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**2020**

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SHRI RAM COLLEGE OF COMMERCE



# *Principal's Note*



**PROF. SIMRIT KAUR**

**E**conomics is an expansive field, spanning theory and practice. The practicality of Economics as a field can be felt invariably and tangibly with the ups and downs of life. It can be seen clearly with the Coronavirus pandemic which has gripped the economy, and our lives today. What we see, as a consequence, is a drastic impact on how the world works. The status quo changes with companies taking the backfoot and the government, the centre stage. Economics now takes up more column inches than ever as central banks and the government try to battle the crisis and live up to their welfare obligations. We, on our part, can take adequate measures and hope for the smooth mitigation of the epidemic.

Shri Ram College of Commerce has established itself as a premier institution of academic and extracurricular excellence, and draws the brightest minds of the country to its doors. With a vision of becoming a 'College of Global Choice,' we aim to harness the potential of students by providing them with platforms to initiate intellectual discourse on pressing global matters. The Economics Society has been committed in helping students engage in the pursuit of knowledge outside the classroom environment, which is realised by initiatives like Artha that exemplify the true spirit of research. Covering domains ranging from policy to industry, Artha serves as a platform that brings both experts and young students together.

Shri Ram College of Commerce has been a step ahead and, in consultation with the teaching faculty, we have tried our best to overcome this crisis and made sure that the circumstances do not affect the students and their zeal to learn and grow. As online learning becomes the norm, we have tried to ensure the shift is seamless and inclusive for all.

I congratulate the entire team of Artha for their wonderful work and thank all contributors for sharing their work with us. I wish all those involved the best for the success of this journal and their future. On this note, I would also like to extend my heartfelt gratitude for the doctors, police force, teachers and all the frontline workers, for working dauntlessly and helping us battle this pandemic.

## *Faculty Advisor's Note*



**DR. AJC BOSE**

**D**riven by the spirit of intellectual enhancement and the zeal to explore, ideate, and innovate, the Economics Society stands apart as a research-oriented society that encourages extraordinary ideation and fosters innovation among students. Overstepping the confines of conventional learning methods, the society has undertaken interesting research projects on a wide range of themes, organized policy workshops in collaboration with leading think tanks, and hosted personalities from diverse fields as guest lecturers. With the hard work and sincerity of all its members, this society has grown into a full-fledged organization that aspires to achieve perfection in every sphere and strives to perform to its fullest potential.

On behalf of the Economics Department of Shri Ram College of Commerce, I commend the society for wonderfully collating its annual publication, Artha, which encapsulates the eternal spirit of boundless learning. I wish the Economics Society all the very best and hope for the success of this publication as also Ceteris Paribus, its digital platform.

I also appreciate very much the responsibility that the Economics Society has taken for upholding relentlessly dignifying liberal outlook among the students. Which means that the students working for the various Society's activities are non-negotiably guided by the curiosity of contributing to learning and value addition by way of standing for pluralistic, realistic and interdisciplinary socio-economic understandings. I nudge the students to be even more bold and strong in institutionalizing the values of liberal arts education in our college.

## *Editors' Note*



**PADMINI PRASAD**

**T**he world is amidst an unprecedented crisis, forcing every one to introspect and change their way of life. Economics, as ever, encompasses all that is important – from changes in public policy to how market structures will adapt to a post Covid-19 world. In times like these, we look up to each other for inspiration, innovation and support. It is in this spirit of the collective, the hopeful, that we present Artha 2020.

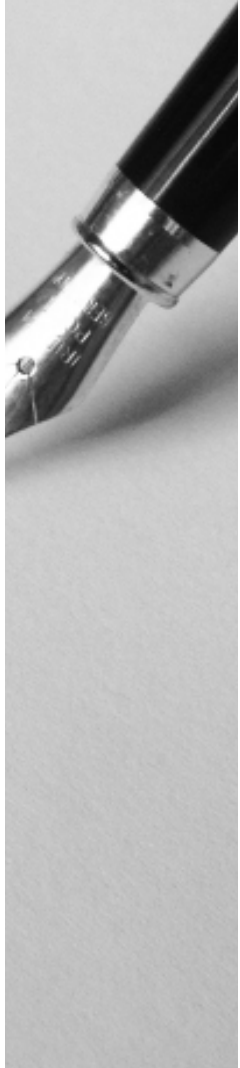
In the course of this publication, you will find articles that discuss pragmatic models implemented in various economies alongside those discussing evergreen ideas of philosophy and civics. With an eclectic mix of both contributors and themes, we believe that Artha represents a colourful kaleidoscope of thoughts, reflecting the evolving nature of the subject and of the human mind.

Honest research and writing have never been more important than in the last few years. We listen to uplifting speeches, watch heart wrenching movies and read striking accounts of things that happen around us. We aspire to become aspirational and do better for the world. We hope that Artha inspires its readers to question the unquestionable, debate the undebatable and imagine the unimaginable.

As Malcolm Forbes said, "Putting pen to paper lights more fire than matches ever will."



**AANANDI ARJUN**



**CONTRIBUTORS**  
**p. 7**



**INDIA UNBOUND**

- Uncertainty & the Indian Macroeconomy
- The Coolie Conundrum
- Looking Beyond The Schedules
- No First Use Policy: A Viable Perspective?
- On Colonialism: Amiya Bagchi
- Is India Retirement Ready?
- Aapka Aadhar: Viral Shah
- Future of Urban Electricity: Microgrids
- Revisiting Mahanalobis

**p. 8**



**WORLD UNFURLED**

- Silver or Lead?
- The Bailout That Never Was
- Vox Populi, Vox Dei?
- Anticipating the Future: Lord Meghnad Desai
- The Conviction Paradox
- Winning Over: The States' Take
- Freedom: A Required Rubik and A Cognizable Cube
- More Than a Burden

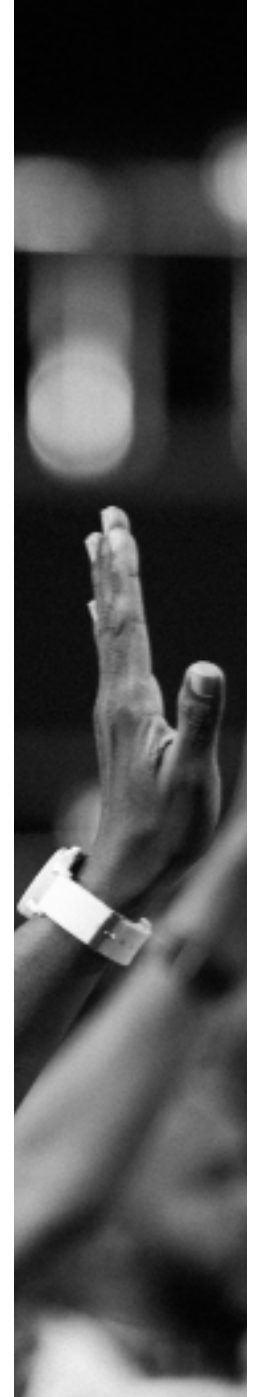
**p. 31**



**ECONOMICS MAXIMIZED**

- A Game of Words
- Unconventional Liquidity Management
- Unemployment and Us: Prof. Jayati Ghosh
- Gendered Impact of the Gig Economy
- From Dilemma to Synergy
- Read My Recessionary Lips
- Nicomachean Mountains on Freakonomic Plains
- Economies of Sale

**p. 54**



**THE FIRING LINE**

- Lobbies in Agriculture Produce Markets
- The Norway Approach
- Will a Wall Street Tax Ever Work?

**p. 77**

# CONTENTS



### **SPECIAL TAKE: TECHNOLOGY**

Machine in Man - The Future of Warfare  
Swat or Stop  
Chaining the Blocks with Blockchain  
Cut the Carbs

**p. 81**



### **SPECIAL TAKE: BUSINESS**

Flying in the Darkest Hours  
Veblen Hype: Spellbound by Luxury  
Going Soft  
To Infinity and Beyond

**p. 94**



### **SPECIAL TAKE: GLOBAL PANDEMIC**

Recognising Special Needs During a Widespread Crisis  
Delinking Chains and Changing Tracks  
Data

**p. 106**



### **OBITUARIES**

Alan B. Krueger  
Manfred Max-Neef  
Martin Weitzman  
V G Patel  
Subir V. Gokarn  
Paul Volcker

**p. 116**



### **YEAR IN REVIEW**

Shri Ram Economics Summit  
Research Festival  
Discourse  
Project Jaankari  
Editorial Board

**p. 120**

# CONTENTS

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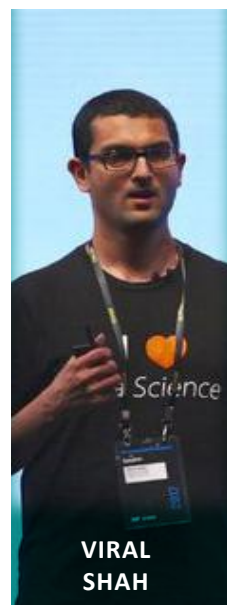
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**INDIA**

**UNBO****UND**





# UNCERTAINTY & THE INDIAN MACROECONOMY

**BY BHANU PRATAP**

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*The role of uncertainty in economic decision-making has long been ignored. Read on to find out how the RBI has undertaken quantification of uncertainty and the role it will play for policies in the future.*

Ever since the global financial crisis in 2008, the field of modern macroeconomics has been under a great deal of churn. As it faced sharp criticism for its failure to predict the crisis owing to its reliance on macro-models with extremely simplified assumptions – homogenous agents, rational expectations, fully competitive markets etc. – it has tried to reclaim some of the lost ground. Among other things, economists and policymakers now recognize the critical role of uncertainty in the decision-making process of individuals, households and firms. In fact, the 2008 financial crisis was one such recent example of a period of high uncertainty which resulted in a deep global recession that was followed by a tepid and prolonged recovery. Not surprisingly, therefore, the last decade has seen a renewed interest amongst academicians and policymakers in understanding the channels through which uncertainty manifests and impacts the economy. While there has been a burgeoning literature on uncertainty in the context of advanced economies during the last decade, the literature has been rather limited in the case of developing economies, such as India. To address this gap, we explore the economic paradigm of uncertainty and assess its impact on the Indian macroeconomy in our recent work at the Reserve Bank of India.<sup>[1]</sup> The aim of this note is to summarize and present our findings related to the concept of uncertainty, its theoretical underpinnings, measurement and its empirical assessment in the Indian context.

The economic concept of uncertainty is not new and was first described by Frank H. Knight in his book *Risk, Uncertainty and Profit*.<sup>[2]</sup> He distinguished risk and uncertainty, deeming ‘risk’ to follow a known probability distribution over a set of events, whereas he defined ‘uncertainty’ as “...peoples’ inability to forecast the likelihood of events happening.” In other words, according to Knight, uncertainty is a situation in which

economic agents cannot predict the likely state of the economy in the future. Almost at the same time, John Maynard Keynes, another giant in the field of economics, in his book *A Treatise on Probability*<sup>[3]</sup> wrote “...By uncertain knowledge, I do not mean merely to distinguish what is known for certain from what is only probable. The sense in which I am using the term is that in which the prospect of a European war is uncertain. There is no scientific basis to form any calculable probability whatever. We simply do not know.” This uncertainty around the current state of the economy, as well as its future outlook, plays an important role in determining the evolution of macroeconomic outcomes.

***Economic agents find it difficult to muster confidence and take decisions when they are unsure about the likely trajectory of the economy.***

This prompts people to change their decisions – it may force consumers to delay consumption of goods and services or it may influence firms’ decision to invest in capital or hire labour. Similarly, uncertainty can also arise due to political factors which eventually percolate into economic policies. Statements, actions and decisions taken (or not taken) by policymakers with respect to fiscal, monetary, structural and regulatory policies can also affect the current and future prospects of an economy.

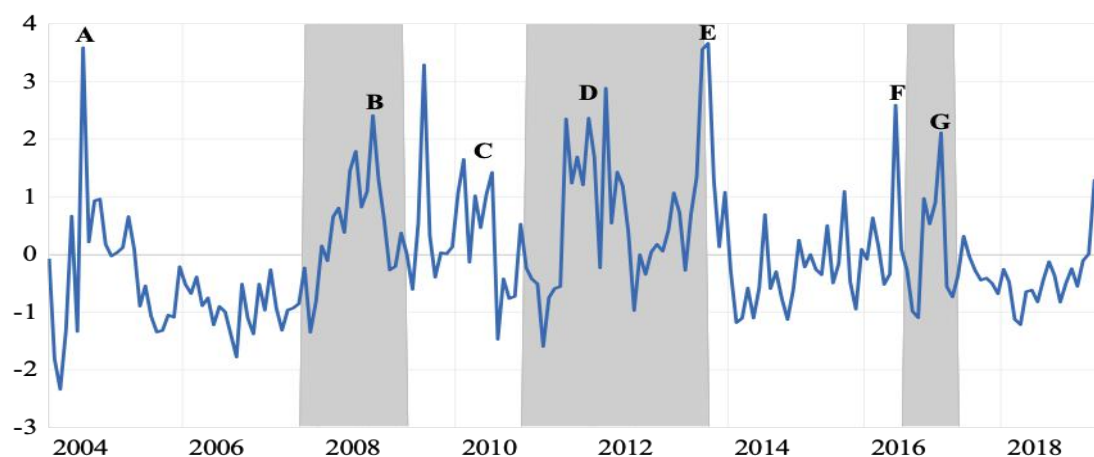
From a theoretical point of view, the potential channels of transmission of uncertainty to the economy are manifold. The first of such channels works through the firms by affecting their investment decisions. This is often termed as the real options channel which causes firms to postpone investments and hiring of labour.

Similarly, the cost of financing channel plays a role in reducing investment by raising the risk related to a given investment option as well as increasing the overall cost of borrowing. The precautionary savings channel, working at the household-level, causes people to often delay consumption expenditure on durable goods – like houses and cars – when they encounter high uncertainty. With the piquing interest in uncertainty as a real macroeconomic phenomenon, the literature has also empirically analysed the economic impact of uncertainty. This can be broadly categorized into three approaches. The first approach relies on estimating the movement of output, investment and employment following unanticipated increases in uncertainty. The second approach uses structural economic models to quantify the impact of uncertainty shocks. The third approach is premised on exploiting natural experiments to estimate the uncertainty impact. Closely connected with the empirical assessment of uncertainty is the issue of its measurement. In general, periods of lesser uncertainty are characterized by stable economic conditions that allow the economy to grow at its potential. On the contrary, periods of higher uncertainty hurt economic activity, thereby making the economy perform below its potential. However, since uncertainty is not directly observable, alternate methods for measuring uncertainty assume importance. The conventional approach relies on finance or forecast-based measures to proxy uncertainty. While the finance-based approach utilizes stock market volatility indicators as a measure of uncertainty, the forecast-based approach models the disagreement between forecasts of professional forecasters. Departing from this conventional approach, some recent efforts have leveraged data on news articles to quantify uncertainty. Recognizing that this approach may be subject to measurement error, some recent studies have used techniques in linguistic analysis and machine learning methods to create uncertainty indices using news text data. Similarly, data on internet-based search intensity

has been used to create uncertainty indices in various country-specific studies. Notwithstanding the way in which uncertainty is measured, the empirical evidence convincingly points towards the fact that uncertainty hinders economic activity manifesting itself in the form of decline in consumption, investment, employment and economic output.

To measure uncertainty in the Indian context, we construct three alternative indices using a novel dataset consisting of textual data from newspaper articles and internet search intensity data from Google Trends. The first of these indices is based on classification of newspaper articles to represent uncertainty and computing an index using the total count of such articles. The newspaper-based index captures the views of market commentators and journalists on economic events and shocks. The second index is based on sentiment analysis, a popular linguistic analysis approach to convert qualitative textual information into quantitative information. The sentiments-based index is suggestive of the overall sentiment expressed in such articles - positive or negative. The third index is based on internet search intensity data of 70 keywords representing fiscal, monetary and trade policies. The Google Trends-based index captures the behaviour of people as they try to 'search' for more information to get clarity about sudden financial or economic shocks hitting the economy. Finally, we combine the three sub-indices together to compute an uncertainty index for India (India-UI). The computed index correlates well with major periods of stress in the global and the local economy (Chart 1). Both domestic and global politico-economic events are captured by the index. It can also be seen that uncertainty in the Indian economy generally increases and remains high during recessions. This broad countercyclical trend – observable across other developing and developed countries – is recognized as one of the pervasive characteristics of uncertainty.

**Chart 1: India Uncertainty Index (India-UI) Index: 2004 – 2019**

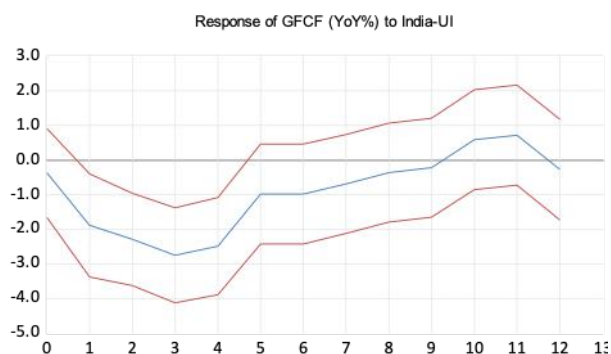


Source: Priyaranjan and Pratap (2020).

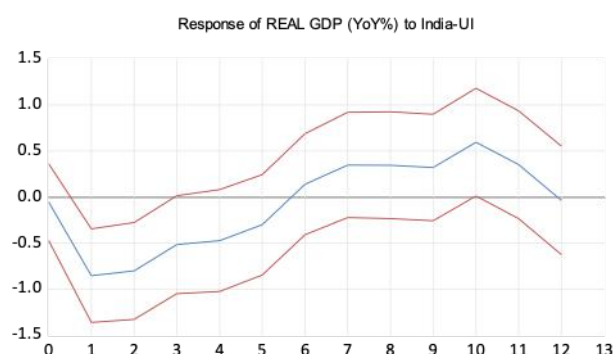
A – General Elections; B – Global Financial Crisis 2008; C – Eurozone Debt Crisis; High Fiscal Deficit concerns; D – Inflationary concerns; E – Taper Tantrum; F – BREXIT; G – Demonetisation effect, Trump Administration. Areas marked in grey represent a 'recession' as per the OECD Recession Indicator for India.

Chart 2: Impulse Responses to Uncertainty Shocks

## (a) Response of Investment Growth



## (b) Response of Real GDP Growth



A preliminary analysis of India-UI was suggestive of high contemporaneous correlation between uncertainty and financial markets as well as the real economic variables. Uncertainty was found to be strongly correlated with conventional risk measures derived from financial markets, such as implied volatility (VIX Index) and risk premium. It was also observed that higher uncertainty is correlated with a fall in financial conditions, lower stock market (NSE Nifty) returns and depreciation pressures on the exchange rate. Similarly, in line with the cross-country evidence, it was seen that uncertainty correlates negatively with economic activity in India. Underlining the strong countercyclical nature of uncertainty, it was observed that higher the uncertainty, lower is the growth in private consumption, bank credit, private investment and output.

Next, we employed a robust multivariate econometric methodology to summarize the dynamic impact of uncertainty on the Indian economy. This technique allows us to model uncertainty along with relevant macroeconomic and financial variables as an endogenous system to chart out the dynamic responses of these variables to unanticipated movements (shocks) in uncertainty. Quantifying the impact of uncertainty shock on year-on-year growth in real gross fixed capital formation (GFCF), Chart 2(a) shows the model-implied response of private investment activity (real GFCF) to a one standard deviation shock to uncertainty. The results of the model suggest that investment activity in India falls by around two per cent after an uncertainty shock. The decline in investment activity extends up to four quarters after which the impact is found to be

statistically insignificant. Likewise, Chart 2(b) shows the response of year-on-year growth in real gross domestic product (GDP) growth for India to uncertainty shocks. It can be seen that overall economic activity (real GDP) also witnesses a sharp fall in response to an uncertainty shock triggering almost a 0.8 per cent loss in growth. The impact is, however, sustained only till the third quarter.

Therefore, in line with economic theory and empirical evidence, the main conclusion of our research is that uncertainty leads to a substantial reduction in investment and overall economic activity in India. From a policy perspective, our results suggest that policymakers can use the information on uncertainty for devising policy framework and institutional arrangements that foster sound and predictable policies. Additionally, the creation of a novel data-set and automated algorithms to compute uncertainty indices in our study should also pave the way for further research on uncertainty in India. For instance, it is now possible to create specific indicators on uncertainty related to Trade Policy, Fiscal Policy, Monetary Policy, Regulatory Policy and so on, using our data-set and algorithms. It may also be possible to compute state-level indicators of uncertainty, which can be used to study the impact of uncertainty on investment flows and medium-term economic activity at the state-level in India. Lastly, such uncertainty indices can also help strengthen policy simulation exercises to study the impact of low vs. high uncertainty scenarios and improve the near-term projection of macroeconomic variables which exhibit a high degree of sensitivity to uncertainty.

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# THE COOLIE CONUNDRUM

BY AARADHYA DAGA

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*The iconic Indian railway station is half as charming without its crimson-clad army of coolies. Numbering in the tens of thousands, their plight often falls on deaf ears.*

As you wheel your luggage into a typical - rustic or modern - Indian railway station, you catch the gaze of an army in crimson, looking at you in anticipation as its next ray of hope - a chance to make ends meet. This army, whose soldiers were once admired, both in real and reel life, now face the harsh reality heralded by changing times. We've all started moving towards a faster approach to life, perhaps singularly aimed at convenience. Look at travelling with luggage, for instance - aren't the wheels a relief? But, inadvertently, we've all contributed to putting the Indian porter - the *Coolie*, out of business. Somewhere in this race to equip ourselves with elevators, ramps, trolleys and much more to enhance the customer experience of a railway station, we've conveniently forgotten about the ones who call it their home.

However, it's not just us. It seems the government, too, has long forgotten about these 20,000 odd men and women<sup>[1]</sup> who brave the odds of heavily crowded platforms with tens of kilos in tow just to ensure that a person doesn't miss their train. Up until the budget of 2016, the topic of *coolies* seemed to have been brought up only by Ram Vilas Paswan, a cabinet minister who had been proactive in introducing the systems of free railway pass, medical benefits and woollen clothes for the porters.<sup>[2]</sup> In 2016, Suresh Prabhu, the former Commerce and Industry minister, recognized the importance of this crimson army and started by renaming them as *Sahayaks*.<sup>[3]</sup> Although a heartfelt move, aiming to rid the colonial connotations attached to the rather popular term of *coolie*, there are bigger problems that these people face. What's in a name, after all? Mr. Prabhu also promised the impartation of soft skills like communication and personality traits to porters to help them make their job and the customers' experience a more amicable affair.<sup>[4]</sup> Although the

porters did get a card with *Sahayak* printed on it, and a half-an-hour lecture on soft skills in the week of the budget<sup>[5]</sup> - there was nothing after that. Promises, apparently, are meant to be broken.

The government again pitched a few promises to the porters in the March of 2019<sup>[6]</sup> - better medical facilities were proposed to be extended to their families and free education for their wards. Sadly, these promises are nowhere close to being honoured.

It's interesting to note, however, that India's largest employer<sup>[7]</sup> - Indian Railways - does not have the *sahayaks* on its payroll. The porters have been protesting for inclusion in group D of the Railways' payroll for a long time now but their concerns haven't been paid heed to. No presence on anyone's payroll implies that they cannot avail pensions post-retirement and they end up losing their daily bread.

***The porters have to fend for themselves and there's nothing to improve their working conditions or post-retirement life.***

For porters, the prices are currently at Rs. 60 for every 40 kilos of luggage carried, but these are flouted constantly because the revision of rates by the Railways doesn't occur at regular intervals. Despite this, authorities continue to blame the porters and customers. They say the porters overcharge people by assessing what train they're boarding. Customers running late also agree to inflated prices as long as they make it to their train in time. All parties involved feel that an organized system is the best way forward but no consensus has been reached yet.

The future of these crimson-clad men and women hangs in doldrums as they keep getting overlooked by one government after another. Can they be uplifted in a world rapidly outgrowing them or will they fall victim to

this 'high-handed' definition of inclusive development? Who will carry the burden of those who are tired now, having carried our burden since time immemorial?

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- [1] *Railways announce welfare measures for over 20,000 'Sahayaks'*
- [2] *A burdensome livelihood*
- [3] *Indian railway 'coolies' to be renamed in bid to improve their status*
- [4] *The life of a coolie, err, Sahayak...*
- [5] *What Sahayak? Still called porters here*
- [6] *Good job, Indian Railways! Coolies to get pathways for movement of luggage, modern rest facilities and more*
- [7] *List of largest employers*



# LOOKING BEYOND THE SCHEDULES

BY AASHISH KHAKHA

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*Ideally, national development should focus on the ability of a country to improve the social welfare of all its people. What happens when tribal societies are forced to sacrifice their sustenance and welfare in the name of “national development”?*

In most development literature, the dimensions of development include ‘economic, social, political, legal and institutional structures, technology, the environment, religion, arts and culture’ (Sumner, 2008). Development has also been conceived as a process which ‘involves a range of actors, from international agencies, through the state, down to the individual, all of whom have a vested interest in how change and development are to proceed’ (Potter, 2001).

In the case of India, ‘the fundamental objective of planned development has been to transform a backward colonial system to a developed modern industrial one’ (Karna, 1990). However, as Fernandes and Bharali (2007) write, ‘Development literature has traditionally presented development as increasing wealth and income, a higher standard of living, improved technology and industrial progress by creating incentives for investment. Its criterion is the Gross National Product (GNP) and economic growth.’ It relies heavily on capital investment and advanced technology to harness natural and human resources. Development projects in India (as elsewhere in the world) require a huge area, most of which lie in the resource-rich tribal regions. Most of these areas are inhabited by tribal societies whom the project forces to sacrifice their sustenance in the name of ‘national development.’ Land is basic to these projects and usually the state provides it to the executing agencies through compulsory acquisition. Such acquisitions displace people from their traditional habitats and sustenance.

Tribal communities are the most affected by the process of displacement in India. It is in this context that studying their experience vis-a-vis the process of urban development occurring in their land is an interesting proposition as it has not been studied much before. Tribes for long have been considered as forest dwellers. They have been looked upon as groups that were residing outside civilisation. Xaxa (2008) writes, ‘they lived on hills and plateaus or in forests and survived on hunting and food-gathering or practised settled as well as slash-and-burn agriculture, followed from being outside the civilisation complex.’ Most of the urban development on tribal land has been created from tribal resources. The D.S. Bhuria Report (2004) mentions, ‘with the accelerated urbanisation and industrialisation, tribal land-holdings in urban areas experience great pressure for transfer. We suggest the application of anti-land alienation laws in urban areas and, at the same time, applicability of such laws to non-agricultural lands in addition to agricultural holdings.’ If we see a national overview of tribes in urban areas, we see that the increase in urban tribal population is far from uniform across regions or sub-regions. The share of urban tribal population is larger in the North-East region than in the tribal regions of mainland India. Jharkhand, for example, had only 9.8 per cent of the tribal population as urban as per the 2011 Census. The figure has been 8.5 per cent for Odisha and 10 per cent for Chhattisgarh. In other states of mainland India, the share of the tribal population has been even lower. As per the 2011 Census, Gujarat has only 3.5 per cent of the tribal population as urban, Madhya Pradesh 5.2 per cent and Maharashtra only 3 per cent (Report of the High-Level Committee on Socio-Economic, Health and Educational Status of Tribal Communities of India, 2014).

