare access isn't as egalitarian as it seems. Only 27% of India's population lives in metropolitan regions, where 75% of the country's healthcare infrastructure is found. In rural India, just 13% of primary health centres (PHCs) and 16% of community health centres (CCHs) adhere to the Indian Public Health Standards (IPHS). Assuring the availability, supply, and optimal usage of healthcare resources is essential to achieving a well-functioning healthcare system.

Infrastructure And Workforce Crisis

Rural and urban public sector infrastructure problems are distinct from one another, necessitating different approaches to be taken. Rural public infrastructure needs to be affordable, accessible, and continuously improving in quality. The dearth of skilled medical staff at hospitals and treatment camps is a major source of discouragement for the rural population, which is prone to illness. The World Health Organization states that, in line with the G-20, there should be one doctor for every 1000 patients; nevertheless, India has a record low of one doctor for every 11,082 people. To address this labour shortage, improving and growing medical education in India is the only significant solution. According to the WHO, “Especially in a developing country, the public sector contributes both basic science and funding, and the private sector has strength in drug discovery and bringing innovation” The lack of medical research is then tackled by creating a Public Private Partnership entity with a well-defined set of goals relating to the development of new products or technology that make healthcare accessible and affordable to the general Indian public.

Addressing these health issues requires a multi-faceted approach involving government policies, public awareness campaigns, healthcare infrastructure improvements, and community engagement to promote better health outcomes for all Indians.

1. **Government Initiatives:** *Ayushman Bharat* - The Ayushman Bharat scheme has two major components: Health and Wellness Centers (HWCs) and the National Health Protection Scheme (NHPS).

a. Health and Wellness Centers (HWCs): Under this component, the government aims to transform and strengthen the existing primary healthcare infrastructure in the country. These centres act as the first point of contact for individuals seeking healthcare services. HWCs provide comprehensive direct healthcare services, including preventive, promotive, and curative care.

b. National Health Protection Scheme (NHPS): NHPS, now known as the Pradhan Mantri Jan Arogya Yojana (PMJAY), is the insurance component of Ayushman Bharat. It aims to provide health insurance coverage to over 500 million economically vulnerable individuals and families across India.

The Ayushman Bharat scheme prioritises the inclusion of vulnerable and marginalised sections of society, women, and the elderly. It seeks to reduce the financial burden on individuals and families due to healthcare expenses while promoting preventive healthcare and early intervention.

2. **Telemedicine:** Telemedicine is a term that covers the use of technology to deliver clinical care at a distance. It ensures that a person receives healthcare when needed, especially for those with limited access to care.
3. **Traditional Medicine:** Traditional medicine involves ancient healing practices and remedies, emphasising holistic well-being and the mind-body-spirit connection.
4. **Medical Tourism:** Medical tourism has helped India's resurgence by attracting international patients for quality care at lower costs, boosting the healthcare sector, economy, and developing top-notch medical facilities.

5. **Public-Private Partnerships:** Public-private partnerships in India have spurred growth by uniting government and private sectors to enhance infrastructure and services, driving economic progress.
6. **Healthcare Workforce:** India's healthcare workforce has been crucial in the country's resurgence by delivering essential services, enhancing access, and promoting overall well-being.

The dataset provided below illustrates a notable increase in life expectancy attributed to the modernization of the health sector in India.

तालिका 2.8 (क):लिंगानुसार जन्म के समय जीवन प्रत्याशा		
Table 2.8 (a) : Life Expectancy at birth by sex		
अवधि Period	पुरुष Male	महिला Female
1990-94	59.4	60.4
1991-95	59.7	60.9
1992-96	60.1	61.4
1993-97	60.4	61.8
1994-98	60.6	62.2
1995-99	60.8	62.3
1996-00	61.2	62.7
1997-01	61.4	63.3
1998-02	61.9	64.0
1999-03	62.3	64.6
2000-04	62.8	65.2
2001-05	63.1	65.6
2002-06	63.5	66.1
2003-07	63.7	66.5
2004-08	64.0	66.9
2005-09	64.3	67.2
2006-10	64.6	67.7
2007-11	64.9	68.2
2008-12	65.4	68.8
2009-13	65.8	69.3
2010-14	66.4	69.6
2011-15	66.9	70.0
2012-16	67.4	70.2
2013-17	67.8	70.4
2014-18	68.2	70.7
2015-19	68.4	71.1
2016-20	68.6	71.4
2021-25*	69.4	72.7
2026-30*	70.4	73.7
2031-36*	71.2	74.7

स्रोत: / Source: Sample Registration System, Office of the Registrar General of India.

* Life Expectancy as per Report of The Technical Group on Population Projections, July, 2020, MoHFW

Conclusion

In wrapping up the article on healthcare services for India's resurgence, it's evident that the healthcare workforce has been instrumental in the country's progress. With a substantial increase in the number of healthcare professionals over the years, such as doctors, nurses, and allied health workers, India has significantly improved its healthcare infrastructure and service delivery. For instance, data shows that the number of doctors in India has increased from 7.7 to 9.3 per 10,000 people between 2010 and 2020, showcasing a positive trend in healthcare workforce growth. This expansion has not only enhanced healthcare access but also contributed to better health outcomes for the population. By focusing on strengthening the healthcare workforce further and investing in training and resources, India is poised to continue its upward trajectory in healthcare services, ultimately fueling the country's resurgence and well-being.

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FROM LOCAL TO GLOBAL: INDIA'S STRATEGIC LEAP IN VALUE CHAINS

- Aditi Agarwal

3rd Year, UG

Abstract

India, a nation of over a billion individuals, is currently capturing global attention by riding an unprecedented wave of economic growth. The global recognition we are now receiving is a testament to our impressive development trajectory. In this context, India's strategic efforts to embed itself within Global Value Chains reflect a deliberate and calculated move by the government to secure its place as a crucial link in the interconnected global economy.

JEL Classification

A10, A12, E02, E23, F01, F02, F20, F42

The Global Manufacturing Landscape

Manufacturing has historically been a cornerstone of economic growth and global economic dominance of countries. In addition to providing substantial employment across diverse skill levels, the manufacturing sector supports both individual livelihoods and broader economic stability through a multiplier effect, which stimulates demand for related services and industries.

The global manufacturing landscape has undergone significant transformation over the past 24 years, with value addition in manufacturing increasing by more than 2.5 times since the 2000s.

Fig 1: Global Manufacturing Landscape (World Bank, World Population Review)



India's share in global manufacturing is relatively modest compared to leading manufacturing powerhouses like China and USA. Although India holds a significant position with total manufacturing output valued at 457 billion US dollars, it accounts for only 3.3% of the world's manufacturing output. When we talk of manufacturing, however, we talk in terms of country-wise contributions in the grand scheme of things. This concept is what is now popularly called a Global Value chain. In the current era, manufacturing has modernised by leaps and bounds with Global Value Chains playing a crucial role in this transformation.¹ (2024, Niti Aayog)

What Are Global Value Chains?

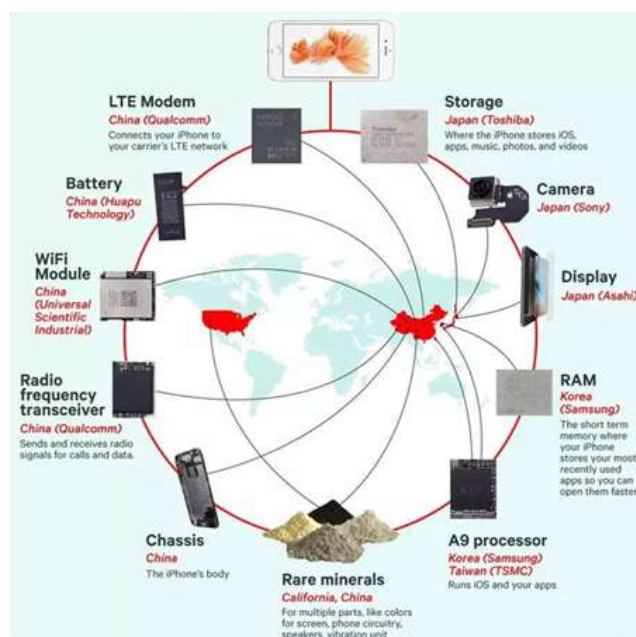
Global value chains (GVCs) refer to international production sharing, a phenomenon where production is broken into activities and tasks carried out in different countries. They can be thought of as large-scale extensions of division of labour dating back to Adam Smith's time. In the famed example attributed to Smith, the production of a pin was divided into several distinct operations inside a factory, each performed by a dedicated worker. In GVCs, the operations are spread across national borders and the products made are much more complex than a pin.

Economic Past Of GVCs

The concept of Global Value Chains has evolved significantly over time, mirroring the changing landscape of the international trade theory. This evolution traces back to David Ricardo's 1817 theory of competitive advantage, which suggested that countries benefit by specialising in goods where they have a cost advantage. Hecksher and Ohlin later expanded this by arguing that trade patterns are shaped by countries' varying factor endowments, leading to specialisation based on labour or capital intensity. In the 1980s, Paul Krugman's new trade theory posited that even similar countries could benefit from trade through specialisation and economies of scale. This theory emphasised geographical proximity and the development of industrial clusters due to reduced transportation costs and agglomeration effects. The new trade theory focuses on differences between individual firms within the same industry. It highlights that the most productive firms are more likely to engage in international trade and investment, leading to increased productivity, higher wages and elevated standards of living. It underscores that the trade benefits arise not only from differences between countries or industries but also from variances within industries, driven by unique firm-specific technologies or intellectual properties. (Mitra, 2025)

Building upon these theoretical foundations, the concept of GVCs emerged. They elucidate how firms integrate into global markets, whether by producing their own inputs or sourcing them internationally. It highlights how they manage various functions like human resources and accounting across a multitude of locations. In Layman's language, GVCs are a mechanism where production of finished goods is broken into activities and tasks carried out in different countries based on cost efficiencies and specialisation.

This concept is best explained by taking a peek into how an electronic product like an iPhone is built from scratch, via the route of GVCs. The product is a result of global cooperation with components sourced from multiple countries including China, Japan, USA, Korea, Taiwan and the EU. The core design, engineering and several key components of the iPhone originate from the US. Essential rare earth minerals are predominantly mined in China. Countries like Japan, Korea and Taiwan play significant roles in supplying critical parts like LCD screens, microchips and memory. The EU is a contributor of advanced components like gyroscopes. And this final part of the journey, vis-à-vis assembling, is where India and Vietnam come in.

Fig 2: GVC for Assembly of Electronics (iPhone)

Source: Research Gate

India's Journey Traversing The Manufacturing Landscape

An economy usually traverses from initial predominance of the primary/agrarian sector to the manufacturing/secondary sector. India's story, however, has been different. The country, across its growth path, has travelled from being an agrarian economy to a service-led economy, while the contribution of manufacturing has been fairly constant across the journey. India's manufacturing contribution to GDP has hovered between 13% and 18% for a substantial period.

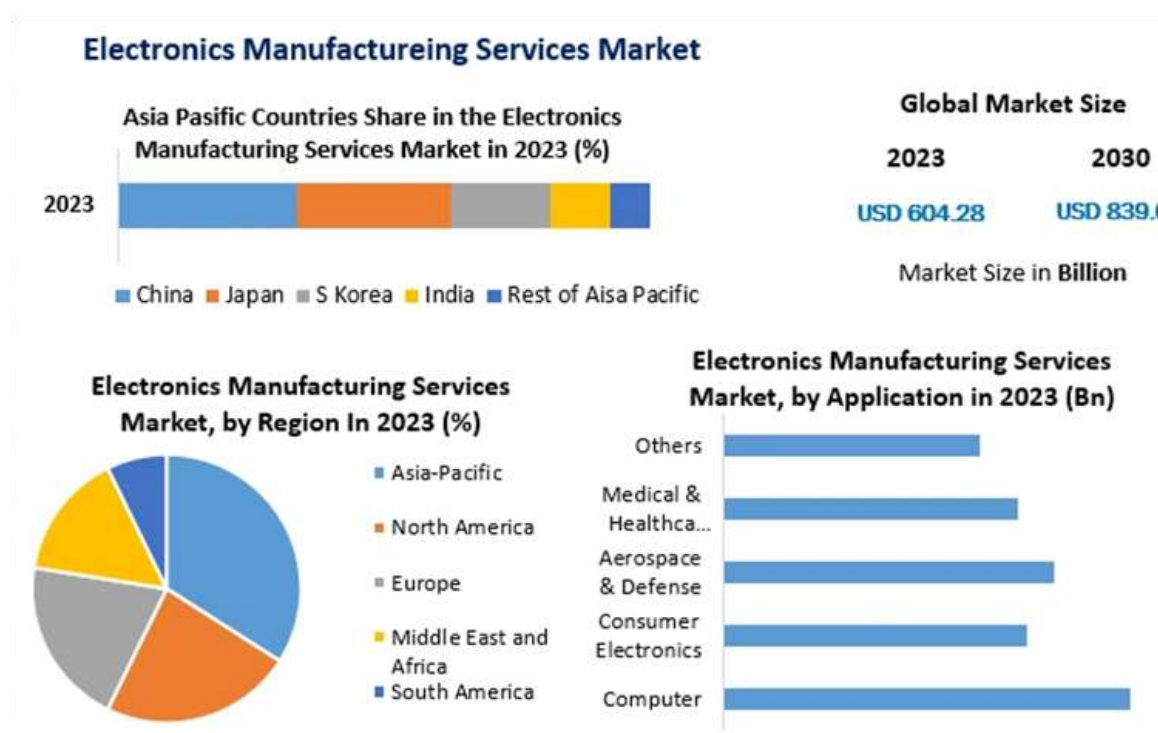
Among GVCs, the electronics sector has high participation with over 75% of electronic exports being part of GVCs. It is not confined to a particular country or economy and is spread across various geographies and firms (as cited in the previously mentioned example of the iPhone).

This electronic sector brings with it a promise of hope primarily because of how widespread it is. It plays a vital role, underpinning an array of segments from smartphones in our pockets to electric vehicles on the road. The global electronics market is estimated at US 4.3 trillion

dollars. The electronic GVC, however, is intricate with a select group of participating nations- USA, South Korea, Japan, Mexico and Malaysia- all exerting significant control over the supply chain. India's share in the electronics GVC still remains small at less than 1%, with annual exports of 25 billion USD.

The global electronics finished goods market is expected to grow at 5% CAGR and reach 3.5 trillion USD by FY30. This growth is primarily driven by a rise in per capita income, the consumption of electronics, premiumization and emergence of new product categories. Electronic producers have been diversifying their supply chains beyond China driven by geopolitical and macro-economic factors such as concerns over excessive concentration risks as observed during COVID-related disruptions, ongoing trade tensions between USA-China, and China-Taiwan and diminishing labour cost advantages in China, pushing electronics producers to seek alternate low-cost manufacturing hubs. 3 (Manghnani, 2021)

Fig 3: Regional Shares in Electronics Sector GVC



Source: Market Survey by SMR global

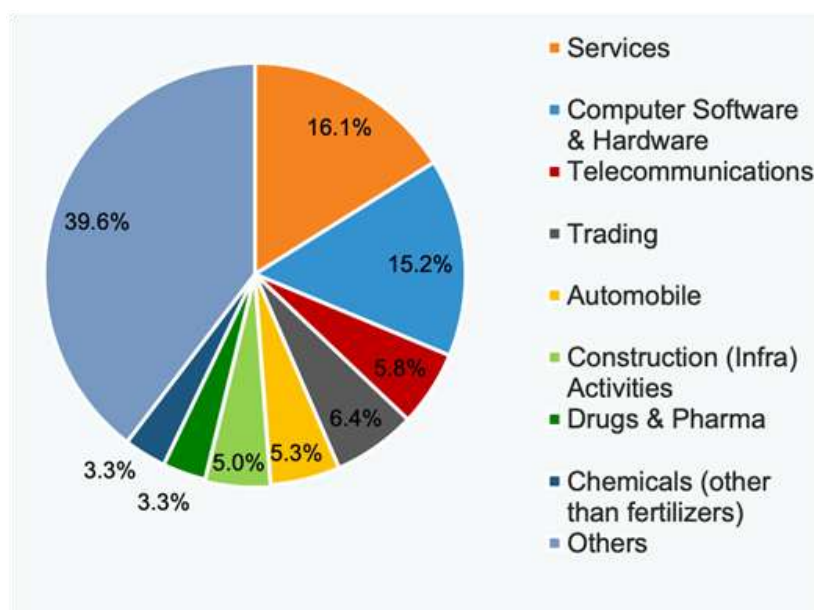
India supported by favourable demographics such as a ripe-aged population, an expanding middle class and government investments under Phased Manufacturing Programme (PMP), Production Linked Incentive Scheme (PLI), Scheme for Promoting of Manufacturing of Electronic Components and Semiconductors (SPECS) etc is poised to benefit from this opportunity. However, tough competition exists in the face of countries such as Vietnam, Mexico and Malaysia as they have successfully attracted sizable shares of electronics manufacturing to their soils. If countries like Vietnam and Mexico solidify their positions, it would become significantly more challenging for India to displace them to become key players in the electronics GVC. India must act swiftly and target a 4-5% share in global electronics exports by 2030.

Another sector, manufacturing of which India is greatly focusing is the defence sector. The Ministry of Defence has set a target of achieving a turnover of US\$ 25 billion in aerospace and defence Manufacturing by 2025, which includes US \$ 5 billion exports. On March 13, 2024, the Ministry of Defence contracted AVNL for 693 Armament Upgrades, enhancing Infantry Combat Vehicle BMP 2 to BMP 2M, with a focus on indigenous development. There has been a heightened increase in defence equipment primarily due to increased military activity around the world. There is immense focus on promoting military preparedness and thus demand for means to do so increases. 4 (Vision IAS, 2023).

The overall landscape in India and the outlook towards manufacturing has been largely positive. The sharp increase in global demand, immense FDI inflows, pro-growth industry development, government support and investment- all pave the way for a success story. All that is required is proper execution. The China+1 narrative opens a window of immense opportunity for India to leverage its asset-backing and grab the seat for the long haul.

The faith in the growing economy is largely evident by the FII and FDI inflows growing by the day.

Fig 4: FDI equity inflow in the manufacturing subsectors between April 2000- March 2024



Source: IBEF

Conclusion

India's growing integration into global value chains marks a pivotal chapter in the nation's economic journey. With its robust manufacturing capabilities, innovative tech sector, and supportive government policies, India is not just participating in these global networks but is increasingly shaping them. As the world looks toward a more interconnected and resilient future, India's role as a key player in the global value chain will undoubtedly continue to expand, driving shared prosperity and reinforcing its position on the global stage. The future holds immense promise, and India's strategic contributions are set to leave an indelible mark on the global economy.

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RESURGENT INDIA: WHERE DOES EDUCATION RANK IN PRIORITY?

- *Pritika Gupta and Pratyusha Singh*

3rd Year, UG

Abstract

This article explores the essential role of education in India's growth story by reviewing Government budget allocations over the past decade. While investments in educational infrastructure have increased, the sector continues to struggle due to qualitative deficiencies in teaching standards and learning outcomes. Analysing these budgetary trends, the article emphasises the need for prioritising educational quality over mere expansion. Additionally, it compares India's Education Index with other SAARC countries and emerging economies, revealing India's position in the global landscape. There exists a gap between infrastructural growth and the deeper, qualitative development required for holistic progress, but it is difficult to capture in terms of data and other metrics. In the context of a Resurgent India, this article therefore is based on accepted indices which proximate qualitative improvement and assert that growth without meaningful education is unsustainable.

JEL Classification

I21, I23, I24, I25, I28

Introduction

As India positions itself as an emerging economy, the focus on infrastructure and industry has often overshadowed the essential role of education in driving sustainable development. While the last decade has seen a rise in expenditure on education in terms of establishment of new educational set ups and development of infrastructure, this expansion has largely been quantitative rather than qualitative. Despite expanding infrastructure, India lags in key educational metrics compared to its neighbours and emerging economies. This article highlights the lack of priority laid on education in terms of budget allocation and also points out the disparity between budget allocations and educational outcomes.

India – Under Transformation and Growth

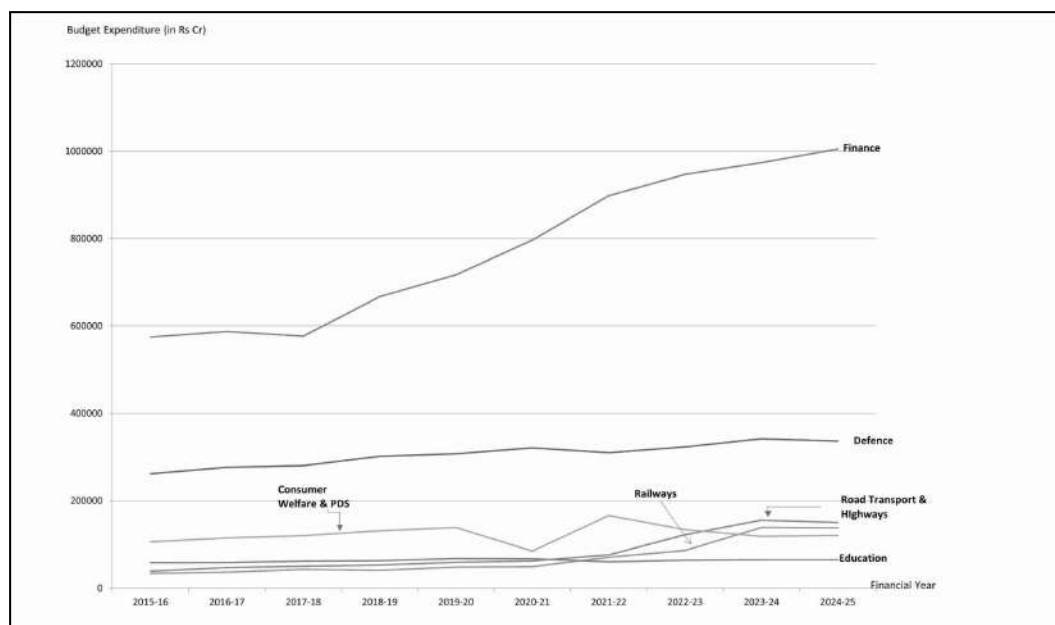
India has been celebrating its journey of Economic Growth from the last decade with much pomp and splendour. Its success largely derives from rapid urbanisation, export of technical support worldwide, growth in the pharma sector and massive foreign investment due to recession in the western economies. While growth is a statistical phenomenon, commensurate improvement in human development indices like educational and cultural development, innovation and research in various fields of art and sciences is fundamental to achieve sustainable and steady economic development and collective peace and prosperity.

The Government plays a major role in enabling young masses to access better standards of education and nourish its citizens with logic, reason, and various forms of art and literature. An educated society acts more responsibly towards achieving collective goals and thereby helps all its members to realise the real fruits of economic growth. A mere rise in GDP, however sharp such a rise may be, will not have any meaning when the income disparity between the rich and the poor is ever increasing and the mean real income of the middle class dwindles down.

Resurgent India- Is Education Catching Up?

Thorough research has led to the finding that the leading sectors prioritised by the Government in terms of budget allocation are Finance, Defence, Railways, Roadways and Public Distribution. Over the last decade, the Government has increased expenditures on railway and road transportation which is essential for creating suitable conditions for brisk trade and commerce. While expenditure on Defence remains among the highest compared to other sectors, its recent decline could be seen as a positive sign, perhaps reflecting India's growing confidence and stability in global defence and diplomacy. This shift may also free up resources for the Government to invest in key developmental areas.

Figure 1: Comparison of the increase in the share of the 5 leading sectors and Education in the Expenditure Budget of The GoI for the past decade (2011- 12 has been taken as the base year while converting the data in real terms)



Source: India Budget

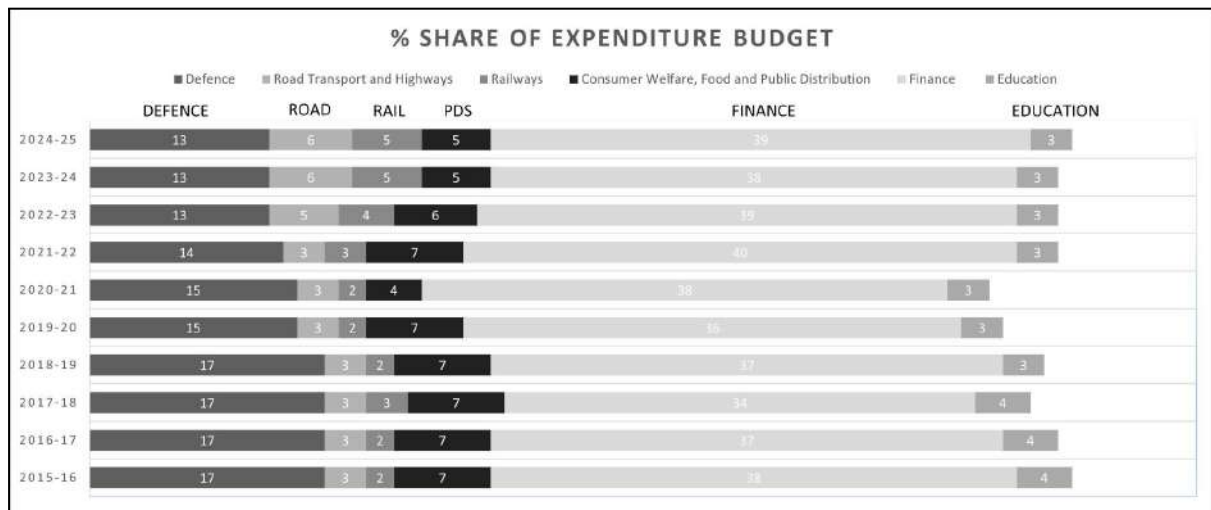
However, the share of expenditure on Education has declined over the years and now stands at less than 25% of the Defence budget, indicated by the almost flat line in Figure 1. The amount spent for the department of revenue and tax collection, which constitutes just a small portion of the entire Finance Budget, is still higher than the total allocation for Education (India Budget, 2024). Almost twice as much is spent on consumer welfare, food and public distribution, a large part of which is Direct Benefit Transfer.

Table 1: Comparison of the share (in %) of the 5 leading sectors and Education in the Expenditure Budget of The GoI for the last decade

YEAR	DEFENCE	ROAD TRANSPORT AND HIGHWAYS	RAILWAYS	CONSUMER WELFARE, FOOD AND PUBLIC DISTRIBUTION	FINANCE	EDUCATION
2024-25	13%	6%	5%	5%	39%	3%
2023-24	13%	6%	5%	5%	38%	3%
2022-23	13%	5%	4%	6%	39%	3%
2021-22	14%	3%	3%	7%	40%	3%
2020-21	15%	3%	2%	4%	38%	3%
2019-20	15%	3%	2%	7%	36%	3%
2018-19	17%	3%	2%	7%	37%	3%
2017-18	17%	3%	3%	7%	34%	4%
2016-17	17%	3%	2%	7%	37%	4%
2015-16	17%	3%	2%	7%	38%	4%

Source: India Budget

Figure 2: The Shaded areas of the column diagrams indicate the allocation (in %) of the Expenditure Budget on the 5 leading sectors followed by Education, which is reflected in the last portion of the bars, highlighting the sharp comparison.



Source: India Budget

Growth Without Education - A Hollow Pursuit

The lesser share of expenditure on education alone, does not capture the true essence of the malaise in India. Despite the expansion of infrastructure, the quality of education, especially in the rural and suburban areas remains questionable. The assessment systems, along with the availability and competence of educators in non-technical fields, appear to lag behind the broader growth of the Indian economy.

A major problem pertaining in the Indian Economy is the emphasis on infrastructure that lacks corresponding qualitative improvements. Education, as a means for greater knowledge and understanding has become an end itself. The qualitative deficiency in the field of education is almost impossible to measure accurately. But, the striking gap in the competence, expected from an average individual and possessed by the individual is visible in everyday life. This is particularly reflected in the reports about the quality of educators and the lack of effective regulation in schools across rural and suburban areas (Mehta, 2023).

While schools and institutions are being established, they often suffer from inadequate teaching standards, lack of skilled educators, and outdated curricula. The focus on building facilities has overshadowed the need for meaningful educational content, teacher training, and student engagement, leading to a system where physical growth is prioritised over true learning outcomes. As a result, the essence of education, nurturing critical thinking and holistic development remains unfulfilled.

The Education Index (EI)

An Education Index is a component of the Human Development Index published every year by the United Nations Development Programme. Alongside the Economic indicators and Life Expectancy Index, it helps measure attainment of education. Since 2010, the education index has been measured by combining average adult years of schooling with expected years of schooling for students under the age of 25, each receiving 50% weighting.

Calculation of EI:

A country's Education Index is calculated with the following formula:

$$EI = \frac{\left[\frac{EYS}{18} + \frac{MYS}{15} \right]}{2}$$

EYS, expected years of schooling, is a calculation of the number of years a student is expected to attend school, or university. In most countries, a master's degree represents the highest attainable level of education, and obtaining one reflects 18 years of education. This means that if every student in a country enrolled in a master's degree that country's EYS index would be 1.0.

MYS or the mean years of schooling, is a calculation of the average number of years of education a student over the age of 25 has actually received. It is based on education attainment levels of the population converted into years of schooling based on the theoretical duration of each level of education attended. 15 years is the projected maximum of this indicator for 2025 and is thus used as the maximum for the index. This means that a country whose citizens have attained 15 years of education by the age of 25, would have an MYS

index of 1.0.

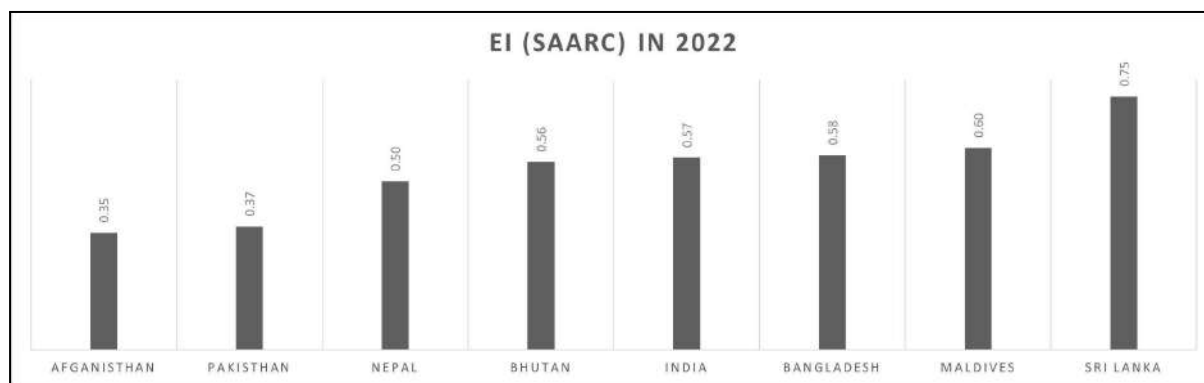
For India, the EYS (as of 2022) has been 12.6 years and the MYS (as of 2022) has been 6.6 years. Hence, the value of EI can be calculated as,

$$EI = \frac{\left[\frac{12.6}{18} + \frac{6.6}{15}\right]}{2} = 0.57$$

According to the UNDP, the EI for India had seen an increase from **0.54** in 2015 to a **0.55** in 2019 and **0.57** in 2022. Although it indicates gradual progress which is indeed a positive sign for the economy, the marginal improvement reflects deep-rooted challenges in ensuring equitable access to quality education and underscores the need for more robust policies and investments to drive meaningful change.

On comparing the values of The Education Index for all the SAARC countries, we find that the value of EI for India lies somewhat at the middle with a rank 5 amongst the 8 countries.

Figure 3: A comparison showing the variation in The Education Index (2022) for all the SAARC Countries.



Source: UNDP

While Pakistan and Afghanistan have a history of political instability and turmoil, India has the luxury of relative peace and tranquillity in political and social life which raises the expectation for better performance. The actual performance appears to be somewhat disenchanting and leaves a lot of room for improvement. What is more interesting here is the

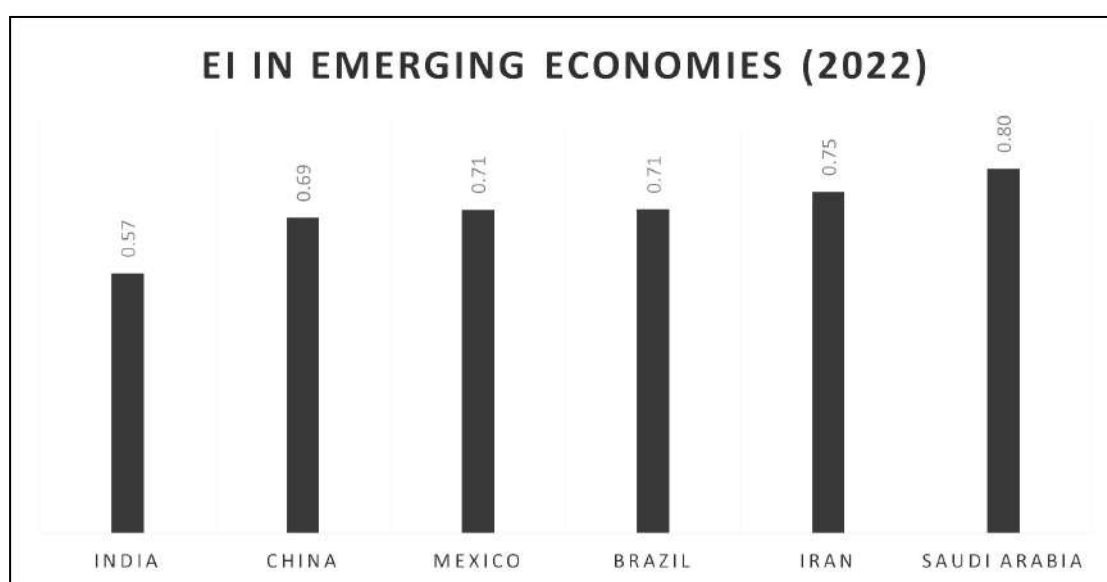
fact that countries like Sri Lanka, Maldives and Bangladesh are ahead of India, with the performance of Sri Lanka surpassing all other neighbouring countries.

India - A Comparison with The Emerging Economies

An emerging market economy is an economy which is transitioning from a low-income, less developed, often pre-industrial economy towards a modern, industrial economy with a higher standard of living. India is one such emerging economy which has resurged from a state of stagnation and poverty to a market driven sophisticated and industrialised economy having brisk trade in many important sectors. However, when we take a look in the field of education and allied areas and compare the position of India vis-à-vis other emerging economies namely Brazil, China, Iran, Saudi Arabia and Mexico, the scenario is humbled to a large extent. Even a comparison with other SAARC nations does not yield a high level of satisfaction.

The following illustration shows that India stands at the bottom of the table in terms of EI in comparison to other emerging economies.

Figure 4: A Comparison showing the variation in The Education Index (2022) for all the Emerging Economies of the world.



Source: UNDP

The world-wide position of India at present stands at **134** out of **193** countries in terms of

Human Development Index, which constitutes Education Index as a key parameter (UNDP, 2023). While many boast about the growth story of India in the last 3 decades, this key aspect determining Human Development Index is often neglected in the claim.

The Story of Resurgence So Far

The Economic Growth that India has experienced in the last few decades is undeniably a story of success and achievement. The resurgence from poverty and hunger to a steady path of expansion of the service sector and industry has pulled millions of people out of poverty. However, this story is still in the making. The aspect of education, growth in human resources, better access to artistic and cultural practices and a spirit of quest and reason are the things the Government should focus on if India needs to find its place amongst the most developed nations. For this, in our view, analyses like the above are important and should form a part of regular conversations on economic growth and development among the policy makers, economists and common interested citizens.

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TOURISM'S CONTRIBUTION TO INDIA'S GDP: POST-COVID ANALYSIS OF ECONOMIC GROWTH

- *Roshan Gupta and Ritika Sarawat*

3rd Year, UG

Abstract

This article examines the resurgence of India's tourism sector following the COVID-19 pandemic, particularly from 2022 onwards. It descriptively evaluates trends in both domestic and international tourism, assesses the sector's impact on foreign exchange reserves, and reviews the governmental measures implemented to rejuvenate the industry. By employing a model, we illustrate how tourism influences India's GDP both directly and indirectly, and how it contributes to broader economic growth.

JEL Classification

Z30, Z32

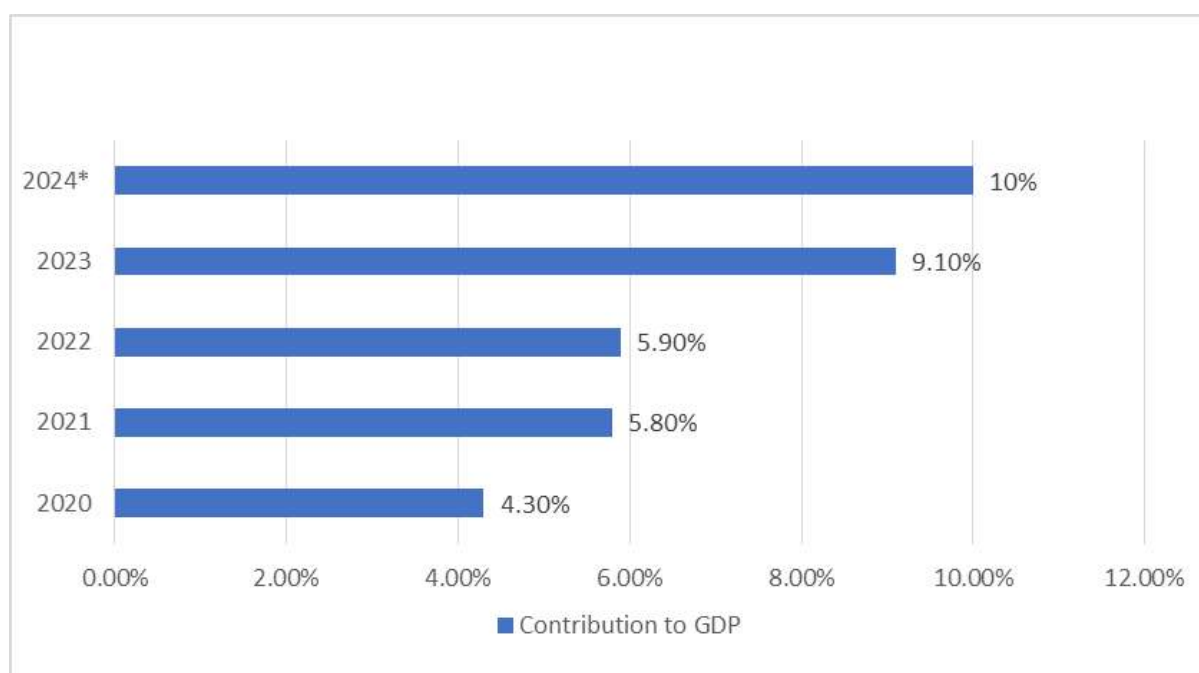
Introduction

Tourism is a crucial sector in the global economy, significantly enhancing cultural exchange and contributing to national GDP and foreign exchange reserves. The sector generates direct revenue through various channels including hospitality, transportation, and entertainment, and stimulates indirect economic activity. This includes impacts on ancillary industries such as infrastructure development, job creation (both direct and indirect), and heightened demand for retail and banking services, creating a substantial multiplier effect.

However, the tourism sector experienced a severe downturn with the onset of the COVID-19 pandemic, particularly between 2020 and 2022. Countries heavily reliant on tourism, such as Sri Lanka, were hit especially hard. India's tourism sector also faced significant challenges during this period. Nevertheless, it has managed to recover post-pandemic by drawing both international and domestic tourists to its rich cultural heritage, historical sites, and artistic offerings. Since 2022, the sector's contribution to India's GDP has been on the rise. Currently, India stands as the 5th largest economy globally with an annual growth rate of 6.8% (IMF, 2024).