“ ***Thus, displacement and deprivation have been integral to India’s development.*** ”

However, there are relatively few sociological works conducted on the deliberations mentioned above. Vidyarthi (1972) has written that with the forces of exploitation of mineral resources, the establishment of mineral-based industries, the emergence of industrial, commercial and administrative centres, the pace of industrialisation and urbanisation has greatly been accelerated in tribal regions. Due to these forces, most of the tribals have faced land alienation and social disruption. This is manifested in the loss of traditional occupations, traditional habitat and traditional way of life. It also includes exhaustion of cash received by way of compensation, unemployment and unfair competition with the migrants in labour markets.

This is a phenomenon that needs to be explored academically as well as in terms of policy making as it has far-reaching implications for tribal society. Historically, states created as a testament to tribes staking a legitimate claim to their own land are threatened when non-tribal, non-state and certain tribal actors indulge in a range of activities including land alienation, land grabbing and land acquisitions through nefarious means. Nongkynrih (2008) writes, 'the Constitutional Provisions provide special protection to the tribes of the region but other laws and policies introduced through various political bodies such as the state governments or autonomous district councils have taken away the rights of the tribes to administer themselves according to their tradition.' It has also been observed that despite being numerically dominant at the state level, there is a decline of tribal population wherever there is urbanisation. The developmental policy thus initiated

by the state has only led to the 'disempowerment of the tribes' (Xaxa, 2008:69) and 'the condition of tribals have become worse' (Xaxa, 2012).

Although the Scheduled Tribes have a legitimate claim over the land that they reside in (as these lands are Fifth and Sixth Schedule designates), they have to engage with various non-tribal people for urban space. Another crucial aspect is that when urban development encroaches upon tribal land and forests, it also violates the P-PESA Act. This Act was passed to prevent, among other things, land acquisition and displacement due to development projects that had led to large scale distress in tribal communities living in Scheduled Areas. It was supposed to introduce a new paradigm of development where the tribal communities in such Scheduled Areas were to decide by themselves the pace and priorities of their development. That has not happened as there is an open violation by the very institutions and the people designated to protect it.

Despite the fact that there are some similarities between the Fifth and the Sixth Schedules, there are also some striking differences in the two, especially when it comes to geographical and cultural considerations. Hence, I argue that there is an urgent need to rethink tribal development policy from a fresh angle. While taking the critical aspects of identity, geography and culture, into serious consideration, there is also a need for a more holistic approach in addressing the fundamental problems faced by the tribal/indigenous communities today in India.

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# NO FIRST USE POLICY: A VIABLE PERSPECTIVE?

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*In light of growing nuclear tensions, India continues to adopt a self-imposed No First Use policy, retaining the ability to mould its implication contextually. Will this stand the test of time?*

Generally speaking, the age of nuclear weapons has made possible ‘maximal destruction in minimal time,’ to the extent of threatening the existential survival of nations.<sup>[1]</sup> This has spurred a global arms race among nations to modernize their nuclear capabilities, making the likelihood of a catastrophic nuclear war more probable than ever before. In such a background, the importance of responsible nuclear policy cannot be undermined.

India has “adhered to a self-imposed commitment” to a No-First Use (NFU) Policy of nuclear weapons since conducting its second round of nuclear tests at Pokhran in 1998.<sup>[2]</sup> The NFU policy has remained stagnant as such, without any significant revisions or even re-examinations since its first official articulation in the brief Press Release by the Cabinet Committee on Security (CCS), on 4<sup>th</sup> January, 2003.<sup>[2]</sup> However, there appears to be near consensus in the Indian Strategic Community about the need to periodically re-examine the Indian Nuclear Doctrine. The need for re-examination has become even more underlined with confusing and often contradictory statements by Indian bureaucrats and politicians from time to time. Take for instance, former National Security Advisor (NSA) Shiv Shankar Menon’s comments, who, while addressing officers at the National Defence College, described India’s Nuclear Doctrine as that of “*minimal deterrence, which implied a no first use against non-nuclear weapons state...*”<sup>[5]</sup> Similarly, in 2016, former Defence Minister Manohar Parrikar said that India should not bind itself to NFU and rather make it clear that it would be a responsible nuclear power.<sup>[6]</sup> Recent comments of ex-Defence Minister Rajnath Singh also made headlines, when he appeared to indicate that the NFU policy is not written in stone, stating, “*Till today, our nuclear policy has been of ‘no first use’. What happens in future depends*

*on the circumstances.*”<sup>[7]</sup> This statement came after Prime Minister Modi had iterated NFU as a “*reflection of our cultural inheritance*”.<sup>[8]</sup> Notwithstanding, Rajnath Singh’s statement raised questions as to whether India is contemplating shifting to a nuclear counterforce strategy. The object of this article is to revisit and reassert the original strategic logic behind the NFU, amidst the growing discomfort of the strategic elite about India’s NFU pledge.

India released its Draft Nuclear Policy (DND) in August 1999, which was drafted by the semi-official National Security Advisor Board (NSAB).<sup>[4]</sup> It articulated, in some detail, the considerations of the strategic thinkers who formed a part of the NSAB at the time.<sup>[9]</sup> Although this was quickly disowned by the Government, the policy enunciated therein was largely followed (albeit with some differences) in the official doctrine as postulated by the CCS in January 2003.<sup>[10]</sup> The Nuclear Doctrine can be summarized in the following tenets. It is based on “building and maintaining Credible Minimum Deterrence” (CMD); adopts a posture of ‘No-First Use,’ meaning that nuclear weapons will only be used in retaliation against a nuclear attack on Indian territory or on Indian forces anywhere; and that nuclear retaliation to a first strike will be massive and designed to inflict unacceptable damage.<sup>[2]</sup> It allows use of nuclear weapons to retaliate against attacks using Chemical or Biological Weapons (CBW). Additionally, the Press Release also provided details of operational arrangements, i.e. a Nuclear Retaliatory Attack can only be authorized by the Civil Political Leadership, through the Nuclear Command Authority; the composition of the Nuclear Command Authority etc.<sup>[2]</sup> Notably, India is the only nuclear weapon armed state that has a doctrinal commitment to the abolition of these weapons as a security policy objective.<sup>[9]</sup>



Scholars regard the Indian Nuclear Doctrine as a significant factor in determining nuclear stability in South Asia, particularly because of its restrained nature; making any indication of change a cause for concern.<sup>[4]</sup> Most recently, the Bharatiya Janata Party (BJP) in its election manifesto promised to “*revise and update India’s Nuclear Doctrine to make it relevant to challenges of the present times,*” and “*maintain a credible minimum deterrent that is in tune with changing geostatic realities.*”<sup>[11]</sup> BJP leaders, however, quickly denied suggestions of alterations to NFU Policy.

Amongst Nuclear Weapon States, India and China are the only two countries to affirm an unconditional NFU pledge.<sup>[6]</sup> Washington has stated that it would consider using nuclear weapons first to defend itself or its allies. Moscow, although initially committed to NFU, did away with this stance in 1993 and stated it would not use nuclear weapons against non-nuclear weapon armed states. France maintains the right to use nuclear weapons first under any circumstance, whereas the UK maintains an ambiguous policy which does not rule out anything.<sup>[6]</sup> Pakistan does not have a clear or articulated nuclear doctrine and has insisted on a First-Use posture from time to time.<sup>[9]</sup>

“ ***The Indian Nuclear Doctrine has been subject to considerable debate, albeit erratic and indeterminate.*** ”

While NFU has been quite controversial, other elements of the doctrine including CMD, nuclear retaliation to CBW attacks, ‘massive’ retaliation, and adequacy to deal with present challenges such as Pakistani development of Tactical Nuclear Weapons (TNWs)<sup>[12]</sup> and resort to terrorism have also been hotly contested. The following discussion encompasses the opposition to the NFU policy.

Opponents of an NFU policy favor an expansion in the nuclear doctrine to a less restraining one. Bharat Karnad argues that an NFU policy is suitable in a country which has extreme confidence in not only the survivability of its national nuclear forces, enough to muster a massive retaliatory strike, but also in the efficacy of its crisis management system.<sup>[13]</sup> He argues that crisis management is not a strong point of the Indian bureaucracy, certainly not in one as dire as a nuclear emergency; and leaders are likely to be faced with a decision paralysis in such an eventuality, particular in light of the short reaction times and small distance between the only real potential nuclear adversaries. He adds that NFU is unenforceable, for nuclear weapons cannot be designed only for a second strike. Non-survivability of the nuclear arsenal invalidates any ‘deterrence’ argument. Hence, it is more like a peacetime declaration not required to be followed during wartime.<sup>[13]</sup>

Other expansionists highlight the insufficiency of NFU, liberating Pakistan of the fear of Indian nuclear response to terrorism and allowing it to employ low intensity conflict and TNW’s against India.<sup>[14]</sup> Additionally, critics of the NFU policy emphasize the increasing development of ‘counterforce’ capabilities of countries like China. Counterforce is the nuclear first-use strategy of targeting an opponent’s military infrastructure; as differentiated from a ‘counter-value’ doctrine, which targets enemy cities, destroying its civilian infrastructure and economic base.<sup>[15]</sup> With evolving nuclear capabilities and increasing accuracy of weapon systems, expansionist’s fear that a ‘surprise’ first nuclear strike will not just hinder a retaliatory nuclear strike but also hurt conventional military assets. A more graphic example by a former fighter pilot, MP Anil Kumar, takes issue with the fundamental principle underlying the NFU Policy. He argues that it “*smacks of an extremist version of masochism. It’s tantamount to: You, there, c’mon clobber me, but if you leave me alive, I’ll disembowel you! How can a ‘democratic’ government treat the citizens like cannon fodder? Though I believe no sane country will resort to nukes, Heavens forbid! Pakistan has to go for broke by launching its entire nuclear arsenal to try to ensure its survivability. Wonder what will be left of India to retaliate!*”<sup>[17][18]</sup> This emphasizes the criticism that India will wait until it is attacked before undertaking retaliatory measures (i.e. if its nuclear arsenal survives such an attack), reflecting “*general strategic passivity*” and political idealism, emanating from the desire to be perceived as a responsible actor.<sup>[19]</sup>

Clary and Narang in their paper suggest that India’s continued nuclear restraint is less certain, and that India is developing capabilities suggestive of a pre-emption or counterforce strategy inconsistent with CMD.<sup>[20][21][22]</sup>

This expansionist approach and significant opposition to NFU necessitated re-affirmation of the original strategic logic behind NFU. Rajagopalan suggests that the central reason for the adoption of NFU was the recognition of the limited purpose of nuclear weapons, i.e. national survival, particularly in a country like India.<sup>[19]</sup> Only nuclear weapons, unlike any other weapon, can threaten the survival of a country. Since these weapons cannot be defended against, thus the only way to prevent such a calamity is to threaten similar destruction on a potential adversary. NFU was a derivative of this logic - deterrence through the threat of retaliation. Analogously, retaliation is possible only against a prior action.

A first use policy is sensible for countries that perceive a non-nuclear threat to national survival, such as Pakistan and Israel. Due to its small size and hostile Arab neighborhood, Israel certainly perceives a non-nuclear but existential threat. Pakistan, owing to historical hostility and significantly inferior conventional military strength to India may adopt a First-Use posture. Similarly, the threat of surprise attack compelled the

Cold War superpowers to adopt First Use doctrines. In the absence of either existential or surprise threats, there is no reason for India to adopt a First Use stand. Rebutting expansionist arguments, the question that arises to critics suggesting abandonment of NFU, in order to not be bound by such a commitment is, under what circumstances will India be required to use nuclear weapons first? The only perceivable nuclear threat comes from Pakistan and China. India's covert military actions in 2016 and 2019 called out Pakistan's nuclear bogey.<sup>[23]</sup> In any case, Pakistan's operational readiness or even intent to use nuclear weapons first is questionable. A First-Use posture has been denounced by their Prime Minister and Army alike.<sup>[25]</sup> China, on the other hand, presents no real nuclear threat to India in the South-Asian region for two reasons. Firstly, bound by an unconditional NFU pledge itself since 1964, China did not address even the minutest possibility of posing a nuclear threat, even during the lows of the Doklam Conflict in 2017. Secondly, confidence building measures and apparent conventional military parity between the states rule out any possibility of a nuclear war. Moreover, in the background of such geopolitics, any First Use *ipso facto*, will expose India to inevitable nuclear retaliation, leave alone the other potential ramifications of adopting such a policy.

The unviability of alternative policy options, and the implications of adopting an alternative policy on cost and strategy are important cases in point for NFU. Fulfilling fantasies of nuclear pre-emption and counterforce requires perfect and specific intelligence. Without this, the risk of any nuclear first use options are too high. It involves miscalculations and accidental launches, thus vitiating First Use options like Launch-On-Warning, Launch-Under-Attack, or other hair-trigger alternatives. History has witnessed that short response times and false alarms have led to a number of 'near misses'.<sup>[26]</sup> Considering the gravity of nuclear weapon employment, no leader would want to act on a mere presumption of risk. First use also necessitates massive investments in weapon and delivery systems, Intelligence-Surveillance-Reconnaissance (ISR)<sup>[28]</sup> and upgradation of other operational infrastructure.

Contrarily, concomitant of an NFU policy is a de-alerted and de-mated posture of nuclear weapons. This increases transportation and assembly times, thereby providing time to carefully evaluate decisions and minimize inadvertent launches. NFU obviates the need for huge investments in control and delivery systems and in maintaining operational readiness, which would pressurize a developing economy with an already weak defense infrastructure.

NFU has given rise to concerns over limiting India's policy options. However, India's limitations are less a result of

its NFU pledge and more a result of its strategic needs. A First Use Doctrine only ensures Mutually Assured Destruction; and has adverse consequences on India's policy options. Contrary to constraining Indian options, a declared NFU stand gives India diplomatic mileage constructing India's image as a responsible nuclear power. Pakistan's unpredictable stand leaning towards First Use, puts India's moderate stance in good light in international forums, allowing diplomats to deflect criticisms and calls for sanctions. Further, adopting a First Use policy is likely to raise alarms in Beijing and Islamabad, spurring an arms race and creating instability in the South Asian region. China modernizing its weapons to counter American counterforce abilities, leading to ongoing pacific instability, is a glaring example.<sup>[28]</sup>

Frustrations over Pakistani adoption of TNWs and terrorism are acknowledged. However, these need to be viewed; firstly, in context of the implicit acknowledgement of conventional military inferiority and secondly, in terms of disproportionality of any strategic nuclear weapon response by India. Thus, a conventional military response to such an eventuality is a far better alternative than a severely disproportionate nuclear response.

Not to mention the consequences of a declared First Use stand in terms of rising international heat, at a time when India is seeking entry into the Nuclear Suppliers Group (NSG). A moderate stance allowed India to receive NSG waivers and International Atomic Energy Agency (IAEA) assent through the Indo-US Nuclear Deal, 2008<sup>[29]</sup> and entry into the Wassenaar agreement and Missile Technology Group. Change to an aggressive stance at this point heightens suspicions amongst adversaries, making nuclear confidence building measures more difficult."<sup>[30]</sup>

In contrast, certain additional benefits accrue from an NFU policy - safer nuclear arsenal, stronger civil political command over nuclear weapons, relaxed command-and-control, no requirement of expensive infrastructure for first use and operational readiness etc.

Certainly, all policies must be periodically reviewed. India's Nuclear Doctrine is no exception to this. However, India's NFU policy was a result of India's strategic thinkers drawing upon a rich fund of nuclear policy from a global repository of experience and applying it in the Indian context. Given the strategic logic of India's NFU Policy and the costs involved in abandoning it, it is clear that the NFU stance is uniquely suited to the Indian requirement; thereby making it the *only* viable nuclear policy perspective for India.

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# ON COLONIALISM: DR. AMIYA BAGCHI



**INTERVIEWED BY AMOGH SANGEWAR, HIMANSHU CHHABRA AND PARTH CHOWDHARY**

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*A distinguished Indian political economist and Padma Shri recipient, Dr. Amiya Bagchi has written extensively on economic history and development studies. He has also worked as the Director and RBI Professor of the Centre for Studies in Social Sciences, Calcutta.*

**There are two conflicting beliefs about colonialism. While it is believed to have restricted the Indian economy, resulting in a weaker global footprint, another idea is that colonial rule gifted our economy with the modern engines of growth, including steam engines and railways. What is your view regarding this?**

Colonialism definitely set back the Indian economy very badly. Around 1750, India accounted for 25 per cent of the global manufactures, which were handicrafts in all countries at that time. By 1913, India accounted for less than three per cent of global manufactures. Colonial economic policy absolutely de-industrialized India as I have demonstrated in my book, *Colonialism and Indian Economy*. Britain's first major manufacturer, East India Company, grew up largely at the cost of the Indian cotton textile industry. Up to World War I, India remained the biggest market for the Manchester industry. Moreover, the continual extraction of an imperial tribute from India left Indians totally impoverished. Indian per capita income was lower in 1895 than in 1794-5, and that decline continued down to the eve of the Second World War. It is only from the 1950s that India's per capita income began growing again.

Steam engines were a British invention but by the first quarter of the nineteenth century they had spread to all countries of Western Europe and the USA. By the end of the nineteenth century, the value of manufactures of Germany and the USA became larger than that of Britain because they were able to pursue independent economic policies, using government subsidies for their domestic produce and protective duties against foreign import.

**In his famous book, *Sapiens*, Yuval Noah Harari has mentioned 'credit availability' as a major reason behind the success of European Colonialism. Do you believe the same?**

Certainly that, but not only that. The most successful colonial countries, namely, the Netherlands and Britain, were able to use a system of public credit backed by the credit of their merchants and the state's fiscal resources to wage wars. That is why England was able to defeat France with a much larger population and income in the Second Hundred Years' War, ending in the defeat of Napoleon in 1895. That victory cemented England's dominance in global trade and politics till the 1870s.

**From subjugating plantation workers to the tyranny inflicted by profit motivated behemoth East India Company, colonial rule shows how capitalist instincts can be disastrous. What are your views on this argument?**

It is under capitalism that empires became global. Before that, empires, however large like the ancient Egyptian empire, the Persian empire, the Roman empire, the Mauryan empire, the Mughal empire, the Ottoman empire, the Mongol empire, the Aztec empire, the Inca empire or the Chinese empire, never straddled the globe as the British and French empires did. Capitalists obey no restraint in pursuing profit. When there is a state backing them as in England, the Netherlands, France, Germany or the USA, they would pursue war as a means to aggrandize themselves. The recent wars in Iraq waged by the USA and its allies were driven by their desire to control all sources of oil in the Middle East.

**A common belief is that India's dependence on the primary sector, majorly agriculture, is a product of colonial policies. Do you agree that since Independence, we had enough time to move past the effect of those policies and reduce our dependence and incidence on agriculture?**

I agree completely. There were two barriers connected with each other that the policy makers never tried to overcome. One is country-wide pro-peasant land reform. Land reforms in Jammu and Kashmir, Kerala and West Bengal were not enough. It left the Hindi-speaking heartland of India untouched and therefore left the shackle of landlordism untouched as well. As a result, as my late friend, Pradhan Harishanka Prasad pointed out, in the Kosi Project area, actual cultivators could not use irrigation water because the landlords would not let them because they like to keep impoverished peasants under control and exploit their whole families. In some villages, the daily needs of the peasants, often Dalits, had to be performed on landlords' fields and that was another means of control. In Madhya Pradesh, Sardar Angre, the private secretary of the late Vijaya Raje Scindia, claimed that he personally owned 250 villages. What freedom of action do you think the peasants of those villages had?

The other side of the picture was that landlordism wasted enormous amounts of resources through the maintenance of retainues, who included armed enforcers in their power. In Bihar, the Shonepur elephant fair was the biggest elephant fair in India, largely because the prestige of a big Bihari zamindar demanded that he should have an elephant or two. Later, the elephant was replaced by Mercedes Benz or BMWs. The landlords' income was untaxed, so the state had no access to that resource. When China was investing 30-40 per cent of its GDP, we were slowly climbing from investment rates from 15 to 20 and 30 per cent of our GDP. In recent years that rate has again fallen. As a result, while China has become the workshop of the world, the proportion of people engaged in agriculture still probably exceeds 40 per cent although with a much lower per capita income, agriculture accounts for much less than 20 per cent of GDP.

**How would you contrast the struggles of African colonies, such as South Africa, against the struggle of Hong Kong or Scotland, given their struggles have persisted till the modern era?**

There is no comparison between the heroic struggles of the South African blacks and coloureds against the apartheid regime and the struggles of Scotland and Hong Kong. Let us take Hong Kong first. Certainly the people of Hong Kong want procedural or multi-party democracy, but they really want it under China's patronage. I don't believe that Hong Kong can thrive as a financial hub, with an inimical China just across the border. While Scotland obtained a separate parliament in 1998, it has only limited powers and in spite of the

fact that Scotland is likely to lose badly as a result of Brexit, there is no sign of revolt there yet.

**In the wake of colonising countries to exploit their resources, European powers left a big trace of their culture on the colonies, even after they abandoned them. So do you categorise such an impact as positive or negative for that particular colony and in particular, India?**

The answer to this question is complex. On the one hand, Sir William Jones, impressed by the wealth of ancient India, especially Sanskrit literature, established the Asiatic Society and started the journal Asiatic Researches, where much scientific and anthropological knowledge was gathered, on the other hand, James Mill in his multi-volume History of India, demonized all Indian civilization. Thomas Babington Macaulay claimed that all of that was valuable in Indian writings could be put on a single bookshelf. On the other hand, among the upper classes the European influence brought in a sense of the dignity of the individual independent of caste, religion or sex which is why people like Raja Ram Mohan Roy took an initiative in founding the Hindu College where Western learning would be taught. It was under their prodding the colonial government made widow immolation a criminal offence. It is with the inspiration of the British practice that Jotiba Phule, Sabitribai Phule, Pandita Ramabai launched their anti-caste and pro-woman struggles. Similar sets of ideas inspired the Bengali feminist Rokeya Sakhawat Hossain.

On the other hand, we often forget that there was large underclass of Indians who disobeyed the diktats of the Koran or the Shastras, believing in their own rationality - Kabirpanthis, Vaishnavs, Veera Shaivaites, Bauls, Lalanshahis and so on. But they had no power to change laws as the colonial rulers and rationalist Indians such as Vidyasagar had. My own belief is that we should imbibe whatever is good in any civilization as Rabindranath Tagore did, without making stupid distinctions between the mythical East and the mythical West as the Orientalists and their modern followers, post-modernists, do.

**Given that the current trend of curbing dissent is often facilitated by archaic laws, do you feel that this atmosphere is a gift of colonial rule? If so, was this always in the pipeline, or has been exploited unduly by the current regime?**

I do not think it is fair to blame colonial laws. While the Indian Penal Code passed under the British can be and has been often used for stifling dissent, the UAPA (Unlawful Activities Prevention Act), the Armed Forces Special Powers Act (AFSPA), against which Manipuri women including the iron lady, Irom Sharmila, who have struggled long and unsuccessfully or the Public Safety Act, under which all top Kashmiri leaders remain incarcerated after 5th August 2019, are our own

contribution.

**Has colonial rule divided the country further, as opposed to the belief that it unified conflicting kingdoms and hence, created the structure for a nation-state?**

The answer is yes and no. The country that we celebrate in our national anthem was the creation of the British. Neither the Asokan empire nor the Mughal empire stretched from the Himalayas to the Indian Ocean. The sense of being a Hindu, the word is an Arabic coinage, meaning anybody living east of the Sind river was there at least from the 9th century CE. But the sense of a state-based Indian nationalism was forged in the furnace of India's struggle for independence. On the other hand, the 'Divide and Rule' policy of the British was largely, though not exclusively, responsible for the partition of India in 1947.

**Today, we're living in an era of globalisation. To an**

**extent, we can accredit colonialism with the modern day interlinked economies. Would you agree that this was a positive outcome of colonialism?**

There was globalisation before colonialism. The whole of Eastern hemisphere were linked by the activities of English, Belgian and French traders in North-west Europe, by Portuguese traders sailing along the East coast of Africa, Italian traders of Genoa and Venice linking up with Turkish and Arabian traders in Egypt, the Levant and down the Red Sea linking up with Gujarati and Malayali traders down the West coast of India and Bengali, Oriya, Telugu and Tamil traders linking up with Chinese and Arabian traders in Southeast Asia. There were also overland routes from India through Persia, Arabia to Egypt and the Silk Route from China and Mongolia through Central Asia to Turkey.

Modern-day globalization would have come independently of colonialism. Some capitalist power or other would have traded with an independent India and that globalization would not have produced such painful by-products.



# IS INDIA RETIREMENT READY?

**BY AMRIT CHADHA**

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*With a population growth rate of 1.14 per cent, India's demographics will drastically change by 2050. The anticipated increase in the population of senior citizens begs the question - is India ready to serve its retiring population?*

According to the Global Retirement Index,<sup>[1]</sup> the future of retirees in India looks bleak. The index aims to examine the factors that drive retirement security and provide an efficient comparison tool. It takes into consideration 44 countries, including the IMF advanced economies, members of OECD and BRIC countries. By 2050, 60 per cent of the current working-age population in India will grow old and the population of senior citizens will increase by more than four times the current level.<sup>[2]</sup>

The index incorporates 18 performance indices, grouped into four thematic sub-indices, which are, Health Index, Quality of Life Index, Material Well Being Index, Finances in Retirement Index. With Scandinavian countries in the lead, the top countries were Iceland, Switzerland and Norway, while India ranked last out of all the 44 countries. So, what exactly are these tiny Nordic countries doing better than the fifth largest economy in the world?

India's best score was in the Finances in Retirement Index. There has been a four per cent year-on-year improvement in this area for India. This could be attributed to the absence of a significant social security scheme, such as a state-backed pension system, which forces middle and high-income groups to save for their retirement. However, there are also people that solely depend on their children to take care of them when they are out of a job.

**“ A survey by HSBC found out that seven out of ten Indians expect their children to support them during their old age.<sup>[3]</sup> ”**

Although moral justification would call it fair since Indian parents exhaust all their savings on their children, it could be argued that supporting parents becomes difficult for the younger generations given that prices and unemployment are on the rise. Even in cases where people tend to save up for their retirement, the asset most commonly invested in is real estate, which has not been showing satisfactory signs of growth lately.