The Travel and Tourism Development Index (TTDI) 2024 report by the World Economic Forum (WEF) ranks India 39th out of 119 countries. In the Asia-Pacific region, India ranks prominently alongside China and Japan for its natural, cultural, and non-leisure assets (TTDI, 2024).

Contribution Of The Travel And Tourism Sector To GDP Of India From 2020 To 2023 With Projections For 2024



Source: Statista 2024

Post-COVID Tourism Trends

Analysing India's tourism sector from a granular perspective reveals insights into domestic tourism, foreign tourist arrivals (FTAs), and international tourist arrivals (ITAs). Although both domestic and international tourist arrivals have increased since the COVID-19 pandemic, it has not yet surpassed pre-pandemic levels. It is projected to exceed these levels by 2025. Domestic tourists continue to outnumber foreign and international visitors, highlighting the significant role of domestic tourism. This suggests that while the sector demonstrates moderate resilience to geopolitical uncertainties, it still affects foreign exchange reserves.

The top five countries from which tourists travel to India are the USA, Bangladesh, the UK, Australia, and Canada. Conversely, the leading destinations for Indian nationals include the UAE, Saudi Arabia, the US, Singapore, and Thailand. Tourist activities in India generally revolve around visiting the Indian diaspora, leisure and recreation, business and professional engagements, pilgrimage, and medical tourism. Notably, medical tourism is a significant sector, with many visitors from Bangladesh attracted by competitive medical costs. The government has implemented various measures to attract international tourists, including enhancing medical infrastructure, transportation accessibility, and banking services.

Impact on Foreign Exchange Reserves

During the COVID-19 pandemic, there was a sharp decline in foreign exchange reserves derived from tourism. However, with the peak of the vaccination campaign in 2023, travel restrictions were relaxed, and the government introduced several initiatives to revitalise the tourism sector. Consequently, as tourist arrivals increased, foreign exchange reserves began to rise steadily. Although current reserves are still below 2019 levels, they are expected to grow rapidly and surpass pre-pandemic figures in the near future.

Government Initiatives

Tourists predominantly visit famous landmarks such as the Taj Mahal, Agra Fort, and Qutub Minar. However, India's rich cultural heritage includes ancient sites in regions like Meghalaya, Tamil Nadu, Kerala, and Shillong. These sites receive fewer visitors due to inadequate transportation infrastructure and limited awareness. The government took various initiatives regarding this. In January 2023, the Ministry of Tourism revamped the Swadesh Darshan scheme, introducing Swadesh Darshan 2.0 with a "voice for local" approach. This initiative aims to enhance destination tourism and develop thematic circuits to achieve "Atmanirbhar Bharat". Additionally, the B20 conference under India's G20 Presidency in 2023 focused on the GOA Roadmap, Travel for LiFE, and the Tourism for Tomorrow Competition to promote sustainable tourism, particularly in Mizoram. In December 2023, under the Prashad Scheme, which supports pilgrimage sites, the Ministry of Tourism allocated funds for infrastructure development at tourist destinations. Furthermore, Prime Minister Modi launched the "Dekho Apna Desh - People's Choice 2024" campaign in March 2024 to gather feedback on various tourist attractions and raise awareness. These initiatives collectively have a positive impact on India's tourism sector.

IS-LM-BP Analysis

The rise in the GDP brought about by the growth in India's tourism sector can be validated through the IS-LM-BP model, an extension of the traditional IS-LM model to incorporate the dynamics of an open economy. This model is composed of 3 main components – the IS curve (representing equilibrium in the goods market), the LM curve (representing equilibrium in the money market), and the BP curve (representing equilibrium in the balance of payments).

The IS curve: $Y = DS(Y, i) + NX(Y, Y_f, R)$; where $R = e \frac{P_f}{P}$ and $DS = (C + I + G)$

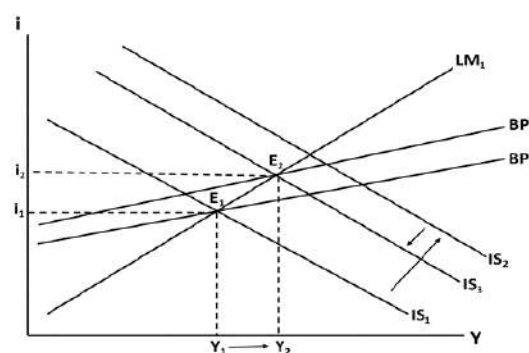
The LM curve: $\frac{M}{P} = L(Y, i)$

The BP curve: $BP = NX(Y, Y_f, R) + KA(i - i_f)$

where Y: GDP or domestic output or income, DS: spending by domestic residents, i: real interest rate, Y_f : Foreign income, R: Real exchange rate, e: nominal exchange rate, $\frac{P_f}{P}$: the ratio of foreign to domestic prices, C: Consumption, I: Investment, G: Government expenditure, M: Money stock, P: Price level, NX: Net Exports (i.e. Exports-Imports), KA: Capital flows, i_f : foreign interest rate, $(i - i_f)$: interest differential.

India has been operating on a stabilised exchange rate regime (IMF, 2023) and thereby the BP curve will be flatter than the LM curve. We assume capital to be highly mobile in this analysis.

An IS-LM-BP Representation of the boost in the Tourism sector post covid on the GDP of India



Let the initial equilibrium be at E_1 (i.e. at the intersection of IS_1 , LM_1 and BP_1) with the initial output. Since tourism is considered an export of services, an increase in it after the

COVID-19 pandemic would cause the IS_1 curve to shift to the right to IS_2 . This leads to a balance of payments surplus since the new intersection of the IS_2 and LM_1 lies above the BP_1 line. This balance of payments surplus causes the domestic currency to appreciate due to increased demand for domestic currency by foreigners to undertake exchange. This appreciation leads to a fall in the real exchange rate R , leading to a fall in the net exports NX , thereby shifting IS_2 towards the left to IS_3 and BP_1 in a similar fashion to BP_2 . We get the new equilibrium at E_2 with a higher output of Y_2 and an increased interest rate of i_2 .

After the pandemic, people have become more conscious of their health and safety, and the role of UPI in clearing the way for contactless transactions has reassured travellers which positions India as a forward-thinking and safe destination in the global tourism market. Also, India being the host of the G20 summit in 2023 and actively participating in various international events and forums can be considered a brilliant marketing move that has further bolstered its tourism profile. Additionally, there has been an emerging interest in health and wellness trends, and India being the leading destination for ayurvedic treatments and yoga retreats has capitalised on this trend.

Conclusion

From the analysis, it is evident that the tourism sector has contributed to a noticeable increase in India's GDP post-COVID. However, the current GDP level remains below pre-pandemic figures and has not yet achieved its full potential. India's vast array of cultural experiences, religious diversity, and varied landscapes—ranging from serene valleys and mountains to expansive deserts and historic sites—offer considerable appeal to tourists, yet the sector has not fully leveraged these assets.

The government has introduced various initiatives to boost tourism, but these have not yielded substantial results, possibly due to a lack of targeted strategies. For instance, examining outbound tourism expenditure reveals that the top five spending countries are China, the US, Germany, the UK, and France. The government could focus its efforts on attracting tourists from these countries (excluding China) by offering subsidies and creating promotional content featuring India's cultural heritage. Additionally, ensuring the safety of

tourists is crucial for increasing visitor numbers. The government should enhance security measures by deploying vigilant forces at popular tourist destinations and common areas to provide a safer environment for travellers.

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RESURGENT INDIA: WHICH WAY AROUND

- *Revant More*

3rd Year, UG

Abstract

India's economic journey has seen significant transformation in recent years, marked by robust growth and ambitious reforms. This article explores the key factors driving India's economic resurgence, including recent policies, global economic shifts, and the socio-political environment. By analysing sectoral performance and identifying future challenges, it offers a nuanced perspective on India's current economic standing and potential future trajectories, balancing optimism with caution as the country seeks to become a global economic leader.

JEL Classification

O4, F43, E65, P16

Introduction

India's economy, once characterised by modest growth and persistent challenges, has experienced a remarkable resurgence in the 21st century, particularly over the past decade. This revival is driven by strategic economic reforms, improved governance, and a favourable global environment. The rapid expansion of India's economy has drawn global attention, positioning the country as a critical player in the world economy. This article explores the forces behind this resurgence, the sustainability of current growth patterns, and the strategic choices India faces as it seeks to solidify its position as a leading global economy.

1. Historical Context and Recent Trends

India's economic evolution is rooted in a complex history, shaped by its colonial past, post-independence socialism, and the liberalisation of the 1990s. Post-independence, India adopted a mixed economy with a strong emphasis on state-led development. However, inefficiencies led to slow growth, often called the "Hindu rate of growth." The 1991 balance of payments crisis forced India to adopt structural reforms and liberalise its economy, shifting towards a market-oriented model.

The resurgence can be traced to reforms introduced in the early 2000s, such as modernising infrastructure, enhancing financial inclusion, and opening sectors like telecommunications to foreign investment. These reforms laid the foundation for sustained economic growth, further bolstered by a global economic environment favourable to emerging markets. Key indicators like GDP growth and foreign direct investment (FDI) reflect India's positive trajectory. However, growth has been uneven, with the services sector, particularly IT, driving growth while manufacturing and agriculture lag behind.

2. Economic Reforms and Policies

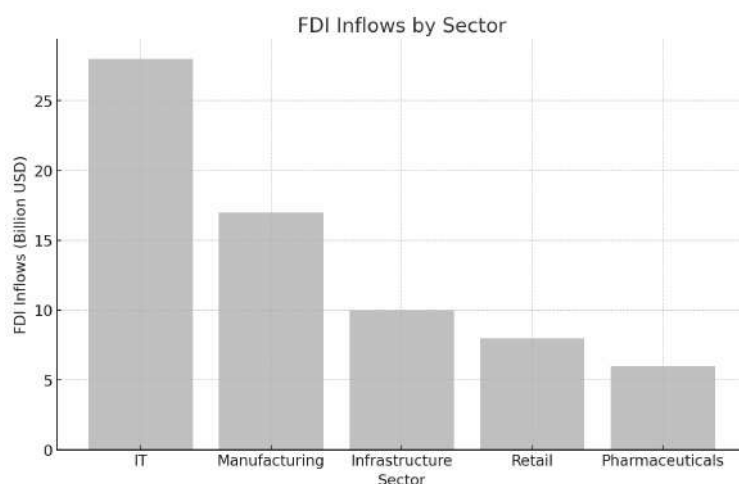
Recent years have seen significant reforms aimed at improving the ease of doing business and enhancing infrastructure. The Goods and Services Tax (GST), implemented in 2017, is a major tax reform that has streamlined the tax structure, reduced the cost of doing business, and created a more integrated national market. Despite initial challenges, GST is expected to enhance economic efficiency in the long term.

The Insolvency and Bankruptcy Code (IBC), introduced in 2016, addresses non-performing assets and enhances the ease of resolving insolvencies. The IBC has strengthened the legal framework for bankruptcy, improving recovery rates for creditors and bolstering investor confidence. The push towards digitalization, through initiatives like Digital India, has also transformed the economy, making financial transactions more accessible and efficient.

However, challenges remain. The GST regime still faces compliance issues, particularly from small businesses, and the IBC requires further strengthening. The digital divide persists, with rural and marginalised populations having limited access to digital technologies. Addressing

these challenges is crucial for ensuring that the benefits of these reforms are widely shared across the economy.

Chart Depicting Fdi Inflows By Sector, Showcasing The Significant Investments In It, Manufacturing, And Infrastructure



Source: <https://dea.gov.in/>

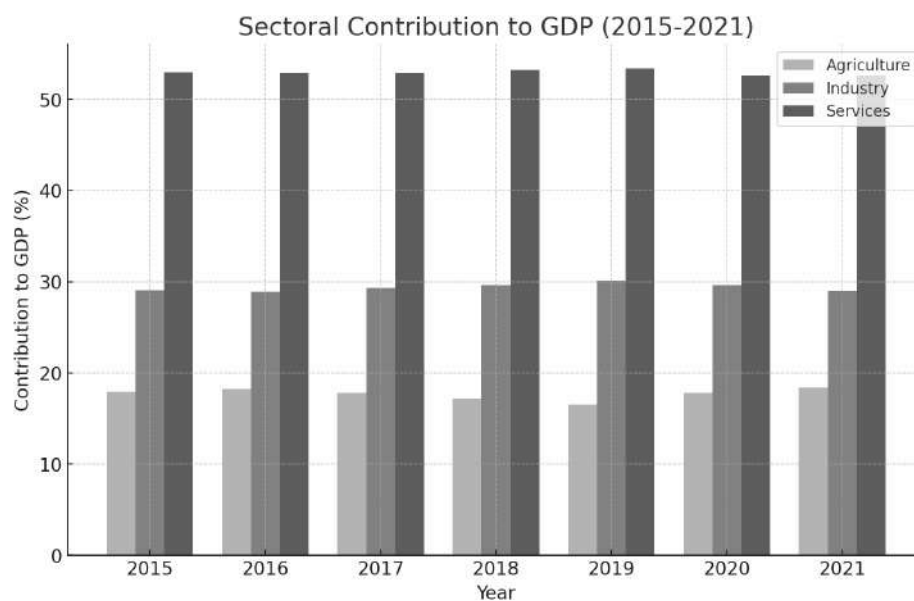
3. Market Dynamics and Sectoral Analysis

India's economic resurgence is uneven across sectors. The IT sector, centred in cities like Bengaluru, has driven much of the country's economic growth, attracting significant foreign investment and generating millions of jobs. India's startups, particularly in tech and fintech, have gained international recognition, with several achieving "unicorn" status.

The manufacturing sector, while growing, has not kept pace with IT. Despite initiatives like "Make in India," the sector faces challenges such as inadequate infrastructure and regulatory hurdles. However, industries like automotive and pharmaceuticals have seen success, establishing India as a global manufacturing hub.

The agricultural sector, employing nearly half of India's workforce, remains critical yet underperforming. Challenges like low productivity and climate risks persist. Recent agricultural reforms aimed at modernising the sector faced significant opposition, highlighting the deep-rooted challenges in transforming agriculture.

The Bar Chart Showing The Sectoral Contribution To India's Gdp From 2015 To 2021. The Chart Highlights The Relative Shares Of Agriculture, Industry, And Services Sectors Over The Years



Source: wikipedia.org

4. Socio-Political Factors

Economic growth in India is closely linked to its socio-political environment. Political stability and effective governance have fostered economic growth. Central government initiatives like "Make in India" and "Atmanirbhar Bharat" have driven reforms and set the direction for future growth, promoting manufacturing, boosting digital infrastructure, and reducing dependency on imports.

However, socio-political challenges like income inequality, unemployment, and social unrest continue to pose risks. Despite progress in poverty reduction, income inequality has widened, with disparities in access to education, healthcare, and opportunities. Urbanisation, while driving economic growth, presents challenges such as congestion and pollution. Education and skill development are crucial for sustaining long-term growth, with the National Education Policy 2020 aiming to address quality and relevance issues.

5. Global Economic Conditions

India's economic resurgence is influenced by global trends. The country's integration into the global economy, particularly through trade and investment, has been a major growth driver. Export-oriented sectors like IT services and pharmaceuticals have benefited from international markets and global supply chains. FDI has modernised industries, created jobs, and boosted innovation.

However, global economic trends and geopolitical shifts present both opportunities and challenges. The COVID-19 pandemic disrupted global supply chains, leading to economic contractions worldwide. India's economy was severely impacted, with a sharp GDP decline in 2020, followed by a gradual recovery. The pandemic underscored the need for greater supply chain resilience and accelerated the push towards self-reliance.

Geopolitical shifts, such as the rise of China and evolving Indo-Pacific dynamics, have significant implications for India's economy. India has sought to strengthen strategic partnerships, particularly with the US, Japan, and Australia, through initiatives like the Quad. These partnerships aim to enhance security and promote economic collaboration in areas like infrastructure and technology.

Climate change and environmental sustainability are critical challenges that will shape India's economic future. The transition to a green economy presents challenges and opportunities, requiring investments in renewable energy and sustainable infrastructure. This transition offers opportunities for innovation, job creation, and leadership in the emerging global green economy.

6. Challenges and Future Outlook

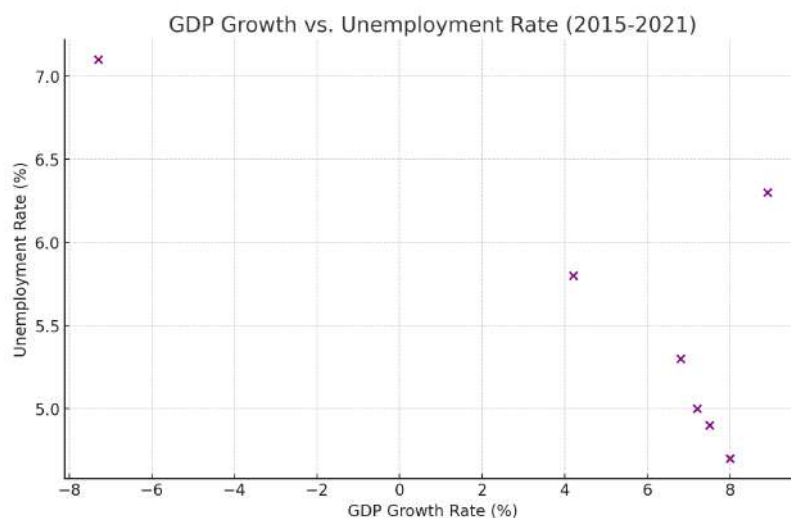
Despite impressive growth, significant challenges remain. Infrastructural deficits, particularly in transportation, energy, and digital connectivity, continue to constrain growth. Addressing these deficits will require substantial public investment and greater participation from the private sector and international investors.

Bureaucratic inefficiencies and regulatory hurdles are other obstacles to growth. Despite efforts to improve the ease of doing business, businesses face delays and complexities in obtaining permits and complying with regulations. Reforms aimed at simplifying regulations and enhancing transparency will be crucial in addressing these issues.

Environmental concerns, including pollution and resource depletion, pose risks to sustainable development. Achieving rapid growth while ensuring sustainability requires greener technologies and practices.

The future outlook for India's economy depends on its ability to navigate these challenges and capitalise on its strengths. Innovation, skill development, and sustainable practices will drive long-term growth. Addressing social inequalities and ensuring inclusive growth will be essential for maintaining social cohesion and political stability.

The Scatter Plot Showing The Relationship Between Gdp Growth Rates And Unemployment Rates In India From 2015 To 2021. The Plot Helps Visualise How Changes In Economic Growth Impact Employment Levels



Source: <https://dea.gov.in/>

Conclusion

India stands at a pivotal moment, with the potential to solidify its status as a leading global economy or falter under its challenges. This article has outlined the key drivers of India's economic resurgence, the reforms that have propelled it forward, and the socio-political factors that support its growth. Sustaining this momentum will require addressing significant challenges and making strategic choices that prioritise long-term development. India's future depends on its ability to navigate these complexities, leverage its strengths, and embrace innovation and sustainability in an increasingly interconnected world.

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ROLE OF MSME SECTOR IN THE GROWTH OF INDIAN ECONOMY

- Sanjida Yeasmin

PG, 2nd Year

Abstract

Micro, small, and medium enterprises (MSMEs) are the backbone of the Indian economy, significantly contributing to employment generation and GDP growth. The MSME sector accounts for a substantial share of the total industrial output and manufacturing employment. Fast changing global economy has brought up various opportunities and challenges to the MSMEs in India. On one hand many opportunities have been opened up for the MSME sector to enhance productivity and competitiveness but on the other hand there is an obligation to upgrade their competencies in various fields like marketing, finance, technology, business development. The Government of India has introduced various initiatives to support MSMEs by providing subsidised credit, technical assistance and preference in government procurement. These initiatives provide credit support, technological assistance, infrastructure development, skill development and training, enhancing competitiveness, and market assistance. The article analyses the impact of the MSME sector in the growth and development of the Indian economy and how the government policies and schemes contribute to the employment generation and overall growth of the country.

JEL Classification

E24, L60

Introduction

The Micro, Small and Medium Enterprises (MSMEs) sector is a major contributor to the socio-economic development of the country. There are 633.9 lakh MSMEs in India. MSMEs play a crucial role in providing large employment opportunities at comparatively lower capital cost than large industries and also help in industrialization of rural and backward areas, thus reducing the regional imbalances. Outside the agriculture sector, MSMEs are believed to use labour-intensive methods of production of goods and services and thereby

generate more employment opportunities for the unemployed youths of India. The Micro, Small, and Medium Enterprises (MSME) sector has been a primary focus of policymakers at the central and state levels as it is a valuable contributor to the overall economic growth and development in terms of employment, value chain creation, foreign exchange earnings and inclusive development.

Defining MSME

According to the MSMED Act of 2006, the MSMEs are classified based on their investment in plant and machinery for enterprises engaged in manufacturing or production, processing or preservation of goods and investment in equipment for enterprises engaged in providing or rendering services. The MSME definition was revised under the “Aatmanirbhar Bharat Abhiyaan Scheme” on 13th May, 2020. The new classification for MSME has been effective from July 1, 2020. According to the revised classification, enterprises are defined based on the investment criteria in plant and machinery or equipment and Annual turnover.

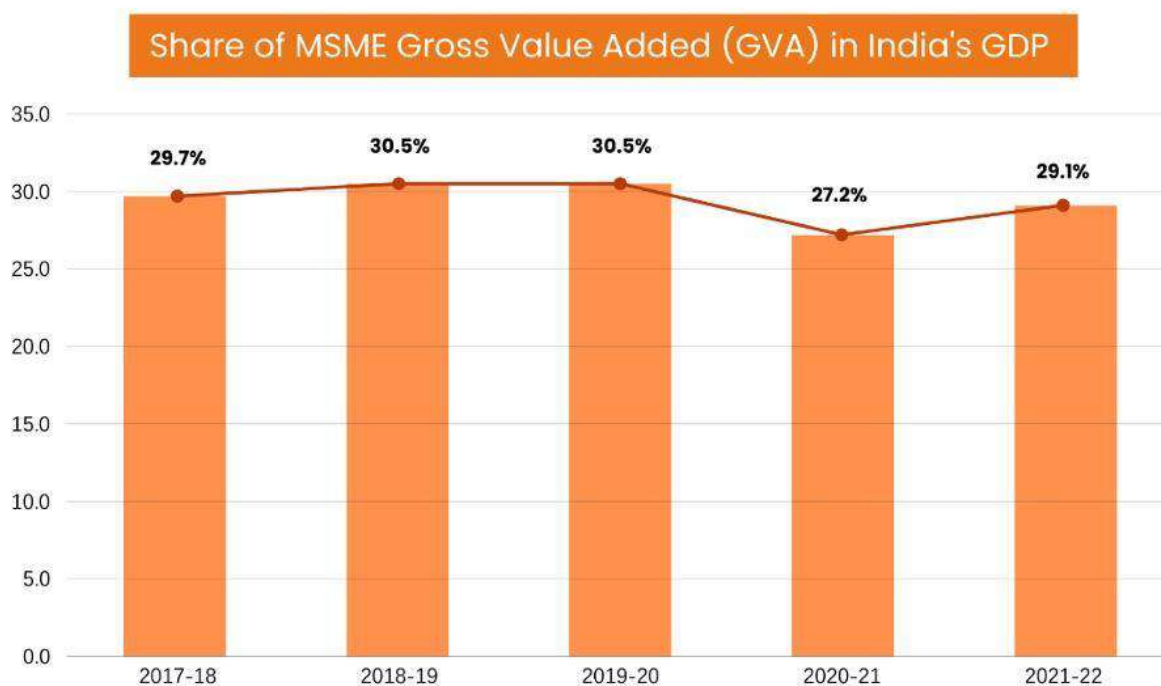
Existing MSME Classification			
Criteria: Investment in Plant and Machinery or Equipment			
Classification	Micro	Small	Medium
Manufacturing Enterprises	Investment < Rs. 25L	Investment < Rs. 5 Cr	Investment < Rs. 10 Cr
Services Enterprises	Investment < Rs. 10L	Investment < Rs. 2 Cr	Investment < Rs. 5 Cr
Revised MSME Classification			
Composite Criteria: Investment and Annual Turnover			
Classification	Micro	Small	Medium
Manufacturing Enterprises and Enterprises rendering Services	Investment < Rs. 1 Cr and Turnover < Rs. 5 Cr	Investment < Rs. 10 Cr and Turnover < Rs. 50 Cr	Investment < Rs. 50 Cr and Turnover < Rs. 250 Cr

Source: msme.gov.in

Contribution of MSMEs to the Country's GDP

The share of MSME Gross Value Added (GVA) in India's Gross Domestic Product stood at 29.7% in 2017-18, increasing to 30.5% in both 2018-19 and 2019-20. During the pandemic crisis, the MSME sector faced challenges but managed to sustain a contribution of 27.2% in 2020-21. The GVA in India's GDP increased again to 29.1% in 2021-22. This shows an increased productivity with efficient use of resources including labour for sustained economic growth and competitiveness. According to the Economic Survey tabled by the Union Minister of Finance and Corporate Affairs, MSMEs contribution in all-India manufacturing output during FY22 was 35.4%.

The MSME sector is one of the major exporters of the country. Directorate General of Commercial Intelligence & Statistics (DGCIS) states that the share of export of MSME-related products in all-India exports in 2023-24 was 45.7%. Textiles, garments, shoes, rice and castor oil are among the major products exported by the Indian MSME sector.



Source: pib.gov.in

The share of MSME Export in the All India Export

Year	% share of Export of MSME related products in All India Export
2019-20	49.77%
2020-21	49.35%
2021-22	45.03%
2022-23	43.59%
2023-24	45.7%

Source: pib.gov.in

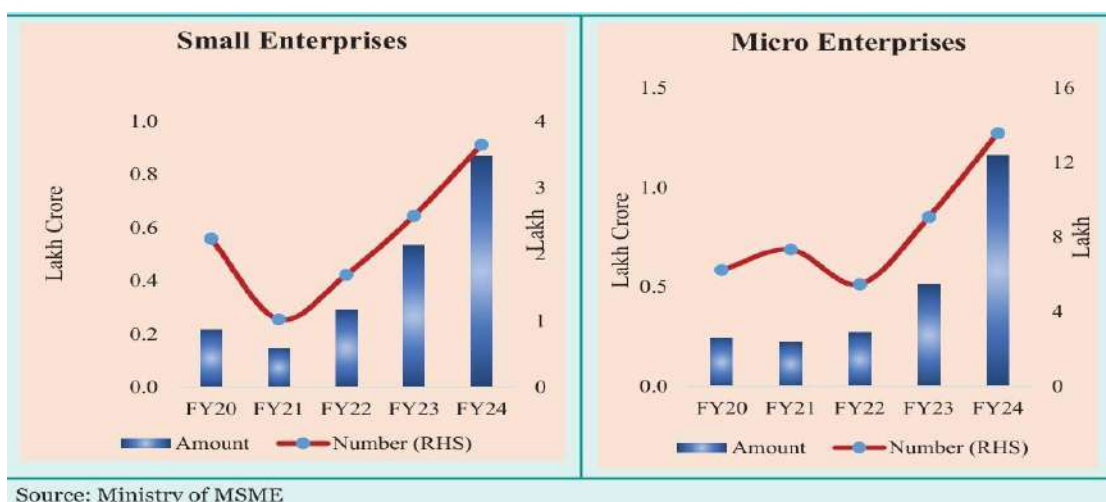
Government Schemes and Initiatives

The Government of India has taken various measures including ongoing schemes to ensure sufficient financial accessibility and seamless credit to the Micro, Small, and Medium Enterprises (MSME) sector, recognizing its vital role in the economy. Some of the key initiatives include the Udyam Registration Portal, PMEGP, SFURTI, PM Vishwakarma and the Public Procurement Policy.

- Udyam Registration Portal:** Udyam Registration Portal, launched on July 1, 2020, facilitates registration for existing enterprises across the country. In November, 2023 Udyam Assist Platform was introduced by the Government of India to integrate informal micro enterprises into the formal sector. This initiative has helped enterprises to access benefits under Priority Sector lending and enhancing the growth and sustainability. As of August 15, 2024, 4.88 Crore MSMEs are registered on the Udyam Registration Portal, including informal micro enterprises registered on the Udyam Assist Platform in which 4.79 Crore enterprises are classified as micro enterprises. The MSME sector has been instrumental in generating employment opportunities in rural and remote areas of the country. As per the data from the Udyam Portal of the MSMEs, 21 Crore people have been employed (*Udyam Registration Portal, Ministry of Micro, Small & Medium Enterprises*).
- Prime Minister Employment Generation Programme (PMEGP):** Prime Minister Employment Generation Programme (PMEGP) facilitates entrepreneurs in establishing new units in the non-farm sector in both rural and urban areas. The scheme, implemented by the Khadi and Village Industries Commission (KVIC), has shown significant impact on generating employment opportunities in the country. Since the inception of the scheme, from FY 2008-09, more than 9.65 lakh micro

enterprises have been financially assisted across the country with a Margin Money (MM) subsidy of more than Rs 25,263.33 Crore providing estimated employment to 78.84 lakh people. In the FY 2023-24 alone, PMEGP has facilitated establishment for 22,050 projects with a total subsidy extended amount to Rs 900.23 Crores, creating opportunities for 1,76,400 individuals (*PMEGP, MSME Dashboard*).

- Scheme of Fund for Regeneration of Traditional Industries (SFURTI):*** Scheme of Fund for Regeneration of Traditional Industries, launched in 2005-06, has helped to make traditional industries more market driven, productive, profitable and capable of providing sustainable employment for artisans and rural entrepreneurs. The scheme was revamped in 2014-15. Since 2014-15, SFURTI has approved 513 clusters and Rs 1336.10 Crore has been extended. This has benefitted 298580 Artisans so far (*SFURTI, MSME Dashboard*).
- Credit Guarantee Scheme (CGS):*** The Credit Guarantee Scheme, administered by the Credit Guarantee Fund Trust for Micro and Small Enterprises (CGTMSE), focuses to alleviate the credit constraints faced by MSMEs by offering collateral free loans of up to Rs 5 Crore, with a guaranteed coverage of up to 85 per cent. Since the inception, the scheme has approved 91.76 Lakh guarantees amounting to Rs 6.78 Lakh Crore. In FY24 alone, 17.24 Lakh guarantees worth Rs 2.03 Lakh Crore were approved. In the Union Budget 2023-24, Rs 9000 Crore has been allocated to CGTMSE, aiming to enable an additional Rs2 Lakh Crore in credit with reduced costs. Significant growth has been witnessed from FY20 to FY24 in the number of guarantees for micro and small enterprises. The table shows the guarantees approved over the years to small and micro enterprises (*Economic Survey 2023-24*).



There are other various initiatives to enhance the growth of the MSME sector.

- PM Vishwakarma is fully funded by the Government of India with an initial outlay of Rs. 13,000 crores for 2023-24 to 2027-28 to enhance the quality and reach of products and services by artisans, integrating them into domestic and global value chains and the scheme has set a target of 30,00,000 beneficiaries by 2027-28.
- Under Pradhan Mantri Mudra Yojana (PMMY), In FY24, Rs. 5.41 lakh crore was sanctioned under 6.6 crore Mudra loans to non-corporate and non-farm MSEs. A total of 2,36,452 MSEs benefited from this procurement.
- In the Public Procurement Policy for Micro and Small Enterprises (MSEs), a total of 2,36,452 MSEs have been benefited. In 2023-24, Central Ministries/Departments/Central Public Sector Enterprises (CPSEs) and departments procured a total of Rs. 82,431 Crores from MSEs.
- Integration of Udyam Portal with the National Career Service (NCS) to enable registered MSMEs to search for jobseekers.

Future of MSMEs in India

In the Union Budget 2023-24, it is announced that the limit of Mudra loans will be increased to Rs 20 lakh from Rs 10 lakh for entrepreneurs who have availed and successfully repaid previous loans. The allocation under Emergency Credit Line Guarantee Scheme (ECLGS) has been enhanced to Rs 6 lakh crore from Rs 5.25 lakh crore in 2023-24. By 2025, the Ministry of MSME (MoMSME) has targeted to increase the sector's contribution up to 50% to the country's GDP. The Entrepreneurship cum Skill Development Programme (ESDP) has got an allocation of Rs 99 Crore which was Rs 80 Crore in the previous year budget. Increased funding to this scheme would facilitate better access to capital, advanced technology and expert guidance, helping MSMEs to grow on national and international level.

Conclusion

Over the years MSME sector has grown continuously and has helped in generating employment opportunities for the youth of rural and urban India. MSMEs have contributed to various aspects of India's economy like India's GDP, Manufacturing output, Export sector

performance and developmental other aspects. The sector provides livelihood to the country. MSMEs face challenges in areas such as technology, marketing, finance, and skilled labour. The government has come up with various financial schemes like SFURTI, PMEGP, ASPIRE etc which support traditional businesses and promote entrepreneurship. The schemes have led to significant growth of the MSME sector in the country. The MSME sector is projected to grow \$1 trillion by 2028. Post pandemic the global economy has inclined more towards digitalization and e-markets. This has created an opportunity for increased export demand. MSMEs are being encouraged to market their products on the e-commerce site, especially through Government e-Marketplace, owned and run by the government.

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EMPLOYMENT AND SKILL DEVELOPMENT: STRIVING TOWARDS A SUSTAINABLE AND RESURGENT INDIA

- *Ashutosh Baveja*

2nd year, PG

Abstract

Employment is the crucial link between growth and prosperity and its quantity and quality determines the extent to which economic output translates into better quality of life for the population. There have been improvements in the Indian labour market with a decline in the unemployment rate to 3.2 percent in 2022-2023. Rising female participation in the workforce presents an opportunity to reduce the gender inequality gap in the country. Still there are many questions which remain such as, Are there enough skilled labourers in our economy? How can we generate and sustain quality employment? With new forces such as Artificial Intelligence (AI) on the rise, how must the job market adapt while steering the technological choices? In our research we shall look into the above factors and how can India as a country fuel its economic growth through productive employment including youth employment, more female participation and the incorporation of more skilled labour in the economy.

JEL Classification

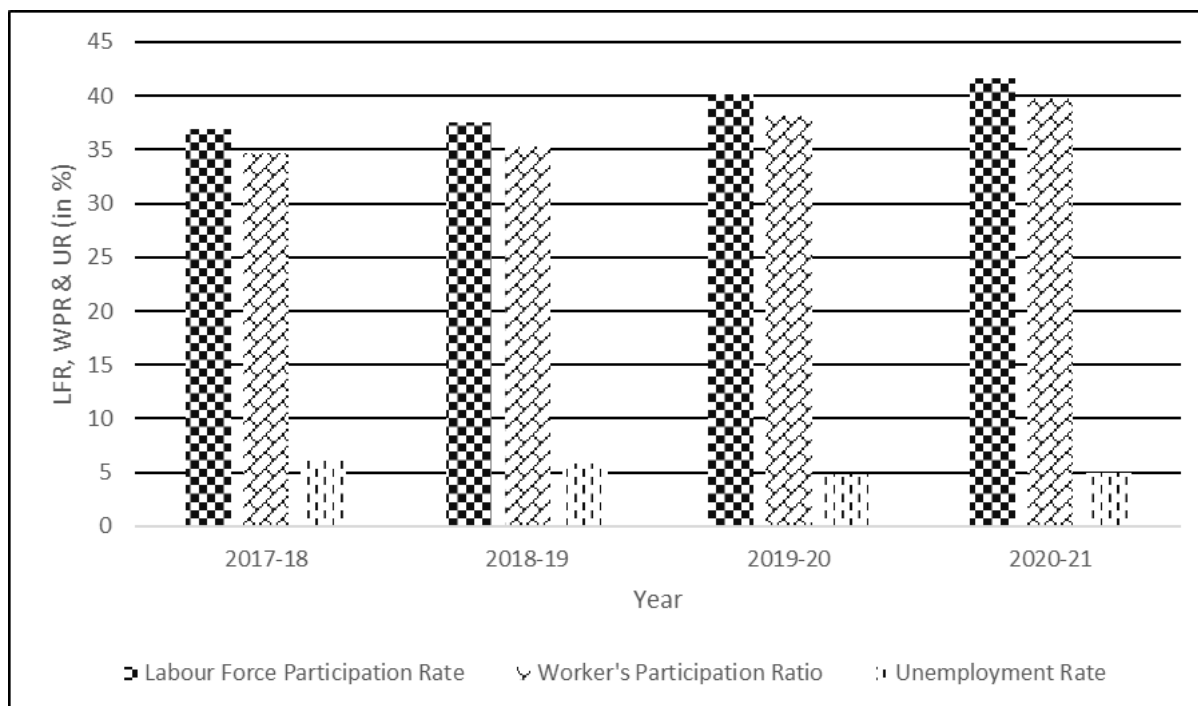
J23, J24, O12, O49, R11, Y1

Introduction

India has witnessed a notable transformation in its employment landscape, marked by several positive trends contributing to economic growth and social development. This evolution is a result of various factors, including economic reforms, technological advancements, and an emphasis on skill development. According to the annual Periodic Labor Force Survey (PLFS) by the National Statistical Organization, Ministry of Statistics and Programme Implementation (MoSPI), the all-India annual unemployment rate (UR) has been witnessing a downward trend since the Covid 19 pandemic. We see there has been a rise in the Labor Force Participation Rate (LFPR) and Worker to Population Ratio (WPR). India's workforce is estimated to be nearly 5.65 crore in 2022-2023 using WPR from PLFS. According to PLFS, more than 45 per cent of the workforce is employed in agriculture, 11.4 percent in

manufacturing, 28.9 percent in services, and 13.0 percent in construction. The predominance of agriculture in providing employment to nearly half of the population, especially females, is both a challenge and an opportunity for the Indian Economy.

The bar graph below shows the increasing trend in LFPR, WPR and the falling rate in UR. We see how the LFPR and WPR both have increased steadily and the UR has declined which is a very good sign for the economy.



Source: PLFS- Annual Report released on June, 2022

Challenges of Youth Employment

India faces a paradoxical situation where, on the one hand, youth is looking for a job and on the other hand the economy is suffering from lack of availability of skilled workers. This skill mismatch makes youth unemployable. This is a result of supply driven and not demand driven education systems due to lack of interface among different stakeholders namely policy makers, industry, training providers and educational institutions. The training institutes need to educate as per industry's requirements so that the more skilled labours acquired. It is expected that in a decade, 40 percent of the 15-29 age group will enter the labour force, which needs to be provided with decent employment opportunities.

The Evolving Landscape of Jobs in India

The interaction of various production factors in generating value-addition is constantly evolving in an economy that is in transition to middle-income status. The human resources who bring about this progression must also adapt to it to be employable in the changed scenario. The global labour market is amid a 'disruption' continuously due to many factors such as adoption of Artificial Intelligence (AI), Fourth industrial revolution, shift towards gig economy, climate change and green energy transition. We shall analyse these factors below briefly-

1. ***Fourth Industrial Revolution:*** Epochal changes in the economic structures manifested by three Industrial Revolutions (IR), starting from the 18th century, have caused technological disruption and significant job displacement. Each IR caused a significant loss of livelihood for workers whose tasks were most susceptible to automation and those who could not quickly adapt to new technology. People had to continuously upgrade their skill set to maintain their position in the labour markets. The world and so is India going through a technological revolution with evolving forms of machine learning, AI, blockchain, genetic engineering, quantum computing, etc are in the realm. The demand for digital roles is proliferating, technological advancements are leading to a growing demand for tech-savvy individuals trained in emerging areas such as big data, AI and machine learning, cybersecurity, etc. According to WEF in the next five years the fastest growing jobs will be in these fields
2. ***Adoption of Artificial Intelligence:*** The biggest disruption for the future of work is the accelerated growth in AI, AI is becoming a general-purpose technology like electricity and the internet. As AI is continuing to grow, the future work will be reshaped in many areas. AI may not be able to replace labour since it is not as Cost effective as human labour. In inventory and supply chain management, AI applications would rather be complementary to labour. Nevertheless, at particular risk is the BPO sector, where GenAI is revolutionising the performance of routine cognitive tasks through chatbots, employment in the sector is estimated to decline considerably in the next ten years. In the following decade, however, gradual diffusion of AI is expected to augment productivity. Routine tasks including customer service are also likely to witness a high degree of automation. India, with its vast demographic dividend and a very young population, is uniquely situated as AI poses

both risk and opportunity. According to Capital Economics (2024), the current diffusion and adaptation of AI in India remains low compared to US, Europe, and the developed Asian economies. Given the affinity of India's population to work with technology, as seen with the digital public infrastructure, proactive interventions by the Government and industry can position India as a key player in the AI age. Employees or job seekers would need skills beyond communication, collaboration, and presentation, such as analytical thinking and innovation, complex problem solving, critical thinking, etc to face the AI challenge.

3. ***Shift towards gig economy:*** Another change in the market scenario has been the rise of gig economy globally, it encompasses freelancers, online platform workers, self-employed and creative tech talent. In India, the rise of the gig economy is driven by the emergence of tech-enabled platforms, an increase in access to the internet backed by the development of digital public infrastructure, the demand for flexible work arrangements, and the focus on skills. According to NITI Aayog's indicative estimates based on national labour force survey data, in 2020–21, 77 lakh (7.7 million) workers were engaged in the gig economy. They constituted 2.6 per cent of the non-agricultural workforce or 1.5 percent of the total workforce in India. While the gig economy may open up employment opportunities for various sections of workers, including youth, persons with disabilities, and women, a significant issue in the Indian context and globally has been the creation of effective social security initiatives for gig and platform workers.
4. ***Climate change and green energy transitions:*** With climate change being a hard reality of the present times and projection pointing towards an increase in frequency and intensity of weather events, the outcome will be a possible loss of jobs and productivity. According to the International Labour Organization (ILO) due to continuous increase in temperature worldwide 136 million full time jobs will be lost and there will be economic loss of \$2,400 billion. India is one of the most vulnerable countries to productivity losses, given its high share of agricultural and construction employment and location within the tropical latitude. Another aspect of climate change is the efforts to mitigate its impact by adopting green technologies and transitioning to greener energy alternatives. This trend is leading to businesses witnessing a strong job-creation effect driven by investments that facilitate the green transition of businesses and the application of ESG standards. For instance, India's

green transition is and is more likely to significantly impact job opportunities in the renewable energy sector.

Conclusion: The Way Forward

In the Indian context, to make the labour force employable, the government of India is laying emphasis on skill development presently. To achieve this target, National Policy on Skill Development focuses on improving quality, quantity, access and outreach of training. Different innovative measures have been followed to reach the difficult areas. Some of the examples are in terms of virtual classrooms, mobile vans, simulation based etc. There are 23 Central Ministries, which are engaged in skill development. There are general programmes, group-specific and region specific, for enhancing the employability of the youth. The National Skill Development Agency has been mandated to monitor the progress of skilling in the country, operationalise the National Skill Qualification Framework, which facilitates both horizontal and vertical mobility and makes skill aspirational among the prospective trainees. Also, students are provided scholarships and other facilities, particularly in the remote areas. Further, through sector skill councils an attempt is made to link training with the industry requirement.

The Government is also working to expand access to education and vocational training for workers in the countryside, including rural broadband networks to connect remote areas with educational opportunities and also using Common Service Centres at the Panchayat level for training. In addition, there is an urgent need to speed up the setting up of the Sector Skills Councils and putting in place the National Occupational Standards to make the National Skill Qualification System operational. This would facilitate modification of curriculum in tune with the industry's requirement. There also needs to be an organised and scientific system in place to provide labour market information in terms of supply-demand position in the labour market to guide the labour and training policies, training providers, prospective labour force and the employers.

To sum up, the employment situation in India has experienced a positive transformation over the last decade. The approach may take some time to bear results, but with steadfast efforts and good intentions, it will facilitate sustainable employment creation for everyone in the country.

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INDIAN BANKING SECTOR: FROM DOOM TO BLOOM

- *Nikita Gope*

2nd year, PG

Abstract

India's banking sector is witnessing a significant growth after suffering from asset quality concerns, regulatory scrutiny and economic slowdown for nearly a decade. With the rising incidence of bad loans and a severe demand constrained recession in the pandemic, the economy faced a particularly tough challenge in the last few years. However, the revival thereafter and in the last year is remarkable. The soundness and resilience of India's banking sector have been underpinned by ongoing improvements in asset quality, enhanced provisioning for bad loans, sustained capital adequacy, and a rise in profitability. Credit growth remains robust, mainly driven by lending to services and personal loans. The Indian banking sector underwent a remarkable transformation, marking a pivotal moment in its trajectory. This article analyses the poor position of banking in terms of its indicators in the last decade, its growth and revival in recent years, the shortcomings that need to be worked out and upcoming future opportunities.

JEL Classification

G21, G23, E58, E42

Introduction

Banks play a vital role in the Indian Economy because the banking industry handles finances in the country including cash and credit. The main function of the banks is to accept deposits from the public and grant credit to those who need some extra money for short-term as well as long-term requirements. The banking sector plays an important role in efficient functioning of the economy of the country. In 2023-24, the Indian banking sector underwent a remarkable transformation, marking a pivotal moment in its trajectory. The previous year saw a resurgence characterised by declining bad loans, improved profitability and bolstered capital position, setting a robust foundation for future growth. The net-non performing loans (net NPL) has declined to decadal lows. Profit soared, witnessing an aggregate increase of 38.4% with public sector banks. Asset quality improvement underscored the sector's focus

effort in risk management and debt recovery. However, challenges loom on the horizon. Global economic volatility remains a concern, potentially impacting export-oriented industries and loan repayment capabilities. Sectors like MSMEs and agriculture continue to face stress demanding targeted interventions for resolution. Additionally, the increase in reliance on technology exposed banks to heightened cyber security threats urging stringent security measures.

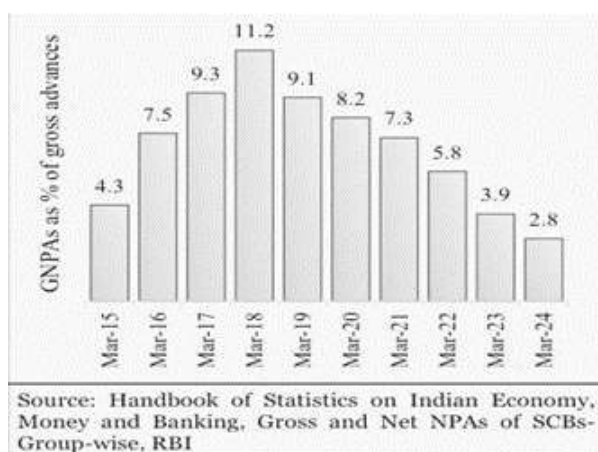
Analysis

1. Credit Growth and Capital Adequacy Ratio (CRAR) - Bank credit growth has sustained momentum during FY-24 credit disposal growing by 20.2% at the end of March 2024 compared to 50% growth in the previous year, agriculture credit had increase nearly 1.5 times from 13.3 lakh crores to 20.7 lakh crore in FY2, in last three years. Industrial credit registered 8.5% growth in March 2024 compared to 5.2% a year ago, the boost in credit in MSME's is due to collateral free loans with a 100 percent credit guarantee under emergency credit linked guarantee scheme, introduction of trade receivables discounting system -a digital platform that facilitates the discounting of MSME trade receivables (98.9 lakh invoices amounting to 2.9 lakh crore rupees have been discounted), registration of MSME on UDYAM portal launched on 1 July, 2020 an essential enabler for ease of doing business as it is free of cost simple and online. Financial development parameters should not only be sound, but also ensure the system's financial stability as a whole. This requires indicators such as Capital to Risk (Weighted) Assets Ratio (CRAR), liquid assets to deposits, and short-term credit to be within manageable limits. As SCBs(Scheduled Commercial Bank) bolstered their capital base by capitalising reserves from higher profits and raising fresh capital, their CRAR increased to 16.8 per cent at the end of March 2024.

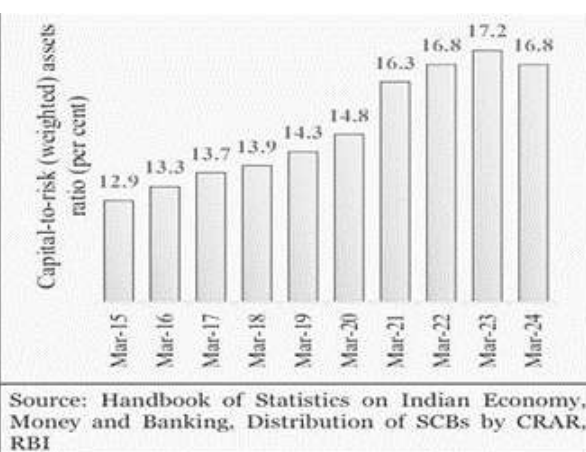
2. Decadal Low GNPA (Gross Non- Performing Asset) Ratio And Capital Adequacy Ratio (CRAR) - There has been significant enhancement in the asset quality of banks. The Gross Non- Performing Asset (GNPA) ratio continued its downward trend reaching a 12 year low of 2.8% at the end of March 2024 from its peak of 11.2% in FY-18. The RBI basic statistical returns reveal that as of March 2024, 56.9% of India's deposit are with public sector banks and 61.1% of total deposits are owned by household for the top 10 Indian banks in asset size, loan constitute more than 50% of their asset making banks immune to the rising interest rate cycle. Banking regulations provide for monitoring and timely identification of stressed assets

by FY 2023-24. The insolvency and bankruptcy code, 2016 IBC code supported the government's approach towards financial inclusion with protection. Resolution process has led the debt to settle with creditors as soon as the applications are filled with NCLT. This change in data behaviour has been a big boon for banks and other lending institutions.

Decline in GNPA of SCB's



CRAR above the required norms



Financial development parameters should not only be sound, but they also ensure the system's financial stability as a whole. This requires indicators such as Capital to Risk (Weighted) Assets Ratio (CRAR), liquid assets to deposits, and short-term credit to be within manageable limits. As SCBs bolstered their capital base by capitalising reserves from higher profits and raising fresh capital, their CRAR increased to 16.8 per cent at the end of March 2024.

3. Expanding banking - The government has priorities delivering financial services to the last mile. The number of adults with an account in a former financial institution increased from 35% to 77% in the last 13 years. The percentage of adults saving and borrowing from financial institutions has increased. There is a decline in the excess gap between the rich and the poor.

India's performance across indicators of financial inclusion.

S.No.	Indicators of Financial Inclusion	2011	2021
1.	Adults with an account at a formal financial institution (% age 15+)	35	77
2.	Made or received a digital payment (% age 15+)	22*	35
3.	Borrowed from a formal financial institution, older (% age 15+)	8	12
4.	Account, poorest 40% (% age 15+)	27	78
5.	Account, richest 60% (% age 15+)	41	77
6.	Account, female (% age 15+)	26	78
7.	Account, male (% age 15+)	44	78
8.	Youth (age 15-24 years) made or received digital payment	19*	30

Source: World Bank's Global Financial Inclusion Database

Note: *data is for 2014, as data for 2011 is not available

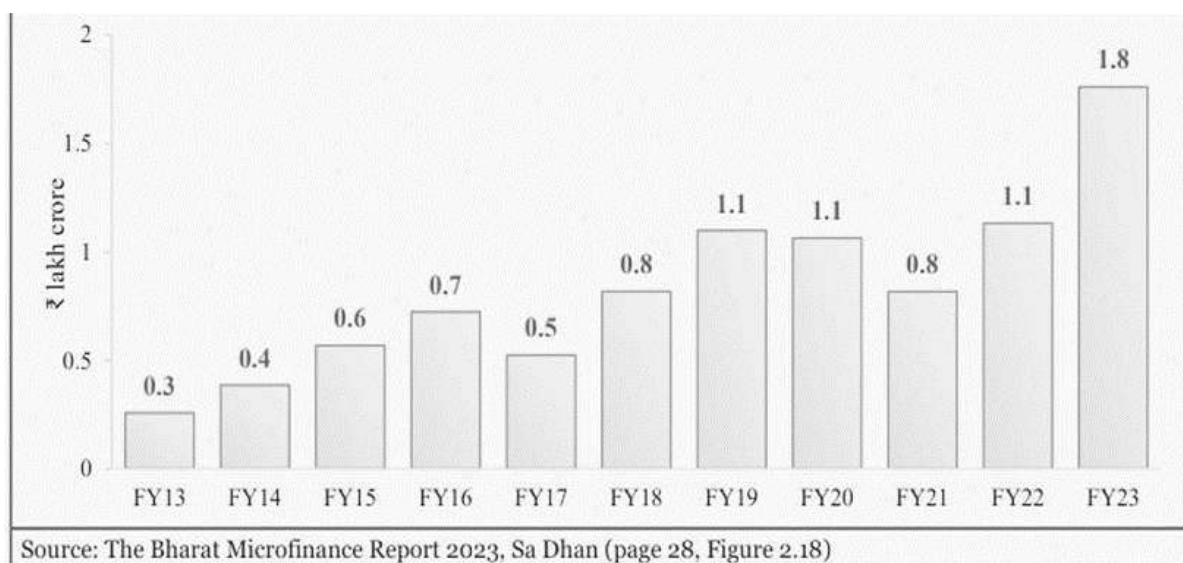
4. Net Profit and Risk Management - India's banking sector has achieved a milestone, with its combined annual profit surpassing ₹3 lakh crore for the first time. The total net profit of listed public sector as well as private sector banks in FY24 jumped 39% year-on-year (YoY) as per government data, public sector banks have reported a profit of ₹1.41 lakh crore in FY24. The primary drivers for the increase in net profit for public sector banks are treasury gains and reduced NPAs. Generative AI is being recognized widely as a path breaking innovation for the banking sector which holds the potential to redefine customer experience, boost efficiency, and provide access to unprecedented frontiers of doing business.

5. Digital Financial Inclusion (DFI) - Digital financial inclusion involves arranging cost effective digital means to reach currently financially excluded citizens with the range of former financial services suited to their needs while majors were a foot towards digitization of financial services in India. The COVID 19 pandemic exposed the citizens to the creation of UPI such as Aadhar, e-KYC, UPI, Bharat QR, DigiLocker, e-sign, open market for digital commerce, etc. An increase in digital financial inclusion in payment led to a 2.2% rise in average economic growth likely driven through the consumption channel.

6. Micro Finance Institutions - Microfinance are the non-banking financial institutions that provide loans to mainly women and weaker sections. The New Regulatory Framework for Microfinance Loans, issued by the RBI for the microfinance sector ensures that all entities operating in the microfinance space are subject to the same regulations. 213 MFIs operate in

India as of FY 2023-24 with a branch network of 25,790, engaging 2.2 lakh employees. Women constitute 98 per cent of the total clients. Disbursement of loans by MFIs recorded steady growth throughout, except COVID-19 pandemic. From the last year, the microfinance sector bounced back strongly, achieving an aggregate disbursement of ₹1.8 lakh crore, 55 per cent higher than the previous year.

Rise in loan disbursement by MFI



Conclusion

Close to seven years ago, plenty of Indian lenders were grappling with the issue of bad loans and poor regulation. RBI implementation of 4R strategy—Recognize NPAs, Resolution and recovery, Recapitalization of PSBs, and Reforms in the financial ecosystem brought transformation. The reforms undertaken by the government addressed credit discipline, ensured responsible lending, improved governance, technology, amalgamation of banks, and general confidence of bankers was maintained. But the Government must focus on these areas :

- Maintain CRAR to ensure the bank's stability.
- Emerging fraudulent activities, the major reason of which is delay in occurrence and detection.
- MFI charges a comparatively higher interest rate which worsens the customers. The problem of over indebtedness must also be looked into.
- Encourage lending to MSMEs, agriculture housing, etc.

While celebrating the current success of the banking sector, it is crucial to adopt a proactive and vigilant stance to navigate the complexities and uncertainties of the times we live in.

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EMPOWERING WOMEN, EMPOWERING INDIA: EDUCATION, GOVERNANCE AND EMPLOYMENT IN RESURGENT INDIA

- *Abhilasha Bhattacharya*

2nd Year, PG

Abstract

A paradox persists, despite significant advancements in higher education enrollment and literacy rates among Indian women. Women's representation in the workforce and governance remains dismally low. This study investigates the relationship between women's higher education enrollment, literacy levels, and their representation in governance and the workforce in resurgent India. Rising GER among women, surpassing men in the 18-23 age group (AISHE 2019), low workforce participation despite increasing literacy and higher education enrollment and underrepresentation in governance, with only 14.36% women in the Lok Sabha (2020) are the key statistics highlighting the issue. This research aims to explore the gap between women's education and their empowerment in the workforce and governance, questioning whether current efforts are yielding the intended results. By examining the complex relationships between education, workforce participation, and governance representation, this study seeks to inform policies and interventions that can truly empower Indian women.

JEL Classification

I2, I15, I23, I24, I25, J16

Objectives

- To analyse the empowerment of women of all classes in Resurgence of India.
- To establish the relationship between the literacy level, gross enrolment of women in higher education and their representation in governance and workforce.

Introduction

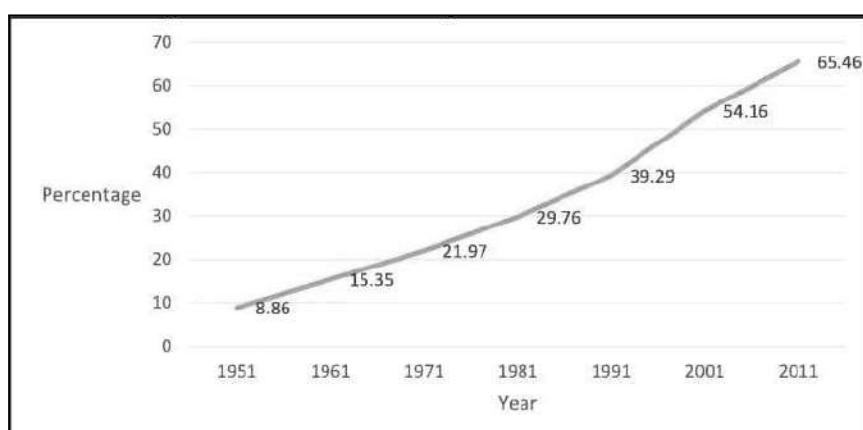
“There is considerable evidence that women’s education and literacy tend to reduce the mortality rates of Children.” -Amartya Sen

India's higher education system has transformed from elite to mass, with diverse programs and increasing demand from disadvantaged groups and women. As more women complete secondary schooling, they are driving the transition to higher education. Women's education is key to empowerment, socio-economic improvement, and better health outcomes. Government initiatives have successfully increased women's enrolment in education, aiming to enhance their living standards and participation in the workforce and governance. This study examines the relationship between women's education and their representation in India's decision-making bodies, including parliament, legislatures, and local governance, to understand how education impacts their voice and representation.

Female Literacy Rate Dynamics in India

The female literacy rate in India had increased from 8.86% in the year 1951 to 65.46 % in the year 2011, a whopping increase of 638%. Even though this is a substantial increase, India is still lagging behind the global female literacy level of 80.33% in the year 2011. As per the latest census data (Census, 2011), there is a gap of 16% between male and female literacy rates in India. (Economic Survey, 2023-24)

Figure 1: Trends in female literacy rates in India

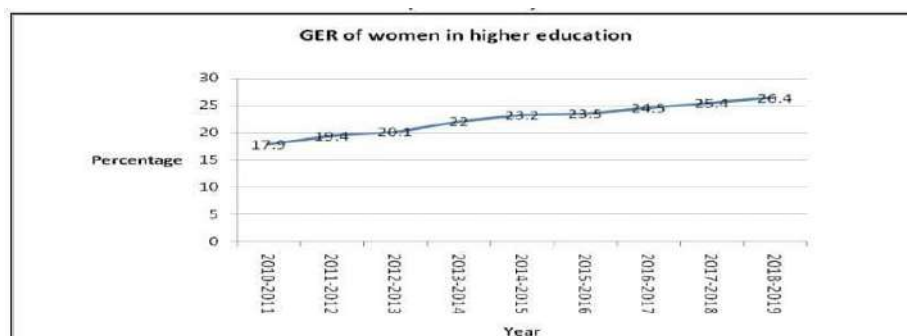


Source: census.gov.in

Figure 2: Gap Between Male And Female Literacy Rates In India

Census – Year	Male – Literacy Rate	Female – Literacy Rate	Gap
1951	27.16	8.86	18.3
1961	40.4	15.35	25.05
1971	45.96	21.97	23.99
1981	56.38	29.76	26.62
1991	64.13	39.29	24.84
2001	75.85	54.16	21.69
2011	82.14	65.46	16.68

[Source: census.gov.in]

Figure 3: Trends in Gross Enrolment Ratio of Women in Higher Education in India (2010 – 2018)

[Source: Based on AISHE reports]

Figure 4: GER of Men and Women in Higher Education in India (2010- 2018)

Year	Men	Women	Gap
2010-2011	20.8	17.9	2.9
2011-2012	22.1	19.4	2.7
2012-2013	22.7	20.1	2.6
2013-2014	23.9	22	1.9
2014-2015	25.3	23.2	2.1
2015-2016	25.4	23.5	1.9
2016-2017	26	24.5	1.5
2017-2018	26.3	25.4	0.9
2018-2019	26.3	26.4	-0.1

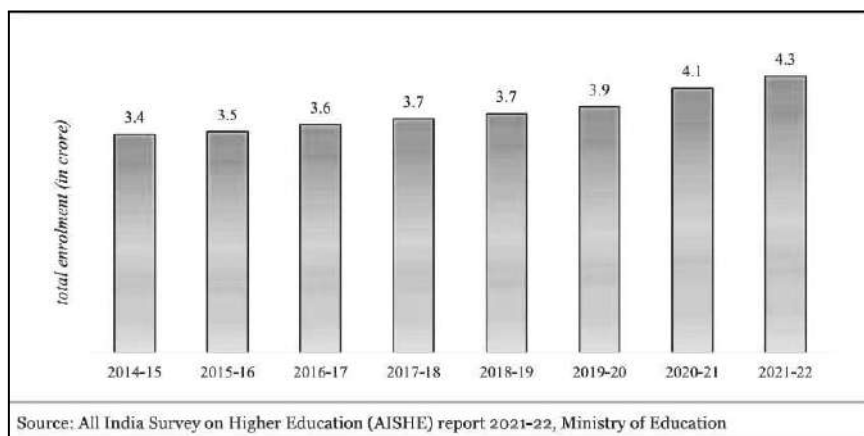
[Source: Based on AISHE reports.]

The GER of women in higher education has surpassed that of men in the year 2018-2019. This trend should actually increase the avenues of job opportunities for women. (Ministry of Statistics and Programme Implementation, Government of India)

Fostering Equity In Higher Education

The higher education sector, comprising tertiary and post-school learning in universities and other institutions, has witnessed an acceleration in total enrolment coupled with rising ‘enrolment equity’ over the past eight years. As per AISHE 2021-22, total enrolment in higher education has increased to nearly 4.33 crore in FY22 from 4.14 crore in FY21 and 3.42 crore in FY15 (an increase of 26.5 per cent since FY15). (All India Survey of Higher Education [AISHE] Reports)

Figure 5: Total students’ enrolments in higher education



AISHE Report 2021-22 highlights a significant rise in higher education enrolment among underprivileged sections (SC, ST, OBC) with faster growth in female enrolment.

Key trends:

- Total enrolment increased from 3.4 crore (2014-15) to 4.3 crore (2021-22)
- Female enrolment rose by 31.6% from 1.57 crore (2014-15) to 2.07 crore (2021-22)
- Growing equity in higher education leads to better employment opportunities for backward sections.

Figure 6: Enrolment In Higher Education From Various Categories**(Numbers In Lakhs)**

	2014-15	2021-22
All	342	433
All Female	157	207
SC	46.1	66.2
SC Female	21	31.7
ST	16.4	27.1
ST Female	7.5	13.5
OBC	113	163
OBC Female	52.4	78.2
Source: AISHE 2021-22, Dept. of Higher Education, Ministry of Education		

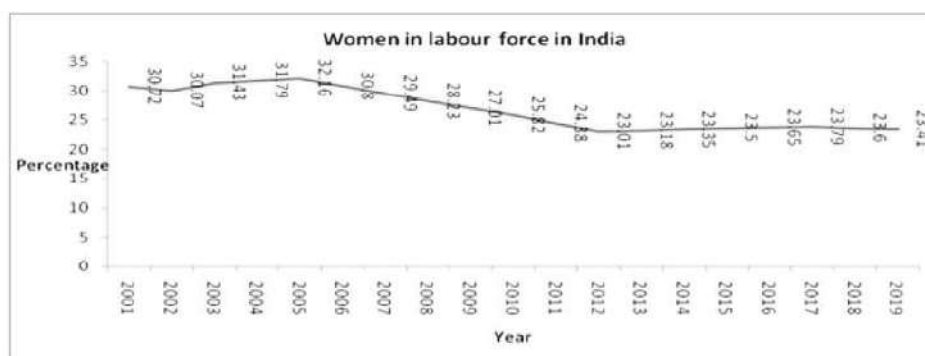
Enrollment data shows a significant increase in female participation in higher education among marginalised communities:

- SC females: 45.5% (2014-15) to 47.88% (2021-22)
- ST females: 45.73% (2014-15) to 49.81% (2021-22)
- OBC females: notable rise

Overall, female enrollments in higher education are increasing rapidly, leading to improved female literacy rates, especially among India's backward communities.

Women's Empowerment In The Indian Workforce

"India faces a concerning decline in women's workforce participation, with only 23.6% of women aged 15+ in the labour force, compared to 78.6% of men. Despite rising higher education enrollment and literacy, women's workforce participation is decreasing. The gender gap persists in STEM (Science, Technology, Engineering and Math) careers, with women holding only 13.7% of senior/middle management positions and 35% of tech industry jobs, highlighting a need for targeted initiatives to bridge this gap.

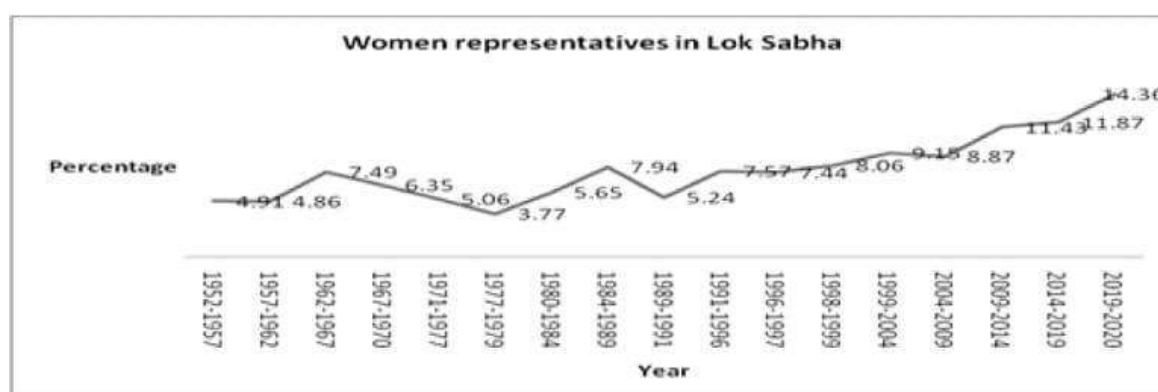
Figure 7: Trends in female participation in the Indian Workforce

[Source of data: Labour force participation rate, female (% of female population ages 15+) (modelled ILO estimate), India]

We can analyse from Figure 7 that the women participation in the Indian workforce has a major fall from 30.72% in the year 2001 to 23.41% in the year 2019.

Women in the Indian Parliament

The Indian Parliament is the supreme legislative body of India. Women's representation in the Indian Parliament is crucial for a resurgent India. Droupadi Murmu, India's 15th President, creates history in the resurgent India as the first tribal leader, second female President, and youngest person to take the office in 2022.

Figure 8: Trends in Women Representation in Indian Lok Sabha

[Source: loksabha.nic.in]

Lok Sabha is the lower house of the Indian Parliament. India's Lok Sabha has seen sporadic increases in female representation, with a steady rise every five years since 2009. However, 10 states have no female representatives, despite high literacy rates, indicating that literacy doesn't necessarily translate to political representation. Even in top-performing states like Kerala, Goa, and Uttar Pradesh, women's representation in legislatures remains low, at 5.71%, 5%, and 9.42% respectively, highlighting a persistent gender gap in governance. (Lok Sabha, National Portal of India)

Figure 9: Women In Panchayat Raj Institutions– State Wise Representation

Sl.No	State/Union Territory	Total number of elected representatives	Total number of elected women representatives	% of women elected representatives
1	Andhra Pradesh	156050	78025	50
2	Arunachal Pradesh	9383	3658	38.99
3	Assam	26820	13410	50
4	Bihar	127391	57887	45.44
5	Chhattisgarh	170285	93287	54.78
6	Gujarat	144016	71988	49.99
7	Haryana	70035	29499	42.12
8	Himachal Pradesh	28723	14398	50.13
9	Jammu & Kashmir	33847	11169	33
10	Jharkhand	60782	30757	50.6
11	Karnataka	104967	50892	48.48
12	Kerala	18372	9630	52.42
13	Madhya Pradesh	392981	196490	50
14	Maharashtra	240122	121490	50.6
15	Manipur	1723	868	50.38
16	Mizoram	3502	828	23.64
17	Odisha	107487	53551	49.82
18	Punjab	97180	32393	33.33
19	Rajasthan	124854	70527	56.49
20	Sikkim	1096	548	50
21	Tamil Nadu	117599	39975	33.99
22	Tripura	6646	3006	45.23
23	Telangana	103468	51735	50
24	Uttarakhand	64606	35957	55.66
25	Uttar Pradesh	826458	272733	33
26	West Bengal	59402	30157	50.77
27	Dadra & Nagar Haveli	136	47	34.56
28	Daman & Diu	172	92	53.49
29	Goa	1564	516	32.99
30	Chandigarh	169	58	34.32
31	Lakshadweep	110	41	37.27
32	A & N Island	858	302	35.2

[Source: Basic Statistics of Panchayat Raj Institutions, 2019]

The local self-government system in India is referred to as Panchayati Raj. 44.37 % of elected representatives in Panchayati Raj institutions are women. One third of the seats in Panchayati Raj Institutions (PRIs) are reserved for women by article 243D of the Indian Constitution. Reservation of seats ensured at least 33% of women's representation in PRI's.

Conclusion

Despite rising female literacy and higher education enrolment, Indian women's workforce and governance participation remains low. To address this, policy changes and support

systems are needed for work-life balance and mobility. Quotas in local governance show promise, but effectiveness varies. Implementing quotas in central and state legislation can improve representation, but meaningful participation requires prioritising policies and initiatives that promote women's inclusion and gender equality.

Policy Suggestions

- ***Equal Pay:*** Enforce equal pay for equal work, eliminating the gender pay gap.
- ***Flexible Work Arrangements:*** Offer flexible schedules, telecommuting, and parental leave to support work-life balance.
- ***Mentorship Programs:*** Pair women with mentors for career guidance and support.
- ***Training and Development:*** Provide training opportunities to enhance skills and career advancement.
- ***Zero Tolerance for Harassment:*** Implement policies and procedures to prevent and address sexual harassment.
- ***Quotas or Targets:*** Set quotas or targets for women's representation on boards and in leadership positions.
- ***Leadership Development:*** Provide training and development opportunities for women to take on leadership roles.
- ***Inclusive Decision-Making:*** Ensure women's voices are heard and valued in decision-making processes.

Some additional policies include offering childcare support or resources to help women balance work and family responsibilities, foster an inclusive culture that values diversity and promotes equal opportunities and help create a more inclusive environment, address systemic barriers, and promote women's participation and leadership in the workforce and governance.

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RESURGENT INDIA: JOURNEY OF INDIAN PHARMA

- *Debanshi Burman*

2nd year, PG

Abstract

Every other country in the world pharmaceutical market is broadly classified into one of the two headings of innovator or generic producer of medicines. The former is preoccupied with bringing in new medicines or even treatments of various diseases in the world but India has in recent years become a part of the latter. With the presence of an active product base which covers everything ranging from generic drugs, bulk drugs, over the counter drugs, vaccines, biosimilars and biologics India has a strong presence in the global level also getting known as the “Pharmacy of the World” because it is able to present the aforementioned at lower costs than most of the developing countries. We in this paper shall observe the trends in exports and imports and how the Indian government with the help of FDI is able to decrease the dependency of the country on imports.

JEL Classification

I11, I18, O24

Introduction

The Covid-19 induced demands for a solution to a communicable disease decades after the world had got rid of mostly all the known communicable ones. Almost all pharmaceutical markets of the world were quite unprepared in terms of resources to fight against this critical disease. However, the Indian Pharmaceutical Market boomed during this time and turned into a trade point for drugs and intermediates. Under Atmannirbhar Bharat 3.0 the Government of India (GOI) was able to accelerate the development and production of the indigenous Covid vaccine “COVAXIN”. Thus, the sudden spurt of growth was showing a 200% increase from the previous year of 2019-2020. It was the time when India succeeded in generating a trade surplus of US \$17.5 bn. There was a fantastic growth of foreign direct investments which was a result of investments required to meet the COVID-19 related demands for therapeutics and vaccines together.

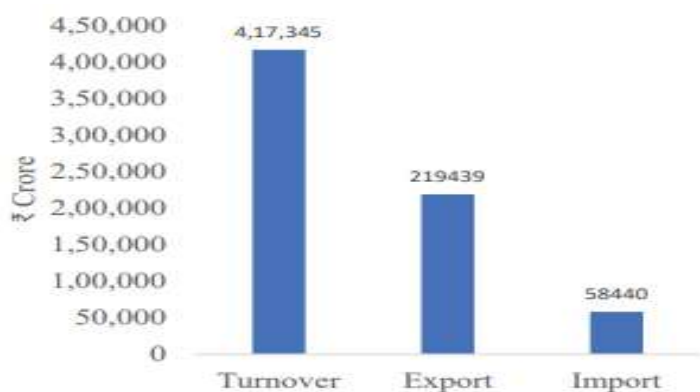
India's presence in the world's pharmaceutical market has been remarkable and is currently valued at USD 50 billion, it is the third largest in the world by volume alone and it has been so for roughly the past decade. "Pharmacy of the world" as it is often known, offers around 60k generic brands across 60 therapeutic categories and accounts for 20% of the global generic drug exports by volume. Unsurprisingly, eight out of the top 20 global generic companies are based in India alone.

As it is, the pharmaceutical sector also has high quality compliance, is responsible for production of 65% of WHO demand for DPT & BCG and again 90% of Measles vaccines. Over 55% of India's exports are in the highly regulated markets of developed countries like the USA, Germany, China, France and Singapore.

Indian pharma is one of the more prominent sectors that has shown positive growth consistently over the last few years. Thereby, the theme of resurgence needs to run its course through its feet and pick up a pace which will help with the realisation of the theme of Viksit Bharat @ 2047. All the current growth rates and the future forecasted ones of the various divisions show that the Indian Pharma has picked up momentum and will remain at an all-time high at least till 2030.

One of the downs is however to be mentioned and it is that India imported APIs (Active Pharmaceutical Ingredients) and bulk drugs worth Rs 37,700 crore in FY2024, accounting for 35 per cent of its total API requirement. Imports from China accounted for 70 per cent. And the imports from China have been taking place way before COVID-19 took place and India took to the spotlight of being a "Pharmacist to the world".

Figure 1: Turnover, Export And Import Of Pharma Sector In Fy24.



Source: Department of Pharmaceuticals

Government in Pharmaceutical Sector

There are four Central Sector Schemes, namely:

- (a) Pradhan Mantri Bhartiya Janaushadhi Pariyojana (PMBJP)
- (b) Consumer Awareness, Publicity and Price Monitoring (CAPPM)
- (c) National Institute of Pharmaceutical Education & Research (NIPER)
- (d) Development of Pharmaceutical Industry, an Umbrella Scheme.

All these schemes comprise of sub-schemes which can be named as follows: Product Linked Incentive (PLI) scheme for promotion of domestic manufacturing of Key Starting Materials (KSMs) / Drug Intermediates (DIs) / Active Pharmaceutical Ingredients (APIs); Promotion of Bulk Drugs; PLI scheme for Promoting Domestic Manufacturing of Medical Devices; Pharmaceutical Technology Upgradation Scheme (PTUAS); Assistance to Pharmaceutical Industry for Common Facilities (API-CF); Pharmaceutical Promotion and Development Scheme (PPDS).

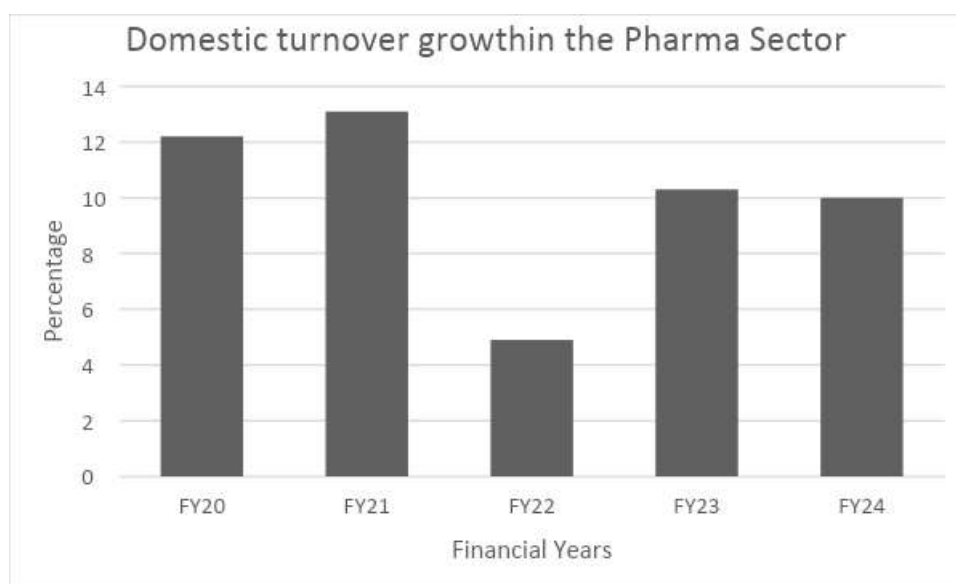
Three PLI Schemes to boost Manufacturing Capacity in Pharmaceutical Sector

Critical KSMs/DIs/APIs	Medical Devices	Pharmaceuticals
• Tenure: FY21 to FY30 • Outlay: ₹6,940 crore • Progress: Until Dec 2022, 51 applicants approved with committed investment of ₹4,138.4 crore. • Employment: Estimated employment generation from 51 projects is 10,598 persons. • Financial incentive: NA	• Tenure: FY21 to FY28 • Outlay: ₹3,420 crore • Progress: Until Dec 2022, 21 applicants approved with committed investment of Rs 1,058.97 crore. • Employment: Estimated employment generation from 21 projects of around 6,411 persons. • Financial incentive: The financial incentive at the rate of 5 per cent on incremental sales of medical devices for 5 years.	• Tenure: FY21 to FY29 • Outlay: ₹15,000 crore • Progress: Until June 2022, 55 applicants approved with actual investment of Rs 18,669 crore. • Employment: Estimated employment generation from 55 projects : 20,000 direct and 80,000 indirect jobs. • Financial Incentive: on incremental sales under various categories at varying rate over the years ranging from 10 per cent to 3 per cent.