The situation of people belonging to the low-income groups is even worse because neither do they have the resources to save up nor do they have access to a pension system. India's pension system is biased towards the organised sector. Hence, people belonging to the unorganised sector, forming a significant portion of the low-income groups, are placed at a disadvantage. The pension system lacks the comprehensive coverage needed for the entire population.

The Modi regime has tried to tackle this problem by introducing the Pradhan Mantri Shram Yogi Maan-Dhan (PMSYM) for informal-sector workers, where workers pay Rs.55 per month from the age of 18 to 60 for pension benefits and get Rs.3000 per month after retirement. Although impressive, the scheme has a major drawback. It has failed to account for inflation. Starting from 2011, the real value of the monthly pension would significantly drop over a period of 42 years, and even then it forms only an insignificant part of the consumption expenditure of a household.<sup>[4]</sup>

Coming to the Health Index, India ranks last here. It's a glaring fact - at present, expenditure on health is only 1.15-1.5 percent of the GDP. The Modi-led government looks to change this by launching a universal healthcare plan called 'Ayushman Bharat Scheme,' to provide

better secondary and tertiary healthcare facilities to almost ten crore people of India.

Another major reason for India's lacklustre performance in the index was Quality of Life. While the Scandinavian countries performed exceptionally well in the happiness index,<sup>[5]</sup> India is not so happy. Income inequality is on the rise, there is a dearth of clean water and sanitation facilities and the air quality in most of the cities is amongst the worst in the world.

India also performed poorly in the Material Well Being Index and ranked 41<sup>st</sup>. This index takes into account various factors such as income inequality, income per capita and unemployment. The state of income inequality in the country is abysmal. According to a survey by Oxfam,<sup>[6]</sup> the top one per cent of the country generated 82 per cent of all the wealth in the second

quarter of 2016 and the subsequent year. People like Nirav Modi and Vijay Mallya are defaulting on their loans and still living a life of luxury while the number of people below the poverty line is constantly on the rise.

The question remains: is India really ready for retirement? I wouldn't say so. India has to improve on factors like quality of life, material well-being and health. We can learn a lot from countries like Ireland who jumped from the 14<sup>th</sup> position in 2017 to the 4<sup>th</sup> position in 2019 through consistent efforts, especially in the banking and health sector.

India has a long way to go - from ameliorating the state of public health to improving sanitation conditions. Ranked as the seventh most hard-working country in the world,<sup>[7]</sup> perhaps it's time for India to give the senior citizens a well-deserved break.

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# AAPKA AADHAAR: DR. VIRAL SHAH



## INTERVIEWED BY GARVIT GOSWAMI

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*An Indian computer scientist and PhD from University of California, Dr. Viral Shah is known for being a co-creator of the Julia programming language. He was deeply involved in the Aadhaar project and even co-authored a book titled 'Rebooting India' with Nandan Nilekani.*

**What makes Aadhaar different from other identification systems, such as the Permanent Account Number? Why was there a need to introduce such a system in the first place?**

Aadhaar is almost ten years old now. While I am no longer officially affiliated with Aadhaar, it is one of the most fun and impactful projects that I have ever worked on. People often ask why we need another identification system. The answer is really straightforward - we need a universal identification mechanism in India. So far, every ID system in India is given for a particular reason and is given to a group of people who sort of need that card to access benefits from a particular welfare scheme. For example, the PAN card is only given to income taxpayers and only five per cent of the population has a PAN card. That figure might have increased, but it still does not cover the entire population. If you look at other identification systems, for example, the Voter ID card, it is issued only if you are above 18 and if you are a citizen of India. Consider the driving license which is only viable if you are eligible to drive or the NREGA (National Rural Employment Guarantee Act) job card, only available if you qualify for NREGA. We needed a universal identification mechanism, so that everyone has a voice and is visible to the government for all sorts of programmes and services.

**Aadhaar was designed as a voluntary programme but the current government has made it mandatory for a lot of welfare schemes, almost forcing everyone to make an Aadhaar card. If it was envisioned as a subsidy and delivery mechanism, why has it become compulsory?**

When the system was originally designed, it was

designed as a voluntary universal identification mechanism. The reason behind making it voluntary was that it would take a lot of time for people to make an Aadhaar card. Meanwhile, if you don't have an Aadhaar, you should not be excluded from the system. Even today, I do not believe that Aadhaar is mandatory. If you are in India without an Aadhaar card, it doesn't leave you at any sort of disadvantage or violation of the law. The government had decided to use Aadhaar for particular services. It's a delicate balance. On one hand, we don't like to be coerced as citizens when we are getting benefits. On the other hand, we don't like when the government runs a subsidy programme and there is a syphoning of the benefits from the supply chain. We do not like it when the LPG cylinders are not delivered on time and when the PDS grains are being used for wrong services.

Eventually, we need to decide what we want. If we do not want any sort of accountability for government expenditures, we don't need a universal identification system. We will then have to live with those leakages and that's the cost of it. However, if we want the expenditures to be made in the right direction, we need to define a system that is robust, strong and gets the job done. Think about it this way - if you are running a system, would you prefer to have five different ways of entering the system or would you prefer one common way?

**How is Aadhaar transforming governance in India and how could it be used in the future?**

Aadhaar has already transformed governance in a big way. It has prevented leakages in the PDS and has made it far more inclusive. It has enabled the state in

carrying out promises efficiently, thereby preventing state failure. In terms of making the policies of the government inclusive, the Aadhaar project has brought an unprecedented transformation in e-governance. Not only is Aadhaar a delivery mechanism but also a method of tracing bogus bank and PAN accounts. It has also simplified KYC - you can now get a range of services electronically.

**Data security and privacy are two separate yet interlinked issues. Does Aadhaar really compromise with right to privacy of an individual? Moreover, would it be viable to make Aadhaar mandatory for receiving private services such as getting a telephone connection or opening a bank account? Who will stand accountable in case of a breach?**

First of all, it is important to understand the framework in which these things have been designed. I am not speaking in favour of any particular policy. I can only comment on the system in which Aadhaar was designed. Every system, as it moves forward, has to evolve and meet the needs of the people. Regarding telephone connections, the services are not private since the firm providing it has received a license from the Government of India. The firms are paying for the licenses and are accountable as per the law. Should every telephone number be identified is a different question altogether. This could be answered by examining history. Criminals and terrorist organisations used telephone connections in untraceable ways, thereby creating problems for law enforcement agencies. One can argue about the balance that society should maintain but given that the law exists, it is mandatory for telecom operators to have a KYC for every connection.

The firms did not decide to impose this cost on the consumer. Rather, it is the government and society which is imposing it on them. What Aadhaar simply does is that it makes this process simpler in terms of handling verification in a way that is far more secure and private. Do you think that the data provided from the government servers to Airtel and Vodafone is more secure than giving a bunch of copies of your passport to the local *kiraane ki dukaan*? I personally feel more satisfied with an electronic system where there is a clear account of where data originated from, who asked for it, who approved it and what that entity did with it.

**If you draw a parallel between the universal identification systems followed in western countries**

**and the one followed in India (Aadhaar), where do you think we are lacking, particularly in terms of technology?**

I think India is actually far ahead in technology in comparison to countries that have implemented these systems many years ago, almost in a different era. Aadhaar allowed India to kick-start the whole thing with a modern technological system. Of course, if a country implements such a system 20 years from now, it will be better than the system in India. When you get started, you use the best technology in existence. Even in India, the ration card was a booklet and over time it developed into a smart card. In case of the PAN card, it quickly became a more secure identity system in India. So, I don't think that the Indian system is lagging behind technologically. It allows people who are not technologically savvy and not literate to identify themselves to the government in a secure way. This is not done anywhere else in the world. Probably, India is amongst the few countries using a biometric system. Although, I do realise, that there are concerns around the abuse of this system. It is important that we, as a democracy, cast the right laws and the right framework for these powers to remain in check.

**If you are suggesting that Aadhaar is technologically appropriate, what do you think the system is actually lacking right now?**

You can consider the challenges that the current system is facing. Right now, we have the Covid-19 pandemic. We can see that the Aadhaar has a very important role to play here - it can lead to easy cash benefit transfers. For instance, the US is considering sending a fixed amount of money to the citizens. Now, if India wants to implement similar policies, it cannot do so without Aadhaar. Today, because of Aadhaar, we can implement such policies with a moment's notice from the Prime Minister's office. Similarly, Aadhaar can play an important role in providing health insurance premiums and health care services. Obviously, one cannot build the system immediately. Going forward, Aadhaar will try to provide all the government-sanctioned benefits in a frictionless way. I don't think one should imagine Aadhaar doing more than what it was designed for. It is important to focus on what it was envisioned for and to execute that to the maximum potential. At the same time, I agree that the problems of governance, lack of state capacity and execution need to be fixed. Aadhaar is not the only solution but it is an important tool that is a part of the larger solution.

# FUTURE OF URBAN ELECTRICITY: MICROGRIDS

**BY DR. AKANKSHA TYAGI**

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*The exponential growth of the human population has led to a rapid increase in the demand for reliable and sustainable electricity. While discoms are struggling to meet consumer demand, is there an alternative approach to resolve this issue?*

As Indian cities are growing at an exponential rate, discoms are witnessing an urgent need for a regular, reliable and sustainable supply of electricity in order to ensure long-term growth. However, consumer demand for electricity varies significantly with the population density and consumer base and hence, discoms today are facing difficulty with regards to providing an undisrupted supply of electricity. With a significant working population, residential areas in cities have low demand during the day as compared to commercial areas. In the night, when business centres close and people return home, the situation is reversed. These local patterns result in congestion hot-spots in the network. Besides, the peak demand is seasonal and of short duration. For instance, on the afternoon of 2<sup>nd</sup> July, 2019, Delhi witnessed an all-time high peak demand of 7409 MW that lasted for a few minutes. Amongst the growing demand, irregular peak instances would become more frequent across all major cities. Yet, while planning their operations, the discoms have to account for such rare situations.

The discoms undertake several measures to meet consumer demands and serve reliably. Amid global concerns of climate change, the onus on them is to do this sustainably. Some of the usual solutions are contracting high capacity from generation companies, constructing new transformers and feeders in congested areas and laying new lines to transmit power. All of these solutions are cost-intensive propositions for discoms and some are also unfeasible due to space constraints. Furthermore, as the peak demand – for which this infrastructure is built – is of short duration, most of it remains underutilised. As a result of this resource inefficiency, this infrastructure becomes a financial burden for the discom.

Distributed generation systems like microgrids offer a vast opportunity for discoms to manage the demand locally. Microgrids are systems with an on-site generation and storage facility that serves the connected loads in a defined area. They are capable of operating independently of the main power grid. In cities, the generation source is generally a solar system, mounted on the roof, coupled with a battery. As solar generation is available only during the day, the battery enables storage of excess production for later use when solar is unavailable. Such systems, therefore, allow consumers to generate their electricity, optimise its usage as per the requirement and thereby, reduce their reliance on the grid electricity provided by discoms.

Empowering consumers with microgrids can help discom operations in multiple ways. Firstly, as the number of consumers connected to the network decreases, the network load and congestion reduces. Promoting such systems among a larger consumer base can potentially eliminate the need to construct new network elements like distribution lines, transformers and feeders. Secondly, as the generation and consumption points coincide, the transmission and distribution losses are lowered, improving efficiency. Finally, self-generation by consumers reduces the quantum of power procured by the discom from the conventional power plants. Solar energy is clean and environmentally benign.

***In a time when vehicular and industrial pollution continues to impact city life, decreasing reliance on thermal power and opting for renewable energy would be prudent in pollution mitigation.***

While these are the benefits to the discoms, microgrids can bring in considerable savings to the consumers as well. First, monthly electricity bills are lower as grid consumption is reduced. Second, by exporting the excess solar generation back to the grid, they gain financially. Although the tariffs and purchase rates vary across states, the cumulative gain to consumers is substantial. Also, it lasts as long as the system life, which could be up to 20 years. Finally, in the event of a power outage, these systems would continue to serve the consumers safely, by detaching from the network.

Microgrids are a lucrative proposition for discoms and consumers alike. Such innovative solutions are the need of the hour for discoms to ensure clean and reliable electricity supply to the consumers and to operate efficiently. However, to succeed, they have to overcome various obstacles like consumer willingness to adopt these systems and technical feasibility of the network. There is an urgent need to create awareness among stakeholders regarding the potential benefits of these systems, provide financing options for consumers and implement timely policies to facilitate deployment at large scale.



# REVISITING MAHALANOBIS

**BY SURABHI MENON**

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*One of India's great economists, PC Mahalanobis, gave us the economic model that enabled the Indian industrial sector to undergo a metamorphosis post independence. However, is this model relevant even in the present day?*

Mr. Prasanta Chandra Mahalanobis spearheaded India's development planning strategy through what is now called the Mahalanobis Model. This strategy was reflected in the Second Five Year Plan and in the Industrial Policy Resolutions of 1956 and gave priority to heavy industries and capital goods. The Indian population lacked access to consumer goods and a robust public sector was required to manufacture these goods for self-consumption. Hence, the model recommended a higher share of investment and public outlay for capital goods and heavy machinery. The strategy developed from a mathematical model which proved that a higher growth rate was possible using the trickle down effect through investment in heavy industries. This means that by investing in core sectors like power, iron and steel, we would be able to manufacture capital goods and machinery which will in turn help in producing consumer goods.

The Indian Government has been fixated on the idea of having a \$5 trillion economy by the year 2024-25. The Finance Minister, Nirmala Sitharaman, has stated the relevance of a \$5 trillion economy in terms of making India a global economic powerhouse and moving India from the seventh to the third position in terms of current dollar exchange rate. In order to realise its dream, India needs to grow at nine to ten per cent per annum, however, India is expected to grow at a mere six to seven per cent in 2020.

Domestic/private consumption accounts for more than 59 per cent of India's GDP. In the last few years, however, the private consumption expenditure's growth rate has reduced drastically, which is also held responsible for the current slowdown in the Indian economy. While more light has been shed on reviving aggregate demand

lately, there has been a deprioritisation of investment or gross capital formation, and this has led to a shift in focus from supply side to demand side economics. In other words, in a bid to raise consumption levels, little or no heed has been paid to the production levels of goods in the country.

However, let us understand how 'consumption' as the engine of economic growth in itself is a hollow concept. We are well aware of the fact that domestic consumption has fallen below the desired level. Despite providing credit support for purchasing vehicles, houses etc. consumption levels are still low. The prime reason for this is that consumer confidence is low. Consumers are not using their savings to buy goods because they are apprehensive about the state of economy, leading to a fall in aggregate demand. To increase consumer confidence the government should focus on the supply side economics i.e. focus more on investing in the manufacturing sector.

***The Mahalanobis approach prioritised government investment towards capital goods like steel and coal because capital goods investment increases labour productivity, thereby making the production process more efficient.***

It also facilitates the production of other essential goods and services, thus forming the building block of the industrial sector.

Moreover, there is also an avenue for creation of

non-farm jobs in villages where non-skill based work is ensured through these industries. This will allow a form of security to the consumer who will then have an increased confidence in consumption. In turn it will allow the demand for consumption to increase. This also brings in the perspective of the classic Thomas Piketty situation where growth has become concentrated only at the higher levels. This means that demand is being generated only through the economically higher income strata of the Indian population. This is worrisome given the fact that the lower strata is not only being ignored but their potential contribution to the creation of demand is minimal. The apt method by which the lower income strata can also be included in creating consumption demand is through the Mahalanobis approach.

During the implementation of the Second Five Year Plan in 1956, the major issue that emerged in the Indian economy was a high fiscal deficit. However, in the present day, with a liberalized economy and the emergence of various private players, there are alternate approaches to using the Mahalanobis model. Thus, a few modifications in the model will make it suitable for the present-day Indian economy and help India achieve its target of a \$5 trillion economy in the years ahead. The Mahalanobis Approach has a precedence of transforming India from a stagnant colonial enclave to a thriving economy capable of sustained growth. If this model is adopted again, it will certainly yield desirable results for the Indian economy.



**WORLD  
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# SILVER OR LEAD?

**BY HIMANSHU CHHABRA AND ISHAAN MITTAL**

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*With the aim of becoming the Singapore of Africa, Rwanda boasts an impressive growth trajectory led by an authoritarian regime. How just is the trade-off between development and democracy?*

With the advent of a new decade, the entire world is looking at Rwanda to propel central Africa into a new era of growth and prosperity. From fighting the deadliest conflicts of all time to emerging as one of the economic stars of Africa, this country has come a long way to now be regarded as the Singapore of Africa.<sup>[1]</sup> The economic and social indicators of Rwanda highlight its tremendous growth. It is ranked 38<sup>th</sup><sup>[2]</sup> in the Ease of Doing Business Index, better than some of the highly developed nations and has had an average growth rate of over 7.5 per cent over the past 15-20 years, a feat not many countries can boast of, especially in Africa. The life expectancy in the country has increased from just 28 years in the 1990s to 67 years as of 2019. It has an unemployment rate of only 2.7 per cent and 76.1 per cent of the population has access to clean drinking water.<sup>[2]</sup>

Rwanda has fared well on the social front as well. In a world where gender discrimination is rampant, it has been able to provide adequate opportunities to women. In fact, female participation in the parliament has gone up by more than 60 per cent since 2003, one of the highest in the world.<sup>[3]</sup> The proportion of people living below the poverty line has drastically reduced from 60.6 per cent in 2001 to 39.4 per cent in 2014, while at the same time low levels of corruption ensure that it ranks fourth in Africa in the transparency index. Income inequality, measured by the Gini coefficient, has reduced from 0.52 in 2006 to 0.49 in 2011.<sup>[2]</sup> Indeed, this small African country has made great leaps forward, in just a few decades.

When we look back at history, Rwanda gained independence from the Belgian-controlled Ruanda-Urundi territory in 1962. Unfortunately, this only led to a strife-torn election in Rwanda, centred around two

ethnic groups - the Hutus and the tribal class of Tutsis. Their newly elected president Gregoire Kayibanda, a Hutu, further instigated these ethnic conflicts, forcing a large number of Tutsis to flee into neighbouring countries. In 1973, army General Juvenal Habyarimana, the successor of Kayibanda, came to power and continued the repressive treatment towards the Tutsis. However, things changed when Habyarimana signed a ceasefire agreement due to international pressure, ending all atrocities on the Tutsis and allowing the refugees to return to the country. No one had expected that the furious Hutu extremists would then go on to kill Habyarimana and order an ethnic cleansing of the Tutsis. This was the onset of a massive genocide that killed over eight lakh people and forced another twenty lakh to flee the country.<sup>[4]</sup> That's not all - owing to these ethnic conflicts, the economy averaged only one per cent growth over the next 15 years. The genocide led to a contraction of the economy by 50.2 per cent and the bid to prove ethnic superiority pushed the country into ruins.

Now, how did Rwanda overcome such lows? In the aftermath of the genocide, a coalition comprising five parties from all ideologies was constituted in order to prevent further damage. This new regime, headed by Pasteur Bizimungu, took major steps to get the economy back on track and to restore industrial production. Foreign exchange markets were liberalised and taxes on exports were removed. The marketing and processing of coffee was also liberalised, thereby making the coffee sector a major source of foreign exchange. Furthermore, realising the importance of a strong industrial and economic base to address the country's needs, the government started focusing on health, education, water, energy, transport and communication infrastructure. This prompted the



government to revamp its public investment programme and streamline administrative structures.

The financial policy of the government was highly successful in correcting the damage that the economy had suffered in the wake of the genocide. The GDP, which had declined by half in 1994, increased by 35 per cent in 1995 and inflation came down from 64 per cent to nine per cent within a span of two years.<sup>[2]</sup> Since the majority of the recovery and development in the economy was financed by foreign aid, there was scepticism about its stability and sustainability. In order to counter this, the government aimed to increase revenues by adjusting the tax rates and reforming tax and customs administration, eventually leading to a rise in the revenue-to-GDP ratio from four per cent in 1994 to 10 per cent in 1997.<sup>[5]</sup> It used this revenue to establish a large number of schools, hospitals and rural clinics and to build a wide network of roads, power plants, airports and fibre optic cables.

Paul Kagame, the current President of Rwanda, aspires to turn the country into the Singapore of Africa and has already started working towards fulfilling this endeavour. For starters, he has improved the ranking of Rwanda in the Ease of Doing Business Index to the extent that it is now the second-best in Africa, trailing only behind Mauritius.<sup>[6]</sup> The country was able to achieve this by initiating multiple reforms in fields like property registration, ease of tax payment and getting construction permits. The fact that Rwanda has implemented the highest number of reforms since the launch of the index is a remarkable achievement.

Rwanda is similar to Singapore not only in terms of providing a supportive business environment but also in terms of political stability. Paul Kagame has been ruling the country as the President since 2000. Although questions have been raised on how he has managed to achieve this stability, we cannot deny the fact that he has successfully convinced investors about Rwanda being the go-to destination for foreign investments in Africa. In the last decade itself, the country has witnessed more than a 100 per cent increase in foreign direct investments.<sup>[7]</sup>

Although the government worked on reviving the economy, the unification of the people after the

genocide was something which was taken care of by the culture of Rwanda.

*This might be astonishing but football, a deep-rooted part of the country's culture, played an imperative role in healing the wounds of the country.*

After the genocide, Rwandans' love for the sport became a binding force. Even today, football continues to bridge gaps between people from different ethnicities in the country.<sup>[8]</sup>

On the face of it, the story of Rwanda seems to be inspirational - a successful model that needs to be replicated in the entire world. However, many serious questions have been raised on the way the government has managed to achieve its feats. Mr. Kagame has been in power for 20 years now, that too without any opposition, and recently he amended the Constitution, allowing him to stay in power till 2034.<sup>[9]</sup> In the name of stability, Kagame has always tried to suppress any kind of criticism and dissent. Under his administration, imprisonment, harassment and killing of political opponents have been normalized and an atmosphere of fear prevails in the country. People believe that the entirety of Rwandan media is controlled by him, keeping a sharp check on any criticism of the regime. With little emphasis on freedom of speech, many fear that the days of a dictatorship are not far.

This brings us to the argument of whether development is justified at the cost of freedom and democracy. Is the approach adopted by Rwanda, wherein one person decides the good and bad for a country, better than the approach adopted by India or USA where there exists a constitution that protects the values of democracy? Centralization of power and authority in the hands of one person may lead to faster and more effective decision making, as in the case of Rwanda, but one cannot turn a blind eye towards the greater possibility of that person misusing his power and making decisions that are not in the best interest of the country. After all, who decides what is better in the trade-off between democracy and development?

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# THE BAILOUT THAT NEVER WAS

**BY AASTHA GAUR**

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*Both a perpetrator and a victim of fraud Lehman Brothers, caused a global catastrophe with its fall in 2008. Could things have been any different had the ailing bank been rescued by the government or a private player?*

Having sprouted into a major financial services firm from a dry-goods store over a course of 158 eventful years, Lehman Brothers had entrenched itself deep into the global financial industry, so much so, that in 2007, it was proclaimed “the most admired securities firm” by Fortune magazine, ahead of other behemoths like Goldman Sachs, Morgan Stanley and Charles Schwab.<sup>[1]</sup> Around the same time next year, the crippled firm filed for bankruptcy.

Lehman Brothers ventured into the risky business of mortgage-origination in 2003, going so far as to acquire five mortgage lenders, including a subprime mortgage lender. Having entangled itself in excessive underwriting of mortgage-backed securities and Collateralized Debt Obligations (CDOs), a highly leveraged capital structure (32:1 at its peak)<sup>[2]</sup> and a slew of short-term debts, its overall financial health and profitability became excessively reliant on the housing market. Hence, as long as the housing market boomed, the bank’s profits soared. In 2006 alone, the bank securitised a record \$146 billion of mortgages. Its capital market unit reported a 56 per cent increase in revenue from 2004 to 2006.<sup>[2]</sup>

Unfortunately, when this housing bubble could no longer be blown any further due to a worrisome increase in defaults of mortgage payments, falling real estate prices and low credit availability, it burst; and along with it burst the profit models on which major investment banks had been sourcing a substantial part of their revenues. At the time of its filing for bankruptcy, Lehman Brothers reported \$638 billion in assets (that were inter-linked with those of other investment banks), \$619 billion in debt (majority of which was short-term commercial papers) and more than 25,000

employees on its payrolls worldwide.<sup>[3]</sup>

The collapse of Lehman Brothers pulled the trigger for a full-blown recession in the global economy. It exposed the vulnerability of the subprime mortgages, the wrongdoings of lenders and underwriters as well as the temporary nature of the real estate boom. More than its direct impact on employment and output, the fear that it perpetuated in the minds of investors, employers, the government and society at large can be cited as the major reason for the economic downfall of the world economies.<sup>[4]</sup> People were convinced that the rocky foundations on which the financial sector had been operating had finally collapsed and that the occurrence of a ‘great recession’ was imminent.

It cannot be said with absolute certainty had Lehman not collapsed, the crisis could have been circumvented. There is a major possibility that the ongoing recession would have still reduced output and employment of the economy, irrespective of whether Lehman had collapsed or not. On the flip side, in the absence of the extraordinary panic, the magnitude of the reductions would have been drastically less severe. While a housing market crash could still not have been prevented, bailing out Lehman would have helped save the banking industry. According to an estimate, if Lehman had not collapsed and the ensuing panic been prevented, unemployment rates would have reached their maximum at seven to eight per cent and not gone as high as ten per cent, which they did.<sup>[5]</sup> The collapse of Lehman Brothers triggered a domino-effect wherein all major investment banks were pushed towards the edge of bankruptcy.

The recession would have resembled and felt more

cyclical in nature. Instead of the ‘crisis’ that it turned out to be, its effects would have been felt by the real estate sector alone and would not have forayed into the wide-ranging financial industry, which has interlinks with a plethora of other incremental sectors. Along the lines of the ‘dot-com bubble’ or the ‘savings and loans problem’ of the 1980s, this recession would have centred around one particular sector rather than plaguing the entire economy.

**“ Had the Federal Reserve agreed to bailout Lehman Brothers or helped it in securing an acquisition deal with a private bank, it could have prevented the market panic that triggered sell-offs of stocks of all the major investment banks.**

It would have fetched enough time for other banks like Morgan Stanley and Goldman Sachs, who had to be saved from bankruptcy by government bailouts later on, to restructure their operations and clean their balance sheets. The stock markets would thereby not have suffered such a sweeping downfall as they did. The Dow Jones Industrial Average Index fell by more than 50 per cent between 2007-09. In the October of 2008, equity markets worldwide suffered a reduction of nearly \$10 trillion in market capitalisation.<sup>[6]</sup>

A lot could, thereby, have been saved from the government coffers since there would not have been much need for the government to bailout other banks subsequently under the Troubled Asset Relief Program (TARP) initiated by the US government.<sup>[7]</sup> A slew of bank failures ensued after Lehman Brothers’ collapse, leaving the government with no other option but to save the remnants of the crippled financial industry. Almost every other major bank, including Citigroup and Bank of America, had to be bailed out by the government.