Source: Department of Pharmaceuticals

Another council which is involved is Pharmaceutical Export Promotion Council (PHARMEXCIL) has been actively organising and participating in events (fairs, conferences, BSMs, etc.) on a regular basis. PHARMEXCIL continued to support the fraternity of pharmaceutical companies by organising webinars and virtual events with countries like: Thailand, Mexico & Colombia, UAE, Laos, KSA & Oman, Kingdom of Bahrain, Indonesia, Germany and Brazil.

The domestic turnover rate in pharmaceutical sector FY2020-FY2024



Source: Department of Pharmaceuticals

FDI in Pharmaceutical Sector

FDI (Foreign Direct Investment) in the Indian context, is defined as investment by a non-resident residing outside India, in the capital of an Indian company under schedule 1 of FEM (Foreign Exchange Management) Regulations, 2000.

FDI is able to enter an industry in one of the three ways, that follow:

- i) A green field investment, when a company establishes a subsidiary in the host country to begin its own production.
- ii) A brown field investment involves the purchase of an existing plant/firm rather than construction of new plants.
- iii) Joint venture is an equity and management partnership which is between a foreign firm and a local entity in the host country's market.

Routes of FDI in Indian Pharmaceutical Industry

According to the guidelines by Reserve Bank of India (RBI), FDI in the pharmaceutical industry is permitted by one of the following two routes:

- 1) **Automatic route:** This does not require any prior approval either by the GOI or the RBI. Under the existing policy, FDI is permitted up to 100% for the Greenfield investments.

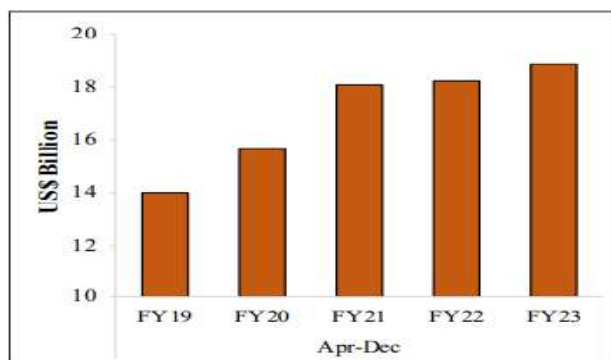
- 2) **Prior Government Approval route:** In this FDI proposals are time bound and taken into consideration by the Foreign Investment Promotion Board (FIPB) belonging to the Department of Economic Affairs, Ministry of Finance (till May, 2017) now undertaken by the Department of Pharmaceuticals, presently. Here also, 100% FDI is permitted for investment in existing companies i.e., Brown field projects.

Factors responsible for Constant Flow of FDI in Pharmaceutical Sector

- Increase in domestic demand:** Availability of better basic medical facilities, rising literacy levels and general growth in awareness of the public is causing use of medicines to see a sharp incline.
- Rise in outsourcing activities:** Factors that influence clinical data management and biostatistics market in India include: cost efficient research; high skilled labour base; cheaper cost of skilled labour; robust growth in the IT industry and presence in end-to-end solutions across drug development spectrum.
- Growth in healthcare financing products:** Development of healthcare financing with introduction of health insurance policies, cashless claims and life insurance policies have resulted in rise of healthcare expenditure which in turn has benefitted the pharmaceutical industry.
- Demand in generics market due to patent expiries:** Many prescription drugs, go off patent from time-to-time prior experience of Indian pharmaceutical companies would allow them to compete in the world market with ease.

Strong Growth In Pharmaceutical

FDI In The Exports



High Inflow Of

Pharmaceutical Sector



Source: DGCI&S and DPIIT

Challenges Faced

The problems faced by the Indian Pharmaceutical market can be listed as follows:

1. Lack of cost-effective options to manufacture all APIs domestically, even as domestic infrastructure and R&D capabilities have improved in recent years.
2. The next phase of growth requires skill advancement, better use of innovation and technology.
3. Lack of time driven regulatory infrastructure.
4. Poor SME base for high end manufacture.
5. There is a vicious need of establishing a stronger supply chain.

Policy Suggestions

1. Reducing import dependence on critical APIs.
2. Creation of world class Common Infrastructure Facilities that will bring down manufacturing cost of bulk drugs and improve India's competitiveness and drug security.
3. Faster clearances on clinical trials undertaken for uncommon and rare drugs, which have already been approved by several other developed countries.
4. Reducing rigidity on communication to foster better knowledge exchange and collaboration in areas of research particularly by including Tier 2 and Tier 3 institutions.
5. Better knowledge sharing amongst government bodies to promote innovation to be able to turn it into coordinated joint research in strategic areas.

Conclusion

India's government has been undertaking many schemes and policies to overcome the dependence on the imports of a single country. Also, the PLI schemes for medical devices are showing a positive impetus which is observable by the decreasing gap between exports and imports of medical devices, fermentation of APIs/ DIs, etc. whose production has already begun in the country. FDI promotion still has a vital role to play which it can by engaging more of the Indian pharmaceutical companies in joint ventures with the foreign pharmaceutical companies.

It is important for the realisation of Viksit Bharat @ 2047, to promote both innovation and production of generic drugs. Only then we can say that India is making a comeback in the industrial sector and enhancing the social benefits received.

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DIGITAL BANKING AND THE INDIAN ECONOMY

- *Aishani Saha*

2nd year, PG

Abstract

Digitalization has become the need of the hour. Digitalization had gained momentum post covid 19 especially in the banking sector. To stay competitive, banks must have a digital transformation plan. The era of tight controls followed by gradual liberalisation and reforms have resulted in the rapid growth of the multi fold development of this sector. This paper vividly discusses the sources and growth of digitalization of the banking sector including the impact of covid on digitalization on the banking sector.

JEL Classification

E44, F43, F65, G21

Introduction

“The Government of India is with the vision of transforming India into a digital economy and the banking sector plays a pivotal role in this transformation. Digital banking is not just a convenience, it is a necessity for inclusive growth.”

The banking system has always played an important role in the development of the Indian economy. India is one of the largest independent democracies, but also one of the emerging economic giants. Nowadays, people are totally dependent on technology and the internet to fulfil each and every need in the quickest and easiest way possible. Thus, this has led to digitalization of all fields and sectors. The buzzword in India now is to create a cashless economy. Digital banking service is a banking activity or service whose facilities use an electronic or digital system through the property of a bank. All commercial banks have adopted internet banking in one form or the other.

History Of Development Of Digital Banking In India

The history of digital banking in India can be traced back to the late 1990s and early 2000s, when the concept of online banking started gaining attention. Banks began to offer basic online services like balance inquiries and fund transfers. Real transformation began in the 2010s with the growth of smartphones and internet accessibility. Around 2010, mobile banking apps started emerging, allowing customers to perform various banking tasks through smartphones. Unified payment interface (UPI) was introduced in 2016, enabling digital and instant fund transfers between bank accounts through mobile applications. The government of India introduced initiatives like “Digital India” and “Jan Dhan Yojana” for further acceleration of the adoption of digital banking. By the mid 2010s, several fintech startups entered the scene, offering solutions for payments, lending and wealth management.

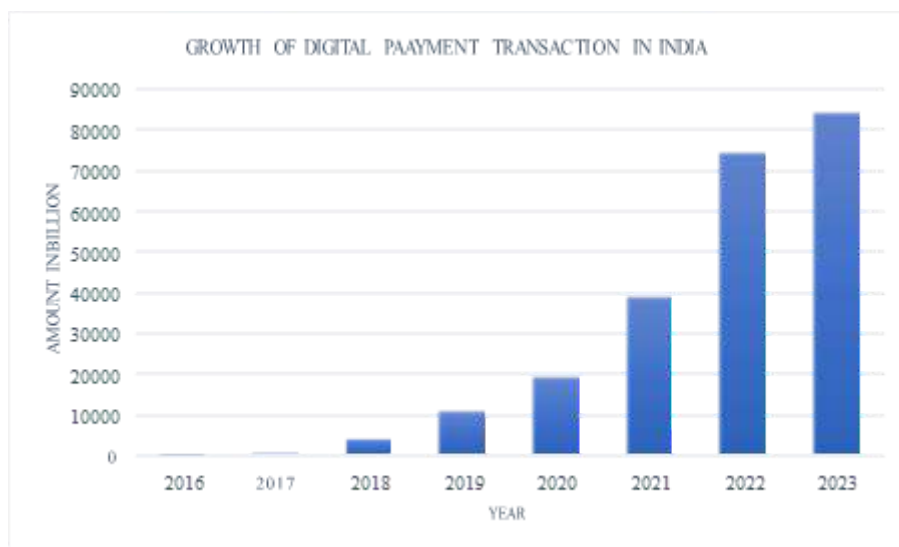
Sources Of Digital Banking

- ***Mobile banking applications:*** Many banks in India offer their own mobile banking apps that allow customers to access various banking services through smartphones.
- ***Internet banking:*** Banks provide banking services through websites, enabling customers to perform banking transactions online.
- ***Unified Payment Interface (UPI):*** UPI is a real time payment system which is developed by National Payment Corporation of India (NPCI) which facilitates instant fund transfers between banks through mobile devices.
- ***Point of Sale (POS) terminals:*** POS terminals at retail outlets and businesses enable card-based payments including credit cards/debit cards and contactless payments.
- ***National Electronic Fund Transfer (NEFT) & Real Time Gross Settlement (RTGS):*** These systems facilitate electronic fund transfer between banks for different transaction amounts. NEFT is a deferred settlement system suitable for small and big transactions while RTGS is a real time settlement system primarily used for high value transactions. The choice between NEFT and RTGS depends on the transaction amount, urgency and specific requirements of sender and receiver.

Growth of Digital Payment

Digital payments in India have grown at a rapid pace over the last few years. According to the report by RBI, the total value of digital payments in India has increased from ₹2070 billion in March 2016 to ₹4375 billion in March 2018, i.e. growth of 111%. The growth continued in subsequent years and the total value of digital payments reached ₹6207 billion in March 2018 and ₹8207 billion in March 2019. One of the main drivers of this growth has been the adoption of a unified payment system in India. According to the data of the National payment corporation of India (NPCI), the total number of UPI transactions grew from 0.9 million transactions in 2017 to 22.3 billion transactions in 2021.

Growth Of Digital Transactions In India Over Last Few Years



Source: NIC 2023

Apart from the statistics, the major reasons for the growth of digital banking are as follows:

- **Convenience and speed:** The most basic reason why one should opt for digital banking is because transactions have been reduced to a matter of seconds, be it paying bills, buying transport tickets etc.
- **Consumer safety and protection:** Along with proactive measures, there are redressal mechanisms that safeguard consumers in case of breaches. In case of frauds there can be chargebacks raised.
- **Financial gains:** To popularise digital payments, the government and payment

instruments are incentivizing customers through cashback schemes and discounts.

- **No financial leakages:** There are still many who are not very tech savvy, initiatives like direct benefit transfers and public distribution systems improve the point of traceability and help customers receive benefits without any leakage.

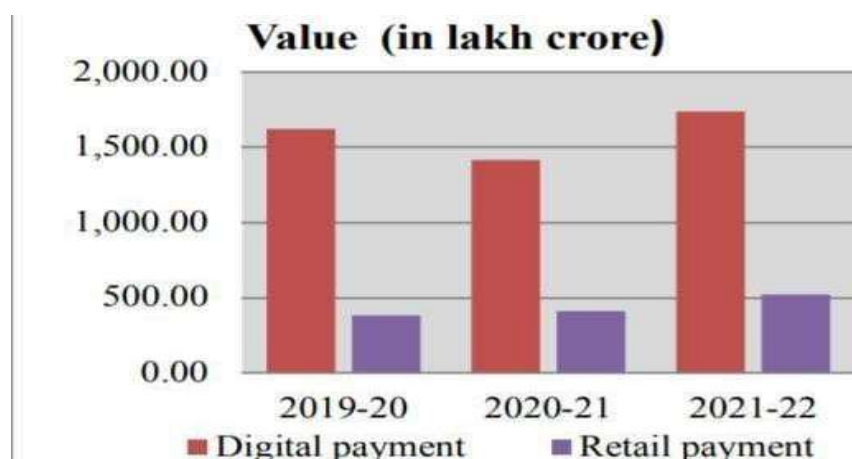
The best part of digital banking is that every transaction can be traced.

Impact Of Pandemic On The Growth Of Digital Banking In India

The COVID-19 pandemic has catalysed a significant transformation in the landscape of digital banking. During lockdown and social distancing, digital banking swiftly rose to the occasion, showcasing its resilience and convenience. Online banking, mobile apps, and digital wallets witnessed a surge in usage as individuals sought to manage their accounts and pay bills in the safety of their homes. Cybersecurity and data privacy gained importance during the pandemic.

The total volume of digital payments is far greater than that of retail payments.

Comparison Between Growth Of Digital Payments And Retail Payments



Source: Lockdown digital payment survey

Impact Of Digitalization On E-Commerce

One of the main ways digitalization has impacted the Indian economy is through e-commerce. According to a report by the Indian Brand Equity Foundation, the Indian e-commerce market is expected to reach \$200 billion by 2026. E-commerce in India has created new opportunities for businesses to reach customers and made products and services available to consumers. Digital platforms like Amazon and Flipkart have gained a foothold in the Indian market. For example, JioMart aims to connect small retailers with consumers through an online marketplace. Milkbasket and bigbasket are other players that have gained traction in the Indian market, offering online grocery shopping and home delivery services. Similarly, players like Blinkit and Dunzo provide quick delivery services. The increasing adoption of online payments has facilitated the growth of e-commerce in India. The Indian government has been actively promoting digital payments, and these initiatives have led to a significant increase in the use of digital payments in India, which has, in turn, contributed to the growth of e-commerce.

Conclusion

The impact of digitalization on India's economic growth cannot be overstated. E-commerce has experienced tremendous growth in recent years, driven by the increasing number of Indians with internet access; this sector has tremendous potential for continued growth. Digitalization has also significantly impacted the financial sector, facilitating online transactions. Adopting digital financial services has helped bring more people into the formal banking sector, improving financial inclusion and driving economic growth. Adopting digital technologies such as automation and robotics has helped increase manufacturing efficiency and productivity, enabling Indian manufacturers to compete more effectively in global markets. In addition, the government's "Make in India" initiative has encouraged foreign companies to invest in manufacturing in India. In recent years, digital technologies have made India an unattractive destination for investment. Though, there is also a need to address data privacy and security issues to ensure people can trust and use digital technologies confidently. Overall, the impact of digitalization on India's economic growth has been positive. Even so, more work needs to be done so that everyone can benefit from digitalization opportunities. By addressing the challenges and investing in digital technologies, India can continue to drive growth and improve citizen welfare.

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THE IMPACT OF ECONOMIC DEVELOPMENT ON INDIAN WILDLIFE – PRESENT SCENARIO & FUTURE POSSIBILITIES

- *Saheli Singha and Devansh Agarwal*

2nd year, PG

Abstract

The above topic revolves around how economic development really causes an adverse effect on wildlife and forest life. Nowadays, we observe that the tourism industry plays a vital role in the growth of any developing small open economy but the dark side remains as critical as ever, i.e., the human animal conflicts and loss of ecological balance through animal killings, animal poaching and excessive development. Even as our tourism industry is establishing rapidly, we see a number of human deaths and animal deaths both for many reasons such as humans disturbing animals for hunting. Thus, we really need some better measures to uplift the tourism industry as well as protect the gifted forests and the wildlife for a better ecological balance in near future.

JEL Classification

F63, F64, Q23, Q56, Q57, Q58, Z32

Introduction

India, the fifth-largest economy by “Nominal GDP” and the third-largest by “PPP” on a Per Capita Income (PCI) basis is still a developing economy and the home to millions of species. India is still trying to achieve the desired amount of economic growth to make her economy a completely developed one. However, there is a basic difference between “Economic growth” and “Economic development”. In the process of achieving high economic growth through increase in GDP, India has also accelerated environmental issues and situations of wildlife

throughout the years. But in recent years, the situation has deteriorated and it impacted the wildlife adversely. This article examines the overall impact of economic development on the biological world throughout the years and their economic importance in India.

Economic Effect Of Wildlife In India

Maintaining proper balance between wildlife and economic development is a matter of “Environmental Economics” which is concerned with the appropriate way of regulating economic activity so that a proper balance can be achieved between economy, environment and other social goals. For any emerging nation like India, wildlife is not only a part of the environment but it is also a major component of the country’s national income. The emergence of wildlife sanctuaries and national parks has generated a lot of revenues throughout the years. It also helped to develop the local area diversely in terms of basic needs like education, healthcare, fresh water and food etc. and also availability of other services due to the development of tourism. A Times of India report states that “From a mere 11,464 visitors then in 2016-17, the number has risen to 1,31,969 in 2022-23 marking a remarkable success to nature tourism that not only empowers and provides livelihood to local communities but also ensures minimum dependence of villagers on forest”. To have a rough idea about the total contribution of national parks in the country's total revenue consider a statistics of forest department which states that Ranthambore Tiger Reserve has achieved a revenue of 23.06Cr. in the financial year 2016-17. On the other hand, wild plants and processed products, timber, medicine, meat etc. have a large market in India and helps to generate a lot of domestic revenue as well as Forex (which is around 22,000Cr. Every year). The benefits are not one-sided, economic development has also done a lot for the wildlife to flourish. Throughout the planning years the Govt. of India had tried and established many sanctuaries, national parks, conservation centres to protect the endangered species and to expand the wildlife (106 National Parks and 544 sanctuaries all over India by 2024) (Around 3000Cr. Is allocated every financial year in the Environmental Protection in India).

REAL GROSS VALUE ADDED

	2019	2020	2021	2022	2023
GVA Total	4.23	-5.12	9.33	5.41	7.42
Agriculture, forestry and fishing	5.32	4.32	4.84	2.49	1.22
Industry	-2.14	3.24	8.11	-0.55	13.18
Mining and quarrying	-5.8	-8.06	10.63	-0.12	9.97
Manufacturing	-3.57	9.01	6.55	-3.83	13.91
Electricity, gas, water supply and other utility services	1.96	-3.93	10.8	5.96	10.06
Construction	1.09	-4.88	10.75	5.66	13.28
Services	7.43	-11.09	11.07	9.35	5.8
Trade, hotels, transport, communication and broadcasting services	6.44	-18.42	13.12	15.63	4.26
Financial services, real estate and professional services	8.38	-5.07	7.05	7.06	6.02
Public administration, defense and other services	7.04	-12.24	16.81	5.59	7.56

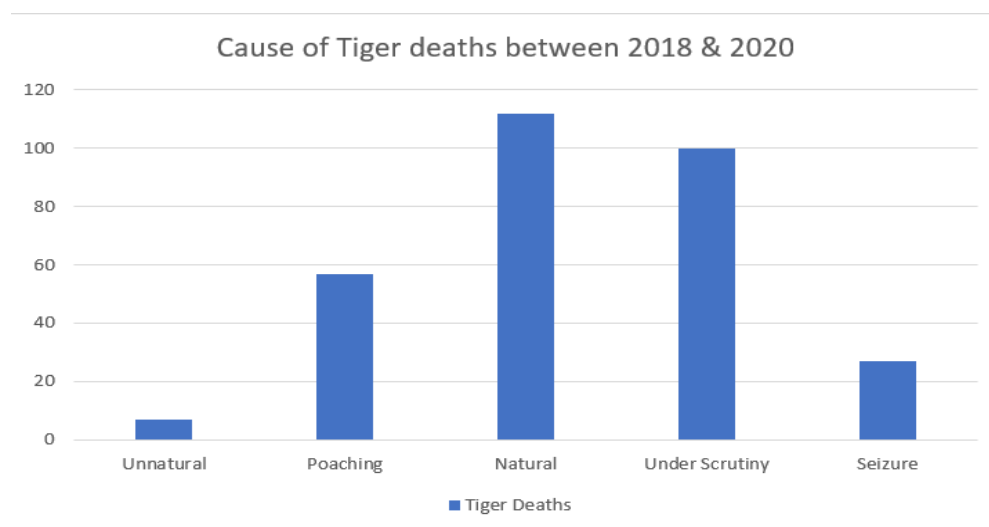
Source: CMIE (Centre for Monitoring Indian Economy)

Adverse Impact Of Development On Wildlife

Everything is not as good as it seems, development is good but “blind development” leads to hazardous effects on the environment. On one side, development helps to create revenue through tourism and promotes “wild-life conservation”; the other side is a bit scary. The reasons are as follows:

1. **Loss of Habitat:** As development proceeds in remote areas and forests, new land is required for building up of hotels, lodges and restaurants, which all are done by deforestation and as a result, animals, birds and other wild creatures are losing their homes. According to a report of Global Forest Watch published on India Today, India has lost nearly 2.33 hectares of tree cover since 2000.
2. **Human-wildlife Conflict:** Deforestation in the name of development has destroyed a lot of forest cover in recent years for which the herbivores are forced to come out in local areas in search of food, followed by the carnivores. This often causes man-animal conflict in forest-surrounded areas and the result is, either human or animals meet their death.

3. **Animal poaching:** As the unknown places are coming into knowledge and getting introduced with the modern world, crime related to animals has increased rapidly throughout the years. It includes poaching i.e. killing animals for capturing valuable things which are traded in the illegal market and crimes like animal trafficking. Data suggests that during the year 2016-18 total more than 1153 cases of poaching had occurred all over India (www.indiastat.com). Another data from indiastat reports that during 2013 nearly 20 tigers were killed for poaching. This list includes various animals even from endangered species which are at the verge of getting extinct.
4. **Other Reasons:** There are some other reasons for which humans are indirectly responsible. The development of railways kills hundreds of animals in India. According to a report 45 elephants have died in train accidents in the last three years in India (The Economic Times). Another data reveals that during 2016-17 to 2018-19 total number of animals died in zoos of India due to extreme temperature is around 70 which is alarming (www.indistat.com).



Source: NEWS18

Present Scenario

Currently, India is a rapidly growing emerging economy in which domestic tourism is playing a major role. Forests occupied a share of 1.7% to GDP. Research on tourism suggests that it

is growing but largely domestically (a data from Cambridge University Press reveals that 71% of tourists are Indian nationals). But in recent years development of hotel industries, transport and tourism around wildlife has boosted the disposable income of locals and they no longer depend on forest products like timber for their livelihood. A survey shows that the wage of a tourist guide or a villager living near a national park has doubled during 2000-2018. Moreover, the growth of tourism has attracted a lot of attention for preserving this flora and fauna. But in recent years there are some challenges emerging which include infrastructural problems, scarcity of resources (including land and financial problems) and the death of animals. Despite the problem of poaching and wildlife-trafficking the Govt. of India had published several laws and put them down strictly. Awareness programs are also conducted to improve the situation and for collecting funds from nature-lovers.

Future Possibilities

Biological world and their members are not only a component of revenue generation but they are our cultural heritage and a part of our life. Thus, it is our duty to find out ways to protect them. Here are some suggestions that can be implemented:

- ***Government Measures:*** Even though the govt. has implemented many laws and legislations like “The Wildlife Protection Act of 1972” and “The Prevention of Cruelty to Animals Act 1960” there are some loopholes which are required to get filled up. The government should implement or revise laws after observing the current issues.
- ***Restrictions:*** The government should come out with a law of mentioning the diameter area of forest upto which there should not be any civilization and restricted transport during night inside the forest area to avoid human-wildlife conflicts.
- ***Better Advertisement & Infrastructure:*** Since it is already examined that the majority of wildlife tourists are Indians thus, the government should promote the places with better and creative advertisement so that foreign tourists will get attracted which in turn can also boost up the economy in terms of inflow of foreign capital. Moreover, a more advanced infrastructure should be developed to maintain the right balance between economic activity and the biological world.

- ***Rise In Recruitment:*** More employment opportunities should be generated in forest department and allied areas so that the economy will flourish and the forest protection will become more accurate.

Conclusion

As the concluding remarks we can say that, wildlife and environment is an emotional as well as materialistic wealth of India. It consists of our proud history and heritage and we are lucky enough that we are able to witness them alive and it is our duty to pass the fortune to the future generations as well. At the same time, economic growth is necessary for India to emerge as a developed economy in the world in coming years. Thus, it is our responsibility to develop the economy for a better future and at the same time preserve our heritage for the coming years to achieve “sustainable development”.

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RCEP AND INDIA: OPPORTUNITIES LOST OR DODGED BULLETS

- *Tanisha Misra*

2nd Year, PG

Abstract

RCEP or the Regional Comprehensive Economic Partnership can be described as an agreement which is made to introduce member countries for entering into trade agreements in turn of improving economic co-operation and trade services. It is a comprehensive free-trade agreement which is built of the 10 ASEAN member states, that is, Brunei Darussalam, Cambodia, Indonesia, Lao PDR, Malaysia, Myanmar, Philippines, Singapore, Thailand, Viet Nam and joined by China, Japan, New Zealand, South Korea and Australia. Initially, the agreement was made to influence cooperation in the economy within the region. RCEP permits the member countries to enter into Free Trade Agreements so as to improve trade services, collaborations on technicalities and resolve disputes. This agreement directs to lower tariffs and endorse investment for emerging economies to come at par with the rest of the world economy. India has been on the brink of falling out since the starting of the negotiations and it finally stopped being a part of talks regarding the trade agreement which has given rise to other neighbour countries to showcase their participation.

JEL Classification

F13, F36, F42

Backdrop and India's Role

RCEP is recorded as one of the largest trading blocs in the world. The negotiations began in 2012, officially being signed in November 2020. It came into force on January 1, 2022. RCEP was encouraged to represent over 30% of the global Gross Domestic Product (GDP) and it covers over 1/3rd of the world's population.

India was an established member of the RCEP. In 2019 however, India withdrew from the negotiations of RCEP. The benefits that were offered in the trade agreement can be listed as follows:

- All the member nations' markets were accessible for the trade of homemade products which would be highly beneficial especially due to the 'Make in India' initiative. Since a large proportion of the world population resides in this part, RCEP provided an approach for advance growth.
- RCEP could help the nation build stronger relations with the Southeast Asian countries since India aims to successfully initiate the: Act East Policy.
- Considering the accessibility of small trades in India, the country would also benefit by establishing its visions on initiatives of growth of the Micro, Small and Medium Enterprises (MSMEs).

Withdrawal from the Agreement

India had a lot of reasons and objectives to stay out of the resolution of RCEP in the first place. Now that India has completely exited from RCEP in the present year, it is still a question of whether India would have been ridden with good opportunities or is it a bullet dodged by the country.

One of the main reasons for India's withdrawal from RCEP was the inclusion of China and the geopolitical scenarios that India faces with the neighbour. There are certain key strategic points that were to benefit China through this Free Trade Agreement (FTA). Some of them include:

- The member countries of RCEP are all significant trade partners of China.
- China is presently fighting hard to establish a novel set of trade rules outside the influence of the United States and this pact would help in this motive.
- The domestic economic development of China is going to be greatly benefitted by the settlement.
- China was excluded from the Trans-Pacific Partnership along with India which means RCEP would provide an opportunity for peaceful relations with the neighbouring countries so that they can exercise a significant advantage on trade.

India's main worry lies with China joining the RCEP because coming to an agreement to eliminate tariffs totally would benefit China exclusively. India is concerned that the neighbour China could dump its low-cost steel and various products on the Indian domestic market thereby hampering it.

India had an issue in providing free access under the FTA to countries such as China and South Korea since India has a trade deficit with certain countries in the bloc and does not want to give away monopoly rights to these exporting capitals. The worry with China is not merely a trade related one since even after the long history that both the countries share along the border dispute, there are many geopolitical scenarios that play a vivid role in contributing to the situation.

The relationship between China and India has been stained by conflicts stemming from the differences surrounding the 3,440 km border which threatens India not only on the Northern Front that is Ladakh but also on the Eastern front that is Sikkim and Arunachal Pradesh. Diplomatically, the home country has emphasised the urgent situation of border claim by the neighbour encouraging the restoration of the Line of Actual Control (LAC). Despite talks throughout the years, tensions have still remained providing a threat to both the countries.

Potential Benefits Pointed Out

Apart from the various scenarios with our immediate neighbour, especially the protection of the domestic country has been the immediate reason for India's exit from the agreement. Exiting the trade agreement can be implicated through certain state of affairs:

- Being apart from the RCEP, India can have a check on the dumping of Chinese goods in the Indian domestic market. Goods ranging from toys to cloths and needles to turbines all cover the Indian market to a large extent.
- India's refraining from the trade agreement provides a shield to the domestic industry from cheap imports.
- India's concern on the circumvention of the rules of origin persisted on the trade agreement. Without proper measures, the deal would not prevent countries from

routing through other countries and the products of Indian origin would be maintained at higher tariffs.

- The imminent rise of imports that were to be introduced with the deal was to be curbed by the proposal of Auto-trigger mechanism. This mechanism would have helped India for rising tariffs on the products in situations where the imports go over a threshold.
- Most importantly, India's withdrawal from the agreement has been a win for the farmers' organisations and trade unions. The fear of the dairy sector especially regarding higher tariff clauses in RCEP than the existing World Trade Agreement has been dodged.

Having mentioned the things that India avoided with RCEP; the alternative situation is imperative to mention as well. After various talks and implicated scenarios of uncertainty, India chose to benefit from the short-term benefits instead of the long dynamic outcome at the end. It is argued that the decision to not join has reduced India's trade moves in recent times. India's aim of becoming a manufacturing hub has been succumbed by this withdrawal as staying out of the agreement has reduced the opportunities for trading with the South Asian or the Pacific countries which together account for a third of the global trade as mentioned before. Manufacturing in any country at the present time requires an integration with the global supply chains throughout the world and this opportunity of trade signing would have been that gate for our country to access freer trade that would direct countries to shift their cases from China to India.

Conclusion

The final statement of India to not join the RCEP is mainly said to influence the Act East Policy in two ways:

- India's exit strengthens the economic influence of China in the eastern pacific region. The RCEP deal is mainly backed by China and this would just give China monopoly rights and say in matters of the FTA.
- There is going to be preferential access to each other's markets for all the member nations which might end up diverting the trade from Indian goods and services.

Although as of April 2024, Union Minister for Commerce and Industry Piyush Goyal has said that India is not interested to commence talks on RCEP but as of February 2024, ASEAN (Association of South-East Asian Nations) Secretary General Kao Kim Hourn has opened up the doors for India to participate in the RCEP. It is true that there would have been many negative consequences for the country to join in the agreement regarding its safeguarding of industries and domestic products, since there has also been benefits realised by the country, India should be alert on upcoming situations like this to participate into engaging trade for developing into all the visions that they have yet to achieve.

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RESURGENCE & ENVIRONMENT: CAN THEY GO HAND IN HAND?

A DEEP DIVE INTO INDIA'S POSITION

- Debanjana Ghosal, Sunca Paul and Swapnonil Mukherjee

2nd Year, PG

Abstract

One has to rely on their adaptability and resoluteness to survive when times get tough. Number of regimes have demonstrated incredible fortitude in the face of hardship. India has seen its fair share of difficult times such as the economic crisis in the 1980s and 1991 as well as recession in 2008 along with the tremendous health crisis of COVID-19. But fought harder to create one of the quickest economic bases in less than 30 years. The economy needs an environment to survive and flourish in a sustainable manner. We need policies to protect a significant amount of natural resources as well as benefiting economic production.

JEL Classification

F64, F68, F63

Introduction

“The oak fought the wind and was broken, the willow bent when it must and survived.”

— Robert Jordan, *The Fires of Heaven*.

The above quote symbolises what it means to survive when times get tough and one has to rely on their adaptability and resoluteness to survive.

History has often seen both tiny and large economies rise and fall. Examples of once-immune and irreplaceable governments that have seen rapid declines from grace are the Greek and Roman empires in the pre-Christian era and the Mongol and British empires in the post-Christian era. Her honoured heroes of the past have been forgotten by history.

History only remembers the winners. A number of regimes have demonstrated incredible fortitude in the face of hardship, and economies have frequently recovered from their lowest points by simply adapting and persevering against all obstacles. China, fighting civil unrest throughout all of the initial 20th century; USA, bouncing back from two severe economic

depressions and Japan, building a world class economy from scratch post WW2 are all tales of economies resurging and making a mark on the international level.

Even our beloved India, which remained largely isolated from international politics and trade for a considerable amount of time after gaining independence, found inspiration from the aforementioned examples to overcome severe economic crises in the 1980s and 1991, weather global recession in 2008, fend off a worldwide economic shutdown during the pandemic 2020-2022, and create one of the world's most robust economic foundations in less than 30 years.

Resurgence of India: A Study - Bringing Environment into the picture

The story of Indian resurgence starts from the age-old saying of “India was primarily an Agrarian economy at the time of Independence”. Consequently it can be implied that the Indian economy was very under-developed at that point of time, in comparison to western standards. The food requirement of the population was met through Foreign-Aids even though the economy remained closed off for a long period of time. There was little to no emphasis on resource management and environmental protection. The potential that was seen in the first 10-15 years was soon replaced by prolonged stagnation due to poor governance and corrupted administration. As such we find very little emphasis on environmental policy making till about the 1970s after which the govt. laid some important groundwork for environmental preservation; The Water (Prevention and Control of Pollution) Act (1974), The Environmental (Protection) Act (1986), etc. are some examples of the same.

The government went to war to restore the dazzling splendour of the past. As usual, during the early years of independence, a stringent trade policy resulted from the deep trauma of colonial exploitation. However, it became somewhat lax after the 1980s. The 1980s to 1990s were a period of gestation, following which there was an increase in the scope and velocity of reforms.

Post 1991 the situation changed dramatically as the GOI looked to liberalise the economy by introducing a host of trade and internal policy reforms. The dramatic shift in the policy paradigm caused new aspects of production to pop-up in different sectors of the economy

which had a far-reaching impact (positive or negative) for the environmental quotient of India. A few examples of the same are mentioned as follows.

From 1988 to 1991, the industrial sector grew by 9.2% as a result of liberalisation. Planning was haphazard, defensive, and without a clear vision in the 1980s; but, after the 1990s, planning became more methodical and had highly defined objectives. As a result, planning was intended to be sustainable on both an economic and environmental level.

The following environmental protection measures were put into place after the 1990s: the fundamental right to a clean environment; a preventative strategy for pollution and taking into account generations when making environmental decisions.

Additional worries about climate change resulted in the establishment of the National Green Tribunal court for environmental conservation:

- i) Perform Achieve & Trade (PAT),
- ii) Environmental Management System,
- iii) Environmental Management System, and
- iv) National Green Tribunal court for conservation of environment.

To bolster efforts against environmental exploitation, the central government also introduced a number of new legislation, including the National Green Tribunal Act of 2010 and the Biological Diversity Act of 2002. CAMPA was established under the CAF Act 2016 to oversee the compensatory afforestation fund in an effort to counteract widespread deforestation and the growing trend of urbanisation. As a result, since the 1990s, a number of statutory organisations have been created to assist with the paradigm shifts in environmental policy.

However, there were a number of unintended effects of policies established to promote growth and production that had a negative influence on the environment, which went hand in hand with deliberate policy-making to protect the environment and support sustainable development. The following are some examples of unintentional environmental consequences.

The Udyami Bharat project is an attempt by the Indian government to strengthen micro, small, and medium-sized firms (MSMEs) throughout the country in order to boost employment, boost competitiveness, and encourage regional development. Better domestic and international market prospects will also result from it. Although this seems good for the economy, the environment is negatively impacted. MSMEs are unable to use more environmentally friendly technologies, such as renewable energy sources, because they operate with less capital. They will thus use more water and electricity and produce more waste.

The Central Sector Scheme, Indian Footwear and Leather Development Programme aims to create jobs, facilitate more investments, improve production, and expand the infrastructure for the leather industry. Because leather is tanned using hazardous chemicals that are bad for the environment and people's health, the Indian leather industry has a major detrimental effect on the environment. A significant amount of water (30 to 35 litres per kilogram of leather) is also needed for the tanning process, which contaminates natural streams with waste water, causing eutrophication and other environmental problems. During processing, the leather industry also generates a huge amount of sludge waste. These burning problems are taken into account by the Central scheme IFLDP which also aims to address environmental conscience in this sector to save the environment and enrich the economy side by side.

Specialised industrial zones known as bulk drug parks are devoted to the production of bulk medicines, also known as active pharmaceutical ingredients (APIs), with the goal of creating an environment that will appeal to pharmaceutical enterprises. It is anticipated that the parks would contribute to the accomplishment of objectives such as reduced production costs, enhanced self-sufficiency, support domestic manufacturing, accessible healthcare, etc.

Bulk drug production has a number of detrimental environmental implications in addition to its beneficial economic effects. Antimicrobial resistance is a significant problem for these industries since improper wastewater treatment can cause antimicrobial medications to contaminate water supplies. Toxins from pharmaceuticals can endanger aquatic life by influencing fish and other wildlife's capacity to breed, changing their behaviour, or directly poisoning them. Soil contamination and biomagnification are the other side effects of this industry.

In order to reduce India's dependency on fossil fuels, the Faster Adoption and Manufacturing of (Hybrid &) Electric Vehicles in India (FAME India) Scheme aims to promote the use of electric and hybrid vehicles. The Indian government unveiled it in 2015.

A few of the environmental advantages of this plan included the switch from fossil fuels to cleaner fuels and the application of cutting-edge logistical technology (such as electric and hybrid trucks, rail, etc.) to make this mode of transportation more energy-efficient and less polluting.

Current Global Mindset and India's Position

The International mindset regarding environmental conservation and sustainable development has seen a significant diaspora from an Anthropocentric to a Biocentric approach. Instead of a blind exploitation of nature for resources used in production the approach has shifted to an inter-generational conservation of ecology to achieve the goals of sustainable development.

Here are a few of the international formulations of environmental-protectionist policy. The 2030 Agenda for Sustainable Development includes the 17 global goals known as the Sustainable Development Goals (SDGs), which were defined by the UN in 2015. To ensure a sustainable future for everybody, these objectives offer a thorough framework for tackling social, economic, and environmental issues. The 13th goal, "Climate Action," emphasises taking immediate action to mitigate the effects of climate change. It urges lowering greenhouse gas emissions, boosting disaster resilience from climate-related events, and supporting adaptation strategies. Reaching this objective is essential to the planet's long-term environmental sustainability.

India has made a significant headway in keeping up with international standards set by the UN and other world organisations. India signed the Paris Agreement (2015), and committed to reducing carbon footprint and enhancing renewable energy sources. India is an active participant in negotiations under the UNFCCC framework. India has also enacted a host of legislations to enforce environmental protection. For e.g., National Green Tribunal (NGT) Act in 2010, National Action Plan on Climate Change (NAPCC) in 2008.

But India still faces a lot of challenges when it comes to balancing out economic growth and sustainable development. The main concerns of the nation regarding balance are as follows:

- i) **Waste Management:** Being the largest population India generates 277 million tonnes of solid waste each year with scientists predicting it to rise to over 387.8 million tonnes by 2030. The traditional methods of waste management in India will fail.
- ii) **Food Shortage:** Climate change has severely affected the cultivable regions of India which face adverse problems of heat waves & water shortage. Experts estimate a dramatic decrease in yield of crops like wheat, rice, etc. in which India holds a global supply chain. Several Indian metropolitans will face complete water-loss by the year 2045.
- iii) **Air-Pollution:** India's capital New Delhi, one of the most populated cities in the world, records the poorest air quality in the whole-world. This phenomenon poses severe health risks to the Indian population, especially those actively involved in production. This in turn hinders the growth potential of the Indian economy.