The government infused funds into the banking network and purchased toxic assets and equity, all using the taxpayers’ money, a move that came with its own public uproar. Unfortunately, because of the drastically decreased confidence in banks, bankruptcies were not only limited to financial companies. In 2009, General Motors and Chrysler Corporations filed for bankruptcy.<sup>[8]</sup> All this happened because the induced panic had practically halted all borrowing activities in the economy. Moreover, homeowners were left with no stable institutions to borrow from and pay their mortgage payments, further aggravating the default and home foreclosure rates.

On the contrary, having bailed out Lehman Brothers and faced all the public backlash, would the Federal Reserve have agreed to subsequently bailout another prominent entity, the largest insurance company, American International Group (AIG), from collapsing just one day later? According to a former executive at

Lehman Brothers, the bank owned over \$400 billion worth of credit default swap contracts with AIG<sup>[9]</sup> Many commentators also point out that the collapse of Lehman Brothers might have triggered a collapse of AIG. The devastating effects of a collapse of AIG, with its countless trading partners and ubiquitous reach, could belittle what the collapse of Lehman Brothers did to the economy. While the government was required to spend only \$30 billion to save Lehman Brothers, it ended up paying over \$180 billion to bailout AIG.<sup>[10]</sup> Interviews with former and present officials of the Federal Reserve reveal that a preliminary analysis of the bank’s financials indicated that it was narrowly solvent and equipped with enough collateral to be eligible for a loan from the Fed. Hence, all legal reasons cited by the Fed have been put under doubt. Another alternative could have been the Fed lending the required purchase amount to a private player to facilitate acquisition, just as it did in the case of Bear Stearns. The Fed could have also helped in cleansing the bank’s balance sheets to make it more attractive for private players who viewed the bank’s \$50 billion valuation of its real estate portfolio with scepticism.

There’s also a possibility that without the collapse of Lehman Brothers the recession might not have had ripple effects on the world economy.<sup>[11]</sup> With the closure of its offices worldwide, shock waves spread across all major economies of the world. Since Lehman Brothers was a major issuer of commercial papers, its downfall led to a complete halt in credit availability through this source of lending worldwide. Liquidation of Lehman Brothers’ gigantic portfolio of mortgage-backed securities triggered panic selling in the commercial mortgage-backed securities market, not just in America but also in Europe and Asia. Furthermore, the major money market fund, the Reserve Primary Fund,<sup>[12]</sup> would not have teetered and witnessed a drop in its Net Asset Value under the crisis since Lehman Brothers would not have defaulted on its commercial papers. Panicked investors pulled out of the fund which ultimately led to its liquidation.

However, the most important and lasting impact of the collapse remains the change in the attitude of governments and the public all around the world towards the banking system. The economic recovery that was brought about through a slew of bank bailouts, unprecedented fiscal spending by governments and aggressive quantitative easing by central banks world over, has made economies and the banking sector, more reliant on governments. Even though, we cannot speculate what would happen to the economy if governments were to withdraw the schemes they introduced to curtail the effects of the collapse or reduce their role in the functioning of the economy now. Prior to the collapse of Lehman, the highly leveraged and unregulated financial industry recklessly lent out huge amounts of credit. The collapse, however, forced governments all over the world to introduce stricter working standards for commercial banks. Moreover, it brought into the forefront troubling questions

regarding income inequality, job security and even globalisation. It might even have sown the seeds for protectionism that continues to be a prominent subject of debates today.

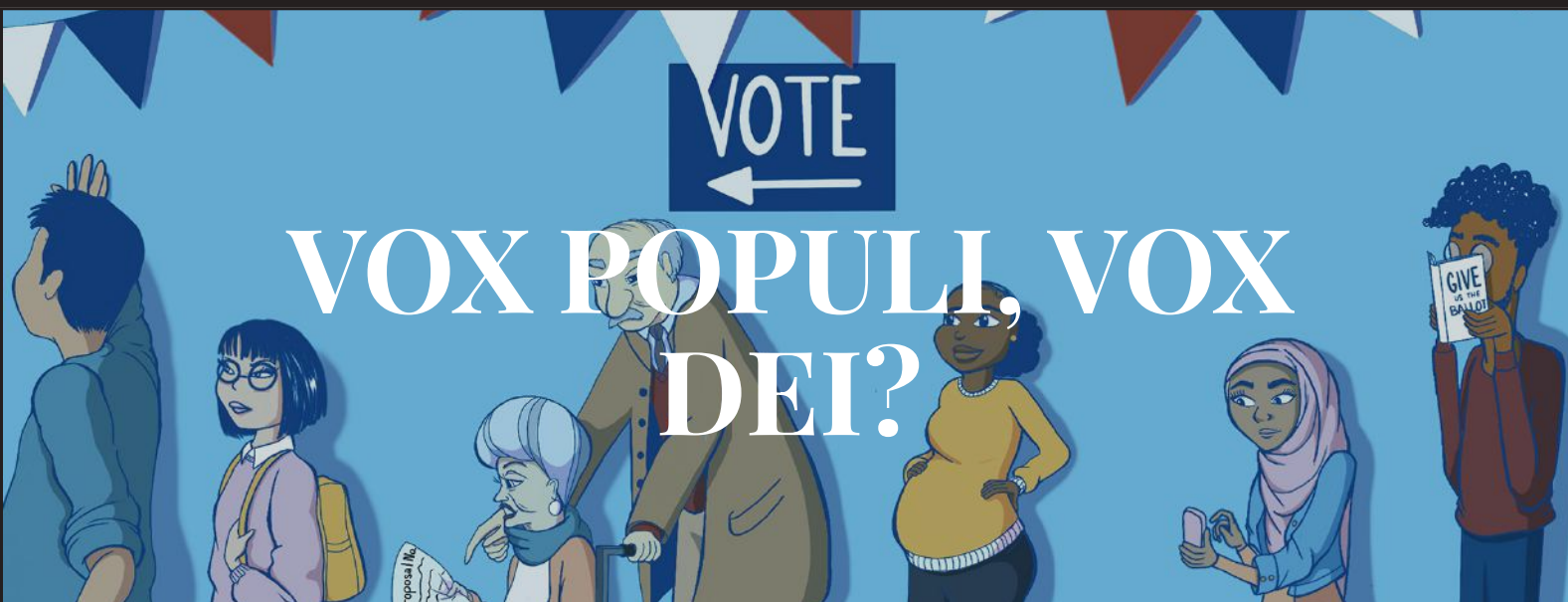
Firms bankrupt before and after the fall of Lehman Brothers were bailed out; but whether letting it collapse was a calculated move or sheer bad luck, still remains

debatable. No doubt, Lehman Brothers' collapse was brought about by its internal mismanagement of risk and unhealthy investment practices but things definitely would have been different had it not been allowed to collapse. Perhaps, the prevention of the largest ever collapse would not have sparked off the largest ever financial crisis.

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BY AARADHYA DAGA

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*Electoral voting is undoubtedly the pillar of modern democracy. However, how much influence does an individual vote have in the grand scheme of things?*

“At the bottom of all the tributes paid to democracy is the little man, walking into the little booth, with a little pencil, making a little cross on a little bit of paper—no amount of rhetoric or voluminous discussion can possibly diminish the overwhelming importance of that point.”

The champions of democracy, here Churchill, always expounded the importance of people coming out to vote. Recent years must have pleased them, given a significant increase in the percentage of population<sup>[1][2]</sup> that casts a vote. While this might appeal to the ideals of democracy, a question arises - why should any individual vote in the first place? Beyond powerful speeches and quotes lauding the individual action of endorsement, does a singular being help anyone by casting a vote? Rationality and mathematics, to the surprise of many, say the answer to this is a resounding no.

It is fascinating to look at the process of voting at a micro level and understanding how voting might not be beneficial for an individual.

“**Putting it simply, the opportunity cost of going out to vote far exceeds the benefits a person stands to gain from it.**”

A person might go out to vote if they feel they might be able to influence the outcome in absolute terms, that is, cast the *deciding* vote. But how likely is it that a vote cast would make a difference? G. Brennan and L. Lomasky, in 1993, put it in the ambit of probability and deduced that the expected value of the vote ( $U_v$ ) can be expressed as:

$$U_v = p[V(X) - V(Y)] - C^{[3]};$$

Here,  $p$  gives the probability that a vote is decisive,  $[V(X) - V(Y)]$  gives the monetary difference between the expected value the person will derive from two candidates  $X$  and  $Y$  (where  $X$  is the preferred candidate), and  $C$  gives the opportunity cost. According to this, a person should vote only when  $[V(X) - V(Y)] > C$ .

Popular theory, however, suggests that the probability of such an event ever happening is so small that the expected benefit of casting a vote for the preferred candidate is worth less than the millionth of a penny.<sup>[3]</sup> Hence, a rational individual should not vote to change the outcome as the expected costs outweigh the expected gains.

People also step out to vote with the intention of giving their preferred candidate a bigger mandate so that they can carry out their work in a better and more efficient way. This argument, however, has some flaws too. Firstly, to gauge whether it is rational for an individual to vote to increase the mandate, we need to look at whether the  $n^{\text{th}}$  vote increases the effectiveness of the preferred candidate by more than what the  $n^{\text{th}}$  voter's opportunity cost is. As already established, the chance of that happening is awfully low. Secondly, empirical data from various studies<sup>[4]</sup> suggests that the concept of electoral mandates does not exist in the sense that mandates do not affect the capability of a candidate to get the work done. Political scientists now reject the mandate hypothesis altogether.

People also believe that there exists a moral obligation on them to cast a vote - the duty of voting. People believe that this obligation exists even if the candidate they vote for has no chance of winning the elections. On the same lines, people also believe that they have an obligation to just cast a vote, even if it is a NOTA. The only pitfall here is that this obligation to vote is based

upon the fact that individual votes make a substantial difference in the outcome of the results, which is not true. This comes from a hypothesis that voting insures against the collapse of democracy.<sup>[5]</sup> But even if there were a determined threshold below which we could assume that democracy would collapse, we can draw a parallel from the aforementioned discussion and conclude that the chance that a person's vote would put the number of votes above the threshold is low enough to not exceed the costs involved.

There are, however, a few arguments, illustrated by Brennan and Lomasky, which place the duty of vote at its helm and do not require the assumption that an individual vote matters largely.

### The Generalization Argument

"What if everyone were to stay home and not vote? The results would be disastrous! Therefore, I should vote."

"What if everyone were to stay home and not farm? Then we would all starve to death! Therefore, we should each become farmers."<sup>[3]</sup>

The Generalization Argument claims that people who do not vote do not do their bit for the society and if there are provisions of the government which benefit them, they free ride on it. The entire argument is based on the fear that it will be disastrous if too few people cast a vote. But it doesn't mean that everyone should. Is it imperative that *enough* people do it, or is it an activity which should be done by all? The difference is what not doing one activity does to others. If enough people do the activity, then some may choose not to. When it's imperative that everyone does that activity, the people who abstain take advantage of the activity done by others. Putting it into context, non-voters benefit from the government that the voters help elect but don't themselves benefit others by helping build the government.

### The Civic Virtue Argument

Civic virtue means that individuality should not trump societal good in any manner whatsoever. Bastions of civic virtue actively participate in society and work for its improvement. The Civic Virtue Argument claims that a person should vote because it is his duty to exercise civic virtue. Basically, this implies that a person should keep aside personal interests to vote for progress of the community and for the greater good.

### The Complicity Argument

This argument states that a person should go out to vote for a more just candidate so that each person is not complicit in the injustice that another candidate might commit, should he or she be elected. It can be better explained by using an example. Let's say that there are

ten people who are going to shoot a deer and kill it. The people will shoot on order regardless, and each shot can kill the deer. You are offered a gun to shoot. Even if you refuse to take the gun, the deer dies - but your hands are clean. In the same way, an unjust candidate might be elected but by voting for another candidate, a person is not complicit in any injustice committed.

These arguments are victim to a common fallacy - is voting the only way to achieve these goals? They show that voting is one way, among many, to achieve these goals, but not the only way and quite possibly not even the best way.

Termed under the Particularity Problem, what stops a person from exercising civic virtue by doing charity or volunteer work? If a person has to avoid being complicit in injustice, why not engage in protests or write about it in several media? Ultimately, voting is not the only tool available for people to do good, despite what proponents of the moral obligation to vote may say.

There also exists the Expressive Theory of Voting.<sup>[6]</sup> According to this, voters would want to vote to express their leanings and opinions. According to this, voting is a 'consumption' activity and not a productive one. It can be equated to wearing your favourite football club's jersey on a matchday - it, by no means, has an effect on the overall outcome of the match but people wear it as a sign of support for the club. This theory is not affected by the fact that empirical data shows that a large number of voters are ignorant about basic political facts.<sup>[4]</sup> This theory also isn't affected by the fact that voters suffer from 'intergroup bias' wherein a set of individuals forms a group towards which they are irrationally loyal and at the same time are irrationally hateful towards other groups. Voters conform to certain ideologies to show themselves and others that they are that kind of people. If a person believes in the idea of *Akhand Bharat*, he would naturally go and vote for a candidate who promises that to him. But since the chance of that vote being decisive is quite low, an individual can afford to be irrational in thought.

Like the few mentioned here, there is no end to the questions one can ask about the concept of voting or democracy. Should you vote selfishly or for the greater good? Are you obligated to support a candidate or a policy? Can you form an honest opinion without knowing all the facts? Should you even be allowed to vote or should it rest in the hands of people who are best suited for it? Even after all these flaws and doubts, there doesn't seem to be an alternative to a democratic vote to decide a representative candidate.

As Churchill would put it, "Indeed it has been said that democracy is the worst form of Government except for all those other forms that have been tried from time to time."

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# ANTICIPATING THE FUTURE: LORD MEGHNAD DESAI



*A British Economist and Member of House of Lords, **Mr. Meghnad Desai** is a Padma Bhushan recipient. A PhD from the University of Pennsylvania, he has written over 200 articles in academic journals and authored over 25 books.*

**Given that London is the largest exporter of financial services in the world, the problem is that a quarter of its exports come from the European Union alone. What do you think will be the implications of Brexit on London as a financial hub?**

That is a good question. You see, London was a big financial centre before the UK joined the European Union. Soon after joining the Union, the city became very competitive (not because of the Union). The only way that being a member of the Union affects the city is that there is a common set of financial rules that all members have to follow in terms of retail bank behaviour, tariff rules and so on. For the Bank of England to take retail deposits anywhere in the European Union, it needs a passport. After Brexit, the UK will work out an arrangement called a third country arrangement with the EU. They will have to agree on tariff rules, import-export rules, and rules on financial services. For rules on financial services, they have said that they will go by something called equivalence i.e. as long as the UK follows the rules laid down by the EU, there will be a straight forward financial relationship. However, if the EU changes its rules, London will have to adapt and change its rules. The paradox is that a lot of the EU rules have been framed by London, because London is a dominating financial centre. In the global financial context, the chairman at the financial stability board at IMF was Bank of England's Governor. Given that London is at the heart of decision making, it will be interesting to see what happens.

Another thing is that by and large, London is used by the EU countries to raise money. EU businesses raise their money in London - it is the largest equity market. It is in their interest not to frame rules because then they'll have to go to Frankfurt or Paris to raise money, which are more expensive places than London.

**Referring to the yellow vests movement in France and Anti-CAA protests in India, there is a tendency to tilt towards the left. In your opinion, is it because the left is able to attract these people or is it because they want to disassociate themselves from the right?**

When you're young, you want the opposite of the given wisdom. Also, what happens is it was never fashionable among the young to be right-wing. Left-wing was a lot more sophisticated. The Indian right-wing was never sophisticated because it was never secular, and is a religious right-wing. It can either be a Muslim or a Hindu, being Muslim does not mean that you are left-wing. In India, there has never been a political party that believes in markets or that business is a good thing or believes in a smaller stake. So you have left-wing and religious right-wing and to that extent when BJP had not come to power, ABVP was a strong radical revolutionary force fighting in a rally. Since BJP became the ruling party, ABVP is no longer radical. It may be punchy and militant, but it is not radical. It is the status quo party. And there is still a battle going on in India between secularism and nationalism.

So what I have learnt from my experience is that being young means being rebellious. When I was about your age, there was no doubt in anyone's mind India would become communist. The question was not if, but when. Seriously. You cannot imagine the power of servitude here as a political image. It was the future. Students would not go to the orthodox, they would not go to the accepted wisdom and that's what being a student means. It means that you're agitational, oppositional, you don't like society and you want to change things. When you're my age, you want to preserve things. That's the natural biological politics.



**Do you think studying economics is a waste of time? As a student, what is the purpose of discussing intellectual controversies like whether an ideology in free economics works or not?**

A lot of people say that economics is impractical because it is a discipline based on assumptions. The deceptive thing about economics is that it seems to talk about practical matters in a very impractical way. And I have had a lot of debates about this. Robert Skidelsky wrote a very good biography about this, he is always going on about how unrealistic economics is.

In the 15<sup>th</sup>-16<sup>th</sup> century in Europe, people trained for theology, they trained for church and they became ministers. Now, what was going on? Theology is very unrealistic depending on whatever you believe in God or not, but it sharpens the mind. Economics is a way of sharpening the mind. Since it is unrealistic, it is adaptable to any subject whatsoever. Economists can go or run anything they like because they're not weighed down by descriptive realism. I look at politics and I think, "why would anybody do this?" Let me try to imagine their behaviour - what are they trying to maximise? They have to be rational to be able to do this particular thing. Why did they pass CAA and talk about NRC? They must have some logic. That is where the power of economics lies. They do MBAs, they run companies, they run countries. If any of you were made the Finance Minister tomorrow, you'd have no problem. Because it is the abstraction that is power. This is why economics, of all the social sciences, is the one that gives the most power to people, transferability of thinking out in other areas. Classical economics, neoclassical, Marxian, all these sorts of systems, they all share one thing - they use abstraction and strong rationality. There is nothing in Marxian economics which deviates from anything a classical economist says and subvert it from within. That was his training as a philosopher.

**As a member of the labour party, do you think Ecological Socialism is the way to go?**

There are a lot of green parties that are social in the sense that they challenge orthodox economics. They do not want to follow the market rules. They believe that there is a better way of allocation as compared to market prices. They then go on to prove how the future should be according to their propagated way. I think what people most associate socialism with are realist beliefs: to worry about the fact that the lowest level of living should be high enough to be respectable. In other words, the worst-off shouldn't be too badly off. But that is not necessarily a socialist idea. Anybody can have that idea but the paraphernalia of socialism is public ownership, which is no longer thought to be all that important. During my 49 years with the Labour Party in the UK, Mrs. Thatcher came and dismantled all that stuff. We tried different things that did not involve public ownership. Last elections, the Labour Party tried going back to classical socialism and it got rejected.

Why? Because people no longer trust the State to be a good economic actor. They don't want the resources to be owned by the State. A lot of Indian politics is still hung up on that.

As far as ecology is concerned, I personally feel there is too much emphasis on collective action in ecological movements. That's something very difficult to achieve because we may believe that we may have a global common interest, but we don't have a global common interest. Interests of poor countries are very different from those of rich countries in terms of the environment. A trade-off between growth and environmental sustainability has to be made. Just as in any ordinary society, the consumer preferences of the rich and the poor differ from each other. In economics, we've had a very technical debate on whether we can construct a social welfare function or not and its functions are quite technical. Engel curves are parallel at all income levels. So my preference for necessities vs luxuries, income elasticities is the same for the poor and the rich. We know that this is not true but this is required. What this means in the ecological context is that the preference between growth and pollution are similar across nations but they are not. I remember, in the 1970s, there was a slogan "One week to save the world." 50 years later, I still hear the same thing.

**India is going through an economic downturn right now. How and what should be the Government's stance in this situation? Is it a twin balance sheet problem or a consumption problem?**

You see, the Indian economy was born in 1991. It became a global economy and in the last, whatever it is, 30 years, it has achieved a good rate of growth. But in the 21<sup>st</sup> century, it has really got into a situation where a slump in the growth rate is thought to be a recession. Don't worry. So, Indians are going through growth cycles, not just in the level of income, but the growth rate as well. The standard theories of the business cycles, the first one by a man called Mitchell in the 19<sup>th</sup> century, was about when the bank rate is low, the profit rate is high, so everybody borrows and then there is always an overshoot. Finally, banks run out of reserves or in those days, the gold standard goes up and the interest rate has to go up. As soon as interest rates go up, there's a crash. But in India, the parallel was basically the NPAs of PSU banks which the Government did finally begin to sort out later with the insolvency and bankruptcy code. But as long as it is the judiciary, everything is delayed. Anyway, the credit market dysfunction is a classic example of a business cycle crash.

The problem in the Indian economy is not the Keynesian problem of lack of effective demand. It is the problem of the lack of credit to revive investment. And I think what the Reserve Bank of India has been doing is quite smart. With what they call operation twist, they're lowering long term rate of interest and raising short

term rate of interest, they are twisting it all up. I think a lot of equity has to be provided to banks who could then lend because the driving force from now on in the economy would be private sector investment. But that awareness has not quite sunk into the policymaking circle, because in the budget of 2019, everyone thought it was a Keynesian problem. Consumption is down, we must do something. Give more money to Mahatma Gandhi Employment Guarantee Act (MGNREGA). While

it's good for the poor, it is not going to solve the budget problem. So, one has to understand that this is not the standard Keynesian Policy and I actually am completely opposed to corporate tax cuts. Corporates just collect taxes and never invest. There's a lot of empirical evidence across different countries' economies saying that corporate taxes don't help investment. But I think that by and large, 2019's budget was weary, but the economy has been sorted out very much.

# THE CONVICTION PARADOX

BY ISHITA AGGARWAL

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*Considered to be one of the safest countries in the world, Japan boasts a conviction rate as high as 99 per cent. However, do the extremely high conviction rates really mean that almost all suspects 'guilty' of crime are convicted, or does it imply something sinister?*

Carlos Ghosn, the ex Nissan chief, made it to the headlines as a fugitive in the custody of the Japanese criminal justice system. Facing allegations of improper compensation and misuse of corporate assets, Ghosn spent 13 months in jail between his arrest and his subsequent escape. He claimed that he felt like a hostage of a country he served for 17 years. Multiple things about the way his case was treated are alarming, such as extension of the pre-trial detention period, interrogation for hours on end in the absence of a lawyer and repeated denial of bail.<sup>[1]</sup>

Japan's criminal justice system operates in a completely different manner to that of most developed countries. It has been dubbed as the "Hostage Justice System" after Ghosn's arrest.

The history of Japan's justice system might shed light on its current situation. Until the Meiji Restoration of 1868, a political revolution that brought about the demise of the military government, public officials constrained people and ordered them to obey the set moral norms. Conviction was done on the whims of public officials instead of laws. The justice system was so harsh that it would also punish the criminal's family and neighbours for the crimes committed.

**“ An interesting fact about the convictions in Japan is that most of them are made through confessions of the suspect himself. ”**

It gets even more interesting when you learn that Article 38 of the Japanese Constitution categorically requires that “no person shall be convicted or punished in cases where the only proof against a suspect is his/

her own confession.” In practice, this law takes a form of safeguarding known as the ‘revelation of secret.’ This law exists because the judiciary realises that a confession can be forced. Since the suspect can be interrogated at a stretch for 23 days along with complete isolation from the outside world, confession of guilt can be easily manipulated.

This sounds great in theory. However, what's the reality? How is it that most convictions in Japan are made through confessions? If the law is so foolproof, this might appear to be an irregularity. In most cases, one of the following situations arise:

- The record of sequence and timing of police discoveries of evidence and confessions are pretty unclear,
- Contents of ‘revelation of secret’ have weak relevance to the crime,
- Details of the ‘revelation of secret’ are usually vague. This encourages the ‘Prosecutor's fallacy,’ a fallacy of statistical reasoning used by a prosecutor to exaggerate the likelihood of a criminal defendant's guilt.

There exist multiple loopholes in Japan's criminal justice system. Firstly, it gives the prosecutors too much power. Even the top officials at the Justice Ministry are inferior to the prosecutors in terms of seniority and pay grade. Moreover, the prosecutor can decide the severity of the punishment, the detention periods and the ability to contact lawyers or family members in case of confessions.

Secondly, Japan's criminal justice system is obsessed with high conviction rates. Prosecutors *only* take those cases to trial for which they are absolutely sure the

verdict will be pronounced guilty. If there exists any doubt in the prosecutor's mind, he would push for a confession. This eliminates the possibility of acquittal and leads to higher rates of conviction.

Thirdly, Japanese prosecutors say that their main objective is to ensure corrective behaviour and re-integration of the criminals to society. They believe in the concept of remorse and forgiveness. Although these morals are admirable, their execution isn't. In cases where innocent people are forced to confess in order to reduce their sentences, it has created bitterness among the people.

In continuation of the previous point, a major loophole lies in the presumption of guilt. The Japanese prosecutors wish to inspire remorse and subsequently offer forgiveness. However, how can any of that be

determined before a fair trial? Is a mere confession of guilt proof enough?

Are the extremely low crime rates in Japan a good enough reason for a flawed and harsh criminal justice system? Thinking in the context of India, a lot of heinous crimes go unpunished or inadequately punished because of bureaucracy, corruption and a lenient criminal justice system. Crimes such as rape, sexual harassment, murders, acid attacks are hardly punished. So, is Japan's criminal justice system so bad after all? This brings into question the deontological and utilitarian approach. While the deontological approach might say that the inherent treatment of suspects as guilty is immoral, the utilitarian approach will claim that Japan's justice system is at least able to achieve the greater good, a safe country with extremely low crime rates.

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# WINNING OVER: THE STATES' TAKE

**BY SRUSHTI SWAIN**

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*From Hollywood and the exploits of fast food to the curiously common dream of settling down in the USA, the common thread is the 'American Dream.' How and why did this dream take over the world?*

Many argue that it became certain that the world was under American hegemony after the fall of the Soviet Union - however, many aspects of American hegemony actually go back to the Second World War. It became the post-war home of the United Nations, the International Monetary Fund and the World Bank. And, of course, the United States had the bomb.

There is no doubt that since the turn of the century, America is returning to protectionism with the comeback of campaigns like "Make America Great Again." America is increasingly wary of paying the costs of maintaining a global liberal economic world order. Faced with the shrinking gap between the Chinese and American economy, coupled with the growth of the Asian economies and the 21<sup>st</sup> century being called the Asian century,<sup>[1]</sup> American power in the economic realm is declining.

That being said, the charm around American culture, the American dream still survives. In 2016, the action movie *Captain America: Civil War* earned more than \$1.1 billion from domestic and international screenings. One year earlier, Michael Jackson's hit album *Thriller* went Platinum for the 30<sup>th</sup> time, adding to its success as the number one most sold album globally with more than 100 million copies sold.<sup>[2]</sup> The popularity of a country's music, films, and even sporting events can have a profound impact on the opinions of other states. During the Cold War, popular music encouraged sentiments of nonconformity, while films spread the idea that individuals could own their own homes or cars thanks to capitalism.