Conclusion

India being one of most rapidly developing economies in the world, has limited scope of sure shot environmental policy-making. Though India more-or-less follows the global standards for protection of environment and sustainable development, as of now, it cannot guarantee the achievement of specific environmental targets. As India completes the process of demographic transition it should focus on clean energy-generation, non-traditional methods of waste management and pollution-control programmes. Along with this proper monitoring & enforcement of national environmental protection policies are key to India's future roadmap of imposing a firm policy of environmental protection and sustainable development.

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AI AND ITS IMPACT ON INDIA'S LABOUR MARKET - RESURGENCE OR DECADENCE?

- Promita Ray and Sneha Sarkar

2nd Year, PG

Abstract

The Industrial Revolution of 1760-1840 saw the introduction of textile machinery, steam engines, mechanisation in the iron and steel industry, etc. This replaced the age-old practice of labour-intensive technology with a proportionate balance of human and physical capital, making the production more efficient. The world is now amid a fourth industrial revolution characterised by technological progress through AI and its related sub-fields [Vermeulen,B] This article presents a balanced examination of the impact of AI on the labour market in India critically analysing the risks against the vast opportunities for economic stimulation and technological advancements that AI offers.

JEL Classification

J23, J24, L86, O33 O32, O15

Introduction

Artificial Intelligence (AI) is intelligence exhibited by machines, particularly computer systems endowed with performing tasks characteristic of humans, such as the ability to reason, discover meaning, or learn from past experience. The field of AI research with Alan Turing being the pioneer has gone through a series of trial and error followed by periods of disappointment and loss of funding since its inception. Even though this field was developed as an academic discipline in 1956, investment in AI boomed in the 2020s.

India's AI implementation efforts launched by NITI Ayog in 2018 through the National Strategy for Artificial Intelligence aim to facilitate the implementation of AI to enhance inclusive growth and economic development. However, according to the International Monetary Fund, AI promises to deliver productivity with the potential to widen the disparity in the labour market.

Although the adoption of automation has its own set of limitations, one cannot avoid its immense prospective to reshape the scope of employment in the coming years. With young minds sharing a substantial percentage of the Indian population, there is a growing demand for AI related skills like machine learning, deep learning knowledge, data analysis, and manipulation.

AI: The Next Frontier Of Opportunity

The global economy is expanding with the advent of the AI revolution. According to IMF staff discussion notes on AI and its future of work, younger, college educated workers are more flexible to thrive in an AI driven economy as compared to older workers who are not familiar with AI driven technology.

The world has experienced a positive trend characterised by remarkable breakthroughs in diverse areas including speech and image recognition, natural language processing, detection of patterns in the stock market to successfully predict market trends. Moreover the decline in capital costs in digital technologies has reduced the barrier of entry for startups thus enabling the young entrepreneurs to innovate with ease. According to a popular article, companies using AI can deliver 27% better customer service (Sharma,S.,Dutt,P.). Moreover, founders and CEOs of e-commerce firms have replaced 90% of the customer support staff by integrating AI chatbots (NDTV).

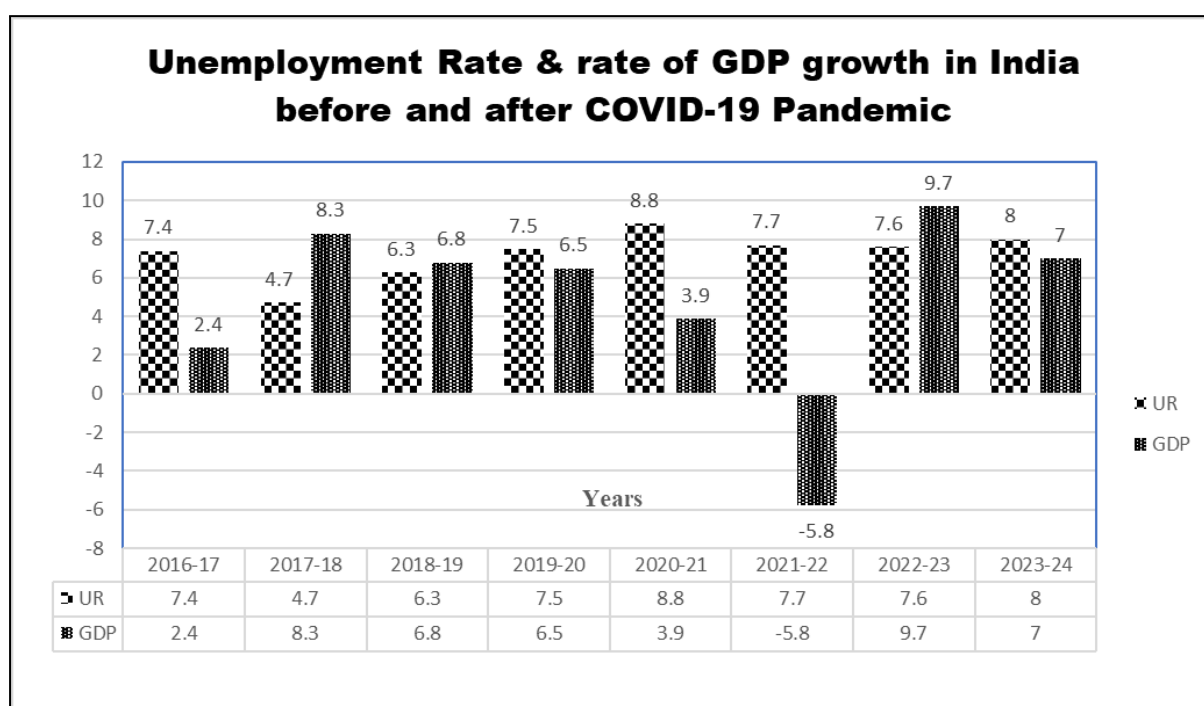
The world is now sandwiched between the two schools of argument. On the one hand, labour economists are of the view that popularising AI, robotics, quantum computing, etc will replace the scope of further employment generation of the existing workers, whereas the scientific researchers of the opinion that technological change also creates demand for labour, leading to demand spillovers & are looking forward to the potential impact of automation on the global economy [Vermeulen,B]

Indian Scenario

Despite being the world's 5th largest economy, India is not immune to the AI revolution. The adaptation of AI in India is comparatively lower as compared to US and other developed economies. According to the Economic Survey of 2024, the manufacturing sector is less exposed to AI as automation is not as cost effective as human labour. The Business Process

Outsourcing (BPO) sector is at a high risk of job displacement in the next decade since the growing innovations like chat gpt and generative AI threatens to decline the need for human labour in these services. Thus, in a labour abundant country like India, introduction of AI and robotics will not be effective enough, rather it will reduce the labour demand leading to an increase in labour supply and a decrease in wages.

The figure given below by the Centre for Monitoring Indian Economy shows the relationship between India's growth rate of GDP and the rate of Unemployment. It can be seen that the GDP rate was on the rise from 2021 onwards, whereas the unemployment rate has also risen.



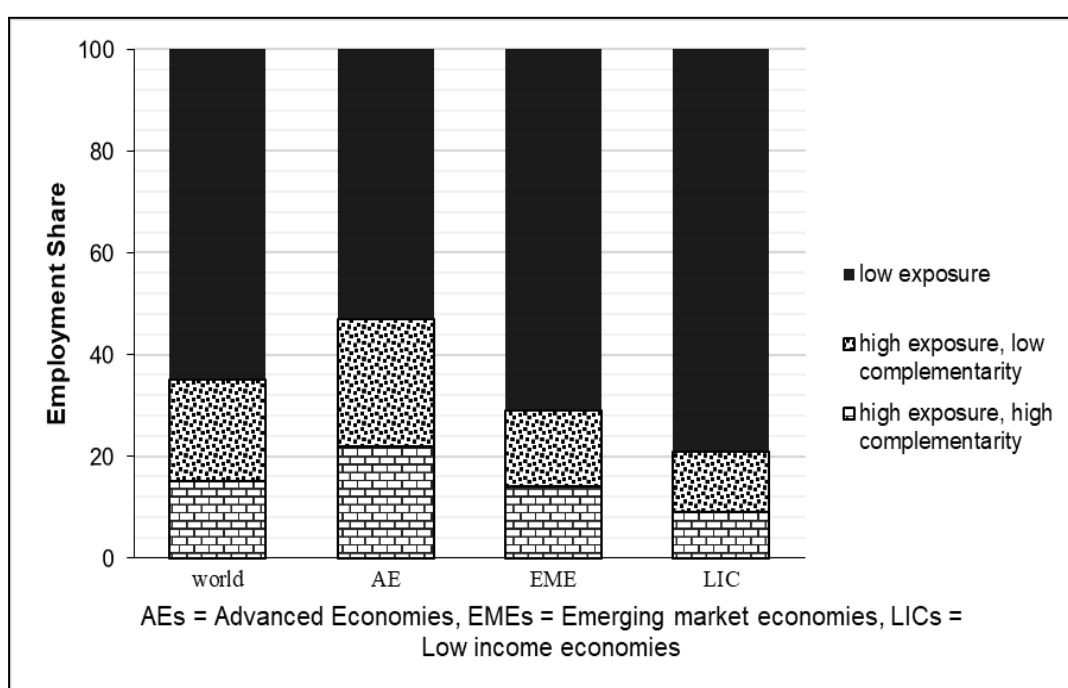
Source: Centre for Monitoring Indian Economy (CMIE) data of 2016-17 to 2023-24 [1].

In the year 2021-22, the GDP has fallen to -5.8% and the unemployment rate is 7.7%. From 2022 onwards, GDP has improved a lot, whereas unemployment has remained at a consistent rate of 7.0-8.0%. The effect of national lockdown in March 2020 on employment is apparent in the figure given above which shows a significant rise in unemployment as confirmed by the report of CMIE. Even though there is a fall in unemployment post pandemic, it is not enough to recover the employment scenario pre-pandemic. While lockdown is one of the reasons for a negative trend in job growth, there are other factors like digitisation, skill gap,

income inequality and unequal distribution of resources that have impacted the labour market.

Critical Analysis

We will now analyse the potential impact and scope of AI on the labour market with the help of the following observations. The effective integration of AI tools to deliver positive outcomes in the economy is contingent on the ease of its capacity to compliment labour demand. The figure given below examines the share of employment by AI exposure and complementarity across different economies.



International Labour Organization and IMF staff calculations.[2]

It is observed that advanced economies have high exposure with high complementarity to the adoption of AI as compared to emerging market and lower income economies. This is because advanced economies are well equipped to adopt new technical skills needed to interact with AI as compared to other economies[2]. Moreover, jobs that require human supervision over AI will experience higher productivity with high labour demand and wages.

Emerging market economies like India experience high exposure to AI with low complementarity to labour demand denoted by the dotted region leading to labour

substitutability and a decrease in wages. We can infer from the above observation that although there is high exposure to AI, a significant gap exists between the availability of AI and the actual allocation of resources necessary to harness its power. Thus, the share of employment in emerging market economies is more concentrated towards low exposure to AI as compared to advanced economies.

To prove our reason for a significant gap in technical skills, we have used the table given below to analyse the distribution of persons above 15 years of age by technical education across rural and urban areas. According to the Periodic Labour Survey annual report, a degree in engineering, medicine, agriculture, management, etc, or a diploma/certificate in engineering/technology, medicine, etc was included under technical education.

Percentage distribution of persons of age 15 years and above by technical education estimated from PLFS 2021-22					
Category of persons	Percentage distribution of persons by level of technical education				Total
	percentage of persons without any technical education	degree in technical education	diploma/certificate below graduate level	diploma/certificate graduate level and above	
(1)	(2)	(3)	(4)	(5)	(6)
rural					
male	97.3	0.7	1.5	0.4	100
female	98.7	0.4	0.6	0.2	100
person	98	0.5	1	0.3	100
urban					
male	91	4.2	3	1.8	100
female	95.3	2.2	1.2	1.1	100
person	93.1	3.2	2.2	1.5	100
rural+urban					
male	95.4	1.7	2	0.9	100
female	97.7	0.6	0.8	0.5	100
person	96.6	1.3	1.3	0.7	100
2021-22 refers to the period July 2021-June 2022					

**Source: Periodic Labour Force Survey (PLFS) Annual Report
July 2021-June 2022[3.]**

98% of persons in rural areas are without any technical education with 1% having a degree or certificate in technology below graduate level. Conversely, 93.1% of individuals in urban areas lack technical knowledge while 2.2% of individuals have earned a diploma below graduate level. This shows the disparity in technical education in both the areas. In the

presence of the disparity between rural and urban areas, there's also a notable gap in technical skill development by a huge percentage within rural and urban areas respectively. Moreover, 96.6% of individuals lack technical training and only 0.7% of individuals have a diploma above graduate level overall. Thus, the survey is evidence of the huge skill gap that exists in the economy. This gap needs to be bridged by taking effective policy measures.

Conclusion: The Way Forward

The central focus of the above analysis has been the shortage of skills resulting in structural unemployment. According to the 2020 version of the Future of Jobs Survey, Data Analysts and Scientists, AI and machine learning, Process automation specialists, and information security analysts are one of the emerging areas which are witnessing a growing demand in the market. While an exact skill match is not necessary for a smooth job transition, curiosity and the willingness to adapt to a new environment make a huge difference in determining job prospects. One of the simple ways to achieve this is through consistent upskilling. Thus, in order to adapt into the ever evolving job market, introducing new courses, training programs and providing opportunities for self growth in the companies will help to bridge the skill gap thus enhancing productivity and flexibility to accustom oneself to new technological change.

Policy Recommendations

Government intervention in identifying the workers who are displaced from the job market due to the extensive use of automation at the cost of human capital. Such identification should be followed by appropriate measures taken to develop well funded programs for reskilling and upskilling out of government budgets.

As the AI revolution gains momentum in the economy, it is imperative to safeguard workers from persistent rise in unemployment by providing social safety nets for workers and developing inclusive labour market policies to address the needs of all workers. Thus, with appropriate policy measures, we can achieve a new equilibrium in the division of labour between human workers and automation, paving the way for India's resurgence in the global economy.

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**THE ECONOMICS OF INDIAN MIS-SELLING: A
COUNTER-CYCLICAL ENDOGENEOUS INSTRUMENT FOR
FISCAL REDEMPTION**

- *Shreemanti Datta*

2nd Year, PG

Abstract

Humans belong to the same kingdom as other animals- “Animalia”. But the discovery of fire had differentiated them from others. Only the species- Homo sapiens had accomplished it. This proves that humans have cerebral potential to address greater agendas of harmony. This realisation of “Economics” is that it is the philosophy with which economic agents participate in production, to minimise relative resource scarcity, compared to unlimited wants; or attain Pareto efficiency.

Here, the government’s significance is undeniable. However, with government debt rising, this objective is being decelerated. As the “Institute of International Finance” (IIF) estimated, the global debt in FY 2023-2024, had been \$ 313 trillion, a \$1.3 trillion hike over its previous year and three times more than the global GDP. The paradox is that the international summation of dues at ongoing interest rates is much more than the actual production, realised out of these borrowings. India alone had a \$648.2 trillion debt. Besides transfer expenditures, the only possible reason for it is debt traps causing a vicious cycle for an economy to borrow because it had borrowed. An economy is borrowing currently to meet past dues, making fewer resources available for current production. Due to inflation, the current production will be costlier in the future. This keeps on increasing the government debt burden.

This article presents how India can endogenously mitigate this by realising Keynes' idea of a demand-driven economy; reconstructing the deconstructed aggregate demand function to better resource allocation to increase production, and portraying the path for and after resurgence.

JEL Classification

A10, A11, A13, A14; B13, B21, B22; D10, D12, D21, D40, D41 and D50.

Introduction

Government debt is ideally taken when a government is in deficit. As per India's Controller General of Accounts (CGA), India's budget deficit in FY 2023-24 was 16.54 lakh crore, which was 5.6% of its GDP. We can differentiate productive debts from unproductive ones. The former is taken by an economy to exist in the current period when it is helpless otherwise, as survival is the pathway to sustainability. An economy should acknowledge these debt repayments. However, the latter refers to those debts causing traps that the economy could have avoided by bettering resource allocation which is elementary to production. We consider GDP instrumental; is because out of the component of NI, this can be directly addressed by the government. To not crowd the scope of the article, we consider Ceteris Paribus's assumptions that qualitative and quantitative GDP enhancement will at least minimise debt burden via better debt repayment, with elimination being a dream. It will trickle down to finally improve HDI (best welfare indicator known) as the ultimate objective. To execute this, we target the aggregate demand function as according to the economist John Maynard Keynes ("Theory of Income and Employment"; 1936) it is the initiating variable for any economic activity. Economics assumes economic agent rationality. Although this conveniences economic models and policies but also gives it a mere hypothetical dimension. This component should be escalated from being normative to positive. Rather than faith, a government should better aim at sparing no opportunity to irrationalize demand.

Emperics

We consider a static economy. The given economic resources can primarily be categorised into land (la) and labour (L), deriving capital (K) as an additional factor. For any representative good (or service), we assume a Cobb Douglas production function, with CRS (sum of factor coefficients: $\alpha + \beta + \gamma = 1$):

$$Q = (A \cdot L^\alpha \cdot K^\beta) \cdot la^\gamma \quad (1)$$

Here, A indicates MRTS (Marginal Rate of Technical Substitution).

Q is the sum of goods that combined together exhaust maximum economic resources; excluding

voluntary unemployment, and considering factor intensity reversal.

$$Q = \sum Q_i; i=1(1)n \quad (2)$$

If QD is the proportion of Q demanded (ex-post), QS is the proportion supplied and QP being the proportion as stock:

$$Q = QD + QS + QP \quad (3)$$

Now, the ex-ante version of QD determines QS and QP. Profit-maximising producers have no incentive to deflect from existing deconstructed demand patterns. This, in short- run might prove effective and for a single or limited sample of producers. But for the greater economy and in long- run, it is futile. Thus, to broaden producer's horizons, the government should step in as the apex body.

Following Crowther's "general acceptability" definition of money, even to generate the physical currency, the central bank requires a similar Q mechanism, with QD being money demand, QS being money supply and QP being high-powered money.

$$Q = QG + QM \quad (4)$$

QG and QM being total goods (GDP) and currency volume of an economy. Now, QG depending on its production, demand and supply components and on the amount of money demanded and supplied in an economy will be having a price. Say it is the general price level (P).

At equilibrium:

$$P = PD \text{ (demand price)} = PS \text{ (supply price)} \quad (5)$$

When consumers have deconstructed tastes and preferences, they have a deconstructed utility function setting up a chain reaction of a deconstructed price consumption curve (PCC) and ultimately a deconstructed demand curve.

Taking an inverse demand function:

$$PD = a - b.QD \quad (6)$$

Similarly inverse supply function:

$$PS = c - d.QS = w \text{ (wage)} + r \text{ (rent)} + ro \text{ (rent for land)} + m \text{ (markup)} = C \text{ (cost)} \quad (7)$$

Perfect Competition will entail zero markup and make the price equal to the sum of factor-payments and normal profit.

From the above equations, we see that if consumers distort demand (qualitatively and quantitatively) the supply (amidst the resources) gets distorted automatically disrupting the GDP mix (via equations 1 and 3), disrupting the currency in circulation (via equation 4) and automatically inflating prices (via equation 5, 6 and 7).

Opening the country for trade, a certain proportion of the total product will also be its trade offer (Q^F) (obeying David Ricardo's notion of comparative advantage and arbitrage) and the remnant for domestic exchange (Q^H).

$$QG = Q^H + Q^F \quad (8)$$

Now, government revenue receipts are either taxable (direct and indirect taxes) or non-taxable. Taxable receipts allow the government to influence the demand pattern of consumers. To prevent consumers from distorting their demand function, the government can utilise the fiscal instrument of taxation. Taking consumption expenditure as a proxy variable to income, conducted during census surveys, the government can have an idea about the ex-ante demand pattern and the degree of distortion involved. Instead of merely relying on social awareness, the government can incorporate an extension to its GST (Goods and Services Taxes), which progressively taxes the producers (distributors) who produce goods that under domestic exchange fall into different brackets of rational affordability. This can be ascertained by analysing the exchange history of different firm-to-consumer interactions. If any firm is found to be a defaulter in this regard the amount of taxes levied will enhance with rise in the number of defaults. This will prevent a firm from mis-selling commodities to consumers who do not need them but can afford them.

If t is the tax rate for defaults, then government revenue becomes:

$$TRD = t.d.QS$$

$$= t.d. QD \text{ (at equilibrium)}$$

$$= t.d. [(a - PD)/b] \quad (9)$$

$$= t.d. [(c + PS)/d] \quad (10)$$

Where d shows the proportion of default sales. By equations 9 and 10, we see that even if there is any scope for inflation the government is even going to gain from that scenario, without compromising the welfare of the people because given tax elasticity, consumers purchasing necessities with inelastic demand will be less willing to deflect than those commodities with elastic demand. As per Laffer Curve analysis suggests, the tax hike will enhance government revenue that will in turn tend towards imposing a check on the deficit conditions.

$$BUDGET = TR \text{ (TOTAL REVENUE = TRD + TRGENERAL)} - TE \text{ (TOTAL EXPENDITURE)}$$

Further, the existing tariff and quota regime will also not allow those commodity industries in which India has a natural cost advantage to shift their production units to other countries.

Thus taking advantage of the existing difference in price differential and purchasing power parity the composite and final macroeconomic equation betters itself:

$$GDP = C + I + G + (X - M)$$

Tax Shares

% of Current GDP at Market Prices	2008*	2023	2024	2025
Gross Tax Receipts (Central Collections)	12.11%	11.21%	11.59%	11.69%
Net Tax Receipts (Centre's Share)	8.97%	7.70%	7.84%	7.94%
Non-Tax Revenue	2.09%	1.05%	1.27%	1.22%
Revenue Receipts	11.06%	8.75%	9.10%	9.16%
Capital Receipts (Non-Borrowings)	0.90%	0.27%	0.19%	0.24%
Borrowings or Fiscal Deficit	2.59%	6.38%	5.85%	5.14%
Central Government Expenditure	14.55%	15.39%	15.14%	14.54%
Share of States in Central Collections	3.14%	3.51%	3.75%	3.75%
* States were collecting their own Indirect Taxes in 2008				

Source: The New Indian Express

Conclusion

This kind of reform was incorporated into Indian selling shortly after the COVID-19 Pandemic when the demand base for many goods was diverted away from the Indian sub-continent especially in case of heavily polluting and expensive consumer goods like electronics, automobiles, and in the fast fashion industry to eliminate any form of demand due to Veblen effect, conspicuous consumption or demonstration effect; where consumers resort to irrational parameters like- appearance, social value and so on to form their utility function. Production being the starting point of any economic activity, if rationalised will leave no scope for any irrational consumption function. The normal taxation regime of the government will continue uninterrupted that will provide it with revenue. This additional check mechanism will ensure that if any irrational sale is made (to the extent it can be checked and cost maintained by the government), the government receives an additional revenue element or either to evade it no irrational sale is made.

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A REVIEW OF THE INDIAN AGRICULTURAL SECTOR AND CREDIT INFLOW

- *Ayananti Samanta, Oitijhya Dutta and Ritodipa Chowdhury*

2nd Year, PG

Abstract

A significant section of the Indian workforce is employed in agriculture, which is vital to the country's economy. However, the industry has a lot of obstacles to overcome, especially for smallholder farmers who find it difficult to get sufficient funding. This essay examines how agricultural finance plays a critical role in promoting agricultural growth and enhancing Indian farmers' standard of living. For smallholders to diversify into high-value crops and related industries like dairy, poultry, and beekeeping, as well as to invest in modern inputs, technology, and infrastructure, access to institutional financing is seen as a critical facilitator.

JEL Classification

E51, E58, G17, O16, P34, Q14

Introduction

Agriculture is important to the Indian economy since it employs and sustains a huge portion of the Indian people. According to an ILO (International Labor Organization) estimate from 2018, agriculture and allied sectors employ approximately 44% of the working population. India's rising population needs increased food production, even to meet domestic consumption. Agricultural credit is regarded as one of the most fundamental inputs for carrying out any agricultural development initiatives. Because Indian farmers are so impoverished, there is a great demand for adequate agricultural loans. Access to financing is an essential component of agricultural growth, allowing farmers to invest in inputs, technology, and infrastructure. Despite its importance, the agricultural industry in India confronts difficulties in obtaining official finance.

One distinguishing feature of Indian agriculture is that it is primarily smallholder farming, with an average landholding size of 1.08 hectares. Small and marginal farmers account for 86% of total holdings and 47% of operated land. They account for more than 50% of overall

agricultural and allied output. Increasing agricultural production and farmer incomes in smallholder farming continues to be difficult. It requires proper solutions, beginning with easy access to contemporary inputs and progressing to selling the produce in the most profitable markets. Institutional financing at a fair cost along the value chain is one such catalytic tool that can help the process by turning many subsistence farmers into thriving commercial farmers. They can then diversify their agricultural operations by cultivating high-value crops like fruits and vegetables, as well as engaging in related enterprises such as dairy, poultry, fishing, honey, and beekeeping. associated has enormous potential, which can be realised by increasing financing flow to it and encouraging farmers to pursue associated businesses. Hence agricultural financing is not only important but also a basic necessity for increasing agricultural productivity (Mohan, 2006).

The rapid expansion of RRB has contributed significantly to the reduction of regional differences in banking services in India. It is evident that RRB is working to strengthen the rural areas' weakest divisions through branch development, deposit mobilisation, rural growth, and loan deployment. RRB effectively accomplishes its goals, which include bringing banking to rural households' doorsteps, particularly in banking-depressed rural areas, providing easy and affordable credit to vulnerable rural populations that rely on private lenders, instilling confidence in rural savings for productive activities that create jobs in rural areas, and lowering the cost of extending credit in rural areas. As a result, RRB offers the most robust banking network. (Singh & Aggarwal, 2018).

Analogy

To critically review the credit flow to the agricultural sector and different measures taken by the RBI to ensure better Credit inflow. Agriculture is the biggest contributor in terms of his contribution to income and employment. But still, it does not contribute to the GDP at that significance. The growth potential of the Indian economy concerning agriculture is that there are problems of inefficiency and lack of productivity in terms of uses of factors of production. With other causes like lack of long-term policy perspective, long gestation period, and extensive dependency on non-price factors like water, soil type, and weather another very potential effect of its lead back is lack of funds in the sector.

The challenges in agricultural finance are manifold. There is limited access to formal financial institutions. Many rural areas lack physical bank branches, making it difficult for farmers and rural businesspeople to obtain financial services. This limited access contributes to financial exclusion, which impedes economic growth and development. There is a lack of collateral. Traditional lenders frequently need collateral for loans, which many smallholder farmers and rural entrepreneurs cannot offer. This barrier stops them from obtaining loans to expand their enterprises, buy inputs, or implement contemporary farming techniques. There are seasonal income fluctuations. Agricultural communities sometimes endure seasonal revenue variations, making it difficult to repay loans on standard payback schedules. This unpredictable income flow pattern provides a risk to lenders, prohibiting them from offering financial services to rural communities. There also is information asymmetry. Rural communities have little financial literacy and awareness, which contributes to information imbalance between borrowers and lenders. This lack of awareness of financial products and services frequently leads to bad financial decisions, increasing rural consumers' vulnerability to predatory lending practices.

There are many initiatives taken by the RBI in the last five years. The RBI has pushed digitalization in agricultural financing by encouraging online platforms and mobile apps for convenient loan availability and repayment. It has retained the “Interest Subvention Scheme”, which provides interest subsidies to farmers, particularly small and marginal ones, and the “Crop Credit Plans” with flexible repayment terms, taking into account crop cycles and weather risks. The “Kisan Credit Card” (KCC) Scheme provides farmers with easy access to financing. The RBI has created plans to help farmers reduce their loan burdens, offering respite during times of economic difficulty. It has extended refinance facilities to banks for agricultural lending, guaranteeing adequate credit flow. The RBI has established the “Credit Guarantee Fund” for agricultural loans, reducing banks' risks, and has kept agricultural lending as a priority sector, ensuring that banks provide adequate credit.

Banks can reduce risk by connecting loans to “Pradhan Mantri Fasal Bima Yojana” (PMFBY) and other crop insurance programs, and interest subsidy programs can help farmers afford loans. Sustainable farming methods can be fuelled by green finance and agri-tech startup support. Financial literacy initiatives assist farmers in understanding their loan options, and partnerships with “self- help groups” (SHGs) and “micro- finance institutions” (MFIs) can

enhance the spread of credit in rural areas. Assessment of flexible collateral options, like the utilisation of warehouse receipts or farm assets, can help make loans more accessible. Last but not least, bolstering cooperative banks and growing “Regional Rural Banks” (RRBs) can enhance the availability of credit in rural areas, encourage bank penetration in these areas, and enhance data collecting for more accurate risk assessment. Last but not least, bolstering cooperative banks and growing RRBs can enhance the availability of credit in rural areas, encourage bank penetration in these areas, and enhance data collecting for more accurate risk assessment.

Conclusion

Agriculture, often referred to as the backbone of the Indian economy, has long been the cornerstone of rural livelihood and sustenance. Despite its historical significance, this sector continues to face numerous challenges that impede productivity and economic advancement. While efforts have been made to support agriculture, it is evident that more comprehensive attention is needed at both the macro and micro levels to revitalise this vital industry. To achieve this, a concerted effort is required from the Government of India, the Reserve Bank of India (RBI), and other supportive institutions to collaborate in advancing the interests of farmers. Given the sector's deep-rooted connection to the nation's socio-economic fabric, strengthening it is crucial for fostering inclusive growth and development. Robust policy frameworks that can address structural inefficiencies and improve farming techniques are necessary for the agriculture sector at the macro level. Improving loan availability, building infrastructure, and establishing connections with markets will be crucial to promoting sustainable growth. To conclude we can say that the oldest sector of India needs a lot of attention at both macro and micro levels to generate more productivity. The Government of India, RBI, and other supportive groups should work together for the farmers' betterment. As a huge chunk of people associated with the agricultural sector are poor, facilitating this sector will lead to inclusive growth and development.

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INDIA'S JOURNEY TOWARDS RENEWABLE ENERGY TRANSITION

- *Srijana Tewari*

2nd Year, PG

Abstract

The journey towards energy transition from non-renewable energy sources to renewable energy sources has taken up a great significance in the global economy. India, being the most populated country and third largest energy consumer in the world, has also set ambitious goals to attain sustainable and clean energy future. In order to curtail the possible threats of pollution and diminishing fossil fuel energy stock, it is necessary to emphasise on generation and use of renewable sources of energy. This article attempts to bring out India's prospects to promote renewable energy and analyses the extent of success in building up renewable energy infrastructure using secondary data drawn from various sites.

JEL Classification

Q28, Q56, O13, P28

Introduction

Transition to Renewable energy is of great importance in today's times to curb the possible threats of extreme climatic changes and environmental pollution. As per the Climate Change Tracker (2023), the carbon budget is gradually diminishing and is estimated to be exhausted by 2029.

India is one of the leading power consuming and generating nations. Economic growth, multiplying population and rapid urbanisation, are likely to overshoot the energy demand further. India is currently on the path of transition to renewable energy in various sectors consisting of electricity, industry, transport, agriculture, cooking, etc. in order to attain 40% of the installed renewable energy generation capacity and reduce the emissions intensity by 33% to 35% in 2030. Moreover, imports of petroleum, oil and lubricants (POL) from abroad put a lot of cost burden on the country's finances and swell up the cost of production of the industrial sector. With the intention of reducing the dependency of India for POL, renewable energy generation within the country is presently being promoted by the Government of

India. In order to cope up with the anticipated growth in demand for energy in the upcoming years, suitable technological options are required to be taken up which are not only optimal in the short run but also in the long run. Emphasis is given on wind-power, bio-power, waste-to-energy, mirrors for solar thermal, and green hydrogen, etc. with the aim of being self-reliant in the clean energy space.

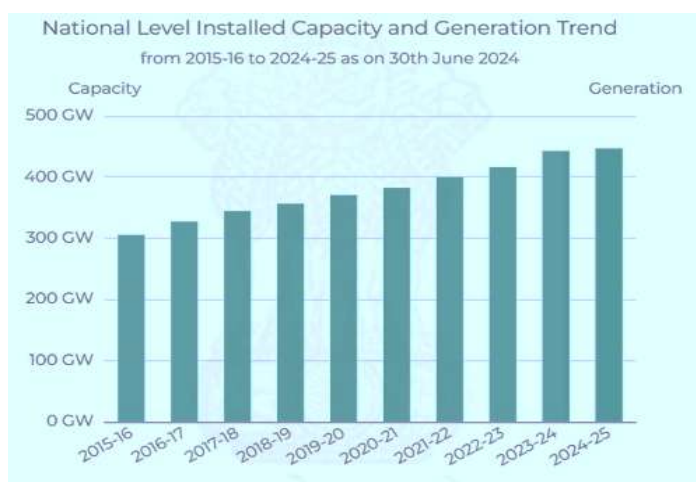
Analysis

India, being the third-largest energy consumer in the world, had reached a record demand of 223 gigawatts (GW) in June 2023, which accounts for a rise of 3.4 percent from that of the peak level recorded in 2022, and is estimated to rise further. Use of fossil fuels is prominent in India's power sector, but the country has set goals to significantly pull up the share of renewable energy. As per the investigation report carried by India's Press Information Bureau, the proportion of renewable energy in overall electricity production in India during the financial year 2022-23 and up to May 2023 was only 25.44 percent and 22.45 percent, respectively. Several efforts are being made to reduce the greenhouse gas emissions and reliance on energy imports, and as well as strengthening India's energy security (International Trade Administration India-Renewable Energy Report).

In 2021, Indian Prime Minister addressed the COP26 climate summit in Glasgow and launched a new idea "Panchamrit" which means the five ways to fight against climate change. The targets upheld at COP26 included:

- attaining 500 GW renewable energy capacity by 2030,
- satisfying 50 percent of its energy demand through renewable energy by 2030,
- reducing total estimated carbon emissions by 1 billion tons by 2030,
- reducing the carbon emissions intensity of the economy by 45 percent by 2030
- lastly, achieving the goal of net zero carbon emissions by 2070.

India is working on ways to expand the share of renewable energy, reducing the over use of coal, which accounts for 60 percent of current energy production.

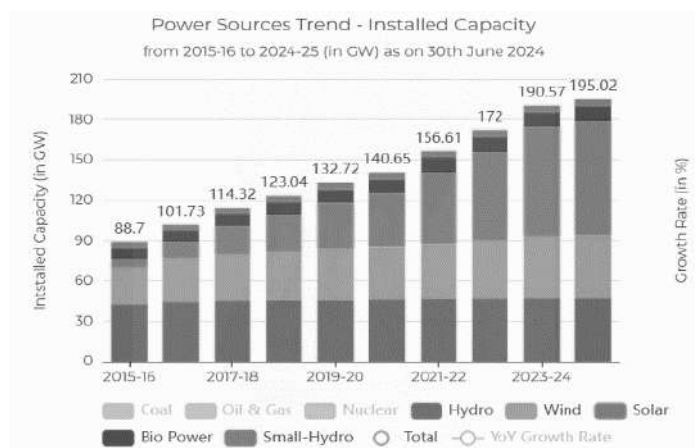


Source: Niti Aayog India Climate And Energy

Year	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25
Installed Capacity and generation (In Gigawatts)	305.16	326.83	344	356.1	370.11	382.1	399.5	416.0	441.9	446.1

Source: Niti Aayog India Climate And Energy

The above table and graph represent the total installed capacity and generation of renewable energy from financial year 2015-16 to 30th June 2024. We can observe that the installed capacity and generation has consistently increased from 305.15 Gigawatts (GW) in 2015-16 to 446.19 GW in 2024. There is a significant increase in the installed capacity and generation in 2023-24 by a rise of 25.91 GW due to increased fiscal allocation on projects and schemes on renewable energy sources in Budget 2023.



Source: Niti Aayog India Climate and Energy

Looking at distribution of total installed capacity among the various renewable energy power sources we can infer that solar energy installed capacity has expanded significantly compared to other sources. According to the renewable energy industry report, the overall installed solar energy capacity has expanded by almost 26 times in the last 9 years and has a record of 73.32 GW in 2023. India has added up 7.5 GW of solar power capacity in 2023. The country is aiming to install about 450 Gigawatt (GW) of renewable energy capacity by 2030 in which approximately 280 GW which accounts for 60 percent, is expected from solar energy (Renewable energy Industry Report 2024, IBEF organisation).

As of March 2024, the total Renewable energy installed capacity, comprising biomass, waste-to-energy, had an accounting of 143.64 GW. Till February 2024, India has been successful in installing 42.25 percent of the total power capacity from renewable energy sources. The capacity addition of non-hydro renewable energy was stable 4.2 GW in the first quarter of 2023 and 2.6 GW for the first quarter of 2022 (Renewable energy Industry Report 2024, IBEF organisation). According to study by the Council on Energy, Environment and Water's Centre for Energy Finance (CEEW-CEF), the overall installed power generation capacity attained 416 GW in 2023 in which 125 GW (approximately 30 percent) came from renewable energy (RE) and 47 GW (approximately 11 percent) came from hydro energy. The electricity generation target from Renewable energy for the year 2023-24 had been fixed at 1750 Billion Units (BU) which is actually a growth of around 7.2 percent over the actual electricity generation of 1624.158 BU for the preceding year (2022-23) (Renewable energy Industry Report 2024, IBEF organisation).

Government has projected to attain installed capacity of renewable energy of approximately 170 GW by March 2025 from that of 135 GW in December 2023, as per to the research agency ICRA. In the Interim Budget 2024-2025, the fiscal allocation for solar energy infrastructure development escalated to Rs. 16,394.75 Crore from that of the allocation of Rs. 6,041.56 Crore in 2023-24, the fiscal allocation to wind energy infrastructure has diminished to Rs. 851 Crore from that of Rs. 936 Crore in 2023-24 and the bio energy programme has been given an emphasis by allocating Rs. 300 Crore which was Rs. 75 Crore in 2023-24 (Budget Report 2024-25).

Conclusion

India's transition to renewable energy targets is transfiguring its power sector. The soaring population and electrification in rural areas are generating the demand for energy. Clean energy will not only lessen the pollution and emission levels but also make the villages capable of being self-sustainable with their utilisation of clean energy for various purposes. It is hoped that by 2040, approximately 49 percent of the aggregate electricity will be created through renewable energy sources. Despite these achievements, India's renewable energy sector still confronts some setbacks. India's power distribution companies have faced challenges in integrating renewable energy sources into the grid due to a scarcity of grid infrastructure and inadequate storage capacity. This has resulted in low renewable energy output in which the power generated through wind energy and solar energy projects is left unused due to a deficiency of demand. To handle these problems, the government has announced several measures to improve the grid infrastructure and the storage capacity so that India can move a step ahead towards clean and sustainable energy space. As India carries on to make efforts in the renewable energy sector, it is certain to be a key contributor towards the global transition to a pollution-free and sustainable energy future.

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DIGITAL TRANSFORMATION OF INDIAN BANKING SECTOR: A NEW ERA OF INNOVATION AND GROWTH

- *Krishna Das and Payel Sengupta*

2nd Year, PG

Abstract

Over the past five years, from the pre-COVID era to 2024, India's banking sector has experienced a profound digital transformation, reshaping the landscape of financial services. This article examines the catalysts driving this change, including technological advancements, regulatory reforms, and shifting consumer expectations, particularly in the context of the COVID-19 pandemic. The rapid adoption of digital banking platforms, mobile applications, and financial technologies has significantly increased financial inclusion, improved customer experience, and enhanced operational efficiencies. However, this digital shift has also introduced challenges such as cyber security threats, digital literacy gaps, and regulatory compliance issues. The aim of this paper is

- To trace the development and progression of digital payments in India.
- To examine the various digital payment methods currently available in India.
- To see how different digital payment methods are growing and being used in India now.
- To discuss the obstacles hindering the widespread adoption of digital payments in India..

Data collected from secondary sources were used to create charts and tables that illustrate the growth in digital payment transactions and the varying adoption rates of digital payment systems across states. These visual analyses provide insights into regional disparities, highlight key factors influencing adoption, and discuss the broader implications for financial inclusion and economic development in India. As the country moves forward, strategic decisions will be crucial in leveraging the benefits of digital transformation while addressing the associated risks, shaping the future of its banking sector.

JEL Classification

G21, O33, R11, E42

Introduction

In the late 1990's , online banking started to emerge in India. Banks like HDFC bank, ICICI banks started offering online services such as checking account balances, transferring funds and viewing transactions history through the internet. The COVID-19 outbreak marked a turning point for India's banking sector, accelerating a shift towards digital platforms that has been slowly picking up speed. As lockdowns and social distancing measures limited the access to physical bank branches, digital platforms became essential for maintaining continuity in banking operations. This transaction was not a temporary adaptation to a crisis but a deep , long term change in the banking institution, reshaping financial services and moving both customer and institution towards a more technological driven future.

Digital platforms such as mobile banking, internet banking, and digital wallet have seen remarkable growth reflecting a broader shift towards a cashless and more connected economy. The primary goal of adopting technology is to make banking accessible from 'anywhere- anytime banking'. The total digital payment transactions volume increased from 2,071 crore in FY 2017-18 to 13,462 crore in FY 2022-23 at a CAGR of 45 per cent stated by Union Minister of State for Finance Dr. Bhagwat Kisanrao Karad. In 2023-24, digital payments transactions reached 11,660 crore. This paper aims to explore the digitization of the Indian banking sector, focusing on state wise adoption trends .As the sector continues to evolve this new digital frontier in banking aiming for a more inclusive and efficient financial system.

Analysis

The COVID-19 pandemic drastically accelerated the adoption of digital payments across all sectors in India, with a particularly profound impact on the banking sector. Before the pandemic, digital payment methods were gradually gaining traction, though cash remained dominant. Government initiatives had laid the groundwork for digital financial inclusion, but widespread adoption remained limited. The need for contactless transactions during

lockdowns and social distancing, however, triggered a surge in the use of digital payment platforms, especially UPI, across various demographics.

As the country moved into the post-pandemic phase, digital payments became deeply embedded in daily life. The surge in online transactions boosted digital literacy, even in previously underserved areas, prompting banks and fintech companies to expand their digital infrastructure, enhance security, and introduce new products to meet the rising demand. Strong regulatory support from the government and the Reserve Bank of India further reinforced this shift.

By 2023–24, the momentum continued, with digital payments becoming an integral part of India's financial system. The period saw even greater innovation in fintech, with new services and technologies being introduced to cater to the growing demand. In essence, the pandemic acted as a powerful catalyst, transforming digital payments from a growing trend into a central feature of India's financial landscape.

Table 1: Annual Turnover of Digital Payment Index

Table 1(a): Volume

Item	Volume (Lakh)				
	2019-20	2020-21	2021-22	2022-23	2023-24
A. Settlement Systems					
CCIL Operated Systems	36	28	33	41	43
B. Payment Systems					
1. Large Value Credit Transfers – RTGS	1,507	1,592	2,078	2,426	2700
Retail Segment					
2. Credit Transfers	206,297	3,17,868	5,77,632	9,83,621	14,86,107
2.1 NEFT	27,445	30,928	40,407	52,847	72,640
2.2 UPI	125,186	223,307	4,59,561	8,37,144	13,11,295
2.3 Others	53,667	63,632	77,663	93,630	102,172
3. Debit transfers and Direct Debits	6,027	10,457	12,222	15,343	18,250
3.1 BHIM Aadhaar Pay	91	161	228	214	194
3.2 Others	5,936	10,296	11,995	15,129	18,055
4. Card payments	72,384	57,787	61,786	63,325	58,470
4.1 Credit cards	21,773	17,641	22,399	29,145	35,610
4.2 Debit cards	50,611	40,176	39,387	34,179	22,860
5. Prepaid payment instruments	53,811	49,743	65,812	74,667	78,775
6. Paper based instruments	10,414	6,704	6,999	7,109	6,632
Total-Retail Payments(2+3+4+5+6)	348,933	4,42,557	7,24,451	11,44,065	16,48,234
Total payments (1+2+3+4+5+6)	350,440	4,44,149	7,26,530	11,46,491	16,50,934
Total Digital Payments (1+2+3+4+5)	340,026	4,37,445	7,19,531	11,39,382	16,44,302

Source: RBI Annual Report 2021-22: Payment and Settlement Systems

and Information Technology

Table 1(b): Value

Item	Value (lakh Crore)				
	2019-20	2020-21	2021-22	2022-23	2023-24
A. Settlement Systems					
CCIL Operated Systems	1,341.50	1619.73	2068.73	2,588	2,592.10
B. Payment Systems					
1. Large Value Credit Transfers – RTGS	1,311.56	1,056.00	1,286.58	1,499.50	1,708.90
Retail Segment					
2. Credit Transfers	285.57	335.04	427.23	550.1	675.4
2.1 NEFT	229.46	251.31	287.25	337.2	391.4
2.2 UPI	21.32	41.04	84.16	139.1	200
2.3 Others	34.79	42.69	55.75	73.804	84.203
3. Debit transfers and Direct Deits	6.06	8.66	10.38	12.9	16.9
3.1 BHIM Aadhaar Pay	0.01	0.03	0.06	0.1	0.1
3.2 Others	6.042	8.63	10.33	12.83	16.83
4. Card payments	14.35	12.92	17.02	21.5	24.2
4.1 Credit cards	7.31	6.3	9.72	14.3	18.3
4.2 Debit cards	7.04	6.61	7.3	7.2	5.9
5. Prepaid payment instruments	2.16	1.98	2.94	2.9	2.8
6. Paper based instruments	78.25	56.27	66.5	71.7	72.1
Total-Retail Payments(2+3+4+5+6)	386.38	414.86	524.07	659.1	791
Total payments (1+2+3+4+5+6)	1,697.94	1,470.86	1,810.65	2,158.60	2,500.40
Total Digital Payments (1+2+3+4+5)	1,619.69	1,414.59	1,744.14	2,086.80	2,428.20

*Source: RBI Annual Report 2021-22: Payment and Settlement Systems
and Information Technology*

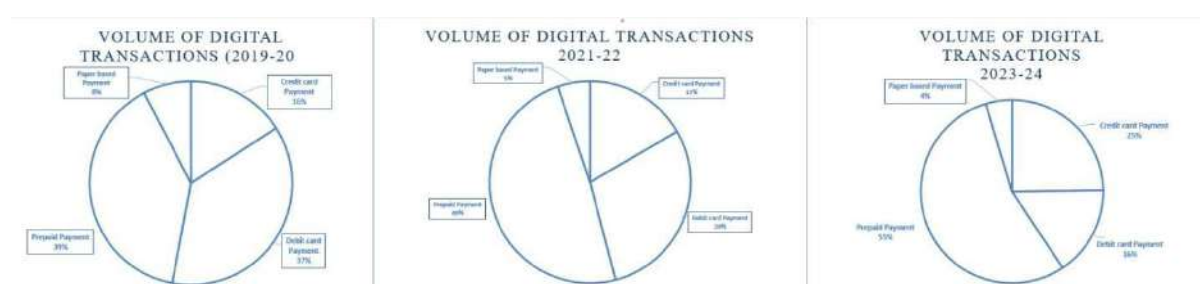
Table 1(1a and 1b) represents the annual data of the total payment system for the financial years 2019–20, 2020–21, 2021–22, 2022–23, and 2023–24 in terms of volume and value. The volume and value of total digital payments for FY 2019–20 were 340026 lakh and 1619.69 lakh crore, respectively, with an increment of 31.08% and 1.15% from the previous year (RBI Annual Report, 2019). The increase in digital payments was driven by the expansion of smartphone usage, improved internet connectivity, government initiatives like Digital India, and the effect of demonetization, which continued to push users towards cashless transactions. The volume of transactions increased significantly in 2020–21 by 0.28% to 437445 lakh, but the value of transactions decreased by 12.66% to 1414.59 lakh crores (RBI

Annual Report, 2021). Due to the COVID pandemic, a nationwide shutdown reduces economic activities (lower consumer spending, business closures, supply chain disruptions, etc.), leading to a decrease in value. During FY 2021–22, the rapid expansion of digital payments was marked by significant growth of 54.48% and 23.29% in terms of volume and value, respectively. (RBI Annual Report, 2022), driven by the accelerated adoption of online transactions and contactless payment methods. In 2023–24, digital payments increased rapidly in terms of volume and value by 1644302 lakh and 2428.20 lakh crore, respectively, due to improved digital infrastructure, greater use of contactless methods, fintech partnerships, enhanced security, shifting customer preferences, and supportive regulations.

Due to the pandemic, there are significant changes in all payment methods, accelerating the shift from offline to digital transactions. As shown in Table 1, NEFT, UPI, BHIM Aadhaar Pay, and others increased in terms of volume and value from 2019–20 to 2023–24. Prior to the pandemic, financial services were primarily accessed through offline methods, such as visiting banks or ATMs, with limited use of digital tools. However, the pandemic led to a widespread adoption of digital platforms for transactions like bill payments, grocery purchases, money transfers, and other services.

In 2023–24, the growth in NEFT, UPI, and Aadhaar Pay was driven by advancements in technology, broader adoption by consumers and merchants, supportive regulatory measures, and ongoing efforts to enhance financial inclusion. Advances in payment systems made them more efficient and user-friendly, while their integration into everyday transactions boosted usage. Regulatory support and incentives, along with increased efforts to include more people in the financial system, further spurred the rise in digital payment adoption.

Figure 1: Volume of Digital Transaction



Source: Data taken from Table 1(1a& 1b)

As shown in Fig. 1, paper-based payment accounts for 8% of total payments in FY 2019–20, which decreases to 4% in FY 2023–24, and the prepaid payment transaction increases from 39% to 55%. During 2019–20, the number of credit payment transactions expanded by 16% to 25% in 2023–24, respectively. At the same time, debit card payment transactions reduce from 37% to 16%. From pre-COVID to 2024, the Indian banking sector saw a significant shift towards digital payments, driven by the pandemic's acceleration of digitalization, health-related concerns, and government support for digital infrastructure. Consumers increasingly preferred credit cards for their flexibility and rewards and prepaid cards for budgeting and online purchases, while the use of debit cards declined as UPI and other digital payment methods became more widespread. Even after the pandemic, this shift persisted, with digital and contactless payments solidifying their dominance, leading to a continued decline in paper-based transactions.

Innovations on UPI

In July 2020, UPI AutoPay launched to facilitate regular payments for EMI payments, mobile bills, electricity bills, gas bills, etc. UPI supports not only bill payments but also merchant payments and QR code-based transactions, making it versatile for different types of financial transactions.

UPI allows for real-time, instant transfer of funds 24/7, which is faster compared to traditional bank transfers like NEFT or RTGS, which might take longer or depend on bank working hours. This facility was adopted rapidly by users, which is convenient and time-saving as well. UPI is integrated into various mobile payment apps, like Google Pay, PhonePe, and Paytm, allowing users to access it through multiple platforms.

During COVID-19, the Paytm app was widely used as one of the most popular digital payment platforms. Impact of the coronavirus (COVID-19) on digital payment app usage in India as of April 2020, Statista]

Figure 2: Digital Payment Adoption Rates Across Different States in India



Source: Phone Pay Plus , Bcg Analysis, Consultancy.in

As shown in Fig. 1, there is disparity among states in terms of digital payments. Digital payments are more popular in India's southern states like Maharashtra, Telangana, Andhra Pradesh, and Karnataka, Chandigarh, Haryana. Chhattisgarh, Jammu & Kashmir and North Eastern states like Mizoram, Manipur, Meghalaya have recorded the lowest digital payments.

Despite significant progress since the introduction of digital payments in India, their adoption rate remains gradual and sluggish. There are several obstacles hindering the widespread adoption of digital payments in India. These include:

1. **Lack of Infrastructure-** Some places in India still don't have the basic infrastructure for digital payments, so people living there can't use digital payment methods or have very few options that might not work well.
2. **Rural Adoption-** Rural areas often don't have the basic resources like schools, libraries, and community centres with computers and internet, making it hard for people to learn digital skills.

3. **Poor Internet Connectivity-** Many rural areas still suffer from poor internet connectivity , making it difficult for people to access digital payment services.

4. **Risk In Digital Payments-** The rise of digital payments has also led to an increase in online fraud, phishing attacks, and scams. Fear of these risks can discourage people from using digital payment systems.

5. **Cash Dependency-** Despite government efforts to promote digital payments, cash remains the dominant mode of transaction in India. Many people still prefer cash over digital methods, often seeing it as more reliable and secure. Cash is commonly used for smaller transactions, and individuals often favour it because it is more convenient and something they are more accustomed to using.

Government Initiatives in Digitalization in India

- **UPI** - The National Payments Corporation of India (NPCI) developed a real time payment method to enable inter bank transactions.
- **BHIM app** - Also developed a mobile app based UPI to promote digital transactions with digital signature security.
- **Pradhan Mantri Jan Dhan Yojana (PMJDY)** - To ensure access to financial services like savings , deposits, credit, insurance and pension in cost effectively.
- **RuPay cards-** To create a domestic card payments across India
- **Aadhaar Enabled Payments System (AePS)** - A aadhar linked bank account to enhance financial accessibility and security purposes.
- Digital payments incentives like Lucky Grahak Yojana, DigiDhan Vyapar Yojana to encourage the implementation of digital transactions

Conclusion

The digital transformation of India's banking sector marks a major advancement. As banks continue to innovate and adapt to this evolving landscape, there will be a strong focus on improving customer experiences, enhancing security, and integrating sustainable practices. In rural areas, it's crucial to increase digital literacy so that all users can access these digital services effectively. The Indian banking sector continues to evolve, the widespread adoption of digital payments will be further propelled by technological advancements and government

initiatives. With increased smartphone penetration and connectivity, coupled with innovations in AI, blockchain, and machine learning, the future of banking is poised to offer enhanced security, efficiency, and personalised financial services, paving the way for a truly cashless economy. The government should take initiatives to address the gaps in the rural sector by increasing literacy, not only to promote digital payments but also to teach people how to use digital transactions for payments. This initiative should be undertaken in the future.

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UNLOCKING INDIA'S GROWTH POTENTIAL: IT AS A CATALYST FOR GROWTH

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Abstract

The article attempts to explore how technological improvement through the IT sector has become pivotal in shaping India's growth. We delve deeper to examine the potentials of the sector and challenges that come in the way of realising it.

JEL Classification

F63, L86, O33, O38, C68

Introduction

The covid-19 pandemic has highlighted the critical role of technology. Technology enabled continuation of the essential sectors such as, education, health, other industries and offices. Everyone shifted from offline to an online mode of work, allowing countless people and businesses to function even in isolation.

Post covid the progress has amplified, enhancing the growth of the economy further. However, it has also led to a few economic challenges that need to be addressed. Wage disparities as a result of job polarisation, is one. A significant portion of the workforce are switching to high paying tech-jobs, leaving the other sectors still lagging behind. Until the benefits of technology extends to other sectors as well, inclusive development will not be possible leading to problems like wage disparity.

In this article, we aim to explore how technology drives economic growth and examine the contributions of the IT sector to the same. We analyse the successes and challenges faced by the sector and propose potential solutions and strategies for fostering India's growth through technological advancements.

The Model

To understand that output is directly proportional to technological progress we use the Solow model. However, we make an *extension* to the original model by introducing technological progress endogenously. As we proceed, the model suggests that technological progress can help attain sustained growth indefinitely.

Consider a production function as in the Solow model $Y = F(L, K)$, that is with constant returns to scale. We take savings rate(s), population growth rate(n), rate of depreciation(δ) to be constant.

$$Y(t) = C(t) + I(t)$$

$$\text{Or } Y(t) - C(t) = I(t)$$

$$\text{Or } S(t) = I(t)$$

$$\text{Or } s.Y(t) = I(t) \quad \dots\dots (i) \quad [\text{Note: all notations have their usual meaning.}]$$

We can write,

$$K(t+1) = (1-\delta)K(t) + I(t) \quad \dots\dots(ii)$$

The above equation tells us how capital stock changes over time.

Here, 'K' represents capital stock and ' δ ' represents depreciation.

Now, we express technological progress in terms of efficiency of labour productivity, as

$$L(t) = E(t).P(t).$$

Where, L = labour over time t , E = efficiency of labour over time t and $P(t)$ = population over time t . Here, population grows over time t at the rate of n , while efficiency grows at the rate π .

$$L(t) = P(t).E(t)$$

$$L(t+1) = P(t+1).E(t+1)$$

$$\text{Where, } P(t+1) = (1+n).P(t) \text{ and } E(t+1) = (1+\pi).E(t)$$

Dividing eq (ii) throughout by effective labour we obtain -

$$K(t+1) / L(t+1) = (1-\delta)K(t) + I(t) / (1+n)(1+\pi)L(t)$$

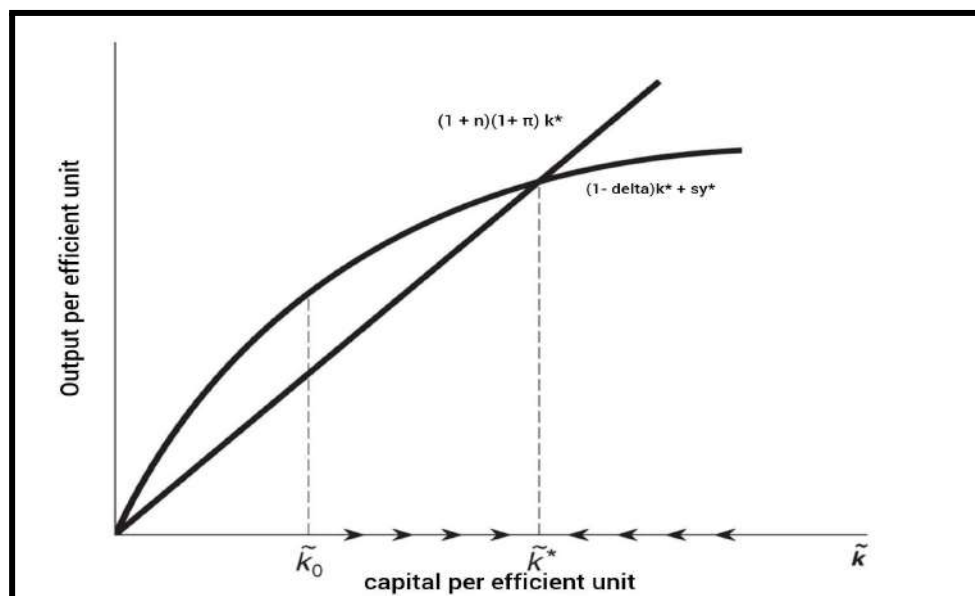
$$k^*(t+1) = (1-\delta)k^*(t) + I(t) / (1+n)(1+\pi) \quad [\text{Here } k^*(t) = K(t)/L(t)]$$

$$\text{Or } (1+n)(1+\pi)k^*(t+1) = (1-\delta)k^*(t) + I(t)$$

$$\text{Or } (1+n)(1+\pi)k^*(t+1) = (1-\delta)k^*(t) + s.y^*(t) \quad \dots\dots(iii)$$

Steady state level (change in capital stock, $\Delta k = 0$) is achieved when the capital per efficient unit of labour remains constant. Though capital per efficient labour unit reaches a steady state, the amount of capital per unit of workforce continues to rise.

The Solow Model With Technological Progress



Source : Developmental Economics, Debraj Ray.

In the long-run, increase in per capita income takes place as a result of the rate of technical progress. That is, technology leads to an increase in the productivity of labour which in turn increases the output level. Hence, we produce more with the same level of capital. Higher returns attract more investment, boosting capital inflow and income. Thus, technological advancements shift the marginal productivity curve upwards, leading to higher steady states through increased capital stock and thus higher income levels in the long run. Hence we can conclude that technology plays a significant role in driving growth rate.

The model above shows technology positively influences the growth rate of GDP. The question is, does accessibility of technology be sufficient to ensure optimality or effective policies make it key in achieving higher growth rates. To understand this we compare India (on various determining grounds) with other two 'developing and emerging economies,' South Africa and China, as classified by the IMF.

- **Market size:** It is crucial to have a large market size for attracting investors. Unlike South Africa, India does fulfil this criteria. India's IT market driven by both domestic and international demand received a cumulative amount of FDI inflows of \$990 billion between the years 2000-24, with a share of \$109.49 for the IT sector exclusively. , according to the government website 'Invest India'. In FY23, India's IT industry approximately earned \$245 billion, according to NASSCOM. South Africa made a revenue of approximately \$37.2 billion, according to Stats SA, the country's official website.
- **Infrastructure:** Indian cities namely Bangalore, Pune and Chennai turned into IT hubs. This was impossible without advanced infrastructure and high speed internet. According to the Digital Infrastructure Index by the IMF, India scored 0.11 while South Africa scored 0.12. The scores do not project a significant difference, yet India positions better both in the domestic and foreign markets.
- **Government Support:** The above two advantages that India has is largely due to effective policy implementation and support provided by the government. "Silicon Valley" transformation was also backed up by the government. Initiatives such as "Startup India" and "Digital India" still encourage the sector. On these grounds, South Africa still lies behind India. Its scheme of "National Integrated ICT Policy White Paper " was not as successful as planned. Moreover, strict regulations continue to hinder expansion of the sector.

India has overcome the hurdles which has still kept the South African IT sector from growing. Despite South Africa enjoying more internet accessibility according to statistics of World Bank Open Data, India still leads ahead of the former.

In 2023, internet accessibility in India was 66.36% according to TRAI, while South Africa had 76.45% according to Statista. These factors imply there is "no inequality of access" but "differential value realisation." India has certainly realised its potential thus the IT sector is thriving. Its share to GDP was 7.5% in 2023, while the South African IT sector contributes only 2.5% to its GDP.

However when compared to the BRICS nations, such as China, India has a long way to go. According to the Global Innovation Index (GII) published by the World Intellectual Property

Organization (WIPO) for FY23, India ranked 42nd, while China ranked 12th. GII examines the innovation capabilities including IT infrastructure, connectivity, digital economy, etc. China's superior performance can be attributed to many reasons. It invests over 2.4% of its GDP in R&D compared to India's 0.7%, and it promotes IT through initiatives like the "Digital Silk Road" (DSR), which enhances digital and technological infrastructure. Additionally, China's diversified IT manufacturing market, supported by economies of scale and a well-established supply chain, contrasts with India's focus on services and outsourcing. Technological progress alone cannot close the growth gap between India and advanced economies but effective policies and government support are crucial.

Conclusion

Given the comparison we can say technological progress alone cannot close the growth gap between India and advanced economies but effective policies and government support are crucial.

Let us discuss a few amendments that can help India achieve higher economic growth. The idea here is to target the growth of the IT sector while addressing the economic problems and finding solutions for the same. Considering India's unique economic structure, our attempt should be to design a growth strategy that leverages its strengths while addressing its weaknesses. The following Structural Transformation in the sector are suggestive to help in fostering India's growth.

1. ***Diversification-*** India leads in the IT service sector, however there is a need to expand its service to cloud computing, artificial intelligence and shift towards manufacturing. Government encouragement through grants, incubation funds or low-interest loans to the firms developing IT hardware products will provide incentive. The Indian IT industry is well integrated globally and such an expansion will further leverage to foster the economy. It is essential for India to take advantage of its global integration.
2. ***Sectoral Integration-*** The IT sector's positive externalities should benefit other sectors by linking agriculture, education, health, and manufacturing industry to IT, which will boost their productivity and efficiency. Government initiatives are crucial for this integration. Programs like "Reskill and Upskill India" can help bridge the skills gap, particularly in rural areas, reducing the digital divide. With proper

infrastructure and financial support, upskilling across sectors will eliminate wage disparities and skill gaps, ensuring inclusive development.

3. **Promoting Research & Development-** There needs to be substantial investment in research and development as currently India spends only 0.7% of its GDP on research and development. Promoting innovation by providing tax exemption, a simplified tax structure will improve functioning. Besides this, the establishment of educational institutions will provide a solid foundation.

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THE ROLE OF NBFIs IN INDIA'S RESURGENCE: IMPORTANCE & WAY FORWARD

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Abstract

The importance and future direction of Non-Banking Financial Institutions (NBFIs) are examined in this article for their critical role in India's economic recovery. By giving a wide range of people access to vital services like lending, insurance, and investment opportunities, NBFIs have become important forces behind financial inclusion and economic expansion. The article looks at the ways that revenue diversification, market expansion, and risk mitigation help NBFIs support India's economic growth. It also emphasises how, by targeting underprivileged groups and utilising technologies, they promote financial inclusion. The article discusses the need to have a trained workforce for NBFIs, along with the opportunities and challenges they confront in the changing financial landscape. The article offers tactical suggestions in the end to improve the effectiveness of NBFIs, such as accepting digital innovation, increasing the range of services offered, and enhancing legal frameworks. This article attempts to shed light on NBFIs' ongoing contribution to India's sustainable development and economic recovery by outlining their crucial role and outlining a clear course forward.

JEL Classification

G19, G20, G23

Introduction

Financial organisations that offer a range of financial services and goods but lack a banking licence and do not conduct conventional banking operations like taking demand deposits or opening checkable accounts are known as non-banking financial institutions or NBFIs. Since

they provide alternative financial services and support financial inclusion and market efficiency, NBFIs are essential to the functioning of the financial system. This industry includes organisations such as mutual or pension funds, brokers, investment banks, insurance companies, etc.

Table 1: Types of NBFIs

Mutual Funds	Refers to a pool of money that is professionally managed & invests in diversified holdings.
Venture Capital Firms	They invest in early-stage businesses with strong growth potential.
Hedge Funds	They are similar to mutual funds but are allowed to undertake hedging activities
Insurance Companies	Performs activities involving taking up risk in return for premium payments.
Investment Banks	They raise money by selling securities and serve as intermediaries in complex financial transactions.
Leasing Companies	They finance assets and provide them as leases in return for some consideration.

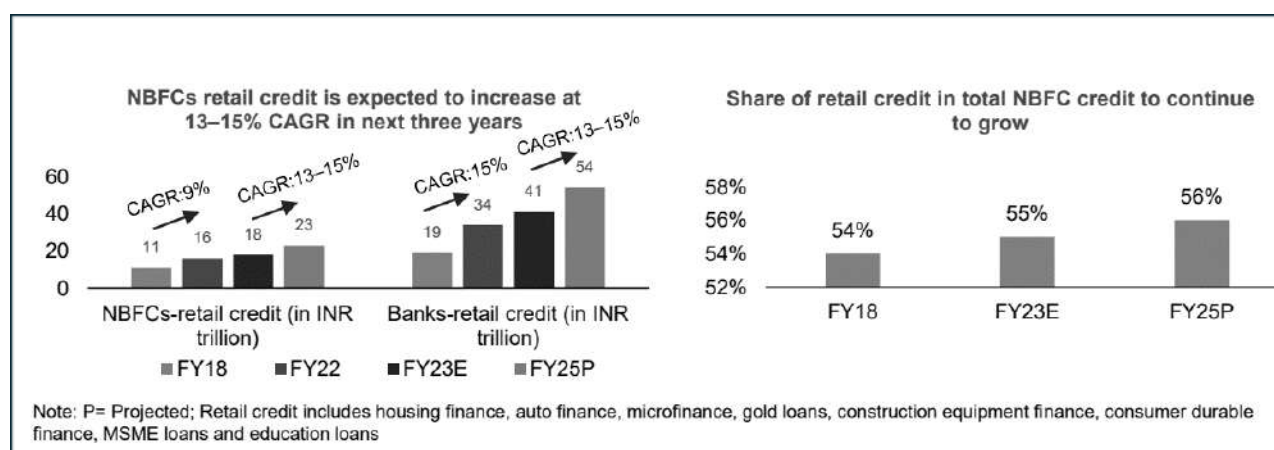
What Problems Did NBFIs Solve?

In the 1960s, NBFIs began to appear in the Indian economy. The current banking institutions were not effectively meeting the growing demand for loans and specialised financial activity. The NBFIs assisted in resolving several issues facing the Indian economy, including:

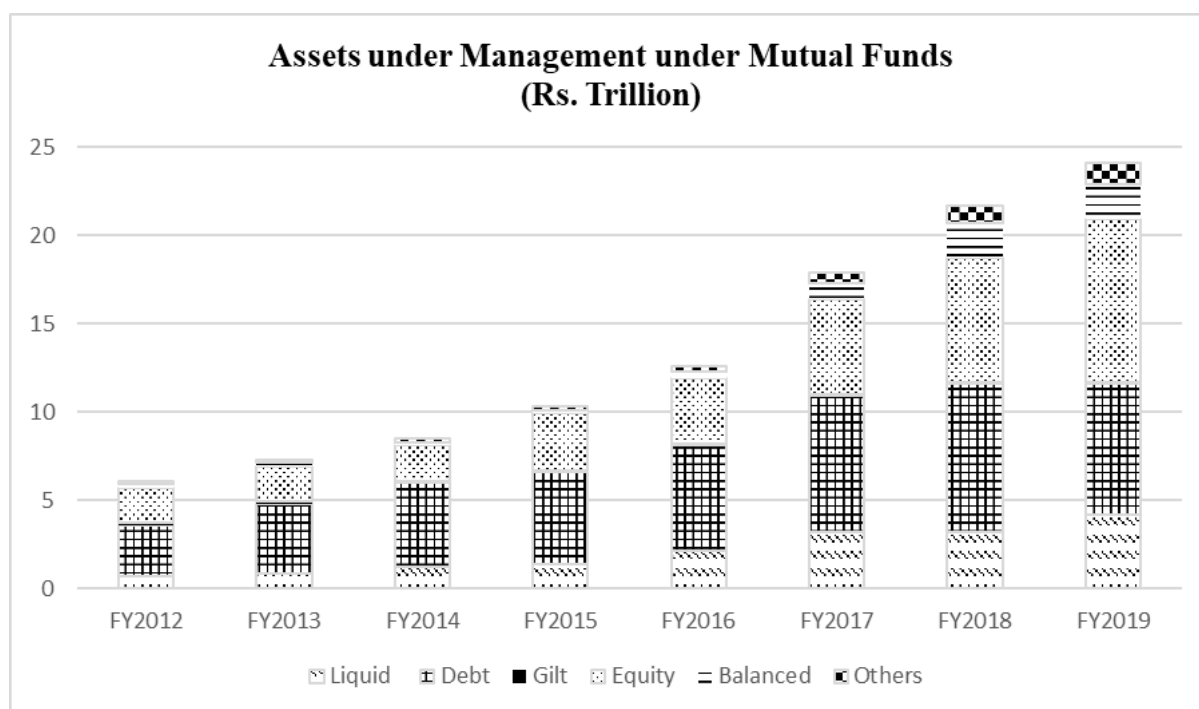
1. ***Financial Inclusion:*** NBFIs frequently work in areas and industries that traditional banks cannot access. Additionally, they offer microfinance to low-income individuals and small enterprises that might not have access to traditional banking establishments.
2. ***Economic Growth:*** Nonbank Financial Institutions (NBFIs) enhance economic growth and aggregate demand by providing accessible and affordable loans.

3. ***Need for Specialized Services:*** There are many products within the financial services umbrella, and it is not practically possible for commercial banks to offer all these services effectively. This is where NBFIs come in; with several institutions specialised in various services, they raise the standard of services that customers can obtain. Insurance businesses, for instance, are experts at offering chances for risk reduction.
4. ***Innovative Financial Products:*** By devoting effort to innovation, NBFIs create services that adapt to the shifting demands of the market. People now have access to financial services that fit their changing needs.
5. ***Competition:*** Since NBFIs have emerged, there has been more competition in the financial industry, which has reduced borrowing rates and expanded the number of choices for consumers.

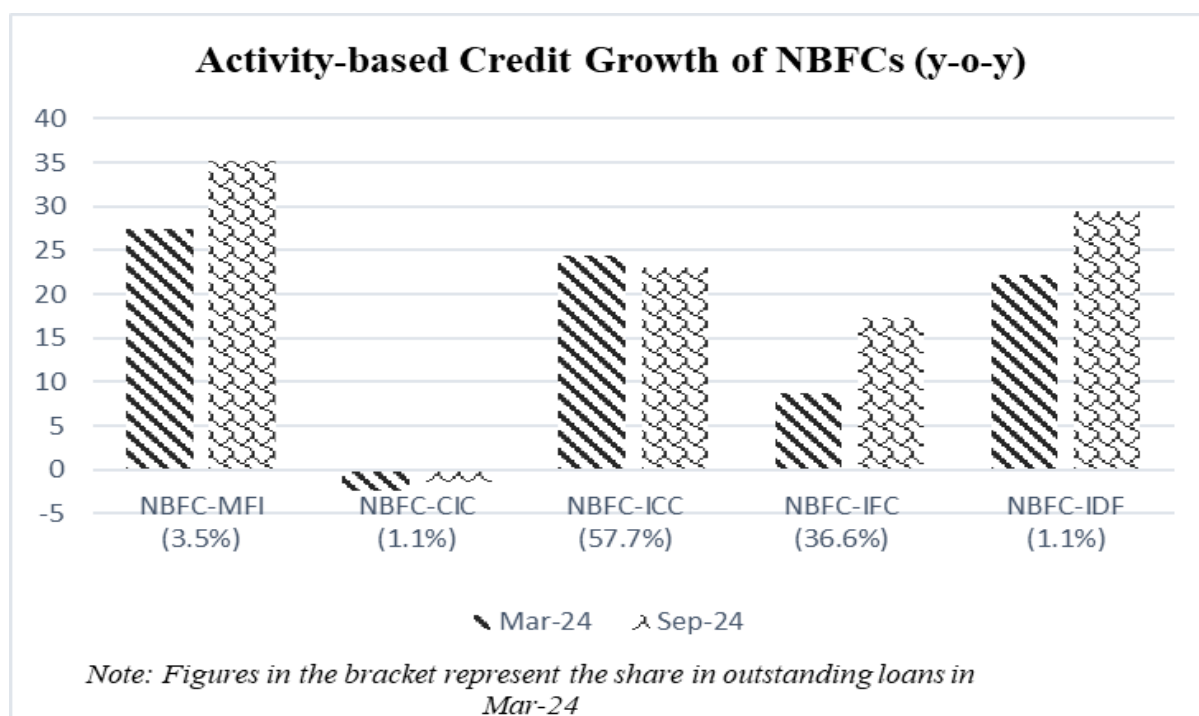
NBFIs Role in Resurgent India: Some Statistics



Source: Report on “NBFCs in India: Growth and Stability” by KPMG LLP. Bank



Source: "A Study of Non-banking Financial Companies in India" by Asian Development



Way Forward

The expansion and change of NBFIs in the upcoming years is one of the key foundations upon which India's future rests. NBFIs today deal with a wide range of issues, resolving which will strengthen the Indian economy.

1. ***Financial Literacy:*** To enable people to make full use of the opportunities offered by NBFIs, regulatory organisations must provide programs for educating people about finances. This will lead to financial inclusion and educated decision-making.
2. ***Regulatory Oversight:*** To ensure that customers' money is secure, it is crucial to establish thorough and rigorous verification procedures considering NBFIs' expanding bandwidth. Improved regulation will boost people's confidence, which will encourage them to save and invest more with NBFIs, leading to economic growth.
3. ***Structural Diversification:*** This is the expansion of the services offered. NBFIs can reduce risks by relying on multiple revenue streams from a variety of products. Additionally, it will provide them with a strategic growth opportunity and a competitive advantage.
4. ***Skilled Human Resources:*** NBFIs provide complicated financial products that call for a skilled human resource pool, which is currently deficient in the nation. This requires equipping students with the knowledge and abilities in the areas of finance, economics, and decision-making, among other things.
5. ***Untapped Potential:*** NBFIs can effectively close the gap in the financial services market by serving a sizable portion of the population that is now unmet. NBFIs must construct specific verticals which focus on rural and microfinance.
6. ***Digital Transformation:*** NBFIs can invest in growing their digital presence to reach a wider audience and provide higher-quality services, as the use of digital services for financial transactions continues to rise.

Conclusion

In conclusion, Non-Banking Financial Institutions (NBFIs) have become essential elements of India's economic recovery, contributing significantly to the advancement of financial inclusion, promoting economic expansion, and meeting a range of financial demands. The Indian economy has benefited from its capacity to offer specialised financial services and products, including loans, insurance, and investment opportunities. In addition to filling important gaps in financial accessibility, NBFIs have promoted a more inclusive financial environment by providing services to underprivileged and marginalised populations.

Looking ahead, to maximise their influence and maintain their growth, NBFIs will need to overcome several obstacles. Reaching a larger audience, increasing operational efficiency, and improving service delivery will all depend on embracing digital innovation. Maintaining their relevance and efficacy in the financial industry will also depend on them increasing the range of products and services they offer, investing in human capital, and adjusting to changing regulatory environments.

From a strategic standpoint, NBFIs ought to prioritise using technology to augment financial inclusivity, fortifying alliances to expand their influence, and championing regulatory structures that encourage ingenuity and steadiness. By taking care of these issues, NBFIs may keep revolutionising India's economic growth, promoting steady expansion and bolstering the stability and vibrancy of the banking industry.

All things considered, NBFIs' continued development and strategic progress will play a critical role in determining the course of India's economy and guarantee their continued leadership in financial inclusion and innovation.

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RESEARCH ARTICLES

DOES FDI AND TRADE OPENNESS SUPPORT ECONOMIC GROWTH? EVIDENCE FROM FOUR SAARC COUNTRIES

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Prof. Bipra Kumar Das

Abstract

The South Asian Association for Regional Cooperation (SAARC) is a political and economic association of the eight South Asian countries that evince diverse economic structures and developmental challenges, which intrigue our minds to understand the role of foreign direct investment (FDI) and trade openness in economic growth. Four countries, namely Bangladesh, India, Nepal and Pakistan, have been selected to understand the selected study. The study aims to provide the selected countries' policymakers evidence-based insights into the understanding of the relationship between FDI, trade openness and economic growth. The paper adopts the method of panel estimation for analysis. The explained variable is GDP, which is a measure of economic growth. The core explanatory variables are FDI, Trade and Life expectancy which is denoted by Health. Data is collected from the World Bank. Proxy variables are included to give consistent results. The results show that while FDI positively influences economic growth, Trade has a negative impact on GDP. Therefore the paper recommends policies that can increase FDI that can increase FDI, while amend and alter Trade policies in a way that there is long run economic growth.

Keywords

Foreign Trade, Economic Growth, Foreign Direct Investment Developing Countries, Econometrics

JEL Classification

F140, F620, F21, F630, C4

Introduction

Foreign Direct Investment (FDI) and trade openness are crucial factors influencing the economic trajectories of nations worldwide. This significance is particularly pronounced within the South Asian Association for Regional Cooperation (SAARC) countries, including India, Bangladesh, Nepal, and Pakistan. Understanding the intricate relationship between FDI, trade openness, and economic growth in these nations is of utmost importance. This introduction seeks to explore this relationship, utilizing empirical evidence and academic discussions to provide insights into its nuanced dynamics. The globalization surge witnessed in the late 20th and early 21st centuries brought about a period of increased economic interconnectedness, characterized by amplified cross-border movements of capital and trade. SAARC nations, possessing abundant resources, growing populations, and strategically advantageous geographic positions, have become focal points for international investors exploring new avenues and markets. As a result, comprehending the intricacies of Foreign Direct Investment (FDI) and trade openness within these countries becomes essential for policymakers, economists, and stakeholders aiming to steer a path towards sustainable development.