## Understanding Hegemony

Politics in the international realm has been characterized

by the desire of the states to first capture power and then retain control over it. As a result, some countries are more powerful and dominant than others. To understand this state of comparative advantage we turn towards the writings of activist, theorist and founder of the Italian Communist party, Antonio Gramsci. Gramsci's discussion of hegemony followed from his attempts to understand the survival of the capitalist state in the most-advanced Western countries. As a follower of Karl Marx, Gramsci understood that the major mode of rule was class rule. The supremacy of a class and thus the reproduction of its associated mode of production could be obtained by brute domination or coercion. Yet, Gramsci's key observation was that in advanced capitalist societies, the perpetuation of class rule was achieved through largely consensual means—through intellectual and moral leadership. Gramsci's analysis of hegemony thus involves an analysis of the ways in which such capitalist ideas are disseminated and accepted as commonsensical and normal.

A hegemonic class is one that can attain the consent of other social forces and the retention of this consent is an ongoing project. Securing this consent requires a group to understand its own interests in relation to the mode of production as well as the motivations, aspirations and interests of other groups. Under capitalism, Gramsci observed the persistent contribution of civil society institutions to the shaping of mass perceptions.

## Cultural Hegemony

To understand what cultural hegemony means we go back to the philosophy of Gramsci. The central premise of Gramsci's conception of cultural hegemony was the idea that the ruling class can manipulate the belief system and more of a society so that their (hegemon's)

view becomes the world view. To quote Terry Eagleton, “Gramsci normally uses the word hegemony to mean the ways in which a governing power wins consent to its rule from those it subjugates.”

The cultural hegemony of America is visible every time one thinks of his or her concept of a good life. For the overwhelming majority, all ideas of a good life echo practices prevalent in 20<sup>th</sup> and 21<sup>st</sup> century America, from the influence of denim jeans to the glass bottles of Coca Cola.

*This shows that America has been successful in effectively persuading people to believe that practices that benefit the USA are more sophisticated and therefore, more desirable. Thus, these lifestyle choices have become something that people strive to achieve.*

The ‘Americanization’ of the world can be seen in the global presence of McDonald’s, Google, Amazon and of course, Hollywood. It is so easy for the world to be colonised in this way, precisely because of the almost common language. The pervasive pop music is in a language they can understand – assuming we can make out the words. Films and television programs are immediately comprehensible, even if Avengers: Endgame has to be subtitled. Gen X, millennials and Gen Z readily adopt Gap sweatshirts, Levi’s jeans and Chuck Taylors. It is not just the artistic elements of the culture that have come across to us. The obesity epidemic that we find ourselves overwhelmed by is blamed roundly on the bread-potatoes-and-lard-based fast food on which America nourishes itself.

The basis for the impact is, of course, America’s position as the world’s dominant superpower. Not only does the USA have hard power that is the ability to get people to do what it wants, it also has enormous soft power – the ability to get people to want what it does.

The ‘American Dream’ was the USA’s greatest export to the world – an open-ended inspiration into which millions poured their own dreams and hopes for a better life. It was around the time of the First World War when things began to change, that America first began to export some of its homegrown culture abroad through films and music. Charlie Chaplin and jazz became familiar to millions outside the country.<sup>[3]</sup> It was not until after the Second World War, however, that the flood gates really burst. The rise of the consumer economy and the ‘American lifestyle’ in the 1950s had a terrific impact on the world when American popular culture went global.

## Hollywood

Films or any body of literature that captures imagination has some roots in reality, which is to say that practices,

habits and events as portrayed in films echo real life practices of the societies they exist in. Hence any American production becomes a peddler of the American lifestyle. There is no question that movies are an indelible part of our cultural dialogue and can make for some fascinating conversations, define precious moments and serve as benchmarks for how we live our lives. Some argue that popular culture is a detriment to the image of the USA, spreading the perception that Americans are overly materialistic and frivolous. However, others argue that popular culture can overtly or subliminally spread a country’s values and ideals.

In the future, American culture will continue to be a major force in the global community. As Thomas Friedman wrote, “Today’s era is dominated by American power, American culture, the American dollar, and the American navy.” The promotion of American culture through Hollywood movies is a representation of cultural imperialism. One interesting effect of the dominance of American culture in films and other media is that many people who have never been to the country nonetheless feel they have a good idea of what it is like to live there. The stereotypes that American film and TV sell to their domestic public become the stuff of international opinion. Equally, people may feel that they know what it is like to live in New York after seeing several years of episodes of Friends or Seinfeld.

## Corporate America

To understand why the American way of life appealed to people in the first place it is a must to go back to the Cold War era wherein the world was faced with two alternatives – liberal democracy and capitalism or communism and socialism. With the end of the Cold War after the collapse of the Soviet Union, it became clear that capitalism had won over communism and it conferred onto the society a higher standard of living and thus remained more desirable than the Soviet model that had rendered the Soviet Union in a virtual tailspin.

The roots of the superiority and/or desirability of the American way of life and everything else thus rose from Ronald Reagan’s apt use of ideological warfare in targeting the very foundation of the Soviet identity: Marxism and Leninism. America emerged victorious because it had managed to convince even the Soviet people that the American way (capitalism, democracy and mass production) was better because it could give them access to more choices, better quality,<sup>[4]</sup> liberty and rights.<sup>[5]</sup>

Of the top ten global brands in 2017, by revenue, seven are based in the United States: Apple Inc., Google, Microsoft, Coca-Cola, Amazon, Facebook and IBM. Coca-Cola, which previously held the top spot, is often viewed as a symbol of Americanization.

## McDonaldization and Coca-Colonisation

The idea of the spread of American consumerism and

fast food chains is such that sociologist George Ritzer in his 1993 book *The McDonaldization of Society*, concluded that for him, “McDonaldization” is when a society adopts the characteristics of a fast-food restaurant.

At the beginning of the 1980 movie *The Gods Must Be Crazy*, the symbolic bottle falls out of the sky onto the sands of the Kalahari Desert, where it completely transforms the lives of the innocent Bushmen. In the *Coca-Cola Kid*, a similar invasion takes place in Australia. In these films, the soft drink is presented as a sinister force, a harbinger of unhealthy values.<sup>[6]</sup>

“From infancy to adulthood,” historian Barbara Tuchman wrote in 1980, “advertising is the air Americans breathe, the information we absorb, almost without knowing it. It floods our minds with pictures of perfection and goals of happiness easy to attain.” Now, decades later, advertising permeates the air that everyone breathes, as well as everything seen on the web. The message that they can Open Happiness by drinking Coke has led Mexicans, for instance, to spend their money — often a substantial part of their daily wages — on Coca-Cola products, with the world’s leading annual per capita consumption of 728 beverages in 2011.

Whether harmful or not, the messages bounced from satellites or carried through cable certainly connect. In 1990, one researcher attempting to define the “global teenager” by surveying a representative sampling of young people from Argentina, Brazil, China, Egypt, Britain, Guatemala, India, Israel, Kenya, the Soviet Union and Thailand discovered that while only 40 per cent could correctly identify the United Nations logo, 82 per cent knew Coke’s symbol.<sup>[7]</sup> Today, that figure is probably near 100 per cent as Coca-Cola marketers, through campaigns such as “Move to the Beat” for the 2012 London Olympics, exploit what they called “a fusion of two global teen passions — sport and music.”

### Challenges to American Hegemony

In order to effectively understand Americanization, one must recognize that the world we’re living in is becoming increasingly globalized. Due to increased flow of ideas, capital, goods, services and people, we see an increasing interconnectedness which is also accompanied by stronger attempts to curb these flows.

To explain the rise and the spread of corporate America, in a globalized world, an analysis of the ideas shared in *Jihad vs. McWorld: How Globalism and Tribalism Are Reshaping the World*, a 1995 book by American political

scientist Benjamin Barber, in which he puts forth a theory that describes the struggle between “McWorld” (globalization and the corporate control of the political process) and “Jihad” (Arabic term for “struggle”, here modified to mean tradition and traditional values, in the form of extreme nationalism or religious orthodoxy and theocracy), is necessary.

While nationalist identity does remain central in countries like Japan, they too are influenced by McWorld in the sense that local food chains like Mos Burgers are modelled around the business plan that American firms like McDonalds and KFC propagate, suggesting a change in the consumption patterns and demands of these Japanese people.

Barber further theorizes that McWorld could ultimately win the “struggle.” While McWorld suggests greater global integration aided by MNCs largely based out of the US, Jihad suggests a greater threat or challenge to such forces as nation states struggle to retain the centrality of national identity.

### Conclusion

The power of cultural hegemony lies in its invisibility. Unlike a soldier with a gun or a political system backed up by a written constitution, culture resides within. It doesn’t seem political, it’s just what one likes or what one thinks is beautiful or what feels comfortable. When a culture becomes hegemonic, it becomes common sense for the majority of the population.

No culture, however, is completely hegemonic. Even under the most complete systems of control, there are pockets of what Gramsci and later Hall, called “counter-hegemonic” cultures - ways of thinking and doing that have revolutionary potential because they run counter to the dominant power. For Gramsci, these cultures might be located in traditional peasant beliefs or the shop-floor culture of industrial workers; for Hall they might be found in youth subcultures like Rastafarians and punks and even in commercial entertainment. The activist’s job, according to Hall, is to identify and exploit these cultural pockets, build a radical counter-culture within the shell of the old society and wage the struggle for a new cultural hegemony.

An important caveat - Gramsci never believed that cultural power alone was enough. The fight for cultural hegemony had to be part of an overall strategy that also incorporated struggles for political and economic power.

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[3] <http://www.unesco.org/new/en/unesco/events/prizes-and-celebrations/celebrations/international-days/international-jazz-day-2013/jazz-in-the-world/>

[4] The 1957 Supermarket U.S.A. exhibit in Zagreb, Yugoslavia, which was then a communist country, was a fully operational 10,000-square foot American supermarket filled with frozen foods and breakfast cereals and everything else. They airlifted in fresh produce from the U.S. because they didn't think Yugoslavian produce was attractive enough. It was about this display of affordable abundance available to American consumers. There were quite a few people who thought that if you showed that American consumers could access affordable food — strawberries in December — without having to wait in line, that that might cause the whole communist system to collapse. Immediately after seeing it, Marshal Tito, the leader of the country at the time, ordered the whole thing to be purchased and it was bought wholesale from the United States exhibitors and used as a model. They hired a consultant from an Atlanta supermarket firm to come over and teach them how to build their own chain of socialist supermarkets.

[5] Criticizing the "shyness of some of us in the West" in standing for "ideals that have done so much to ease the plight of man and the hardships of our imperfect world," Reagan called on the citizens of the world's democracies to be "worthy of freedom and determined not only to remain so but to help others gain their freedom as well." That 1982 address marked the purest distillation of Reagan's ideological offensive against the Soviet Union. Expressing his support for Solidarity, the independent Polish trade union movement, Reagan invoked the historic Polish motto, "for our freedom and yours." He declared that "we the people of the Free World stand as one with our Polish brothers and sisters. Their cause is ours."

[6] <https://mashable.com/2012/05/12/coca-cola-movies/>

[7] <https://www.atlantamagazine.com/great-reads/cocacolonization/>





# FREEDOM: A REQUIRED RUBIK AND A COGNIZABLE CUBE

**BY AMARTAYA GUPTA**

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*Freedom - often talked about yet misunderstood. While cementing a theory around its forms and structures, this piece also expounds on the freedom of the two classes.*

To some, freedom is a stoic state; to the left, a temporary trance; to the right, an ushered utilitarianism and to the others, it is simple subjectivism. To understand freedom is to comprehend the two Greek philosophers, Heraclitus and Democritus conjointly. You end up being the laughing one and the weeping one simultaneously. You end up staying in the same river twice and desiring little on the path to being rich.

This piece is an inspiration from Amartya Sen's work on freedom and has certain extensions to it. Apart from Sen, the different kinetic westernised opinions of Nagel, Kant, Marx and Bernard Williams have been brought, critically examined and characterised into the Indian upper and lower classes.

The main aim is to understand the variegating freedom of the two classes; the upper class (rich) and the lower class (poor). The focus of this paper is also to understand the parameters assessing freedom and externally physical metaphysical institutions governing freedom. The impact of and on polity is also kept in the ambit of this paper.

## I. Assessing Freedom

We shall establish certain parameters on which the freedom of the two classes will be adjudicated upon. Realising the gravity of this assessment, I shall initially put forward a clear distinction between agency freedom and freedom of well-being.

### I.I. Well-Being and Agency Freedom

The agency freedom of a person is the realisation of one's own goals and values the person has reasons to pursue, irrespective of whether they are connected to

his well-being or not. The freedom to realise, pursue and attain one's own ambitions is the agency freedom. The agency freedom of an individual does not need to aid the well-being aspect. The well-being freedom is one's freedom to achieve their well-being through subjective paths, objects and actions. In the same way, well-being achievement and agency achievement can be reflected upon. The interdependency and independence of both these varies in different paradigms.

## II. Institutions Governing Freedom

How free is freedom? External factors which influence have a physical or a metaphysical nature. The metaphysical external factors which influence and indirectly arbitrate freedom are moral luck, intercultural variation and self control. Moral luck, as once propounded as an oxymoron, is luck which makes an impact on the assessment of the morality of one person and makes a difference in morals. Intercultural variation is the difference and uniqueness of every intricate societal structure and class.

The physical external factors which directly govern freedom are the relation with societal governing institutions and ailments. The relation with the societal governing institution (namely, the government) of the two classes is of paramount importance in the liberty of different freedoms (agency and well-being). To be raw, one might say that our freedom is nothing but a puppet controlled by mere ethics, policies and laws. However, under any circumstance, we cannot neglect the extremity of the variation of metaphysical factors. Metaphysical factors play an upper hand and are more decisive than the physical factors. Moreover, metaphysical factors can be extremely variegating and can change intrinsically. Freedom related to hunger,

diseases and mental illnesses comes under the ambit of the second physical external factor, ailments.

### III. The Lower Class

Marxian class theory asserts that an individual's position within a class hierarchy is determined by their role in the production process and argues that political and ideological consciousness is determined by class position.

I shall be following a comprehensible meaning of the lower class. A class of people below the middle class, having the lowest social rank or standing due to low income, lack of skills or education and the like are members of the lower class.

With respect to the lower class, it can be said without a doubt that both agency achievement and well-being achievement stand on a low pedestal for them. But to them, well-being freedom is of imminent importance. To a poor person, having well-being comes before having agency achievements. A poor person would invariably prioritise basic necessities which comprise their minimum well-being. He would want water first and then diamonds. To further propound, one can even go on to say that freedom of agency becomes virtually nonexistent. For a poor person, the goal itself is well-being; hence, agency is well-being. Avoiding certain exceptions, it is safe to say that freedom of agency and freedom of well-being coincide in the lower class. Exceptions, here in the case of the lower class are the members of the lower class who would sacrifice their well-being and work towards their goals and objectives which do not enhance their well-being. An example could be a poor man working at a school for free or a poor person agreeing to a medical test. These cases are abnormal and hence, termed as exceptions.

Let,  $x$ : well-being,  $y$ : agency,  
 $f(x)$ : freedom of well-being,  $f(y)$ : freedom of agency

Since, well-being = agency,  
 $x = y$ ,  
 $f(x) = f(y)$   
 Hence, freedom of well-being = freedom of agency

Furthermore,  $g(x) = g(y)$   
 Where  $g(x)$ : well-being achievement,  $g(y)$ : agency achievement.

This freedom of agency and well-being has various effects on the freedom of the upper class. To hint upon this effect, we can say that the agency aspect of the upper class cannot survive without the well-being aspect of the lower class.

“ **The relation with the government is simple. Neither can the government survive without them nor can this class survive without the government.** ”

The survival dependency of the poor on the government is more than the other way round. This point comes into the ambit of the paper when we realise that the government has a certain kind of control over the lower class and might restrict their freedom. (Please note: also dependent on the nature of government.)

It is evident that since well-being achievement is already low, the freedom from hunger and diseases lies at a low pedestal. To achieve this freedom, one has to invariably resort to the agency aspect. Moreover, the structural taboos and practices (such as the caste system) which aid intercultural variations are also a limitation.

### IV. Upper Class

The upper class in modern societies is the social class composed of people who hold the highest social status, usually are the wealthiest members of society, and wield the greatest political power.

The upper class is those set of individuals who have already attained more than the minimum amount of the agency and well-being achievement required or existing. The well-being aspect for this class has already been achieved. It is more of a generalized assumption because the only fact that this class has achieved a certain amount of well-being puts them in the upper class. Moreover, it can also be stated that since there has been a certain achievement of the agency aspect and the agency and well-being aspect coincide, to a certain extent, hence, a certain well-being level has been achieved. However, the agency aspect of man is limitless and is rarely extinguished. But, it is right to say that the agency aspect becomes stagnant in some cases (when one has achieved a high magnitude of goals and has comparatively less amount of higher goals). The freedom of agency and freedom of well-being have not been divided and the freedom of well-being has now become a subset of the freedom of agency. The individual's agency achievement no longer has a large effect on his well-being. The standard of well-being has already reached a certain high stage.

$$f(x) \subseteq f(y)$$

There is an evident distinction between the lower upper class and the higher upper class. The lower upper class comprises of individuals who have crossed the middle class barrier or are a member of the higher middle class. The higher upper class comprises of individuals who have an immense role in the production process and are assertive of their political and social inclinations (in accordance with the Marxian class theory). It can also be stated in some cases of the lower upper class that the individual's agency achievement is increasing the well-being freedom. In this case, a member of the lower upper class will compensate for the present well-being and even though their freedom of well-being is more than their freedom of agency, they shall invariably achieve more of agency to transit into the higher upper class.

Here,

$$g(y) > g(x)$$

$$f(y) < f(x)$$

Both these functions stand true for the upper class. The former caters to the higher upper class and the latter to the lower upper class. The effect that the upper classes agency freedom has on the freedom of the lower class is of dual nature. It provides a path to their agency freedom through the creation of jobs and other means. On the other hand, it also deprives them of a certain higher agency freedom and cannot guarantee complete well-being achievement.

The relation of the upper class with the government is a better one. Here, the government has, to some extent, the same amount of achievement from the upper class that the upper class has through them. The upper class has achieved a certain level of freedom from hunger and diseases. However, freedom from diseases can never be completely achieved.

## V. Various Interpretations and Conclusion

This paper attempts to free freedom, solve the required Rubik and cognise the cube. The attempts to understand freedom make up a Polysemy (is the capacity for a sign to have multiple meanings usually related by contiguity of meaning within a semantic field). Freedom is what two blind people see as the same.

This paper holds its various interpretations to the readers. The essence of such a paper is that it holds in its infinite meanings and scope for further research and development on both metaphysical and physical entities. This attempt to understand the freedom of the three classes and further identify the pattern of an ideal societal freedom structure ignites the sparks of many more researches and interpretations. To conclude, this paper provides an insight to the modern freedom of the two classes and questions existing presumptions about freedom.

Freedom as a concept is complex yet simple and cognisable. Freedom is a required rubik.



# MORE THAN A BURDEN

BY AANANDI ARJUN AND PARTH CHOWDHARY

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*With the rise of the right across global elections, refugee policies are increasingly becoming stricter and inward looking. Here is a purposefully but oppositely biased take on the economics of the refugee crisis.*

Far away from ravaged cities and irrevocably changed destinies, we can barely begin to comprehend the trauma an expectant mother or an orphaned teenage boy experiences when fleeing the only home they have ever known. What makes the tragedy even more devastating is our desperate attempt to dehumanise, 'other' refugees and perceive them as threats to our way of life. Whether it is Alan Kurdi or the Rohingyas, growing antagonism towards foreign cultures has led us to debate their status as liabilities. However, contrary to hearsay, many studies have proven that instead of being a burden to the state and its subjects, refugees impact the socio-economic well being of a country quite positively.

Before moving on, a word of caution is pertinent. The usual commingling of refugees and migrants is unwarranted, baseless and takes substance away from the discourse due to various irregularities. Migrants usually shift towards better-developed countries as their movement is deliberate and often permanent. Refugees, conversely, face involuntary displacement which tends to be temporary, in search of long-term shelter. Be it due to political persecution in Myanmar or civil war in Sudan, they are left with no choice. As migrants are generally received by high-income countries and refugees by low-income ones, these terms must not be used interchangeably.

Refugees increase the quantum of population fighting over limited resources. This competition creates inflationary pressures and may reduce the availability of goods for local inhabitants. It also strains the administration as men and material have to be diverted to handle them. Naturally, for less developed countries, this costs the government significantly. However, having acknowledged these arguments, we observe that most of these come from economic theory and lack substantial evidence for corroboration.

## Understanding Prejudice

Perhaps it is smart to start at the beginning - what goes on in refugee camps?

*While media perception and our imagination lead us to believe that refugees spend the day recounting their woes, one must not forget the indomitable human spirit that seeks to survive and better its circumstances.*

Recent studies have shown that they actively engage with the host for both sustenance and acceptance in society. From providing employment opportunities to builders, psychologists, cooks and other basic support staff to supporting small-businesses surrounding camp areas, it leaves space for creativity in social entrepreneurship and leads to an increase in non-government organisations too. Many firms have sprung up to specifically support refugees through job-hunting, legal advocacy or in providing credit opportunities. Even in lives beyond the camp, refugees are entrepreneurial and sincere in trying to establish themselves in society, simultaneously helping others in similar situations to themselves.

Although often treated as second class citizens, given menial jobs and assumed to be unskilled, refugees constantly prove their mettle. In Canada, as per data from Citizenship and Immigration Canada<sup>[1]</sup> after ten years of stay, around 66 per cent of refugees declared earned incomes and paid taxes whereas only 39 per cent of 'investment immigrants,' who migrated for economic goals, declared any income and kept it low to save tax. The old adage about high crime rates among refugees has also been disproven by various studies coming from The Marshall Project,<sup>[2]</sup> The Upshot and the Pew

Research Center, adding more reason for us to have belief in them. These studies analyse data and arrive at the conclusion that drawing links between a refugee-dense population and higher crime are unwarranted.

### The Wage Woe

A popular cause for concern among native workers is the fall in wages due to refugees' willingness to work at very low remuneration. But the discriminatory, unfair and invalid assumption at work here is that all refugees are just poor and unskilled. We need to understand that when an entire country gets embroiled in a civil war or faces foreign aggression, it affects everyone. From the rich and highly educated to the middle class, everyone tries to seek shelter. In fact, the better off are more likely to have the resources to flee and seek shelter in time. This logic can mitigate concerns of just unskilled 'burdens' washing up at shores.

Economists majorly agree that even in the presence of refugees, the native labour - if at all - is only hurt in the short term or in small numbers. Native workers typically have access to different systems and facilities and thus have a different skill set as compared to refugees. Additionally, the added labour force allows native workers to flourish in a more competitive environment, pushing them to specialise in better-paying, localised or region-specific jobs. A 2015 study by Mette Foged and Giovanni Peri<sup>[3]</sup> shows that by virtue of this specialisation, locals in new jobs earn around 3 per cent more than before.

This benefit, if understood in the light of political will, becomes even stronger in low-income countries. It is tragic that such research and data does not make its way to political circles and polling booths. Additionally, the fear of cultural 'dirtying' is unfounded. The primary characteristic of refugees seeking to adjust to new circumstances is desperation. This makes them more

likely to amalgamate and adapt to the conditions, social or otherwise, of their host nation. Ultimately, this leads to a stronger and purer sense of connection between the natives and those they have welcomed, something which makes everyone better off.

### Policy-driven Impact

Perspective makes a world of change to the issue of refugees. If the government looks at them as a burden, it deprives itself and the rest of the country of the chance to discover their potential. Hence, government attitude and policy is key here, as demonstrated by Uganda.<sup>[4]</sup> In Uganda, refugees have been allowed to self-settle rather than being allotted places. This has enabled them to become more independent and rely less on government or foreign aid for their expenses, in addition to being better contributors to their host community. This proves that it is possible, viable and feasible for refugees to be made economic assets by well-thought-out government strategy and implementation. It also implies that negative impacts on the host country are not singularly the fault of the refugees themselves but can also be attributed to governmental mismanagement and apathy.

While it is necessary to acknowledge the growing presence and influence of refugees on host countries, we must push beyond the usual humdrum that surrounds the conversation. It is imperative that we realise how growing scepticism and non-acceptance of refugees feeds into false beliefs in economic myths surrounding their presence to become a self-enforcing, vicious cycle. If one continues to buy into the arguments of economic losses, one must also introspect about the bias and classism in the assumptions inherent to them. In discussions about law, morality and economics, like all else, we must learn how to turn circumstance a friend rather than a foe.

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**ECONOMICS**

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# A GAME OF WORDS

**BY VANI AGARWAL**

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*Language and Economics move in a circular fashion: did language facilitate trade or did trade facilitate language? Read on to understand how this unexplored connection answers many unanswered questions*

Most textbooks have long chapters on facilitators and factors of trade. However, most of them miss one of the most obvious and relevant factors - language. Their relationship can be viewed in a circular form; trade impacts the prominence of a language and its fluency which, in turn, is a determinant of trade. It impacts our place in society, our income and our social standing. Even though this may seem like an obvious idea, it is seldom included in economic research.

## Lingua Franca

Trade and commerce cannot be facilitated without having a common means of communication. In earlier days, language was one of the biggest barriers to international trade, which made it necessary to have a standard system of communication across the world. Thus came about the existence of a lingua franca, a language common to the parties involved and may be different from their native languages. In today's world, the primary lingua franca is English. Used in over 100 countries, English has become a necessity in today's age. Content on over 53 percent of websites is prepared and consumed in English. A study has shown that English abilities and net exports have a direct relation<sup>[1]</sup>- the better the fluency in English, the more the tendency to have higher net exports. The explanation is rather simple: you would buy vegetables from a vendor who speaks in the same language instead of one who doesn't because you can't transact with him. Whether this is causation or correlation is still undetermined but the existence of a pattern shows that a positive relationship exists. English has also become a corporate standard across the world, with fluency in English became a compulsory metric for recruitment.

## A Social and Income Standard

German sociolinguist Florian Coulmas discusses the idea of a hierarchy based on language in his book, Language and Economy. According to him, money and language have similar functions. Fluency in multiple languages - or at least in a standard language, gives people an economic advantage and social affluence. He argues that many countries have an inherent disadvantage due to linguistic inequality and proposes that a language tax should be introduced to compensate countries to pay for education in standard languages. Considering that education is the responsibility of the state, training all citizens in standard languages falls within the ambit of its duty. In a scenario where it is unable to do so, a language tax can be put into play to counter the disparity created.

## Power Play

It's natural to assume that the language with most dominance (in terms of how many people use it in daily life) would be the same as the language most popular in business communication. But surprisingly, that's not true! Although Japanese and German are the most common business languages, they are not in the top ten most popular languages in the world. The reason for this is simple. Japan and Germany are world leaders, especially when it comes to manufacturing and information technology. Since they control trade and commerce, their standard languages have been accepted as a common medium of communication. The same applies to Mandarin and English.<sup>[2]</sup> The dominance of certain languages as business languages is an indicator of the dominance a country enjoys on the global platform.