The study is aimed to show a diverse profile by choosing the emerging economies like Bangladesh and India while contrasting economies like Nepal and Pakistan. The motivation behind the study lies in providing valuable insights to policymakers and researchers so that there sustainable economic growth can foster in the SAARC region.

Fixed effect and Random effect models are used under Panel estimation and based on the results given by the Hausman test, Random effect model is selected. The study further checks the robustness of the findings of the panel estimation model, by incorporating proxy variables like Governance, CPI, telecommunications, External Debt and Foreign Exchange Reserves. The inclusion of the proxy variables give consistent results. The results show that while FDI positively influences economic growth, Trade has a negative impact on GDP. Therefore the paper recommends policies that can increase FDI that can increase FDI, while amend and alter Trade policies in a way that there is long run economic growth.

Data And Variables

The study uses the method of panel estimation in which years and countries are set as units of observations. The data for this research is collected from the World Bank. All the variables are defined in logarithmic form. The data covers the time frame of 20 years from 2002 till 2021 and across four SAARC countries, namely Bangladesh, India, Nepal and Pakistan. The panel models certain country specific factors that indirectly affect the economic growth of a country through FDI and Trade Openness, which in this study are therefore used as proxy variables. Therefore we model the data using Fixed Effect and Random Effect Model and based on the results of the Hausman Test, the study deduces its results.

The dependent variable is *GDP, PPP (constant 2017 international \$)*, denoted as *lngdp* defined as gross domestic product converted to international dollars using purchasing power parity rates (Bank, n.d.).

The core independent variables include *Foreign direct investment, net inflows (% of GDP)* defined as Foreign direct investment, denoted as, are the net inflows of investment to acquire a lasting management interest (10 percent or more of voting stock) in an enterprise operating in an economy other than that of the investor; *Trade (% of GDP)*, denoted as *lntrade*, is defined as the sum of exports and imports of goods and services measured as a share of gross domestic product (Bank, n.d.); and *Life expectancy at birth, total (years)* denoted as *lnhealth*, is defined as the number of years a newborn infant would live if prevailing patterns of mortality at the time of its birth were to stay the same throughout its life (Bank, n.d.).

The proxy variables used for the study are *Fixed telephone subscriptions (per 100 people)* denoted as *lnphone*; *Official exchange rate (LCU per US\$, period average)* denoted as *lnforex*, *Government Effectiveness: Estimate*, denoted as *lngovern*; *Consumer price index (2010 = 100)*, denoted as *lncpi*; and *Total debt service (% of GNI)*, denoted as *lndebt*. All the variables are defined as per the definitions of the World Bank.

Methodology

The above study uses Panel estimation procedure for analysis, which considers time series and cross-section data simultaneously. There are two methods under panel estimations variations – Fixed Effect (FE) Model and Random Effect (RE) Model. The fixed effect model offers a robust approach to address potential biases arising from omitted variables and unobserved heterogeneity. The random effect model captures both within-unit and between-unit variations, thereby providing efficient estimates of the coefficients of interest. Therefore to understand the effect of FDI and trade openness on economic growth for the given countries, econometric equations are established for fixed effects and random effect models. The dependent variable is GDP, while the independent variables are FDI, Trade and Health. For a correct specification function, variables are transformed into natural logarithms. The panel estimation equation is:

$$\ln gdp_{it} = \alpha_{it} + \beta_1 \ln fdi_{it} + \beta_2 \ln trade_{it} + \beta_3 \ln health_{it} + \varepsilon_{it}$$

where, $i=1, 2, 3, 4$

$t=1, 2, 3 \dots 20$

The fixed effect model tests the

$$H_n : \alpha_1 = \alpha_2 = \alpha_3 = \alpha_4 = \text{constant}$$

Against,

$$H_A : \text{At least one the } \alpha \text{'s vary}$$

The random effect model specifies:

$$\alpha = \alpha_i + u_{it}$$

which transforms the panel estimation equation as:

$$\ln gdp_{it} = \alpha_{it} + \beta_1 \ln fdi_{it} + \beta_2 \ln trade_{it} + \beta_3 \ln health_{it} + u_{it} + \varepsilon_{it}$$

$$\Rightarrow \ln gdp_{it} = \alpha_{it} + \beta_1 \ln fdi_{it} + \beta_2 \ln trade_{it} + \beta_3 \ln health_{it} + v_{it}$$

where, $u_{it} + \varepsilon_{it} = v_{it}$

The RE model assumes $Cov(\varepsilon_{it}, X_{it}) = 0$

Hausman test is used to select whether the estimation output is based on fixed effect model or random effect model, where we test:

$$H_N: Cov(\varepsilon_{it}, X_{it}) = 0$$

Against,

$$H_A: Cov(\varepsilon_{it}, X_{it}) \neq 0$$

FINDINGS AND RESULTS

Lngdp/Indep Variable	I	II	III	IV	V	VI
α	-9.694*	-18.287*	-9.285*	-4.663**	5.533**	-15.697*
lnfdi	0.063*	0.076*	0.067*	0.062*	0.069*	0.040*
lntrade	-0.459*	-0.698*	-0.422*	-0.443*	-0.360*	-0.372*
lnhealth	4.660*	6.884*	4.433*	3.249*	0.408	5.982*
lnphone	-	0.193*	-	-	-	-
lnforex	-	-	0.096	-	-	-
lngovern	-	-	-	0.399*	-	-
lnncpi	-	-	-		0.491*	-
lndebt	-	-	-			0.285*
No of observations	80	80	80	80	80	80
Wald Chi-sq	48.17	73.56	49.09	87.57	124.28	90.76
Hausman test statistic	-80.89	-157.26	-95.25	-322.86	-661.03	-190.72
p-value	0.11	0.23	0.12	0.19	0.21	0.14
Model	RE	RE	RE	RE	RE	RE

MODEL 1

The primary model is given by the equation:

$$\ln gdp_{it} = \alpha_{it} + \beta_1 \ln fdi_{it} + \beta_2 \ln trade_{it} + \beta_3 \ln health_{it} + \varepsilon_{it}$$

where, $i=1, 2, 3, 4$

$t=1, 2, 3 \dots 20$

This model consists of the dependent variable $\ln gdp$, and the core independent variable $\ln fdi$, $\ln trade$, and $\ln health$. Based on the static panel regression estimation procedure, as confirmed by the Hausman test, the Random Effect model is selected.

The estimated equation is given as:

$$\hat{\ln gdp}_{it} = -9.694 + 0.063 \ln fdi_{it} - 0.459 \ln trade_{it} + 4.660 \ln health_{it}$$

(s.e.)	(0.02)	(0.12)	(0.73)
[p-value]	[0.00]	[0.00]	[0.00]

The selected countries have an affinity to attract FDI, which can be stimulated by the gradual rise in FOREX, Insurance and Life expectancy (depicting health of the countries).

The level of FOREX for Bangladesh increases consistently over the given time period. When a nation's stash of foreign exchange reserves grows, it usually indicates to investors that the country's economy is stable and there's less chance of sudden changes in the value of its money. This can make investors more confident and more inclined to invest in the country by setting up businesses or making direct investments. Similar trends of growth in FOREX is seen in India, Nepal and Pakistan, which leads to an increase in FDI in these countries and consequent GDP growth is seen.

Life Expectancy for all the four countries, under study, is seen to increase significantly over the years. A good life expectancy often correlates with ameliorate healthcare and better health outcomes. Healthier people with longer lives constitute a productive workforce which attracts

foreign investors who quest for skilled and efficient labour, consequently increasing FDI, which leads to economic growth.

Insurance provides a safety net for businesses in foreign countries, reducing risks from factors like political turmoil, natural calamities, or economic downturns. With proper insurance, foreign investors can feel more confident about investing, knowing their assets are protected from unexpected challenges. Insurance is observed to follow the trend of FDI fluctuations and seen to be an important contributing factor in GDP growth of all the four countries over the period under study.

From the resultant outcomes, it is prominent that as trade for the chosen countries increases, then GDP for the same falls by 0.459%. This explains the percentage fall in GDP due to the percentage rise in trade. At times, trade expansion prompts a shift towards low-value export sectors or neglects domestic industries, which can pose a threat to a country's long-term goals of economic growth. This could potentially hinder GDP growth.

It is further observed that as the life expectancy of the population of the selected countries rise, the GDP for the same grows by 4.66%. This explains the percentage rise in GDP due to percentage rise in Health, explained through life expectancy. The selected countries have a tendency to attract GDP growth with higher life expectancy which can be elucidated through population growth. Population growth, with better life expectancy, can bolster prolonged economic advancement. With a larger and healthier populace, there's a potential for sustained rises in productivity, investment, and spending, fostering economic growth and enhancing living standards gradually.

MODEL 2

Given the primary model, telecommunications denoted as phone, is introduced in the model as a proxy variable to measure the impact of infrastructure on the core model. Panel estimation is carried out and based on the results of the Hausman test, Random Effect model is selected. This gives the estimated equation as follows:

$$\begin{array}{cccccc} \hat{\ln gdp}_{it} = & -18.287 & + 0.076 \ln fdi_{it} & - 0.698 \ln trade_{it} & + 6.884 \ln health_{it} & + 0.193 \ln phone_{it} \\ (s.e.) & & (0.02) & (0.12) & (0.87) & (0.04) \\ [p\text{-value}] & & [0.00] & [0.00] & [0.00] & [0.00] \end{array}$$

where, $i = 1, 2, 3, 4$

$$t = 1, 2, 3, \dots, 20$$

It is observed that, it is shown that phone as a proxy variable gives robust findings with the variables returning their significance. Sophisticated telecommunication infrastructure enables the uptake of modern communication technologies, enhancing business efficiency, collaboration, and productivity. This, in turn, boosts the competitiveness of firms in both local and global markets, ultimately driving economic growth.

MODEL 3

In the primary model of study, Foreign Exchange Reserves (FOREX) are included as a proxy variable. Panel estimation is conducted, and following the results of the Hausman test, the Random Effects model is chosen. The estimated equation is as follows:

$$\begin{array}{cccccc} \hat{\ln gdp}_{it} = & -9.285 & + 0.067 \ln fdi_{it} & - 0.422 \ln trade_{it} & + 4.433 \ln health_{it} & + 0.096 \ln forex_{it} \\ (s.e.) & & (0.02) & (0.12) & (0.77) & (0.09) \\ [p\text{-value}] & & [0.00] & [0.00] & [0.00] & [0.32] \end{array}$$

where, $i = 1, 2, 3, 4$

$$t = 1, 2, 3, \dots, 20$$

The analysis demonstrates that using FOREX as a proxy variable yields robust findings, with the variables retaining their significance. This suggests that FOREX effectively captures the dynamics of the variables under investigation, ensuring reliable and meaningful results. But FOREX as a variable itself is not significant for the study.

MODEL 4

This model aims to study the robustness of the primary model when Governance is included as a control variable. Panel estimation is carried out and based on the results of the Hausman Test, the Random Effect model is selected, which gives the estimated equation as:

$\hat{lngdp}_{it}$	$- 4.663$	$+ 0.062lnfdi_{it}$	$- 0.443lntrade_{it}$	$+ 3.249lnhealth_{it}$	$+ 0.399lngovern_{it}$
(s.e.)		(0.01)	(0.10)	(0.70)	(0.08)
[p-value]		[0.00]	[0.00]	[0.00]	[0.00]

where, i = 1, 2, 3, 4
t = 1, 2, 3.....20

Incorporating governance as a proxy variable gives us consistent results, aligned with the significance of the variables as per the primary model. It is important to understand how good governance fosters economic growth through FDI and trade openness. Governance practices impact a country's regulatory landscape. Nations with effective governance typically maintain clear and stable regulations, which incentivize foreign investors to engage in the market. This creates an environment favourable for FDI inflows, as investors view the market as less risky and more predictable, ultimately resulting in higher investment levels and consequent economic expansion. On the contrary, if government induced trade policies favour specific industries or regions excessively, resources could flow towards less efficient sectors, which in turn could restrict the overall potential for GDP growth. Likewise, if governance shortcomings result in regulatory capture or market distortions, the growth in trade might not yield broader economic advantages, consequently constraining GDP expansion.

MODEL 5

This model seeks to assess the resilience of the original model by incorporating inflation, measured through the Consumer Price Index (CPI), as a control variable. Panel estimation is conducted, and after performing the Hausman Test, the Random Effects model is chosen. The estimated equation resulting from this selection is as follows:

$$\hat{\ln gdp}_{it} = -5.533 + 0.069 \ln fdi_{it} - 0.360 \ln trade_{it} + 0.408 \ln health_{it} + 0.491 \ln cpi_{it}$$

(s.e.)	(0.01)	(0.09)	(0.85)	(0.07)
[p-value]	[0.00]	[0.00]	[0.63]	[0.00]

where, $i = 1, 2, 3, 4$

$$t = 1, 2, 3, \dots, 20$$

The Consumer Price Index (CPI) is a crucial gauge of inflation in an economy. When CPI indicates a stable and predictable inflation environment, it instils confidence in foreign investors regarding the macroeconomic stability of a nation. This stability diminishes uncertainty and perceived investment risks, thereby promoting increased levels of foreign direct investment (FDI) inflows and facilitating economic growth. Elevated CPI levels might trigger currency depreciation as investors foresee increased inflation weakening the currency's worth. This depreciation can render exports more affordable for international purchasers, potentially escalating export volumes. However, despite enhancing trade, it could also diminish the value of exports when denominated in domestic currency, consequently lowering GDP.

MODEL 6

In the initial study model, external debt is incorporated as a control variable. Panel estimation is performed, and based on the outcomes of the Hausman test, the Random Effects model is selected. The resulting estimated equation is as follows:

$$\hat{\ln gdp}_{it} = -15.697 + 0.040 \ln fdi_{it} - 0.372 \ln trade_{it} + 5.982 \ln health_{it} + 0.285 \ln debt_{it}$$

(s.e.)	(0.01)	(0.10)	(0.68)	(0.05)
[p-value]	[0.03]	[0.00]	[0.00]	[0.00]

where, $i = 1, 2, 3, 4$

$$t = 1, 2, 3, \dots, 20$$

The inclusion of external debt as a proxy variable produces robust results, consistent with the significance of the variables indicated by the primary model. External debt serves as a source of funding for various investment projects, including foreign direct investment (FDI). Emerging economies, such as those being examined, often lack sufficient domestic savings or investment resources. Therefore, they may turn to external borrowing to finance FDI endeavours, such as infrastructure improvements, technological advancements, or expanding production capabilities. Through enabling the financing of FDI ventures, external debt can bolster investment levels, subsequently spurring economic growth. Elevated external debt levels may raise apprehensions regarding a nation's debt repayment capabilities. Consequently, increased selling of assets by investors, businesses, and other countries can cause the country's currency to depreciate, making exports more affordable for foreign purchasers. While this could stimulate export activity, a devalued currency may also raise the prices of imported goods and services, potentially diminishing domestic consumption and investment, thus adversely impacting GDP.

Thus, based on the above models, it can be concluded that FDI and trade openness have a significant impact in fostering the economic growth of countries under study. While FDI creates a positive impact on economic growth, trade openness in this study, on the contrary, creates a negative impact on the GDP, used as a parameter for economic growth.

Conclusion

This study illuminates the intricate dynamics between Foreign Direct Investment (FDI), trade openness, and economic growth in four South Asian Association for Regional Cooperation (SAARC) nations: India, Bangladesh, Nepal, and Pakistan. Our analysis underscores the pivotal role of FDI in driving economic development across these countries, aligning with existing literature highlighting FDI's significance as a catalyst for growth, particularly in emerging economies. FDI not only bolsters capital formation but also facilitates technology transfer, fosters managerial expertise, and expands market access, thus stimulating investment, enhancing productivity, and ultimately propelling economic growth trajectories.

In contrast, our findings reveal a nuanced relationship between trade openness and economic growth in the SAARC region, with trade openness exhibiting a negative impact on growth. This finding challenges conventional wisdom regarding the growth-enhancing effects of trade liberalization. Despite expectations of increased market access, efficiency gains, and technological diffusion associated with trade openness, our results suggest a different reality within the SAARC context. It appears that unique factors and structural constraints may dampen the growth potential of trade openness in these countries.

Considering the specific contexts of India, Bangladesh, Nepal, and Pakistan, it becomes evident that each nation's socioeconomic characteristics, policy frameworks, and institutional environments significantly influence the impact of FDI and trade openness on economic growth. While India may leverage its diverse economy and skilled workforce to benefit from FDI inflows, Bangladesh, Nepal, and Pakistan may face challenges related to governance, infrastructure deficits, and regulatory bottlenecks, hindering the translation of FDI and trade openness into sustained growth.

The divergent impacts of FDI and trade openness underscore the complexity of economic development processes, emphasizing the need for tailored policy interventions. While FDI serves as a growth catalyst, policymakers must ensure alignment with broader development objectives, including technology transfer and inclusive growth. Conversely, the adverse

effects of trade openness necessitate strategic trade policies prioritizing domestic industries, promoting value addition, and addressing structural vulnerabilities.

Moreover, a holistic approach to economic policymaking, considering the interplay between FDI, trade openness, and other macroeconomic variables, is imperative. By adopting a nuanced understanding of these dynamics, policymakers can formulate targeted strategies to maximize FDI benefits while mitigating trade openness' negative consequences. This may involve enhancing institutional capacity, improving regulatory frameworks, and fostering a conducive business environment.

In conclusion, our study offers valuable insights into the complex relationship between FDI, trade openness, and economic growth in the SAARC region. While FDI emerges as a potent growth driver, trade openness presents challenges requiring careful policy responses. By leveraging FDI's strengths while addressing trade openness' limitations, SAARC countries can navigate toward sustainable and inclusive economic development, unlocking their full potential on the global stage.

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IMPACT OF SUBSIDIES ON INDUSTRIAL INPUTS: COURNOT ANALYSIS IN A MIXED OLIGOPSONY FRAMEWORK

- Rohini Datta

Prof. Soumyajit Mandal

Abstract

This paper focuses on a mixed oligopoly model where a fixed number of private firms and a public firm coexist. Initially, profit functions for each private firm and the public entity are derived. The private firms aim to maximise profit while that of the public firm is to maximise social welfare. Equilibrium input quantities for individual private firms and the public entity are determined within the Cournot duopoly framework using response functions. Comparative statics are then employed to assess subsidy impact and the number of firms on equilibrium values. Substituting these equilibrium values into the social welfare function enables a comprehensive analysis of subsidy effectiveness on overall social welfare, facilitating conclusive insights regarding government-introduced subsidy schemes.

Keywords

Oligopoly, Private firm, Public Firm, social welfare, subsidy

JEL Classification

D21, D6, D43, H25

Introduction

In developing countries like India, it is necessary to ensure that the necessary raw materials required to produce industrial output are available at minimum costs. Fertilizer industry is one such industry which utilises a number of inputs like nitrogen, phosphorus and potassium along with ores and hydrocarbon materials like natural gas. Especially after the Green Revolution in India in the 1960s, the demand for these chemical fertilisers have increased as

they form a part of the package along with high yielding variety seeds and advanced irrigation processes to provide higher productivity of agriculture. Gupta (1982) provides a comparative analysis of the performances of public and private sectors in terms of productivity in the fertiliser industry. It states that solely considering the profitability criteria in case of public firms is misleading as the broad objective of government enterprises is to ensure social equity and economic justice. Through empirical analysis it concludes that in terms of raw material productivity, public firms are better off than the private firms in terms of utilising the inputs. There has been a relative improvement in the performance of public sectors over time than the private firms. However, there has been a decline in the profit margin of the public firms vis a vis the private firms. Ashra et. al. (2007) states that developing countries primarily focus on input subsidies in any production process. Subsidies become important in these countries to ensure that everyone can access these services. Fofana (2008) analyses the extent of monopsony power exercised by UK retailers in the salmon processing industry. N number of private firms are taken which seek to maximise their profit, and then their oligopsony power is calculated by differentiating their profit function with respect to their input shares. Durham (1992) provides an estimate of the oligopsony tendencies in the agricultural market by analysing the tomato firms in California. For the formulation of the model, a crucial assumption was the usage of technology in quasi-fixed proportions; or a fixed proportional relationship between material input and output.

In this paper, we focus on the decision of the optimum use of input in each of the production processes of a fixed number of private firms and one public firm to produce a homogenous product. We first take the profit functions of both the private firms, and then that of the public firm. Then we analyse the impact of subsidy in this mixed-oligopsony case or in a completely privatized case. We then analyse the overall impact subsidy on social welfare.

The Model

We consider a mixed oligopoly market with n private firms and 1 public firm, facing the inverse demand function in the output market

$$P_Q = a - bQ \quad \text{where, } Q = \left(\sum_{i=1}^n q_i + q_g \right), \quad i \neq g \quad (1)$$

The objective of the private firms is to solely maximize profit. We also assume symmetric outcome in the equilibrium, that is at the equilibrium the output of all private firms is the same. The objective of the public firm, on the other hand, is to maximise social welfare which is given by the aggregate of consumer and producer surplus.

The production function assumed to follow a quasi-fixed proportion technology, which implies a fixed proportional relationship between the raw material and output, which is given by

$$q_i = \{\alpha x_i, h(k_i)\} \quad \forall i \quad (2)$$

Here, q_i is the output of the i^{th} firm, x_i and k_i are the two categories of inputs. No substitutability exists between these two factors. α is the finished to raw product conversion ratio. For example, in case of an agro-processing industry, x_i denotes the raw material and k_i the other inputs required in the production process.

We assume that all the firms aim for cost minimisation and hence there exists a direct relationship between the output of the firm and the quantity of input used, which can be expressed by the following equations

$$q_i = \lambda x_i \quad \forall i \neq g \quad (3)$$

Let X be the total quantity of input x available. A part of it is bought by the private firms and a part by the public firms. If price of X is given by P_X , then the inverse supply function can be expressed as

$$P_X(X) = \beta X, \quad \beta > 0, \quad X = \left(\sum_{i=1}^n x_i + x_g \right) \quad (4)$$

The profit functions of the i^{th} private firm and the public firm is given by

$$\pi_i = P_Q(Q)q_i - P_X(X)x_i + sx_i \quad \forall i = 1, 2, \dots, n \quad (5)$$

$$\pi_g = P_Q(Q)q_g - P_X(X)x_g + sx_g \quad (6)$$

Here π_i and π_g denote the profit functions of the individual private firm and the public firm respectively. q_i and q_g denote the output produced, x_i and x_g the quantity of input X used by the individual private firm and the public firm respectively. s is the per unit subsidy provided by the government on the quantity of input X.

The aggregate consumer surplus will be

$$CS = \int (a - bQ) dQ = \frac{1}{2}bQ^2$$

The producer surplus is obtained by adding the profit functions of both public and private sectors. i.e.

$$PS = \sum_{i=1}^n \pi_i + \pi_g$$

We obtain the effective social welfare by adding the aggregate consumer and producer surplus and subtracting the total subsidy, which is given by

$$SW = \frac{1}{2}bQ^2 + \sum_{i=1}^n \pi_i + \pi_g - s \left(\sum_{i=1}^n x_i + x_g \right) \quad (7)$$

The primary motive of private firms is to maximise profit. The public firm is set up by the government to ensure social justice, to make sure that the products are available to a larger section of the population. Hence, the primary motive of the public firm is to maximise social welfare, not just the profit only.

The best response function of the i^{th} private firm is obtained by differentiating the payoff function of private firms with respect to x_i . Assuming the symmetric output for all private firms at equilibrium we get the reaction function of the i^{th} firm.

$$x_i = \frac{1}{1+n} \left(\frac{a\lambda+s}{b\lambda^2+\beta} - x_g \right) \quad (8)$$

The best response function on the other hand of the public firm is obtained by differentiating the social welfare function with respect to x_g . The function thus obtained will be a function of x_i .

$$x_g = \frac{a\lambda}{b\lambda^2 + 2\beta} - nx_i \quad (9)$$

By solving equation (8) and (9) simultaneously, the two best response functions, we obtain x_i^* and x_g^* , the Cournot-Nash equilibrium values of input quantities of each private firm and the public firm.

$$x_i^* = \frac{a\lambda + s}{b\lambda^2 + \beta} - \frac{a\lambda}{b\lambda^2 + 2\beta} \quad (10)$$

$$x_g^* = \frac{a\lambda}{b\lambda^2 + 2\beta} - n \left(\frac{a\lambda + s}{b\lambda^2 + \beta} - \frac{a\lambda}{b\lambda^2 + 2\beta} \right) \quad (11)$$

When the economy is fully privatised, that is only n private firms, we obtain the following Cournot equilibrium values.

$$x_i^c = \frac{a\lambda + s}{(n+1)(b\lambda^2 + \beta)} \quad (12)$$

Comparative Statics

We obtain the following propositions from analysing these results.

Proposition 1: In the completely privatised case, that is where there are n private firms and no public firms, a rise in subsidy implies a rise in quantity of input used.

A positive subsidy imposed by the government in the provision of inputs implies a reduction in cost of the firms. This reduced cost implies greater profit. Since the main motive of private firms is profit maximisation, subsidy increases the quantity of input that can be used by the firm, which can be followed from equation (12).

Corollary: In the completely privatised case, absence of subsidy implies lesser quantity of input used.

When there is zero subsidy, there is no relief provided by the government to reduce the cost incurred by the firms. This constrains the amount of input that can be used by the firms.

Proposition 2: In the case where one public firm coexists with n private firms, it is seen that a rise in subsidy implies an increase in the quantity of input used by the private firms, but surprisingly a decrease for the public firm.

The primary motive of the public firm is to maximise social welfare. The motive of subsidy is to primarily encourage the production processes of all the firms. Positive subsidy implies that all the private firms will be able to utilise the industrial inputs more efficiently, resulting in higher purchase of the input (equation 10). Even though the subsidy has no direct effect on the public firm's optimum input choice (equation 9), it will reduce x_g indirectly through its reaction to the increased private purchase of the input. It happens due to the potential cost of redistribution.

Proposition 3: The quantity of input used by public firms is inversely proportional to the number of private firms in the market.

Greater number of private firms ensure a greater amount of production to meet the demand of the goods. If the number of private firms is not sufficient, the supply of finished products may not meet the needs of the population. To ensure that the excess demand is met, public firms will utilize a greater amount of input. Similarly, if there already exists a sufficient number of private firms, public firms do not need to have a large quantity of input as a larger proportion of the demand is already being met.

Effectiveness Of Subsidy On Social Welfare

Now, we analyse the net impact of a positive subsidy on social welfare. For simplicity, we assume that subsidy is only provided to the private firms and not to the public firm. We accordingly adjust the Cournot equilibrium values. We substitute these values in the social

welfare function. Taking $\lambda = \beta = b = 1$ for simplicity, we get the following condition for there to exist a positive relation between subsidy and social welfare.

$$n > \gamma, \text{ where, } \gamma = \frac{2a}{3P_0 + a}$$

This leads us to the following proposition.

Proposition 4: Subsidy will have a positive effect on the social welfare only if the number of private firms is greater than a specific constant value, γ .

If the number of firms is too small, then subsidies may not have a substantial positive impact on social welfare. Subsidy can enhance social welfare only if the number of private firms in the society exceeds a particular threshold value.

Conclusion

Subsidies on inputs of processing industries have interesting implications in private firms and public firms. In the mixed oligopsony model comprising multiple private firms and a public firm, we factor in per unit subsidy on the quantity of input used in their payoff functions and the social welfare function. We then derive the best response functions for both types of firms, then derive the Cournot-Nash equilibrium values of input quantities. From there we find the results that a positive subsidy increases the quantity of input under a complete privatized set-up. Surprisingly it was found that though a higher subsidy helps the private firms to purchase more inputs, for public firms it is reduced. The number of private firms also plays a prominent factor; if the number is larger, a lesser quantity of input is used by the public firm. Finally placing the equilibrium values in the social welfare function, with the assumption that only private firms have the benefit of per unit subsidy on industrial input, we see that per unit subsidy positively benefits social welfare only if the number of firms is above a threshold value. Subsidy is an essential means used by the government to increase social welfare, ensuring greater availability of the processed goods to the general public.

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ANALYSIS OF TAYLOR RULE PREDICTIONS FOR THE FEDERAL FUNDS RATE

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Abstract

The Taylor rule is a simple and representative monetary policy rule which estimates the Federal funds rate on the basis of deviations of inflation from its target and of real Gross Domestic Product (GDP) from trend real GDP (the output gap). This is the most famous policy rule for monetary policy as it describes Fed policy surprisingly well during many periods throughout history. The paper attempts to estimate the Taylor rule predictions for the Federal funds rate in the long-time horizon of 1959 (Q1) -2023 (Q3). Here the predictive power of the Taylor rule by analysing the deviations of the Federal funds rate from the Taylor rule predictions has been done. It is observed that almost all large Negative deviations from the Taylor rule occur after recessions implying the use of accommodative and dovish monetary policy in these periods. It also shows the absence of variables such as unemployment rate which adjust slowly compared to the output gap and cause the negative deviations. The large Positive deviations are instances of monetary policy which is too tight or of the Cold turkey variety and they lead to short recessions. The Taylor rule is also not able to account for economic disruptions and changing attitude of the Central bank appropriately which leads to deviations. It can be inferred that the Taylor rule is a powerful tool and organising device for historical analysis and interpreting Fed policy decisions and mistakes. Large positive deviations from the Taylor rule may fuel recessions and large negative deviations may lead to creation of bubbles. However, it is not a very efficient rule for actual policymaking as it is not able to account for all aspects considered while formulating monetary policy.

Keywords

Taylor rule, Fed, Federal funds rate, inflation, real GDP, recession

JEL Classification

E43, E52, E58

Introduction

The Federal Funds Rate is the short-term interbank interest rate in the U.S. Financial Market. It is the interest rate at which depository institutions trade federal funds (balances held at Federal Reserve Banks) with each other overnight. It is determined by the Federal Open Market Committee (FOMC). FOMC must observe the current state of the economy to determine the best course of monetary policy that will maximize economic growth while adhering to the dual mandate set forth by Congress - “to achieve maximum employment and keep prices stable”.

Monetary policy needs to be versatile to ensure that the Federal Funds Rate can be rapidly adjusted to respond to fluctuations in the business cycle. However, Modern Macroeconomists continue to prescribe policy rules for monetary policy as incorporating rule-like behaviour in monetary policy has made it more transparent and effective.

The best-known example of such a rule is the Taylor rule created by John B. Taylor of Stanford University, which described Fed policy surprisingly well during the 1987-1992 period. The Taylor (1993) rule is a simple monetary policy rule linking mechanically the Federal funds rate to deviations of inflation from its target and of real Gross Domestic Product (GDP) from trend real GDP (the output gap). The original version of the rule was as follows –

$$R_t = r^* + \pi_t + \alpha_\pi (\pi_t - \pi^*) + \alpha_y (y_t) \quad \text{-----} (1)$$

R_t = Federal funds rate in quarter t.

r^* = Long run average real interest rate

π_t = Inflation rate over the previous 4 quarters. (Using GDP Deflator)

π^* = Target inflation rate

y_t = Output gap in quarter t.

α_π = Parameter measuring degree of responsiveness of Federal funds rate to deviation of inflation from its target.

α_y = Parameter measuring degree of responsiveness of Federal funds rate to output gap.

$$y_t = \frac{100 (Y_t - Y_t^*)}{Y_t^*} \quad \text{where } Y_t = \text{Real GDP in quarter } t$$

$$Y_t^* = \text{Trend real GDP in quarter } t$$

Thus, the output gap is calculated as a percentage deviation of real GDP from the baseline path reflecting growth of real output, that is, trend real GDP. Several studies calculate it as the percentage deviation of real GDP from its potential. The potential GDP is the real GDP that would materialize if all factors of production were fully employed. However, we restrict ourselves to trend real GDP as it gives more accurate predictions and it is the method used by Taylor.

Taylor (1993) obtained a trend real GDP growth rate of 2.2 percent in the period 1984-1992 by fitting a log-linear trend through real GDP. He used this growth rate to calculate trend real GDP values and then the percentage deviation of real GDP from it to obtain the output gap.

Taylor (1993) estimated that the long run equilibrium/average interest rate r^* is “2”. He estimated that $\alpha_\pi = \alpha_y = 0.5$. The target inflation rate π^* of the Federal Reserve for decades has been 2 percent. $(R_t - \pi_t)$ gives the desired real policy interest rate.

According to Taylor’s above estimations, the rule can be written as follows -

$$R_t = 2 + \pi_t + 0.5 (\pi_t - 2) + 0.5 (y_t)$$

$$R_t = 2 + \pi_t + 0.5 \pi_t - 1 + 0.5 (y_t)$$

$$R_t = 1 + 1.5 \pi_t + 0.5 y_t$$

..... (2)

The equation (2) illustrates the two Taylor principles -

- Firstly, the Federal funds rate should be increased more than one-for-one with respect to inflation to cool down the economy. If inflation goes up by 1 percentage point, R_t should be increased by 1.5.
- Secondly, the Federal funds rate should be raised by 0.5 percentage point if the real GDP increases above its trend by 1 percentage point.

Literature Review

The Taylor rule was first introduced by Taylor (1993) in his seminal work “Discretion versus policy rules in practice” where he proposed a representative and hypothetical policy rule linking mechanically the Federal funds rate to deviations of inflation from its target and of real Gross Domestic Product (GDP) from potential GDP (the output gap). He found that this rule was surprisingly accurate in describing Fed policy in the 1987-1992 period. However, he concluded by saying that real time policy making cannot and should not mechanically follow policy rules. Orphanides (1997) measured the magnitude of informational problems in calculation of the original Taylor rule estimates. He used data created by Federal Reserve staff about potential output in real time to reconstruct policy recommendations that would have been obtained on the basis of Taylor rule in real time. He found that his use of real time data gave more realistic results for the 1987-1992 period and stated that revised data will lead to better estimates but they are misleading as they do not represent a real time policy making environment. Clarida, Gali, and Gertler (2000) estimated a forward-looking monetary policy reaction function for before and after Volcker’s appointment as Fed Chairman in 1979. Taylor (2012) demonstrated that there was a Rules-Based Era in monetary policy as well as an Ad Hoc Era where Taylor rule was not followed. Nikolsko-Rzhevskyy, Papell and Prodan (2014) used tests for structural change to identify periods of low, positive, and negative Taylor rule deviations, the difference between the federal funds rate and the rate prescribed by the original Taylor rule. Their results regarding coefficient of output gap and inflation rate in different eras were very good guides for this analysis as they gave me insights about the reasons for these deviations.

Research Methodology

1. Defining the version of the Taylor rule under study -

The Taylor rule we will analyse is given by equation (2) above -

$$R_t = 1 + 1.5 \pi_t + 0.5 y_t \quad \text{..... (2)}$$

2. Explanation of variables in above equation -

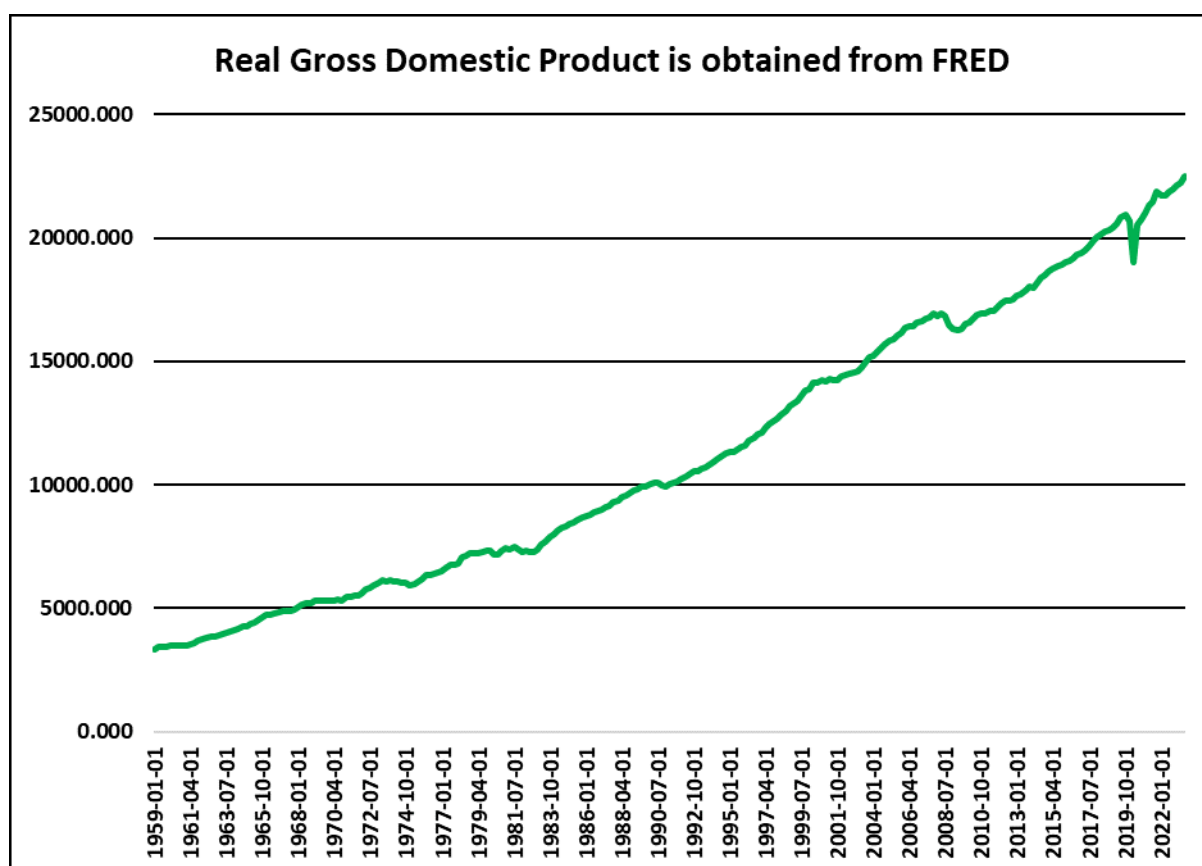
- R_t = This is the Federal Funds Effective Rate (Percent) in Quarter t (Not Seasonally Adjusted).
- π_t = Inflation rate over the previous 4 quarters. Here, we deviate from the original Taylor rule. Instead of using the GDP deflator, we use the “Consumer Price Index (CPI) for All Urban Consumers: All Items Less Food & Energy” or the “Core CPI inflation rate” calculated by The Bureau of Labour Statistics of the United States.
- y_t = Output gap in quarter t. The measurement of the output gap has been a topic of great debate.

3. Data Sources, Time Period and Number of Observations -

All data on the Federal funds Effective rate (R_t), Core CPI inflation rate (π_t) and real GDP for calculating the output gap (y_t) for the period 1959 (Q1) -2023 (Q3) were obtained from “Federal Reserve Economic Data, FRED” which is an online database consisting of hundreds of thousands of economic data from scores of national, international, public, and private sources. FRED is created and maintained by the Research Department at the Federal Reserve Bank of St. Louis. This time horizon gave us 259 observations for our study.

4. Log-linear regression of real GDP

For this analysis, we pull data on Real Gross Domestic Product from FRED (Billions of Chained 2017 Dollars, so base year is 2017) for each quarter in the time period 1959 (Q1) -2023 (Q3). We obtain the graph of real GDP from the data collected.