### A Trade of Words

Just the way language was important to business, trade and commerce contributed significantly to the growth of languages across the world. When the rest of the world was not as accessible as it is today, lingua francas existed only for neighbouring countries. For example, the Indian Subcontinent was dominated by Sanskrit and Persian. When traders travelled to other countries, they found it difficult to interact. To facilitate communication, they started picking up words from native languages and traditional dialects. For example, when British, Portuguese and French traders came to Indian shores for trade, apart from taking spices and cotton, they took a lot of words as well. This shows that trade has also helped develop and grow languages across the world to become more inclusive. Derivatives

like Roman Hindi and Hinglish also came about as a result of the same.

***Words like charpoy, guru, pashmina and masala were added to the English language only after interacting with Indian markets.***

The world did not become a global village overnight. It was a long process that lasted centuries. When the world was broken into fragments, languages dominated their respective areas. However, as the world came closer, the importance of a single standard language only increased. Trade helped create a common language and that very language has become a determinant of trade today. This circular relationship is what has helped the world grow and will only help it grow faster .

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# UNCONVENTIONAL LIQUIDITY MANAGEMENT

**BY DR. RUCHA RANADIVE**

Economist at CARE Ratings Ltd.

*As India struggles with a slowdown that seems to be immune to the regular tools in RBI's toolbox, read about how the central bank takes a leaf from Europe and the USA to deal with this seemingly obstinate challenge.*

In recent times, the Indian economy has been showing signs of slowdown. In 2019-20, the economic growth of India is estimated to slip to an 11-year low of five per cent. The slowdown is a result of a few problems faced by the Indian economy like a subdued investment climate and high unemployment rates leading to low consumption demand. On the external front, contraction in exports owing to subdued global consumption posed a challenge.

One effective measure to address the slowdown in the economy is via monetary stimulus, which entails lowering the policy rate and thereby bringing down the borrowing costs. Lower borrowing cost for corporates leads to increased demand for credit for investment and kick-starts the recovery phase of the economic growth led by capacity expansion.

Although slower economic growth warrants a reduction in the policy rate, an uptick in inflation would be counterproductive in case the central bank has adopted an inflation targeting regime like ours. The RBI has set an inflation target of four per cent with a +/- two per cent band. Benign inflation rates support a rate cut, while high inflation makes it difficult for the central bank to cut rates. Therefore, it is pertinent for any central bank to maintain interest rates at desirable levels, especially in such a challenging economic environment and thus, ensuring ample liquidity in the banking system becomes the foremost objective of the central bank.

## **Conventional Tools of Liquidity Management**

The RBI manages liquidity in the banking system through the Liquidity Adjustment Facility (LAF). This entails repo operations undertaken to infuse liquidity in the banking system if there is a liquidity deficit while the reverse

repo operations are undertaken to absorb liquidity from the banking system owing to surplus liquidity with Scheduled Commercial Banks (SCBs). Various instruments which were available at the disposal of the RBI for this purpose include: fixed rate repo/reverse repo auctions, variable-rate repo/reverse repo auction, Marginal Standing Facility (MSF), Standing Deposit Facility (SDF) and Open Market Operations (OMOs). As per the revised liquidity framework introduced in February 2020, a new instrument, namely Long Term Repo Operations (LTROs), with longer maturity periods of one year and three years was introduced.

## **Monetary Policy and Regulatory Developments**

Low inflation in the economy gave the RBI headroom to lower the repo rate on the backdrop of weakness in the economic growth. Since February 2019, the RBI has embarked upon a series of policy rate reductions and has undertaken the subsequent reduction in the repo rate by 135 basis points from 6.5 to 5.15 per cent in October 2019. The central bank pressed a pause button in its December 2019 and February 2020 monetary policy review due to rising inflationary pressures in the economy. In order to further improve the transmission, the RBI mandated all SCBs to link all new floating rate retail loans and loans to Micro and Small Enterprises (MSMEs) to external benchmarks with effect from 1<sup>st</sup> October, 2019.

## **What was the Need for Unconventional Tools?**

Despite substantial reduction in the repo rate and other efforts, transmission of the rate cut remained muted as the Weighted Average Lending Rates (WALR) did not see a proportionate decline. In January 2020, the WALR of SCBs on fresh rupee loans fell by only 61 basis

points compared with January 2019 levels. The one year median marginal cost of fund based lending rate (MCLR), the internally decided minimum interest a bank can lend at, declined by only 55 basis points during the same period. This indicated poor transmission of rate cuts by SCBs.

**“ One of the primary reasons for lower transmission was overhang of the NPA issue in the banking system. High term premium, the difference between the overnight repo rate and yield on ten year government security, being over 100 basis points as well as credit spreads hindered transmission of rate cut.**

In addition, for an effective transmission, firstly the bank deposit rates had to come down commensurately. However, the weighted average domestic term deposit rates (WADTDR) fell by only 40 basis points between January 2019 and January 2020. When it comes to deposits, banks have direct competition from small saving schemes which offer interest benchmarked to ten year government security yields. Any reduction in the deposit rate would have led to flight of deposit money from the bank accounts forcing banks to keep deposit rates unchanged, resulting in poor transmission.

Before the December 2019 Monetary Policy Committee meeting, inflation had already surged to 4.6 per cent in November 2019, surpassing the RBI’s inflation target of four per cent while economic growth continued to be muted. This did not allow for another rate cut given prevailing inflation. Mounting inflationary pressures and expectations of likely fiscal slippages by the central government owing to subdued tax collections kept the ten year benchmark government security yields at elevated levels.

Thus, to ensure lower borrowing cost by managing the bond yields and improving transmission of the past rate cuts, the RBI announced special OMOs, popularly termed as ‘Operation Twist,’ in the month of December 2019. In addition, The Central Bank also introduced LTROs in February 2020 to kick start the cycle of bringing down borrowing cost. The lower cost supports credit off take, boosts the investment and improves the aggregate demand in the economy.

**Unconventional Tools Explained**

**I. Operation twist -**

Operation twist is a term used for special OMOs - simultaneous purchase and sale of securities in the same quantum. The term ‘operation twist’ was coined because such operations tend to twist the yield curve by bringing down yields of the long duration papers and increasing yields of the shorter duration papers.

There is an Inverse relationship between price and yields of the securities, shown as follows -

Sale (purchase) of securities → increase (decrease) in supply of papers → decrease (increase) in the price of security → rise (fall) in yields

The aim is to narrow the spread between the shorter and longer duration government securities. Herein, the central bank sells shorter duration papers and purchases longer duration papers using proceeds from sale of short term securities, leading to easing of interest rate on the long term papers. Because quantum purchased and sold through auctions is equal, such operations tend to be liquidity neutral.

The idea of operation twist was borrowed from the US Federal Reserve which applied this technique for the first time in 1961 and again in 2012. Operation Twist turned out to be so effective that the yield on the ten year US Treasury dropped to a 200-year low in 2012.

During December 2019 and January 2020, the RBI purchased securities of longer duration (five, seven and ten year maturity periods) in four auctions aggregating Rs. 40,000 crore, while it sold shorter duration securities of one year maturity period of the equivalent amount. However, the sale proceeds amounted to only Rs. 28,276 crore due to higher bidding cost offered by the participants. Though operation twist ideally is liquidity neutral, in this scenario, it was not due to lower OMO sales.

Table 1: Special OMOs

Auction Date	OMO Purchase			OMO Sale		
	Year of Maturity	Notified amount (Rs. crore)	Accepted amount (Rs. crore)	Year of Maturity	Notified amount (Rs. crore)	Accepted amount (Rs. crore)
23-Dec-20	2029	10,000	10,000	2020	10,000	6,825
30-Dec-20	2029	10,000	10,000	2020	10,000	8,501
06-Jan-20	2024, 2026, 2029	10,000	10,000	2020	10,000	10,000
23-Jan-20	2024, 2029	10,000	10,000	2021	10,000	2,950
<b>Total</b>		<b>40,000</b>	<b>40,000</b>		<b>40,000</b>	<b>28,276</b>

Source : RBI

**II. Long Term Repo Operations**

LTRO is a tool under which the central bank provides money to banks at the prevailing repo rate for one to three years, accepting government securities with matching or higher tenure as the collateral. They provide durable liquidity to the banking system. These are intended to prevent short-term interest rates in the market from drifting away from the policy rate.

By introducing the LTRO, the RBI emulated the action of European Central Bank during the European financial crisis that began in 2008 and lasted for about three years. ECB had lent nearly a trillion euros to various banks by way of LTROs to ease the liquidity situation, particularly in the sovereign debt markets and to support credit starved households and non-financial firms.

Through LTROs the RBI ensured durable liquidity supply to banks at reasonable cost relative to prevailing market conditions. This would further encourage banks to undertake maturity transformation smoothly and seamlessly so as to augment credit flows to productive sectors.

Initially, the RBI announced LTROs up to Rs. 1 lakh crore with one and three year maturities in four parts of Rs. 25,000 crore each, which were conducted during February-March 2020. The RBI had later announced another LTRO auction up to Rs. 1 lakh crore on 16<sup>th</sup> March, 2020 out of which the first portion worth Rs. 25,000 crore was auctioned on 18<sup>th</sup> March, 2020. At the aggregate, the LTRO auctions with longer duration worth Rs. 1.25 lakh crore have been conducted as of 3<sup>rd</sup> April, 2020.

Table 2: Auctions of LTROs

Date of auction	Tenure in years	Notified amount (Rs. crore)	Amount accepted (Rs. crore)
17-Feb-20	3	25,000	25,035
24-Feb-20	1	25,000	25,021
02-Mar-20	3	25,000	25,028
09-Mar-20	3	25,000	25,021
18-Mar-20	3	25,000	25,012
<b>Total</b>		<b>1,25,000</b>	<b>1,25,117</b>

Source : RBI

### Benefits of Operation Twist and LTRO -

- These operations slightly lower the cost of government borrowings.
- This, in turn, aids in lowering the corporate bond yields, which are generally aligned to the government bond yields. Lowered borrowing cost for corporates boosts investment in the country aiding the economic growth.
- From the consumers' perspective, low lending rates would mean cheaper retail loans and in turn boosting consumption and spending in the economy.

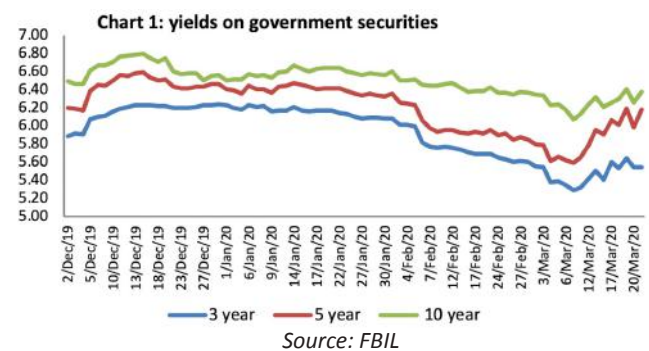
### How Yields Fared Post These Operations?

Post the announcement of first special OMOs in mid-December 2019, yields on ten year benchmark government securities fell by 15 basis points with investors anticipating several such announcements in future. The impact of this announcement can be gauged from the intraday movement - the ten year government security yields dropped by 20 basis points to 6.6 per cent while yields on shorter tenure bonds (five year) rose by 16 basis points to 6.67 per cent, thereby flattening the yield curve. The average reduction across government securities of various maturities has been nearly 15 basis points until mid-January 2020.

Likewise, the announcement of LTROs at the start of the February 2020 led to 17 basis points reduction in the shorter duration papers (three year and five year). Cumulatively, these operations led to around 40 basis

points reduction in the government securities yield with the ten year benchmark government security yield falling to 6.3 per cent - a multi-year low. In line, borrowing costs for companies have also fallen, with yields on ten year AAA-rated bonds down about 40 basis points.

During the first ten days of March 2020, yields had reached their bottom with additional LTROs auctions up to Rs. 1 lakh crore (Chart 1). Additionally, a surprise rate cut by the Federal Reserve led to anticipations of the RBI following suit and further easing yields. Thereafter, there has been an uptick in yields amidst the pandemic of Covid-19 and rising infection cases in India. Covid-19 led disruptions in economic activities and supply chains dampened consumer and business confidence. High foreign capital outflows exerted an upward pressure on yields. In addition, expectations of a series of countervailing measures to combat adversities arising from the pandemic heightened concerns over the fiscal health of the government and further weighed on yields. With lockdown announced by the government, the corporate bond spreads widened with anticipations of deeper impact on the finances of the companies and in turn their repayment capabilities.



### Outlook

Inflation is expected to remain at an elevated level going ahead due to disruptions caused by Covid-19. Central and state governments are likely to resort to increased market borrowing in line with probable stimulus packages to contain downside to the economy emanating from lockdown. This would put further pressure on the fiscal position of the governments. On the revenue front, the ceased activities are likely to have a bearing on GST collections while the recent crash in markets may lead to lower disinvestment proceeds. Weak credit off take and banking crisis in one of the largest private banks is expected to lead to hardening of yields going ahead. Large borrowings by the government in order to abide by their fiscal consolidation roadmap might crowd out the capital from the markets which could weigh on the private investments.

All these factors would lead to steepening of the yield curve in the coming months and the RBI may scale up its unconventional operations to flatten yields which is essential to give an impetus to the economy at this point in time.

# UNEMPLOYMENT AND US: PROF. JAYATI GHOSH



## INTERVIEWED BY AARADHYA DAGA

Undergraduate Student, Delhi University

*Dr. Jayati Ghosh is an Indian developmental economist and is currently a Professor at the Centre for Economic Studies and Planning at Jawaharlal Nehru University. A PhD from University of Cambridge, she specialises in International, Developmental and Feminist Economics.*

**Popular propositions state that developing countries always have sufficiently open and flexible labour markets for anyone to find work - but this hasn't been holding true since sometime. What will be your take on this with regard to changes in the way developing countries and global economies function?**

There has been this myth that what is preventing employment in India in manufacturing and the formal services and so on, is the fact that we have too many rigid labour laws and so an inflexible labour market. This is complete nonsense. In fact, 95 per cent of our workers don't really have any kind of protection of labour laws. So, to assume that it's the five per cent who have some legal protection and it is just that which is holding back all investment and economic activities is simply wrong. I don't buy the argument that a flexible labour market is necessary to generate more employment. Rather, it's the other way around. You find, especially in Latin America, the countries that actually emphasised the rights of workers, insisted on their ability to unionise, insisted on minimum wage laws and proper social protection and workers' conditions—those are the countries that actually showed increasing employment in the 2000s.

**India thrives on the informal sector. But in the case of a crisis, these people who make a bulk of the working population, are left without work or livelihood. Is it time we plan a shift towards the formal sector or should we be sitting ducks when the next crisis comes?**

In India we are hugely dependent on informal activities, but there are two ways in which you can look at them. You can talk about the informal enterprises and how you should formalise them or you can talk about

workers and how their conditions should be made more formal and more protected. The problem is that we have informal workers in both formal enterprises and informal enterprises. So registered factories and companies actually hire a lot of informal workers. Of course, the small and informal enterprises hire informal workers. What the government has been trying to do is to formalise enterprises. Now, that doesn't really help the workers, because it is possible to be a formal enterprise, paying taxes and following various other regulations, but still hiring a lot of daily wage workers who don't have the benefits of formal contracts. We have to consider very carefully how we look at formalisation; just formalising enterprises doesn't help. We know that's a big problem because you see today, when this COVID pandemic has struck, that all the informal workers are rendered destitute, including those who were working for formal enterprises. They have absolutely no livelihood, no protection, no unemployment insurance, nothing. We do need to find ways to ensure that more and more workers have formal contracts with basic legal and social protection.

**For a developing country, should the definition of employment be broadened to also include low earnings and low productivity?**

In India, we already have a very broad definition of employment which includes all people with very low earnings and low productivity, because our National Sample Surveys are the ones where we define employment. They include workers who are self-employed, casual workers, part-time workers - everyone is included. Even if you have no proper job, but you milk a cow once a day in the rural area, or you wash some car in the morning in the urban area,

you are regularly employed according to the NSSO definition. So, we already capture all of these people. Similarly, it's completely wrong to say similarly that the labour force surveys do not capture "new forms" of employment like activities in the gig economy, because these are also captured by the surveys. What is shocking is that even though we have such a general definition of employment, including all kinds of people who don't have proper wages and proper working conditions, even then our employment is not growing: it's actually falling. That is the real shock, not that our data doesn't capture this, but that we are experiencing a decline in employment. The 2017-18 data shows that this was occurring even before the terrible impact on employment of the COVID-19 lockdowns.

**Do you think that a framework for unemployment allowance should be formulated by the government? Assuming it introduces such a scheme, what will be its impact on productivity?**

In India, it's very hard to think of a scheme for unemployment allowance because we have many openly unemployed, educated young people and something should be done for them. But we also have so much underemployment in form of disguised unemployment - people who are self-employed, people who spend hours over something because they have nothing else to do, people who do a lot of unpaid work at home. So, it is a little complicated to institute unemployment insurance—but it is nevertheless worth doing. I don't believe there will be an impact on productivity, we have a very wide range of productive activities anyway. We have low productivity activities co-existing with high productivity, even in the same sector. I don't think having unemployment insurance would mean that people of working age would say "oh I don't want a job because I can get this money anyway," because most people are desperate for jobs, desperate for any kind of paid work.

**"India is an economy which is emerging rapidly," but yet, recent statistics hint at a declining rate of women's workforce participation. Is there something about Indian society and the nature of economic growth that has led to this trend?**

Yes, absolutely, in fact this is a real sign of the low status of the women in society. When women already have low social status, two things happen: one, the work that they do is not recognised as work that brings value to society and when they do enter the labour market, they are undervalued as workers in monetary terms. So, they get lower wages and there is a high gender gap in wages, which is very much the case in India. But the other thing is that aggregate low rates of employment generation relate to the nature of economic growth. When you have low levels of employment and inadequate job generation, women tend to get rationed out of the jobs. Earlier, they would get rationed out

of the good jobs. Now, they get rationed out of any job, and in a patriarchal society people think "why should women get the jobs? They should go to the male breadwinners." Some of these factors have been behind the very low rate, even declining, of women's workforce participation over three decades. This seems extraordinary in an economy that was growing relatively fast, but it reflects these patriarchal forces at work.

**While calculating the unemployment rate, we do not take into account NSSO's Code 92: those who "attended to domestic duties only," Code 93: those who "attended to domestic duties and were also engaged in free collection of goods, sewing, tailoring, weaving, etc for household use." Do you think including them is a viable idea and can lead to a significant change in the statistics?**

These codes are good because they are able to capture work. The ILO now defines work as including all of these activities. Definitely, women who are doing these things are working, but we should remember that the ILO says that employment, paid work, which receives some income, is only a subset of all work. We cannot actually include unpaid work in employment, but we should definitely recognise that such people are workers—but they are unpaid workers, which is a very, very big difference. We can't really include them in the employment rate. The employment rate would be for people who are getting a wage or some income from self-employment.

Does this recognition make a difference to the unemployment rate? No, it doesn't. The unemployment rate refers to those who are searching for work but not finding it as a proportion of all of those who are available for paid work. Now, many of these people in Codes 92 and 93 are not available for work in the market simply because there is nobody else in the household to do these necessary jobs. That is why the unemployment rate is not affected. However, it is a good idea to include them in the total number of workers, as opposed to those who are employed, because that would give us a better idea of labour productivity in the economy. At the moment, we include only employed workers and then we look at our GDP per worker in terms of employed workers. But if we include all workers including women who do unpaid work, which is like 70 per cent of women, then you get a very different notion of what the labour productivity in our economy is.

**It's a bad time to be a job seeker in India due to the problem of effective demand; how do you think the government should tackle this situation?**

We are always told that it is just the economy doing its own thing and there's nothing the government can do. That is completely wrong. Governments can influence employment levels through their policies, macroeconomic and sectoral. One of the most obvious

ways the government can influence employment is through its own public employment. In India, we generally do not provide adequate public services: health services, sanitation, agricultural extension, therapy, education, everything. We just don't provide enough services. The number of public employees to the population is a pretty good indicator of the extent of the public services you provide. Let me give you some international comparisons: the average globally is five public employees per 100 people. In Sweden, it is as high as 14. Even in Brazil, it is as high as 13. In the United States, it is seven. In most of Europe, it is nine. In India, it is less than two. So that gives an idea of how much we are under-providing public services, because public employees are not just bureaucrats sitting in offices picking their noses which is what people generally think – they include essential public workers.

The importance of many of these activities is becoming evident in the time of the COVID-19 pandemic, but it has always been a huge gap. We do not provide enough workers like this even according to the existing posts, but what's even worse is that we have a huge number of vacancies in public employment. In both Central and State governments, there are massive vacancies, which is why the ones who are there are hugely overworked. In fact, if the Central and State governments together decided to fill all the vacancies today, 14 million jobs would be created. It's not just a question of increasing employment, it is also a question of survival as a society. We are completely unready to face something like the COVID-19 outbreak because we don't have enough doctors, nurses, hospital beds, health workers, sanitation workers and others. We just don't have enough public workers in general.

# GENDERED IMPACT OF THE GIG ECONOMY



**BY TANYA SINGH**

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*Job security, the epitome of success in the yesteryears, is bowing out. Has it found a fair, gender-neutral replacement for itself in the gig economy?*

The gig economy refers to the labor market activities coordinated through digital platforms. Companies operating these platforms act as intermediaries, allowing buyers to order from an available worker a timed and monetized task, usually taking a fee or commission when the service is completed. Workers take on specific 'gigs' without any guarantee of additional employment and are invariably classified as independent contractors rather than employees. The gig economy is rapidly expanding as digital platforms that connect workers and the buyers of their services continue to emerge. While there is growing evidence of development in the gig economy and the experiences of workers within it, not much light has been shed on countries outside the US and Europe on gendered gig work experiences. The resulting lack of knowledge poses a critical obstacle in understanding the experiences of women who are an equal part of the structures operating within such an economy.

## Theoretical Predictions

Studies have hinted at how gender bias is experienced in reverse in the gig economy as some online platforms focus only on female freelancers. Indeed, there is a perception that freelancing is more suitable as a domain for women. The potential benefit of freelancing online marketplaces is the algorithmic allocation of jobs that excludes human biases and offers a level playing field. Moreover, with 'flexibility' being at the core of it, the platform economy has the potential to promote women's jobs by giving women the option of balancing their domestic and professional roles. This allows women to earn income and gain bargaining power within their households without compromising on reproductive labor which is unfortunately considered to be a woman's responsibility across the world. In

other cases, particularly where social norms or the risk of violence limit women's mobility, technology can connect women to online education and job opportunities.

Many of the non-traditional jobs play an important role in helping shift gender norms and doing away with the process wherein certain jobs are associated with gender identities. Thus, the gig economy provides a new opportunity to deal with the process of occupational segregation as it becomes easier for women to take up male-dominated jobs, and vice-versa. For instance, taking up a job in a factory that has mostly male members is difficult for women due to safety concerns and other reasons. This limitation does not, however, affect virtual participation in a job as the need for physical presence in an industry or office gets abolished with technological platforms that the gig economy provides. At the same time, the gig economy also might lower the prevalence of the phenomenon of "Glass Escalator." Feminists use this term to describe situations where men, who are new to the work setting, rise quickly to the above echelons.

**“ Since the gig economy makes it easier to monitor workers it is likely that promotions are based on performance rather than gender identities. ”**

## Empirical Evidence

Empirical studies that looked at the gendered aspects of the gig economy do not present an encouraging picture. Barzilay and Ben-David (2017) draw attention to the gender inequality present within digital platforms. They empirically show that

gender discrimination is restructured and reproduced through platform-facilitated labor, casting doubt on the liberating and equality enhancing promise platform-facilitated technologies and labor claims for women. They demonstrate that although women work for a greater number of hours on the platform, women's average hourly wages are significantly lower than men's, averaging about two-thirds of men's wages. These results point to the new ways in which sex inequality is occurring in platform-facilitated labor. The authors suggest the beginning of a third generation of sex inequality, termed "Discrimination 3.0," in which discrimination is no longer a function of only formal barriers or implicit biases, but also of gender-neutral entities such as science and technology.

Hunt and Samman (2019) highlight the gendered differences that exist on platform-mediated gig work and may be experienced very differently in developed versus developing and underdeveloped country settings, owing to the intrinsically different employment landscapes. In the former, it has been talked of as reflecting the increasing replacement of non-standard forms of employment, giving a boost to the process of the weakening of workers' access to labor and social safety nets. This could prove particularly harmful for female workers, given the fact that they tend to be more dependent on flexible and less protected forms of work. Since the relationship between the employer and the employee is temporary in case of technology-based arrangements, the former no longer needs to look after concerns such as job and social security pertaining to the workers, leading to 'casualization' and 'informalization' of the workforce.

Digital literacy and access to technology also act as impediments for women as has been highlighted by Sorgner & Krieger-Boden (2017), who found that a global gender digital divide has been growing in certain

regions of the world wherein it has been found that on an average, the proportion of women using the internet tends to be 12 per cent lower than their male counterparts. In a world where job search markets are becoming increasingly digital and many employers prefer online job search sites to recruit their employees, lack of digital access becomes a situation of asymmetric information, with female laborers more likely to be unaware of job market trends and wages. Gendered digital inequalities mean that many women are unable to access contract jobs because of comparatively lower access to and use of mobile technology and gender norms that cause women's use of digital technologies to be limited and controlled by male family members.

### Conclusion

Given the fact that the structure, function as well as success of the gig economy depends on cultural factors, such economic arrangements have different impacts on different societies. For instance, the Indian culture shows a greater degree of approval for traditional norms of work, propensity to stay anchored to stable jobs and fewer networking platforms and thus, any change in the economic structure has to face resistance. On top of it is the sharp gender segregation of the economy. Despite this, the gig economy has been expanding, as people like the flexibility and technology associated with it. It has managed to dictate a reasonable presence through white-collar professions such as in commerce, banking and the legal profession. This article draws on theoretical and empirical literature to make a clear call for women's economic empowerment to be at the center of all efforts to ensure that the gig economy evolves to the benefit of all. This becomes all the more important in light of the increasing amount of evidence that highlights how the gig economy affects women negatively.

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# FROM DILEMMA TO SYNERGY

**BY PARTH CHOWDHARY**

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*Every business claims to solve some problems, be it consumer-oriented or societal. In light of the lack of uniform accountability of this, it will be interesting to see how the rise of impact investing will influence the functioning of businesses and firms.*

## Two People, Two Ideas

In economic thought and business perception, the clash of ideas has remained. With Milton Friedman on one end of the spectrum and Klaus Schwab on the other, the differing thought processes about how businesses should function have become a critical judgement today.<sup>[1]</sup> Friedman, a Nobel laureate in Economics, primarily stands for a model wherein businesses strive to earn profits and reap monetary gains out of their actions. Contrary to this, as the Chairman of the World Economic Forum, Schwab offers a pedestal to the welfare and interest of society. Principally, one believes that consultations with a wider group of stakeholders would be a shot in the foot for firms while the other considers it the wind beneath the wings of every entity.

Indicating a marked shift from Friedman to Schwab, there has been growing support for companies to cater to their entire stake in society, not just maintain responsibility towards their shareholders in an annual General Meeting. In order to factor in social impact along with the arithmetic of gains, impact investment has come to the forefront. These are investments made to generate positive and measurable social outcomes, while not giving up on financial returns.<sup>[2]</sup> In around 10 years of its existence, impact investing funds have garnered billions of dollars in total assets under management. Not just everyday individuals, but massive corporates like Bain, BlackRock, Credit Suisse and Goldman Sachs have also boarded the bandwagon.<sup>[3]</sup>

## The Origin Story

Let us understand the basic human psychology which is at work here. Man has always been a social animal and it is this interlinking with other elements of a community that inculcates a certain sense of ethics

and values in our behaviour. If we were to imagine a Robinson Crusoe type situation, no moral code would have existed because there would be no one who needs protection from possible immoral actions. Thus, in our interconnected world, we are wired to separate the right from the wrong. Even Islamic banking is an attempt to ensure that something as pecuniary as the banking system operates within the word and spirit of the law. Here, however, the laws and values inherent to the system are Islamic and not constitutional.

Due to this, there is a wider need to reimagine the entirety of capitalism. The model of shareholder primacy being used till now, is under fire in an age fixated on climate change, eliminating inequalities and a better standard of living. The transition was clear when the Business Roundtable, a collective of powerful and influential businesspersons in the USA, propounded the need to shift towards 'stakeholder interest' rather than the narrower 'shareholder interest'.<sup>[4]</sup> This agreement for change in the future implicitly serves as an acceptance that the system till date was flawed.

In this context, it was not the United States that was leading the charge. Stakeholder capitalism has been a long-standing philosophy in Japan. Businesses actively seek to engage with a multiplicity of factors and segments that are involved or affected by their decisions. During the Edo Period and the Meiji Era, Japan's Omi shōnin merchants saw their enterprises becoming quite successful. They believed in 'sanpō yoshi'<sup>[5]</sup> which stands for three-way satisfaction between the seller, buyer and society.

## Not Another Fad

The desire to have society as part of the equation has led to the birth of impact investing. One of the earliest

examples, albeit without the usage of the term, was in 1968. The Ford Foundation was involved in offering grants to construction companies developing affordable housing.<sup>[6]</sup> It created a new technique called ‘program-related investment’ and replaced these grants by soft loans, i.e. loans at a low rate of interest. By doing so, it achieved dual objectives. For itself, it created a source of revenue, however low the rate may be. Secondly, and more importantly, by enabling financial tools in the social welfare space, it managed to lure in significant additional funds for the projects. This structure leveraged the philanthropic funding, given as free grants, by a factor of more than three with respect to private capital and achieved ‘crowding in.’

While one shift was happening on the source of funds side, another was taking place on the usage end. Much like the flow of marketing management philosophies from the production concept to the societal marketing concept, firms themselves matured their outlook. After merely avoiding harmful investments, the idea of explicit positive action began to form. Companies started thinking of the synergies between environmental, social and governmental issues in sync with the number game. The next-gen entrepreneurial spirit is rooted in societal consciousness. Consider a parallel here; the difference between not cutting a tree and planting one is the same as avoiding social harm versus directly catering to social benefits. Businesses have become a method of solving problems for society, at a profit.

### The Status Quo

With time, some broad tenets of impact investing have emerged that demarcate it from other forms of social action.



***The need for intentionality necessitates a clear decision of taking steps for social change rather than being content with it emerging as a side-effect.***

Retaining the fundamental purpose of an investment, a minimum return on capital is still expected even when the impact is the goal. The fact that different investors apply varied metrics and standards of measuring and categorizing impact belies the nascency of the impact-driven boost.

Having said that, aside from the circles of financial professionals, we see little awareness about impact investing as a concept. This arises due to the notion that investments which try to bring about social good will necessarily be doing that at the cost of an economic good. The prevalence of such thoughts lead to mainstream investors trying to stay away from such opportunities while this market remains restricted to High Networth Investors (HNIs), Angel Investors and Venture Capitalists (VCs). While people recognize the benefits of better image and satisfaction of stakeholders, the fear of lower liquidity and unjustified

risk-return trade offs remain. This is reflected in the data that predicts impact investing to grow to around \$300 billion by FY20 while the overall assets managed by private equity firms are projected to be around \$2.9 trillion by FY20.<sup>[7]</sup>

Nonetheless, a lot of these concerns lack statistical backing. Taking the Indian context, impact investments have proven their sustainability in terms of financial returns accompanied by social output. McKinsey studied 48 investor exits between 2010 to 2015 and found the median internal rate of return to be around ten per cent. Even more, the median for the top 1/3 deals was around 34 per cent, which sufficiently proved that significant financial gain was not coming in strict lieu of the greater good.<sup>[8]</sup>

### Winnowing the Wheat

There are various issues that clearly remain in the system today. In fact, as the field grows, the number of issues will only grow. A major one is the popular perception of impact investing as charity or Corporate Social Responsibility (CSR). While charity does not have any exchange involved and does not necessitate corporate existence, CSR is often a formality and legal burden. These two are mere elements of a business or an individual’s interaction with society. On the other hand, impact investing, a purely business concept, retains the essence of a financial perspective. It only makes the viewpoint broader by adding the aspect of social accountability. The need for stronger diversification in staff and executives is clearly felt. Without sharing actual lived experiences, the passion for solving the problem is weaker. The hypocrisy that exists in full-AC boardroom meetings taking place to choose a company’s anti-CFC policy is not a secret.

Furthermore, a strong demand for uniformity in standards of evaluating the impact and the categories thereof is felt.<sup>[9]</sup> Not just self-evaluation, a method for independent and impartial impact analysis is also required to nullify the risk of overestimation. Hence, benchmarking, reporting and performance measurements need to be worked upon. On similar lines, there is a dearth of professional executives to undertake such steps. The talent requirement has to be specific to the core idea of impact and thus, should ideally be diversified and versatile. Lastly, a larger sense of responsibility comes into play. Impact investing should not be used as an excuse to commit greater harm. A billion-dollar fund investing a million dollars in a ‘green’ business does not exonerate them of the potential anti-‘green’ harm of the other money.

### Broadening Horizons

Upon acknowledgement of the current shortcomings, we need to look into the future. A major chunk of current problems like misconceptions, lack of uniformity and human resource are common to any sector in its budding stage. As such, they do not pose

a harm to the very survival and growth of the domain. To facilitate a solution to these, there is a need for clear communication of the ideals of impact investing with all stakeholders. As a refined way of doing business, it calls for a welcome rather than a scary, shaky reception.

Imagine a scenario where these lapses have been done away with - what do we see? Firstly, it is an influential idea that people shall generate market-competitive returns on investments that are environmentally and socially sound as well. By eliminating the constraint of a trade off, we allow for the best of both worlds scenario. Another ancillary advantage is negating the need for the government to invest in grants and subsidies to achieve ends that can be done by businesses profitably.

We can also visualise the creation of new, targeted financial instruments. Analogous to thematic funds, we can have funds segregated on sectors of impact.<sup>[10]</sup> Not

only does this promote ease of investment, it serves as a barometer of social growth for the government. The continued entry of focused and persistent individuals into this domain will allow for the building of public faith. While a certain lack of trust exists today due to the mystic lack of awareness which surrounds the segment, its integration into mainstream finance will go a long way.

In essence, what lesson does impact investing convey? Businesses should be okay with continuing their profit-seeking as they do today. The only change needed is to have a societal interest in mind when making financial decisions. Who knows, the growth of impact investing might play out as a much needed 'nudge' in the right direction? 'Impact' is not just for social organisations but for any entity operating in the social space. For we have a duty much larger than ourselves, to pass ahead things better than we received.

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# READ MY RECESSIONARY LIPS

**BY GUNIKA BHARAL**

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*While there are several indices that serve as indicators of an economy's overall growth and performance, sometimes the sale of the most basic goods speaks volumes about an economy's health. However, do these indicators always make reliable and objective claims about an economy's performance?*

With India's GDP having fallen to a six-year low of 4.5 per cent,<sup>[1]</sup> it is quite evident that the Indian economy is struggling with a slowdown. With low levels of consumption and investment, most sectors of the economy such as automobiles and real estate are facing a setback.

However, even in these tough times, the movie industry seems to be enjoying huge profits. Films such as Kabir Singh, War, Uri and Mission Mangal each grossed over Rs. 200 crore at the box office this year. Also, both Lakme and L'Oreal India clocked double-digit growth rates in 2019.<sup>[2]</sup> Nykaa also achieved 115 per cent growth in 2018-19.<sup>[3]</sup> Why are these sectors thriving even when the economy is facing a downturn?

The answer lies in lipsticks. Does this harmless commodity have the potential to predict an economic recession? It has been noticed that the sales of lipsticks are usually inversely related to the growth of an economy. As the latter moves towards a recession, lipsticks tend to disappear off the racks. The logic is fairly simple. Women choose to spend on lipsticks instead of a handbag or a fur coat because it is a comparatively cheaper luxury good. This is an attempt at treating themselves to the little joys of life even during difficult economic times. After all, everyone requires some source of happiness to derive motivation even during tough times. The term "lipstick index" was coined by Leonard Lauder, the chairman of Estée Lauder, a cosmetics firm, when lipstick sales in America increased by 11 per cent during the 2001 recession.<sup>[4]</sup> However, many believe that the phenomenon can be traced back to the Great Depression. During the four years from 1929 to 1933, even though the US economy shrank by 30 per cent,<sup>[4]</sup> cosmetic sales increased by 25 per cent.<sup>[5]</sup>

It is assumed that consumers buy luxury goods even during a crisis so as to forget their financial woes.

***Interestingly, the lipstick effect is not only limited to the sales of lipsticks but expands to form a general trend that consumers substitute little and comparatively cheaper treats in place of bigger and expensive ones during times of economic distress.***

However, they prefer goods that have a lesser impact on their available funds. For example, consumers may choose to buy costly beer or pick an expensive tie over a watch or go out for a fancy dinner rather than spending on a vacation.

So, is lipstick really an indicator of an upcoming economic recession? A dig into the past may help us answer this question. Following the 9/11 terror attacks, the American economy's recession worsened notably. Consequently, in a New York Times article, Leonard Lauder revealed that his company's lipstick sales rose after the terrorist attacks. During the 2008 recession, the cosmetics giant L'Oreal experienced a sales growth of 5.3 per cent during the first half of the year<sup>[6]</sup>. In 2017, after Brexit hit certain parts of the UK economy very hard, the sales of lipsticks and women's wear witnessed a rise.

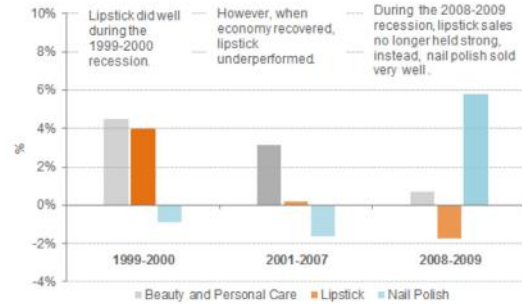
In the midst of a slowdown in 2019, the sales of the cosmetic industry in China spiked up by 116 per cent during the annual Spring Shopping festival, following 2018's spike of 92 per cent.<sup>[7]</sup> As a result, L'Oreal has

managed to achieve its strongest sales growth in a decade and CEO Jean-Paul Agon explicitly attributed this situation to the lipstick effect. In 2008, even though unemployment touched six million in Germany,<sup>[4]</sup> those working for the skin care brand Beiersdorf did not suffer as the company continued to perform well. Finally, evidence suggests that the European personal products sector outperformed the broader market by an average of 100 per cent in each of the three recessions of the early 1980s, early 1990s and early 2000s.<sup>[8]</sup> These past experiences support the lipstick effect.

In a recent paper entitled 'Boosting Beauty in an Economic Decline: Mating, Spending, and the Lipstick Effect,' a team of Texan psychologists theorize how humans have been conditioned to prioritize mate-seeking in times of crisis.<sup>[9]</sup> According to this theory, in times of recession, women prioritize their appearance and invest in smaller-priced luxury items like lipstick to attract potential mates.

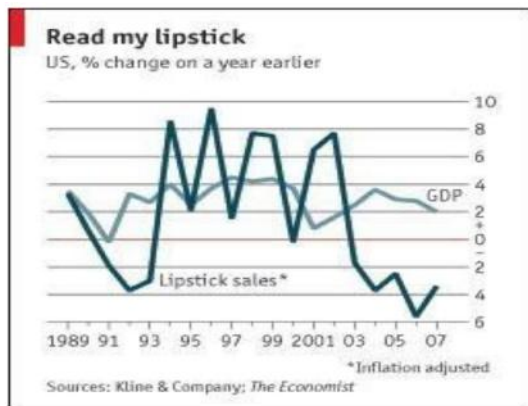
However, in 2009, The Economist tested the lipstick effect with statistical analysis. The newspaper concluded that it is hard to find reliable data on lipstick sales and most lipstick effect believers can only point out isolated examples as evidence of the larger phenomenon. Kline & Company, a market research group, collected data on lipstick sales which showed that lipstick sales sometimes increase during times of economic distress, but have also been known to grow during periods of prosperity. Thus, no clear correlation exists.<sup>[10]</sup>

Due to the rising popularity of other cosmetic products in recent times, lipstick is not as useful to measure consumer sentiment anymore. This has led to a major reduction in the importance of lipstick as an indicator. Many believe that lipstick is now giving way to nail polish as an indicator.<sup>[12]</sup> In fact, during the 2008 recession, nail products soared by nearly 12 per cent as nail polish emerged to be an affordable fashion accessory.<sup>[13]</sup> Women going through financial distress turned to nail polish for a moral boost.

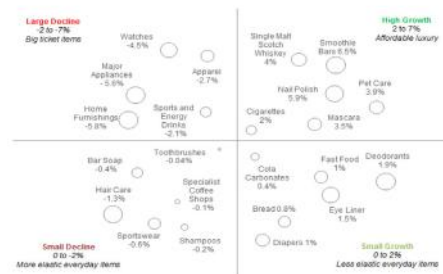


Source: Euromonitor International

Thus, even though the lipstick index is probably outdated for today's world, the lipstick effect continues to reveal itself through a variety of other commodities such as cigarettes, beer, fast food, eyeliner, mascara, etc. Growing sales of these recession-proof goods might indicate an economic slowdown, if not recession. However, nothing can be established about the relationship between economic growth and sales of these items.



While it is true that the cosmetics industry boomed during the 2008 recession, lip product sales actually fell by 3 per cent.<sup>[11]</sup> Compared to its strong performance in the early 2000s, the lipstick turned out to be one of the weakest categories in the entire beauty industry this time. So, does this imply that the lipstick effect does not hold? Maybe not in the case of lipsticks anymore.



Source: Euromonitor International

Interestingly, several other bizarre economic indicators also exist. Do skirt lengths fall when the economy prospers? Do men buy less underwear during a recession? Does the sale of Aspirin rise when the economy hits a rough patch?

Sometimes, changes in sale patterns of the most basic commodities might signal something crucial about the economy's health.

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# NICOMACHEAN MOUNTAINS ON FREAKONOMIC PLAINS

**BY AMARTAYA GUPTA**

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*We are all aware of Freakonomics by Levitt and Dubner, but how does it find a connection to Aristotle? Read on and question incentives, virtues and conventional wisdom.*

Seen only as an esoteric figment, we have been richly kind to the matter of ethics. Moreover, we have been amply altruistic to its mother. Now, we meet her through a sparingly benevolent oddity. The mother being *Nicomachean Ethics* and the resting oddity *Freakonomics*. This is not such as a tryst of Apollo and Dionysian nor as a demarcation of black and white. Rather it is a colorful culmination of greys.

*Freakonomics* by Levitt & Dubner, though aims at and is successful at the pursuit of hidden harmonies and coinciding ideologies, imparts more habitual and intrinsic solutions to exceedingly more habitual and intrinsic conundrums. Being a pivotal text in the subject of ethics, *Nicomachean Ethics* by Aristotle is a boundless yet binding work in the field of ethics and being an introductory text of the ethical virtues, it holds non-detrimental essence. *Freakonomics*, since revolving around regular but pivotal economic problems hides in it a multitude of ethical proceedings and questions. Moreover, it has been noticed at many instances that *Nicomachean Ethics* itself aids these *Freakonomic* ideas and further raises many questions. It is not a certain line between the two texts which is being drawn but rather a mutual relation is being established and certain concurrent thoughts being brought to light. It might come as a surprise keeping in mind the polarity of the two texts but it is in the explosive moral economic expositions by Levitt & Dubner that we feel the need to trace the anchored ethical fiats of Aristotle.

Ethics, it could be quoted, is the way people ought to live and moreover the way people want others to live. Economics represents how ethics actually work and is an extraordinary and flexible set of tools to determine the impact on and of many as well as that of one. Levitt & Dubner, even though not holding a unifying theme,

held two fundamental views that are presented through the course of the book. The two are:

1. Incentives are the epicenter;
2. Conventional wisdom is a pseudo-epicenter.

*Freakonomics* has to do with thinking soundly and requires a stark discerning nature to understand the two key fundamentals of the book. The Nicomachean Mountains will rise accordingly.

Incentives are the epicenter. They are the cornerstone of modern life. Economics in its essence is the study of incentives. In simple terms an incentive urges people to do more of a good than of a bad. "An incentive is a bullet, a lever, a key: an often tiny object with astonishing power to change a situation," says Levitt. Incentives are provided for every paradigm. A sense of moral and social progress occurs through our responses to both negative and positive incentives. If you break curfew, you are grounded. But if you ace your exams, you get to go to a good college. The concept of incentives revolves around urging people to do more of a good than of a bad. This implies that people have negative incentives too. If one has to create an incentive to do good there is already an underlying incentive to do bad. If one has to create an incentive to not cheat there is already an incentive to cheat. This is where a clash with the ethics of Aristotle arises. According to Aristotle, "good has rightly been declared to be that at which all things aim." Moreover, he believes that a certain good is not an end goal and is rather a means to another good and so on.

The key to this conflict is simple. What is good for me may not be good according to you. My intrinsic incentives are different from your intrinsic incentives (It's the economy, stupid!). In the case of cheating, it is

good according to me as it would lead to a better result but it is bad according to others. Moreover, according to Levitt, incentives aren't organic. They have their own basic flavours - social, economic and moral. The addition of a \$3-per-pack "sin tax" is a strong economic incentive against buying cigarettes. A corollary to this theory of incentives which arises in Nicomachean ethics is the Virtue Theory. Try to think of incentives as virtues. The word we translate as virtue is *aretê*, and it could equally be translated as "excellence." Something has *aretê* if it performs its function well. Virtues are also divided into intellectual (economic) and moral (social). Moral virtues such as incentives are gathered and are not intrinsic or organic. Loyalty, courage and honesty are some of the moral virtues. It is safe to say that incentives can be or are originated from virtues. It is from the virtue of fairness that incentives such as the Post-Matric Scholarship for the Scheduled Caste Students (PMS-SC) have been initiated. It is from the virtue of honesty that parties have come up with campaigns of 'making countries great.' It cannot be said that all incentives are connected to virtues and it can neither be said that all incentives originate from virtues, but it is a grey area that we have been able to identify.

Levitt & Dubner also discuss the concept of a big enough incentive and an interesting concept relating to moral ratios - the ratio of good and bad. Levitt & Dubner vindicate why people become drug dealers. They point out how there is a hierarchical structure followed in the drug industry like in that of real estate, sports and other industries. But the rules of this industry are not as simple as that of a real estate one where dozens of bright young minds compete and the harder one works the more one achieves, and can inevitably find oneself at the top of the pyramid through a structural scenario. There is more competition. People don't dream of having unethical jobs, hence the potential supply of unethical employees are relatively small. This makes jobs like drug dealing and prostitution less competitive. Moreover, such jobs have a very specific context attached to them. Their skills, which are not very 'specialised,' are practised in a specified context. These jobs are not suitable as they involve bouts of violence and a lost opportunity for a stable life and family. As far as the demand is concerned, it is at par with that of bread. What is worth noticing here is that even though a sacrifice is being made, the success in a 'bad' job is more than in a 'good' one, as the number of 'good' jobs are more than the 'bad.' It can be said that the virtue in 'bad' is more than in 'good.' But yet again the 'bad' is the 'good' for the one attaching virtue to it. Maybe, this is an oversimplification of the matter but it

is what it is in its raw untouched form.

Conventional wisdom is often wrong. Money doesn't win elections. Well maintained houses are not the best. The conventional wisdom in John Kenneth Galbraith's view must be simple, convenient and comfortable — though not necessarily true.

***It would be silly to argue that the conventional wisdom is never true. But noticing where the conventional wisdom may be false — noticing, perhaps, the contrails of sloppy or self-interested thinking — we shall realise the imperfect reality.***

They further talk about how there always exists an asymmetry of information as is in the seller and the agent. We are led into a trap of trust by the so-called upholders of this conventional wisdom. Levitt & Dubner prove that the conventional reason (economic boom) for a decrease in crime rates in 1990s was false and rather the truth was related to legalising abortions.

On the matter of conventional wisdom, the mountain of ethics has to be moved and the concept of voluntary and involuntary actions as explained by Aristotle becomes important. The development of conventional wisdom is usually involuntary in nature. According to Aristotle, virtues are not attached to involuntary acts. To make sense and narrow it down, it can be rightly said that conventional wisdom is self-centered and can be twisted by those pseudo-epicentres of conventional wisdom. By giving the example of a real estate agent who chooses to sell at a lower price in a shorter time by feeding wrong information to the seller, it is evident how conventional wisdom is rarely conventional. This gives rise to a slippery slope that makes the victim suffer and leads him to be trapped in the cycle of false conventional wisdom. Levitt & Dubner also explain how false conventional wisdom is spread through advertisements and how a certain 'bad' can be transitioned into a certain 'good.'

Hence, the time when we see an illegalisation of abortions we can identify the root as the decreasing crime rate or the vitality of crime itself! When we see an advertisement of a new social media interface for our AI robots, we can trace it to the creation of the World Wide Web or to the creation of God itself!





# ECONOMIES OF SALE

**BY LATIKA DUTTA & SNEHA DAS**

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*While we sit at home and order our next meal from Zomato or get the new t-shirt we wanted for dirt cheap rates from Amazon, are the people who bear the brunt of these discounts equally happy?*

In August 2019, thousands of restaurants in India launched the Logout campaign by refusing to be a part of deep discounting schemes like Zomato Gold while in January 2020, food delivery giant Zomato acquired UberEats. Meanwhile, the Competition Commission of India (CCI) ordered its Director General to probe Amazon and Walmart-owned Flipkart for alleged 'deep discounting' as brick and mortar stores raised complaints about losing out to unfair competition.

<sup>[1]</sup> While deep discounting feels like a customer's best friend, a closer look at the two industries where it is most prevalent in India, food and e-commerce, reveals the manifold problems it poses to the industry at large and raises questions on its sustainability in the long run.

Deep discounts refer to heavy discounts offered on products or services, where companies try to sell low priced items in high quantities in order to gain more customers. The mechanisms through which deep discounts are implemented in the food and e-commerce industries vary, but they generate similar problems. In the e-commerce sector, it is alleged that Amazon and Flipkart are able to sell goods at heavily subsidised prices because of the huge amount of funding received from their investors.<sup>[2]</sup> After comparing prices with other sites, Amazon allegedly recommends the amount of discounts to its sellers on products, and they then send Amazon a debit note for "promotional funding" after which Amazon allegedly pays them for the same.<sup>[3]</sup> Similarly, during Flipkart's Big Billion Day sales, discounts are almost entirely funded by Flipkart, which also often forgoes commissions or listing fees that marketplaces usually charge their sellers<sup>[4]</sup>. Thus, the costs of deep discounting are borne by the platforms that offer them, but the difficulties are faced by the smaller sellers operating in the industries that these platforms cater to, as well. However, while both companies have officially denied pursuing such strategies and insisted

that they have no role in either pricing or discounting,<sup>[5]</sup> much can be concluded from their strategy to operate as marketplaces. Indian law does not allow FDI in e-commerce sites that sell directly to customers but allows it in marketplaces that link sellers and buyers, precisely with the objective of preventing the selling prices of small sellers from being influenced.<sup>[6]</sup>

Meanwhile, in the food industry, deep discounts are funded by the restaurants and not the aggregators and the industry does not even get a share of the subscription fee generated by the aggregators.<sup>[7]</sup> The price here is paid by the very restaurants that affiliate themselves with schemes like Zomato Gold.<sup>[8]</sup> There are concerns from the National Restaurant Association of India (NRAI) and others that the tussle for lowering prices has attracted consumers and increased the popularity of these apps by blindsiding restaurants.<sup>[9]</sup> Subsequently, this led to the Logout Movement, where restaurants '#logout' from dining-in apps in protest.<sup>[10]</sup> Although Zomato has claimed, in their half yearly update, that the Logout Campaign has had limited impact on their business, it is evident that customers have noticed the absence of certain restaurants through them and are taking to social media platforms to express outrage directed at Zomato, over missing restaurants. Food service apps Zomato and Swiggy have also been accused of misusing their dominant position in the industry by using in-house kitchens like The Bowl Company and in-house sourcing to diminish their business.<sup>[11]</sup>

A major problem with deep discounting in both the sectors, however, is that it tends to attract mostly price sensitive customers with no brand loyalty. A *Psychology Today* article, 'Can Bargain Hunting Be Addictive?' highlights how bargain hunting releases dopamine and the "feel-good effect," making it addictive to many

consumers.<sup>[12]</sup> While this ensures sustained customers for the marketplaces and aggregators, individual sellers and restaurants may lose out on customers due to lack of brand loyalty. Since discounts are equally available to all customers, this also implies that discounts get extended to a seller or restaurant's existing, loyal customer base and new customers that were willing to pay the full price for products or services. This may encourage customers to fish for deals and incentivise them to wait for the next deal available instead of paying the full price, thereby costing small sellers customers who could have paid original prices, in a process known as cannibalisation of customers.<sup>[13]</sup>

Regarding the e-commerce sector, Ashok Kumar Gupta, chairperson of the CCI, has clearly said that deep discounts could make some businesses unviable as it erodes the value of products and services in the mind of the consumer if done for extended periods.<sup>[14]</sup> This corresponds to the Veblen effect often discussed in economics which explains how consumers often have a positive correlation between the price of a commodity and its perceived value and quality. In fact, it has been admitted by Praveen Khandelwal, the Secretary-General of the Confederation of All India Traders (CAIT), that the business models of Amazon and Flipkart have resulted in the closure of thousands of shops in the country in the last three months. In the food industry, deep discounting has been accused of leading to severe value erosion, since if a restaurant is decreasing its top-line by 50 per cent, then it needs to raise its sales by 100 per cent to compensate for the same, which is rarely feasible. More often, only a three to four per cent increase in sales happens, leading to the lowering of top-line and decimation of the bottom-line.<sup>[15]</sup> When Zomato Gold first came in, it was supposed to be an elite dining programme which was meant for 5,000 people and 80-100 restaurants in the country, but Zomato eventually sold more than a million memberships, which led to restaurants having to give high discounts to non-regular clients too.<sup>[16]</sup>

**It can thus be inferred that e-commerce giants and aggregators like Zomato have been able to build a base of excited customers looking for the next deal at the expense of the smaller sellers.<sup>[17]</sup>**

Moreover, small and medium scale restaurants have been hit the hardest, as they face the risk of decreasing footfall and the possibility of losing out on visibility if they leave these apps.<sup>[18]</sup>

Yet, as the perils of exposing the nation's small scale sellers to food service apps and e-commerce platforms are recognised, it is equally important to understand the incentives for the restaurants and sellers to have joined the platforms in the first place and the benefits this may have brought to the economy, which might justify why these giants have been able to get away with

such practices for so long. Benefits accruing from deep discounting in e-commerce include giving small scale sellers access to nationwide markets, giving a boost to demand and job creation, even if only temporary ones. Flipkart claims that traders on its platform look forward to the festive event of the Big Billion Days sale as a landmark moment in their financial year as the scale of it serves as an impetus for consumption and demand.<sup>[19]</sup> Amazon India highlighted the opportunities offered to the 500,000 sellers on its platform, many of which were start-ups and small businesses from rural areas.<sup>[20]</sup> Furthermore, e-commerce giants Amazon and Flipkart have created over 1.4 lakh temporary jobs in 2019 across the supply chain, last-mile connectivity and customer support in preparation for their festive sales.<sup>[21]</sup> However, whether these benefits outweigh the harms of deep discounting is questionable at best, since employment generation is largely temporary and is thus not making significant contributions to providing stable employment, while the livelihood of small scale sellers comes under ever increasing threat.