As we see from the graph the real GDP of the United States follows an exponential path. We estimate an exponential model for real GDP and test whether the real GDP data will fit the exponential model. The model is as follows -

$$\tilde{y}_t = \alpha e^{\beta x_t} \quad (3)$$

Taking natural logarithm on both sides, we have,

$$\ln(\tilde{y}_t) = \ln(\alpha) + \beta x_t \quad (4)$$

Here, $\tilde{y}_t$ = real GDP

α = constant term

β = Quarterly growth rate real GDP (exponential)

x_t = time period (quarter)

If there are “n” time periods such that, $t = 0, 1, 2, 3, 4, \dots, n$, where $n = 259$

Then $x_t = t \quad \forall t$

We now determine if the data of Real Gross domestic product fits an exponential model. To do so, we regress $\ln(\tilde{y}_t)$ (Natural logarithm of real GDP) on x_t (time period) to obtain the following log-linear regression model -

$$\ln(\tilde{y}_t) = \alpha_t + \beta x_t + \epsilon_t \quad (5)$$

Here, $\tilde{y}_t$ = The dependent variable. (real GDP)

α_t = intercept term of the regression model. ($\ln \alpha$ from equation 4)

β = Regression coefficient (growth rate of real GDP)

x_t = The independent variable [time period]

ϵ_t = disturbance term.

As we see, the regression model given by (5) closely represents equation (4). On regressing $\ln(\tilde{y}_t)$ on x_t over the time period 1959 (Q1) -2023 (Q3) we get a statistically significant model.

Regression Statistics	
Multiple R	0.99364945
R Square	0.98733923
Adjusted R Square	0.98728996
Standard Error	0.0619222
Observations	259

ANOVA					
	df	SS	MS	F	Significance F
Regression	1	76.84789452	76.84789452	20041.9163	7.3357E-246
Residual	257	0.985430165	0.003834359		
Total	258	77.83332469			

	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>	<i>Lower 95.0%</i>	<i>Upper 95.0%</i>
Intercept	8.22005715	0.007851863	1046.892523	0	8.204594963	8.23551933	8.20459496	8.23551933
Time period	0.00728551	5.14625E-05	141.5694752	7.3357E-246	0.007184172	0.00738686	0.00718417	0.00738686

The statistically significant model presented above shows that real GDP can be estimated via a log-linear regression model in equation (5). However, instead of assuming a baseline growth path for the entire time period we use Recursive Regression which is explained in the next section.

5. Recursive Least Squares log-linear regression of real GDP

As Orphanides (1997) pointed out, policymakers in a real time policy making environment only have access to historical and real time data on the basis of which they make their policies. They do not have access to any future data. Thus, estimating a single baseline growth path for the entire 65-year period is not appropriate as it will consider data of the entire period. In order to create trend estimates of real GDP which somewhat mimic a real policy making environment, we must estimate regression estimates of the growth trend, that is, β in each quarter using data from previous and current quarters. This can be achieved through Recursive Least Squares.

Recursive Least Squares applies Ordinary Least Square (OLS) Regression across a window of observations which expands by one each time as we add each subsequent observation. This process is done repeatedly till the entire data set is included in the final window.

Essentially, in regress $\ln(\tilde{y}_t)$ (Natural logarithm of real GDP) on x_t (time period) for each time period x_t separately to get an OLS estimate of β for each quarter t . In each subsequent regression an additional set of data on $\ln(\tilde{y}_t)$ and x_t is added to the regression data. Thus, we have Recursive regression as we repeatedly run regression, adding a row of data points in each subsequent regression till we exhaust the entire dataset. There are as many OLS estimates as data points. Thus, we get a summary table of the regression coefficient (β) and intercept term for each quarter's datapoint. Recursive log linear regression of real GDP

provides a trend value for each subsequent quarter considered instead of giving a single baseline growth path for the entire period.

Hence, we apply the Log-linear regression model given by equation (5) “recursively” throughout the dataset till we get a column of regression estimates of β for each quarter. We now use these estimates to get the growth trend in real GDP over the previous 4 quarters

6. Final calculation of the Output gap -

We take another look at our log-linear regression model that we run recursively.

$$\ln(\tilde{y}_t) = \alpha_t + \beta x_t + \epsilon_t \quad \text{-----} \quad (5)$$

In the above log-linear model, the literal interpretation of the regression coefficient β is that a one unit increase in x_t will produce an expected increase of β in $\ln(\tilde{y}_t)$.

This means that the expected value of $\tilde{y}_t$ is multiplied by e^{β} units.

This means that $\ln(\tilde{y}_t)$ is expected to increase to $\ln(\tilde{y}_t) + \beta$

This means that the expected value of $\tilde{y}_t$ is multiplied by e^{β} units. [Since, the logarithmic transformation of $\tilde{y}_t e^{\beta}$ is $\ln(\tilde{y}_t) + \beta$]

Hence, $\tilde{y}_t$ is expected to increase by $= \tilde{y}_t e^{\beta} - \tilde{y}_t = \tilde{y}_t [e^{\beta} - 1]$

Hence, $\tilde{y}_t$ is expected to increase by a factor of $[e^{\beta} - 1]$ units which is the trend in real GDP.

We hence calculate the log-linear trend in real GDP over the previous 4 quarters for each quarter's observation by the following formula -

$$\text{Trend} = e^{(\beta^*4)} - 1 \quad \text{-----} \quad (6)$$

The above formula is used to calculate the Growth trend in real GDP over the previous 4 quarters for each observation. We calculate over the previous 4 quarters to annualize a quarterly data as inflation rate is also considered over the previous 4 quarters. The value of β

for each quarter is put in the formula to obtain the Growth trend in real GDP for that quarter. We multiply β by 4 to turn the quarterly trend to annual.

We then calculate the Actual annual growth in real GDP for each quarter's observation by the formula –

$$\text{Actual growth} = \ln(\tilde{y}_{t+4}) - \ln(\tilde{y}_t) \quad \text{-----} \quad (7)$$

For this purpose, we even take data from four quarters before Q1 1959 to create the actual growth value for the first observation.

Now, to calculate the difference between the actual growth and the trend we find the Growth Gap or Output Gap for each quarter's observation –

$$\text{Output Gap} = \text{Actual growth} - \text{Trend} \quad \text{-----} \quad (8)$$

We convert this in percentage terms as inflation rate and federal funds rate are in percentage.

$$\text{Output Gap \% } (y_t) = \text{Output Gap} * 100 \quad \text{-----} \quad (9)$$

We now have the values of R_t , π_t and y_t for each quarter. We plug in these values in equation (2) to obtain the Taylor rule predictions for the federal funds rate for the time period 1959 (Q1) -2023 (Q3).

Research Results

In order to analyse the accuracy of these predictions, we graph the Taylor rule predictions against the actual Federal Funds Effective Rate and obtain the deviations.

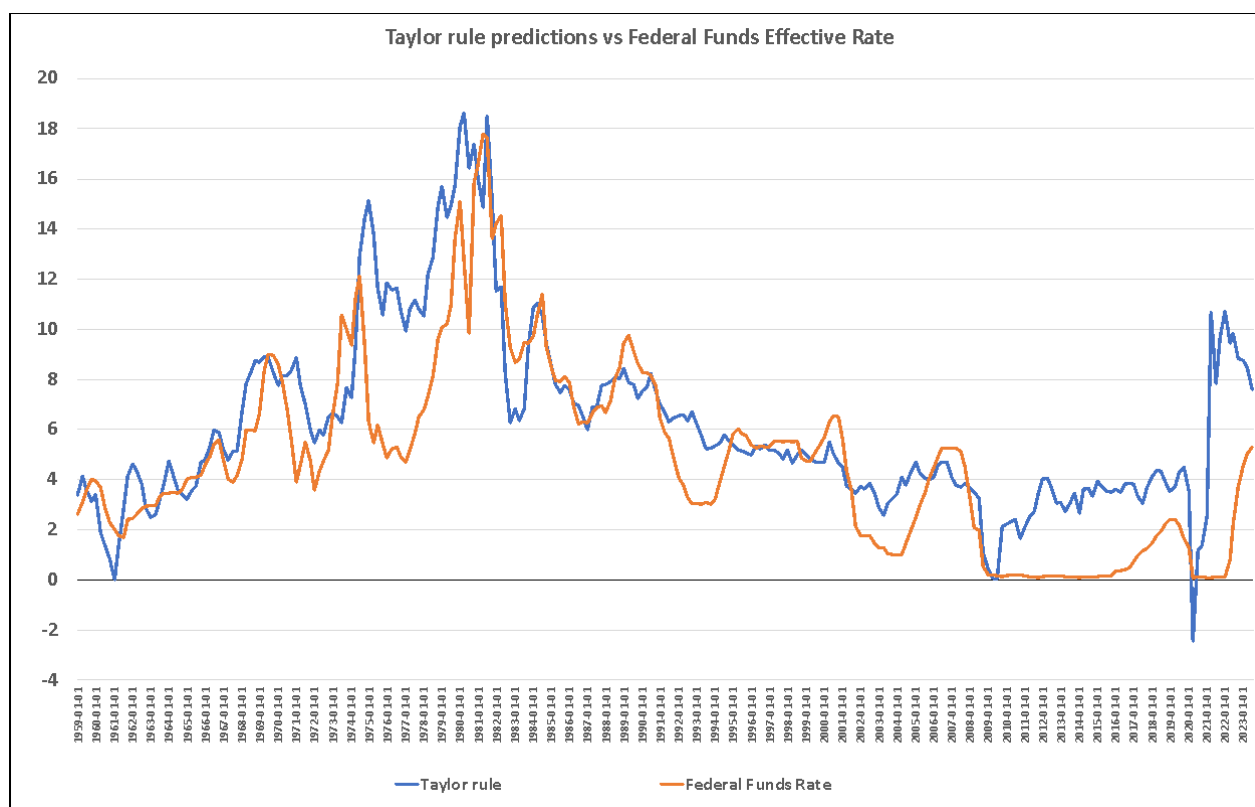


Figure 1

As we see from the above graph, the Taylor rule predictions are surprisingly close to the Actual Federal funds rate for a policy rule that only relies on two principles based on inflation rate, real GDP and trend real GDP.

Result Analysis

We analyse the Deviations graph obtained above to identify the reasons for these deviations. To add structure to this analysis we analyze Positive and Negative deviations separately.

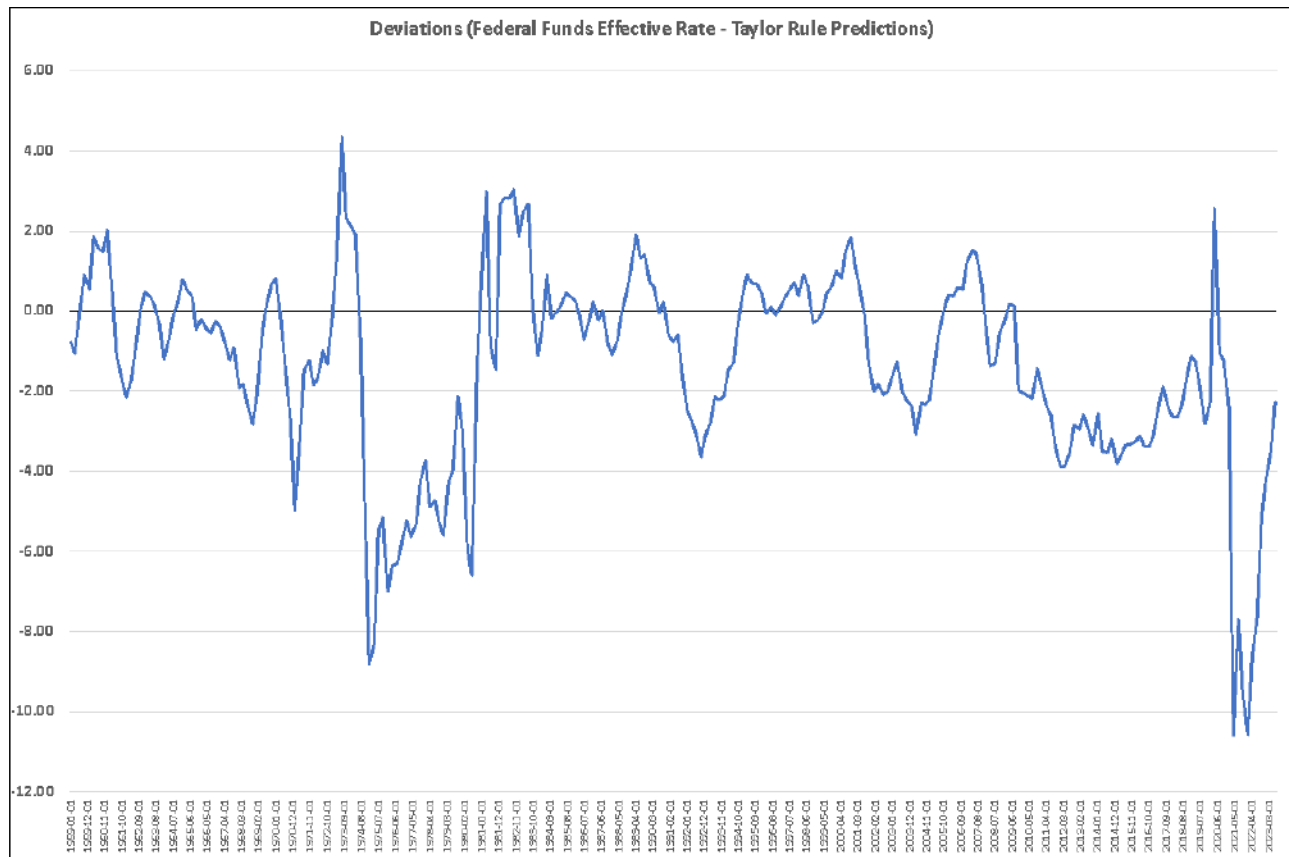


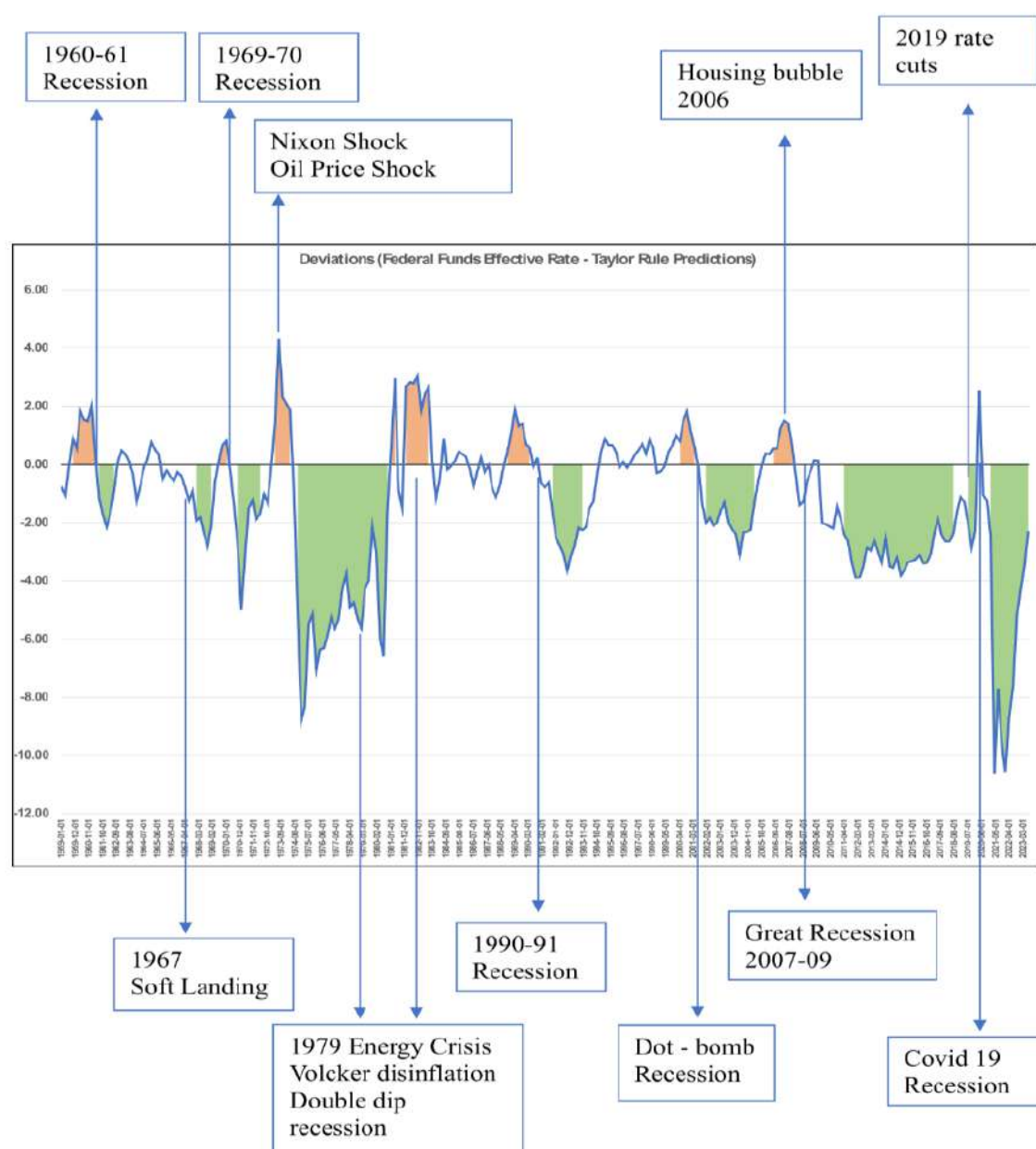
Figure 2

Here an attempt has been made to analyse how Negative and Positive deviations in the Taylor rule have persistent patterns and how these deviations can be used to infer the state of the economy in the time period in proximity of these deviations.

The deviation is considered to be large/major or of interest in our study if it is above 2 percent in case of Negative deviations and above 0.5 in case of Positive deviations. A higher value for Negative deviations to be considered large is because throughout history, monetary policy in reality seems to be more accommodative than the Taylor rule predictions which is why we see Negative deviations covering a substantial part of Figure 2.

Negative And Positive Deviations

We find a persistent pattern in all large Deviations of the Federal funds rate from the Taylor rule predictions. All major negative deviations of above 2 percent have occurred post recessions or economic slowdowns (A recession is a phase in the business cycle where the growth rate of real GDP is negative for 2 subsequent quarters). Most major positive deviations have occurred before recessions. This has been illustrated in the following diagram where we indicate the recessions, slowdowns and other shocks causing deviations -



Analysis Of Deviations

1. Accommodative and Dovish monetary policy after a Recession -

However, after these recessions, a major negative deviation has been seen in the Federal funds rate target from the Taylor rule predictions. This implies that the Federal funds rate has had a lower degree of responsiveness towards the increasing inflation and real GDP as the economy recovered from the recessions as compared to the Taylor principles. This shows that the Taylor rule-based policies after recessions are too Hawkish for real time policy making environments.

This sheds light on a drawback of the Taylor rule. It is a fixed rule which does not adjust for different fluctuations in the business cycle which leads to it predicting that Federal funds policy is too accommodative after a recession. However, as the economy is recovering from a recession, it needs subsequent periods of positive growth in the real GDP as well as inflation so that the economy can regain its previous level of real GDP and employment. If the Federal funds rate is increased as soon as the growth rate of real GDP becomes positive and inflation starts rising, it will be difficult for the economy to regain its previous level of real GDP.

2. Absence of variables of relevance

a. Unemployment rate

A big drawback of the Taylor rule is the absence of any variable that explicitly or directly measures employment or unemployment. The Federal Reserve has to achieve the dual mandate of price stability and maximum unemployment. However, the Taylor rule only explicitly considers the price level through the inflation rate. The employment or unemployment rate is not explicitly considered. We see negative deviations in the Taylor rule after the recession because the Output gap adjusts faster than the unemployment rate.

Thus, since unemployment rate adjusts slowly as compared to Output gap after a recession, is not explicitly considered in the Taylor rule and of paramount importance to the Fed's decisions, we observe Negative deviations from the Taylor rule after recessions as the Fed

tries to decrease the unemployment. This has been seen in the recessions of 1960-61, 1969-70, 1990-91, Dot bomb recession, Great recession as well as the Covid 19 recession. The stagflation caused by the Oil price shock in 1970's gives a more vivid understanding of the negative deviations caused by the absence of unemployment rate in the Taylor rule. The Federal reserve was prioritizing employment before Volcker became chairman and hence, even in time periods where the Output gap was recovering and inflation was well above 10 percent, the Fed kept the interest rates low to reduce the unsustainable unemployment levels. They chose to control unemployment instead of inflation as in that situation, if they tried to contain one, the other would increase. This shows that unemployment rate is a very important variable for the Federal Reserve during and after recessions. The Federal funds rate varies inversely with the unemployment rate.

b. Economic disruptions

The Taylor rule is a policy rule and hence, it does not have the flexibility of a policy based on discretion where an appropriate policy response can be developed for a shock or economic disruptions. The Taylor rule gives recommendations for the Federal funds rate on the basis of the effect of an economic shock on the Output Gap and inflation. However, these disruptions require quick and aggressive policies which may be too tight or too loose according to the Taylor principles.

For example, shocks such as terrorist attack during the Dot-bomb recession required a rapid and large rate cut to ensure economic disruption does not lead to a recession. However, since economic disruption is not a consideration in the Taylor rule, the Federal funds rate showed negative deviations. Similarly, the Covid 19 pandemic caused a shock as suddenly all countries started imposing a lockdown. The Fed had to cut rates to near zero immediately to prevent the economic disruption from causing havoc.

c. Changing of attitudes of the Central Bank

The attitude of the Central Bank changes over time due to discretionary monetary policy which a policy rule is not able to capture. During the Volcker disinflation period, the Fed suddenly shifted its focus to reducing inflation. Before Volcker's appointment as Fed Chair, the Fed was focusing their policy on reducing unemployment. This change in attitude

changed the Negative deviations to Positive deviations. This is an inherent weakness of policy rules in general. It cannot account for sudden changes in attitudes of the policymakers. The attitude of the Fed towards inflation and unemployment becomes more relevant in situations like the stagflation of the 1970's. This is because such a situation contradicts the short run trade-off between inflation and unemployment given by the Phillips Curve. Thus, here the Fed has to choose between either reducing the inflation or employment as one of them being reduced will cause the other one to inevitably increase.

3. Tight and Cold turkey monetary policies fuelling recessions

A historical analysis of the Taylor rule predictions shows that the Taylor rule may be a good policy rule for determining the upper limit of interest rates. This is because in all cases where we see a large positive deviation of above 0.5 percent from the Taylor rule, it has fuelled a recession. These Positive deviations are caused by large and rapid increases in the Federal funds rate in an attempt to pursue tight or Cold turkey monetary policies. This shows that when rate increases are too large and rapid, they may lead to recessions in the short run.

The aggressive rate increases in 1959 caused the 1960-61 recession. The Cold turkey policy adopted to reduce inflation caused by defence spending in the Vietnam War contributed to the 1969-70 recession. The Positive deviations during the Nixon shock and Oil price Shock show that monetary policy was too tight which pushed the economy into a recession and rapidly increased unemployment rates. The positive deviation during the Volcker disinflation era caused the 1981-82 recession. The tight monetary policy adopted to reduce inflation in 1988-1989 contributed to the 1990-91 recession. Tight monetary policy during the dot com bubble in 2000 to correct the dot com bubble accelerated the dot com bubble burst. Rate increases to cool down the home prices in 2006 were too large and rapid causing the increase in home prices to stop abruptly. This caused the housing bubble to burst and fuelled the Great Recession.

4. Negative deviations may indicate creation of bubbles

From our analysis, we see that large Negative deviations from the Taylor rule may even foster the creation of bubbles. For example, the low interest rates post 1990-91 recession led to the creation of the dot com bubble. The bubble burst in 2000 caused the Dot bomb Recession.

The low interest rates in 2003-04 created the housing bubble which led to the Great Recession when the bubble burst.

Thus, even though negative deviation may be due to accommodative policy which is essential to restore real GDP and employment, we must see the magnitude of Negative deviations and analyse whether the low interest rates will foster creation of a bubble.

Conclusion

This analysis shows that the Taylor rule is a useful device for analysing and interpreting past policy decisions and mistakes. We can estimate positions of recession just by looking at the deviations of the Federal funds rate from the Taylor rule. The recessions almost always occur after large Positive deviations and are followed by a period of large Negative deviation. The deviation is considered to be large/major or of interest in our study if it is above 2 percent in case of Negative deviations and above 0.5 in case of Positive deviations.

The lower requirement for Positive deviation is because the Taylor rule is considered to be a rather “tight” policy rule and hence even a low Positive deviation may suggest mistakes in decision making of the Fed. The above point is proved through our research where we find that all large positive deviations fuel recessions. This tells us that the Taylor rule could serve as a good instrument of analysing the upper limit of Federal funds rate. This is because large positive deviations from the Taylor rule imply that the monetary policy is too tight and it is likely that the rate increase will cause contraction of real output and employment. It also tells us that historically, Cold turkey policies have led to recessions in the short run. Hence, a positive deviation of more than 0.5 is likely to be a mistake.

In terms of Negative deviations, we find that the Fed policy is accommodative after a recession and the Taylor rule might be too tight for post-recession policymaking. This is further proved by Figure 2 where a substantial part of history shows Negative deviations of Federal funds rate from the Taylor rule implying that Taylor rule recommends monetary policy which is too tight for real time policymaking. The Taylor rule is not an efficient policy making rule in periods after recessions. However, if there are Negative deviations from the Taylor rule, economic data must be carefully analysed to ensure that there is no creation of

bubbles. This is because interest rates showing Negative deviations (implying they were too low) led to creation of the dot com bubble and real estate bubble.

We further realise that the Taylor rule is not a good rule for policymaking after recession and during stagflation episodes because of the non-inclusion of a direct or explicit measure of its progress on the “maximum employment” front such as the unemployment rate. The Taylor rule is often insensitive to high unemployment rates that persist during and after a recession as the Output Gap adjusts faster than the unemployment rate. Since it is a policy rule, it may not be sensitive to change in attitudes of the Central bank or economic disruptions as monetary policy is a largely discretionary phenomenon.

In conclusion, the Taylor rule is not a very efficient rule for “Policymaking”. This is because of omission of variables, economic disruption and changing attitudes of the Central Bank, the Taylor rule is not able to appropriately capture the various aspects that are considered while formulating monetary policy. However, it is a powerful device for “Analysing and Interpreting” Fed policy. It is a useful instrument for historical analysis as we were able to deduce so much about the U.S. business cycle from a simple graph of Deviations. In a real time, policymaking environment, the policymakers may calculate deviations from the Taylor rule and increase caution in case of large deviations. This is because they can expect recessions in case of large

Positive deviations and creation of bubbles in case of large Negative deviations. They can then adjust current Fed policy taking into account these possibilities or prepare for a series of policies they may have to implement if the above expectations turn out to be true.

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**AN EMPIRICAL ANALYSIS OF THE ASSOCIATION BETWEEN
CORPORATE SOCIAL RESPONSIBILITY & FINANCIAL
PERFORMANCE – MANUFACTURING SECTOR OF INDIA**

- *Arckodipta Bhattacharya*

Dr. Mriduchhanda Chattopadhyay

Abstract

This study aims to investigate the relationship between Corporate Social Responsibility expenditure and Financial Performance from a secondary sample of four major Indian manufacturing companies from the time period 2018-22. The sources of data are companies' annual and sustainability reports and CMIE Prowess database. A panel regression analysis is employed for the analysis using Stata software. Financial Performance of a company is measured using four financial metrics namely Profit After Tax, Age, Net Profit Margin and Employee Compensation Ratio. Out of all the variables, only Profit After Tax and Age are found to be statistically significant at 10% in analysing the impact on Corporate Social Responsibility expenditure of the selected companies. Further, the study shows that cross-sectional effects of companies are stronger than the time dimensional effects. Given its strategic importance, corporate social responsibility ought to be integrated into the company's overall business plan as a means of adding value. Businesses should strategically align corporate social responsibility with corporate operations rather than sacrificing either for financial performance. This will open the door for corporate entities to develop a feeling of stakeholder.

Keywords

Corporate sustainability, Environmental Social Governance, Financial Performance, Corporate Social Responsibility, Manufacturing

JEL Classification

C5, G30

Introduction

The manufacturing sector stands out as one of the major contributors, accounting for three-quarters of the global greenhouse gas emissions, as a result of increased efforts to combat climate change, lower greenhouse gas emissions and slow the increase in global temperature. India's air quality ranking on the Environmental Performance Index (EPI) was 179th out of 180 countries in 2020. Significant environmental issues include pollution of the air and water, greenhouse gas emissions, waste management, climate change, natural systems, altered land use, biodiversity loss, and renewable energy sources, among others. More industrialization results in increased resource consumption. In addition to being financially successful and profitable, the enterprises should strive for inclusive and sustainable growth and be good stewards of the environment and the local community.

The aim of this research is to investigate the ways in which manufacturing companies in India are incorporating CSR and sustainability into their operations. An organization's ESG performance indicates how committed it is to combining socially and environmentally responsible business practices with a strong governance framework. According to the Companies Act 2013, all privately held and publicly traded companies with annual revenue over Rs. 1000 crore, net worth over Rs. 500 crore, or profit over Rs. 5 crore are required to dedicate 2% of their average net profit over the previous three years to specific approved CSR initiatives. Additionally, they must reveal such expenses. The purpose of this study is to investigate how CSR practices affect the manufacturing sector in India. Since it makes it easier for manufacturing businesses to comply with social and environmental regulations, sustainable business practices are extremely important. Empirical research is primarily responsible for testing the positive association between CSR and financial success (Maqbool and Bakr, 2019). The company's goal ought to be expanded from value maximisation to include social growth (Wang, 2011). In a 2010 study, Choi et al. experimentally examined how 1,222 Korean businesses' financial performance was affected by corporate social responsibility. Their findings showed that CSR significantly improves a company's financial performance. Though CSR adds extra expenses due to agency issues and inefficient resource allocation, few research demonstrate the negative association between CSR and financial performance (Margolis and Walsh, 2003; Lopez et al., 2007). If the expenditures associated with CSR outweigh the advantages, one would anticipate a negative relationship. There is a neutral association between CSR and stock returns, according to Alexander and Buchholz

(1978). It is possible to anticipate a neutral relationship if the markets believe that corporate social responsibility (CSR) has no bearing on financial performance, if the market misinterprets CSR, or if CSR benefits are anticipated to be marginally greater than CSR expenses. The extant literature therefore suggests that researchers have found mixed findings about the relationship between corporate social responsibility (CSR) and firm performance.

Although the state of CSR expenditure and FP in the case of Indian manufacturing companies after the mandatory period (2013-14) have not been explored comprehensively, this paper attempts to fill this gap using significant financial indices like PAT, firm age, NPM and ECR where only PAT and age are significant at 10% level thereby employing a panel regression analysis. Consequently, the subsequent **research inquiry** is put forth: How much does an Indian manufacturing company's corporate sustainability expenditure depend on its financial performance? Furthermore, this research will provide external stakeholders with information and guidance on the impact of sustainability on the market value of Indian manufacturing businesses to investors. The paper is organised as follows. Section 2 shows data. Section 3 shows the model and results. And lastly, Section 4 concludes the paper.

Data

The secondary data from four leading Indian manufacturing companies namely Reliance Industries Ltd., Hindustan Unilever Ltd., Tata Motors Ltd. and Bharat Petroleum Ltd. served as the foundation for this study. With greater market capitalization, these businesses are regarded as indicators of India's economic progress. Large corporations are typically found to participate in CSR initiatives more frequently. A five-year time period, spanning from 2018 to 2022, was chosen for the study. The particular period of time was chosen because it saw a notable increase in CSR practices, information, and policymakers' interest in CSR in India. It is crucial to review corporate firms' disclosures and determine whether they have an effect on the sampled companies' financial performance. There are two stated goals. One is to investigate the connection between the chosen companies' financial performance and their CSR expenditures. Our second goal is to determine if cross-sectional effects outweigh time dimensional effects, or vice versa. The hypotheses are tested with the help of Stata software. The concerned variables are given in the table below.

SYMBOL	VARIABLE NAME
CSREXP	Corporate Social Responsibility Expenditure
PAT	Profits After Tax
AGE	Age
NPM	Net Profits Margin
ECR	Employee Compensation Ratio

Model & Results

This study is based on panel data; panel regression model has been utilized to test the association between the CSR expenditure and various determinants of financial performance.

To test the aforementioned hypotheses, the following model is proposed.

$$CSREXP_{it} = \beta_0 + \sum_{i=0}^n \beta_1 PAT_{it} + \sum_{i=0}^n \beta_2 AGE_{it} + \sum_{i=0}^n \beta_3 NPM_{it} + \sum_{i=0}^n \beta_4 ECR_{it} + \mu_{it}$$

where $CSREXP_{it}$ = CSR Expenditure of company i at time period t

PAT_{it} = Profit After Tax of company i at time period t

AGE_{it} = Age of company i at time period t

NPM_{it} = Net Profit Margin of company i at time period t

ECR_{it} = Employee Compensation Ratio of company i at time period t

μ_{it} = Error term

The two subscripts i and t represent the company and the time series respectively. β_0 is constant and β_1 : β_4 are the parameters of independent variables. A company's total financial health is referred to as its financial performance. When a company's financial performance is good, it usually means that its revenues are growing, its debt is under control, and its free cash flow is abundant. The capacity of the company to allocate personnel and assets to

strategic projects in a way that promotes moral and ethical behaviour and creates a sustained competitive advantage. In the paper, financial indices namely PAT (Profit After Tax), company age, NPM (Net Profit Margin) and ECR (Employee Compensation Ratio) have been taken into consideration for long-term competitive benefits. Here, CSREXP is our dependent variable while PAT, AGE, NPM, ECR are independent variables.

- PAT represents the net earnings of a company after all expenses, including taxes, have been deducted from revenue. It is a crucial sign of the company's financial stability and shows how profitable its operations are. It enables comparisons of financial performance across different time periods and with industry peers.
- Firm age is a significant element as it is a reflection of the company's life cycle, which has a big impact on managerial priorities and profitability. The time between the firm's incorporation and the year of analysis is used to determine the firm's age.
- NPM measures the percentage of revenue that translates into net profit after accounting for all expenses, including operating expenses, taxes, interest, and other costs. A higher NPM indicates better profitability and operational efficiency.
- The ECR is a valuable financial index that provides insights into labor cost management, profitability, productivity, and strategic decision-making within an organization. It is a metric used to calculate how much a company spends on employee compensation relative to its total income. The table below displays the estimation results.

	AGE	Profits After Tax	Net Profits Margin	Employee Compensation Ratio
Coefficient	36.62937	- 0.0055104	4.573857	- 0.3659444
P value	0.057*	0.491	0.656	0.846
T statistics	2.10	-0.71	0.46	-0.20
Standard error	17.4139	0.0077556	10.02055	1.839141

Table : Estimation results.

On conducting panel data regression, it is observed that the Hausman test chi-squared value is positive (27.29) and the p-value is statistically significant (0.0000) at all levels. Thus we reject the null hypothesis H_0 : Random Effects Model is appropriate and conclude the

random effects model is inconsistent and inefficient. The overall R-squared value is 0.7159 which implies that 71.59% of the variation in the dependent variable is being explained by the independent variables.

The β coefficients of AGE and NPM are positive while those of PAT and ECR are negative. Therefore, the Fixed Effects Model (FEM) is accepted implying that its coefficients are consistent and efficient as compared to the Random Effects Model (REM). FEM accounts for individual-specific heterogeneity that remains constant over time. By including individual fixed effects, the model controls for unobserved factors that are specific to each company but do not vary over time. This can help reduce omitted variable bias and improve the accuracy of the estimates. It also addresses endogeneity issues more effectively since FEM (fixed effects control for time invariant unobserved factors at the individual level) can mitigate bias arising from endogenous variables that are correlated with the individual-specific effects. Thus, FEM allows group-specific analysis by controlling individual-specific factors rather than making generalizations across groups.

So, in our proposed study, the cross-sectional effects of the selected companies overpower the time dimensional effects. This outcome indicates that the variation in CSR expenditure across different companies is more pertinent than the variation over time within each company. The differences between companies, namely their size, industry, governance structure, technological innovations, research and development or corporate culture play a more substantial role in determining their level of CSR spending than changes in financial performance over time within each individual company.

Conclusion

Corporate Social Responsibility (CSR) can be characterised as the business's contribution to sustainable development, which guarantees a suitable return to shareholders and employees, improved product and service quality for customers, and the general well-being of society. This paper aims to enhance comprehension of the correlation between CSR and financial performance in the Indian manufacturing sector by means of a meticulous empirical analysis. Our research question specifically looks into how an Indian manufacturing company's corporate sustainability expenditure depends on its financial performance. This study examined how CSR strategy was adopted over a five-year period, analysing whether or not

adopting CSR amounted to a strategy that can create competitive advantage or if it is just a matter of following standard industry best practices.

Furthermore, the empirical findings point to an unclear association between CSR spending and financial performance. These factors have an effect on the financial success of a subset of organisations both now and in the future that is statistically significant. Financial performance seems to be influenced by more than just financial measurements. This could have happened as a result of the high cost of environmental and good governance policies, especially if the savings from efficiency proved insufficient. The overall financial performance of the organisation suffers as a result. The Financial Performance (FP) is evaluated using both market and accounting metrics, which are considered as indicators of the firm's long-term performance. The accounting metrics are considered as a short-term performance report. The study is comprehensive since different financial performance metrics are used.

The study's focus is restricted to four significant Indian manufacturing firms. Therefore, it is not possible to extrapolate the results to small and medium-sized enterprises or financial institutions. Still, the findings are instructive for other developing economies of a similar nature. Thus, cross-sectional data based on primary and secondary sources may be used for more in-depth and comprehensive research projects. However, our findings from this paper imply that rather than embarking on a comprehensive CSR initiative, managers ought to concentrate on those CSR practices that they feel more closely align with their corporate values and will benefit their companies more. This research would raise awareness among industrial companies that do not have a long term corporate social responsibility policy because it can be shown to be linked to profitability.

Furthermore, just because a company is being forced doesn't necessarily mean that it will react favourably and go above and beyond what the law requires if it doesn't recognise a particular chance to do so. The analysis offers a foundational knowledge for conducting additional research. It offers significant insights for stakeholders who seek to strike a balance between social responsibility and economic goals in a dynamic business environment. The incorporation of CSR into corporate strategy is vital to cultivate a business ecosystem that is more accountable and resilient, as India pursues sustainable development and inclusive growth. Policymakers may need to provide structures or incentives to encourage businesses

to devote resources to CSR projects since financial performance is a major factor. Companies who exhibit a commitment to CSR could be granted tax incentives, subsidies, or grants, which would encourage social and environmental responsibility. Legislators ought to think about enacting laws requiring open disclosure of CSR expenses and results. To determine the impact and efficacy of CSR initiatives, it is imperative to establish strong monitoring and evaluation processes. To quantify the social, environmental, and economic effects of CSR programmes, policymakers might create uniform criteria and reporting systems that would allow businesses to show how their efforts contribute to the aims of sustainable development. Cooperation can promote information exchange, the transmission of best practices, and group action towards sustainable development objectives among government agencies, business organisations, educational institutions, and civil society organisations. Market imperfections that prevent businesses from funding CSR initiatives should be recognised and fixed by policymakers. In order to internalise social and environmental costs, this may entail resolving information asymmetries, externalities, or short-termism in financial markets through regulatory reforms, market-based mechanisms, or focused initiatives.

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