In the food industry, the major incentive offered to restaurants by schemes like Zomato Gold was access to technology. Since insufficient technological advancements leading to manual or out-dated systems of reservation management and limited visibility had proved to be the biggest obstacles preventing many restaurants from capitalising on India's fast growing economy and ballooning middle class, partnering with food service apps like Zomato which specialise in precisely these spheres seemed to be a win-win for all.<sup>[22]</sup> However, as more and more such apps emerged, their competition with one another and the subsequent price slashing eventually inflicted most pain on the restaurants. Consequently, what began as a way to reap benefits, turned into a medium which allegedly used fear psychosis through FOMO (Fear Of Missing Out) to induce restaurants into being a part of schemes like Zomato Gold.<sup>[23]</sup> However, despite restaurants alleging massive losses, frequently touted benefits of deep discounting in the food industry included increased user engagement and more affordability for consumers.<sup>[24]</sup>

Although the extent to which benefits of deep discounting balance, fall short of or outweigh the harms is debatable, they have certainly generated ire and discontent in the sectors they operate in to the level that actions are being proposed to target those who practice it, thus making the sustainability of deep discounting in these sectors contingent on several factors. In e-commerce, a major hurdle could be the new policies the government is set to announce in 2020, which might not only limit the maximum discount on a product, but also compel e-commerce portals to give detailed break-ups of the discount in the pricing details and get yearly audits of the same to ensure that they are not the ones financing it. In an industry where these portals are already regulated by multiple authorities, such policies may lead to an outcome where while India's e-commerce giants may still be having their flagship mega-sales in the present, they may soon have

to largely scale down their levels of discounting.

With respect to the food sector, the question of feasibility arises from the ability to incur further costs. Gaurav Gupta, the co-founder of Zomato, has admitted that “neither is deep discounting favourable to anyone, nor is it sustainable.”<sup>[25]</sup> With constant pressure from NRAI and restaurants increasingly opting out of the Gold Programme, Zomato, which gets around 10 per cent of its revenue from its subscription service (Zomato Gold), is trying to find a solution. A clear impact of the Logout Movement on the customer base has also been witnessed, where consumers have taken to Twitter to demand that aggregators like Zomato refund their subscription money as they feel ‘cheated’ because of tweaks in Zomato Gold’s policies and the absence of previously present restaurants.<sup>[25]</sup> While this is a largely symbolic act of protest that serves more as a means for consumers to voice their frustration, it is also an important indicator of Zomato’s declining popularity. Watching these events unfold, however, brings us to an important question - are we repeating history, or are we learning from it?

Before Flipkart’s Big Billion Days sale, Amazon India’s Great Indian Sale, or Zomato’s Gold scheme, there was a company in the US that had tried out a model that all the above examples would eventually try to implement in some form or the other. This company was Groupon, and its original business model was to implement group buying, where if consumers waited until enough of them

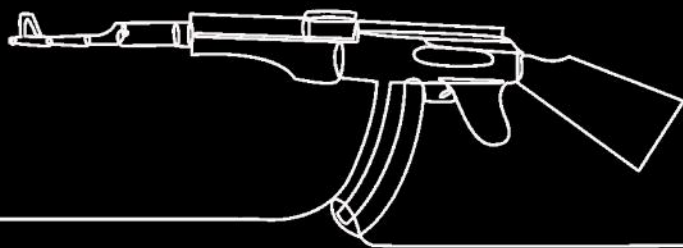
wanted to buy the same commodity, Groupon would get them a highly discounted price. Initially, Groupon had positioned itself as a matchmaker between vendors and customers craving discounts, much like what Amazon and Flipkart do today or what Zomato facilitates in the food industry. However, what started out as an idea rooted in the common sense of everyone wanting the best deal ended up becoming a sustained loss making venture, as Groupon responded to mounting losses by exiting poorly performing operations in 11 countries. It faced sharp declines in customers when prices were raised even slightly, massive number of sellers withdrawing from the platform as they could not sustain the discounted pricing and ultimately a lack of funds required to bridge the gap between prices paid to sellers and the discounts offered to buyers<sup>[26]</sup>. This scenario looks fairly realistic when viewed in the context of recent events but when key differences like Groupon being much smaller in scale than any of the players whose practices we have examined are thrown into the mix, the outcomes become exponentially more difficult to predict. It is possible that the sheer scale of funds raised by these companies and the clout they exercise in their respective industries allow them to continue bearing the costs of deep discounting and gaining partners for the same. It is also possible that the ire of India’s brick-and-mortar stores sector and individual restaurants could drive these giants against the wall and compel them to abandon deep discounting altogether. In the end, only time will tell which scenario yields most profit to all involved.

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**THE  
FIRING  
LINE**



# LOBBIES IN AGRICULTURAL PRODUCE MARKETS

*Given agriculture's scale in India, collectivisation is inevitable. Directing the form of this grouping is key to the progress of the sector which employs the highest number of people in our country. Lobbies are official 'unions' seeking to negotiate on behalf of the larger lot. But are they the right fit for these produce markets?*

## FOR

Agricultural lobby groups have established a solid ground for themselves in serving as potent tools that represent the interests of farmers. Their strong position is primarily based on the unilateral nature of their interests, particularly in their ability to persuade politicians and gain the sympathy of consumers and taxpayers, while highlighting the irreplaceable role of agriculture in the global economy. They're instrumental in pressurizing authorities to formulate policies that bring to fore issues that affect the wellbeing of farmers.


In the Indian context, the farm lobby has favoured greater subsidisation of inputs and access to public goods at cheaper rates. They have voiced their grievances against unfair trade practices of foreign companies and fought to seek justice. For instance, a domestic tobacco farmers lobby that had accused overseas tobacco companies of cigarette smuggling in the country received support from the Federation of All India Farmer Associations, highlighting farm lobbying as an influential weapon. Besides, these groups exert significant influence on political parties dominant in certain rural areas, especially where agriculture is a dominant occupation and farmers comprise a large vote share. Such influence has the ability to cause noticeable political damage, as proved by the ruling Bharatiya Janata Party's poor performance in rural areas at the time of the Gujarat elections. In April 2018, representatives of the All India Kisan Sangharsh Co-ordination Committee, an umbrella body of farmers' groups, met President Ram Nath Kovind and demanded that a special session of the Parliament be convened to discuss the two Kisan Mukti Bills of 2018. Despite several demonstrations by farmers, these two bills have still not passed. Nonetheless, the benefits that accrue to a large number of farmers from lobbying cannot be overlooked and negated.

## AGAINST

Agriculture, often considered the backbone of India's economy, comes with its peculiar set of ironies. The vertebrae are often brittle and the gap between this cannot be bridged. Unlike popular perception, farmers are not one uniform group. While primary differences arise from the varying sizes of land holdings, class conflicts mix with caste and religion leading to systemic oppression in rural areas. Similarly, given that farming is often done by rural families together and the patriarchal nature of our society, the gender construct is another issue.

Certain concerns such as irrigation and the availability of fertilizers are well-known as required changes, and will be pursued even without lobbies. However, issues arise because the interests of all farmers don't always align due to variations in sizes of farms, soil needs from region-to-region, type of crop, etc. It also creates concern about the promotion of cash crops and their planting generates major financial benefits. Why wouldn't a farmer from Maharashtra have major differences with one from the North East, given that the help they need is distinct?

This scenario is critical to understand why these lobbies are neither effective nor representative. Thus, lobbies are likely to go down the same road as the *mandis* under the APMC Act - riddled with conflicts. They are simply a problem-solution mismatch. Credible transparency is needed by empowering platforms like e-NAM and eliminating the difference between big and small farmers. As lobbies are strongly biased, portraying lobbies as a panacea is an eyewash.



# THE NORWAY APPROACH

*Norway struck gold in 1969 when it discovered Ekofisk, one of the largest offshore oil fields ever discovered. However, instead of permitting privatisation of the oil fields, the government set up a state-owned enterprise, Statoil, to ensure that the entire revenue went to the government. Today, it seems that Norway is leading a green revolution, but little do people know that it has been fuelled by oil money. The question remains - do the means justify the end?*

## FOR

Unlike most other countries, Norway didn't spend its newfound oil wealth on massive tax cuts or other populist schemes, rather they used it to set up a sovereign wealth fund, which is currently valued at over a trillion dollars. Today, Norway is using this fund to invest in cleaner resources like solar and wind energy, realising that this is the way forward. Moreover, this fund doesn't invest in any company which legislators believe has a negative impact on the environment, including all oil and coal companies. In many ways, this money has funded a technological revolution that has made renewables a more affordable and accessible option for the general public, thus facilitating the transition from fossil fuels in the long run.

As of now, about 97 per cent of the total energy consumed in the country comes from renewable energy, which is one of the highest percentages globally. Not only this, the country is also leading the electric car revolution, with about 60 per cent of all new cars purchased being e-vehicles. Although the country started off its journey from oil, that did not, in any way, restrict it from moving away from this resource. People might argue that its entire green revolution is funded by oil money, but what they fail to realise is that today, it is setting high standards for other first world countries and is making a statement that in this aggravating climate crisis, greener alternatives are the best place to invest. The 'Norway Story', continues to inspire nations and people around the globe to shift to greener alternatives.

## AGAINST

In spite of Norway's endeavours to promote environmental sustainability, it finds itself in a quandary due to ethical dilemmas. Norway supplies about 25 per cent of the EU's gas demand. Nearly all oil and gas produced on the Norwegian shelf is exported and accounts for 50 per cent of Norwegian exports.<sup>[1]</sup>

In general, an oil-producing nation experiences a common dilemma: whether to use oil for financial welfare or to avoid extraction of these fossil fuels due to environmental concerns. Norway's case is particularly interesting because it exports almost all of the oil produced and uses the revenue thus generated to invest in sustainable alternatives. This implies that Norway reached a position of prosperity by making other countries worse-off. While this might seem like an intelligent approach towards a greener environment, it is imperative to understand that a nation's domestic oil and gas activities are global in nature. In a world that functions in an interconnected matrix, Norway enjoys a complacent and privileged position. Currently, Norway emits 0.3 per cent of global greenhouse gas emissions. If oil exports are included, the figure goes up to two per cent.<sup>[2]</sup>

On one hand, Norway doesn't make investments in environmentally negligent companies. On the other hand, it sells oil and gas to a list of the world's worst corporations criticised for human rights violation & environmental degradation. Norway may take pride in itself for being considered a green economy. However, is sustainability bought out of oil money and hypocrisy so green after all?

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# WILL A WALL STREET TAX EVER WORK?

*A new proposal by Bernie Sanders shook the financial institutions of America. Under Sanders' proposal, equity trading was to be taxed at 0.5 percent, bonds by 0.1 percent and derivatives by 0.005 percent, which is significantly higher than the 0.002 percent the Securities & Exchange Commission currently charges. Despite his withdrawal from the Presidential race, is the proposal worth considering?*

## FOR

With student debt hitting the \$1.6 trillion-mark, Bernie Sanders' Financial Transactions Tax Bill is a gateway to an unexplored tract. Being a revenue-generating behemoth, Wall Street has immense potential as a contributor to US federal revenue. After adjusting for a 50 per cent trade decline, the tax would generate around \$2.4 trillion.<sup>[1]</sup>

In reality, the average pension/mutual fund held by a middle-class 401(k) investor turns over each of its securities not more than once a year. Hence, the impact of an FTT would be alleviated due to the low average number of transactions.<sup>[2]</sup>

Also, a myth about liquidity implies that higher trade volume helps reach the 'correct' value of the security. However, it still has minimal impact on a 401(k) investor due to a low turnover rate. Only high-volume trades can affect an asset's price, irrespective of the liquidity in the market. Thus, the notion of 'necessary liquidity' is an eyewash which tries to justify the internal dealing of the financial industry and continue the flow of excessive fees from an unquestioning public.

The bill would also help augment economic activity to a certain extent, as 13 per cent of the American population, which had earlier been under the duress of debt, would now wield greater spending capacity, hence stimulating demand.<sup>[3]</sup> Clearly, this can revolutionize future policy-making.

## AGAINST

The idea of taxing financial transactions has been around since the times of Keynes and Tobin, but can it work outside of elaborate assumptions? The revenue collected from this plan to tax Wall Street is estimated to be \$2.4 trillion<sup>[2]</sup>, which should allow for cancelling the existing student debt and making higher education affordable in the US.

The plan has inherent flaws. Maximum speculative trading happens on derivative markets, which is taxed the least. The tax is paid on a transaction, not by the financial institutions, meaning that it's the retail investors and the old aged with invested savings that suffer. According to the Federal Reserve, 52 per cent of households invest<sup>[4]</sup>, while 22 per cent have student debts<sup>[3]</sup>. Thus, this plan ends up taxing half of America to save a quarter. The Tax Policy Center says that the actual revenue generated will be much lower due to an absolute wipeout of transactions on the exchange. We can draw upon the example of Sweden, where a similar tax wiped out bond and futures trading by 85 per cent and 98 per cent respectively.<sup>[2]</sup>

A FTT will also wipe out the market liquidity of an economy which arguably has the most liquid asset markets and is a major reason for its economic growth. The ability to transfer risk also depletes, which is inversely related with transaction costs. If a person cannot transfer risk during times of crisis, the ability to trade and sustain diminish. While the tax may have merit, it may be a double whammy - insufficient to pay for debts while hampering the markets.

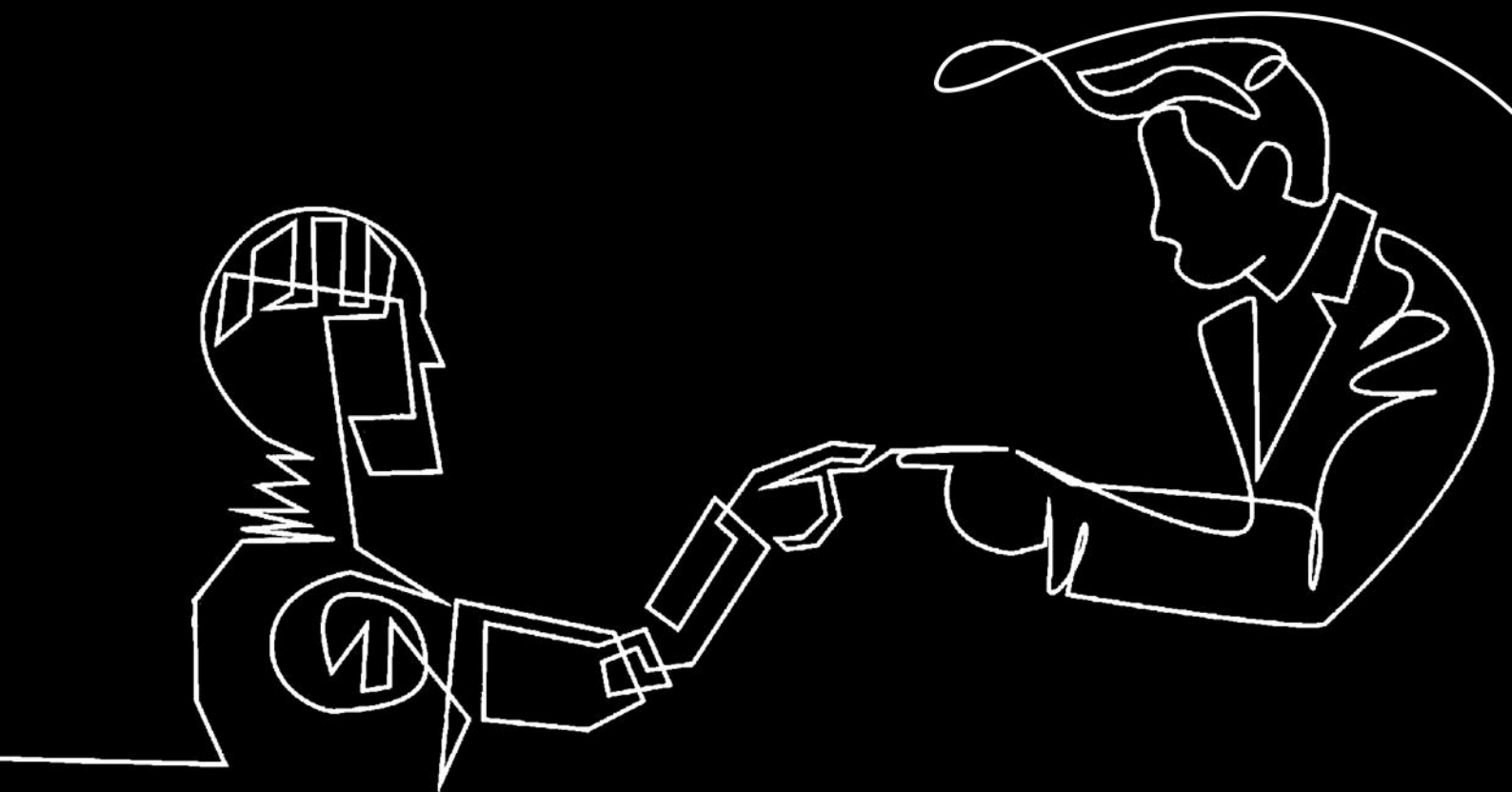
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「SPECIAL TAKE」

**TECHNOLOGY**



# MACHINE IN MAN: THE FUTURE OF WARFARE

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*“Now I am become death, destroyer of worlds” – The Bhagavad Gita. Warfare is often perceived to be a thing of the past. However, much like old wine in a new bottle, it is a future we can’t deny.*

These words from the Bhagavad Gita echoed in the ears of J. Robert Oppenheimer, the father of the A-Bomb, as his ‘Little Boy’ roared on the other side of the world. The traumatic events of August 1945 left the entire world in a state of horror. The unprecedented death and destruction marked the beginning of ‘modern warfare.’

Since times immemorial, humanity has never failed to prove its creative genius when it comes to its ability to kill. The next major landmark in weapon technology came soon on November 1, 1952, when the United States successfully carried out the first thermonuclear bomb test code-named Ivy Mike. It produced a yield of approximately 10.4 megatons of TNT, roughly 450 times the yield of the atomic bomb dropped in Nagasaki. Ever since, we have tested hundreds of such bombs, each deadlier than the previous. It was only after the split of the USSR and end of the Cold War era that we ushered in a new phase of warfare.

This new era was marked by the war on terror. This war, unlike the World Wars or any other conventional war, did not involve big bombs or the destruction of cities. Rather, it involved creating a perpetual fear in the hearts of the common man. Adding on to the problems of the governments, these wars could not be won with big bombs or guns as these organisations were small, tactical and kept moving to different places. These organisations had highly trained and self-motivated individuals who were on a mission to strike fear into the hearts of people – common man and soldiers alike. The governments responded to such a changed scenario with a remarkably different approach in the development of military technology.

Governments are no longer producing bigger guns, but instead are focussing on making the gun-holder better.

The focus has shifted from making lighter machinery to making stronger men, and the only rational step in this regard was the development of a bionic soldier – The Super Soldier. Governments around the world are spending millions of dollars to develop technologies that can increase the physical and mental capabilities of soldiers. The most recent example in this technology was given by the United States when the US Department of Defence proudly announced that the first batch of ‘biologically enhanced super-soldiers’ were combat-ready. According to the members of the armed forces, these soldiers had been surgically outfitted with a mental barrier which prevented them from feeling any despair, guilt or sorrow.

“ ***They could kill 20 people in a war and return home and live a normal and healthy life as if nothing had happened.*** ”

Such soldiers can be deployed hundreds of times and they would return every time without any sort of PTSD. They feel no guilt and wouldn’t blink an eye before killing a child. Such soldiers can be deployed in public places and they can perfectly blend in without any visible difference. These soldiers have been ripped off their human identity and have become killing machines who have been hardwired to follow instructions. Such ‘beings’ are perfect for modern warfare, which is fought in the middle of busy streets, where children have become the weapon carriers of the enemy. They are also future-ready as such mentally enhanced soldiers will prove to be the most effective decision-makers in any actual war where many difficult decisions must be made. Perhaps, Oppenheimer would have loved this ‘enhancement’ made to him as he was found crying in

President Truman's office two months after the Japan blasts as he felt that he had "blood on his hands."

Furthermore, we are not far behind when it comes to improving the physical capabilities of soldiers. Lockheed Martin has taken the lead on this front with the development of the Human Universal Load Carrier. It is an exoskeleton meant to reduce the strain on the human body and improve the load-carrying capacity of a soldier. On average, a soldier carries 54 kg of equipment during any mission. Such battery-operated exoskeletons can significantly improve the capacity of any individual soldier. The company is also planning to add various sensors to the exoskeleton to enhance the situational awareness of soldiers. The Canadian military is also testing a bionic knee which is meant to reduce muscle fatigue, enhance strength and performance, and protect against knee injuries. We are moving towards a future where the human body shall be truly integrated with machines. In 2013, this integration process started with the successful partial eyesight restoration of Tim Reddish, a paralympic swimming champion who had been blind for 17 years. This has been made possible with the implantation of a 3mm microchip with 1500 light-sensitive cells in each of Tim's retina which was connected by wire to a power unit implanted behind his ear. Moving forward to 2019, a team of researchers at the Carnegie Mellon University have successfully developed a non-invasive brain-computer interface which can control a prosthetic arm using signals from the brain in real-time.

Such medical breakthroughs won't take time to find application in military technology. Many experts are already picturing the future of warfare with soldiers having super vision and enhanced physical capabilities. These soldiers shall be capable of fighting for an extended period without any signs of fatigue and shall be capable of handling multiple deadlier weapons. Perhaps, soldiers with super vision would be able to shoot with deadly accuracy for kilometres with their mere eyesight. Adding on to their already enhanced physical capabilities, the mental enhancement of soldiers shall turn them into perfect killing machines

capable of wreaking havoc on the battlefield without batting an eye or caring for the mere 'human' on the other side of the battlefield, for these soldiers have now lost their humanness and have become tools in the hands of the governments. Such soldiers will lose their capacity to feel – to empathise with the enemy – and become in view of the governments, the best of both, the weapon and human.

Such biological enhancements have been worked upon with immense pride and new developments are displayed as mammoth achievements. What I fail to understand is how the world has reached such a stage where we have started glorifying our destructive capabilities. This celebration is problematic because it merely inspires more people to work on killing, a vicious self-fulfilling cycle. It seems that we have returned to the medieval age where civilisations proved their mettle by displaying their military capabilities. Adding on to this sickening state of mind, the development of such technology has become more dangerous than ever because of the growing powers of terrorist organisations. There are countries which support such organisations to fulfil their ulterior motives and supply them with resources and weaponry to carry on their activities. A transfer of the biological enhancement technologies to such terrorists will be the start of a dreadful age in human history. In 2008, just 10 terrorists had managed to kill over 170 in the Mumbai attacks and it is horrifying to imagine what they could have done if they were using bionics to improve their capabilities.

To judge how this would change the future of warfare is difficult. But what can be assured is the fact that if a war breaks out and armies of such Super Soldiers are deployed, then we shall be witness to a scale of destruction unheard of. These killing machines shall usher the world into a new era where enormous bombs will be a thing of the past and people shall truly become the most dangerous weapons of mass destruction. A world where a man shall look into the eye of another 500m away using his super vision and shoot him in that eye with his bionic hand without hesitating for even a split second.



# SWAT OR STOP?

**BY AARADHYA DAGA**

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*As the world grapples to understand the true extent of Genetically Modified Organisms (GMOs), India is also venturing into this field. However, how effective are GMOs in dealing with matters of wide-spread diseases?*

Genetically Modified Organisms or GMOs have been a tricky topic for developed and developing countries alike. Some people believe there is an inherent risk in playing with the natural sequence of things, while some believe that there's a moral dilemma involved. Significant work has been done with regard to GMOs in recent years but like nuclear technology, the reputation of these unconventional technologies rests with how the media decides to portray it. This occurs mostly because of the apparently *unknown* risks involved with these technologies and because of the lack of general awareness about them. As Daniel Kahneman would put it - people use their "fast" brains to produce a negative knee-jerk reaction, instead of thinking it through with their "slow" brains.

Unanimously, the world believes that mosquitoes have been a pest since time immemorial. Now that the loss caused by mosquito-borne diseases can be quantified in terms of human deaths and economic costs involved, the world seems to be taking strides towards eradicating them. The traditional way of containing the disease seems to be getting ineffective and hence, scientists have developed a way to contain the vector itself. Oxitec, a company which has spun out of an Oxford research group, has devised a way to get rid of the *Aedes Aegypti*, the species known for causing dengue, a disease whose economic cost to India alone is \$1.1 billion.<sup>[1]</sup>

What is the process? It is simple. Oxitec has created GM Mosquitoes called Friendly™, or OX513A in the scientific community. What differentiates them from regular mosquitoes is that the males have a 'self-limiting' gene. This means that when a male breeds with a female, (the female sex being responsible for the diseases), the offspring so produced will not be

able to survive into adulthood. On paper, this means that the new population of mosquitoes should all die out quickly, hence drastically reducing the mosquito population in the area.<sup>[2]</sup> The moral dilemma does not come into play as the species are invasive everywhere except Africa and are not a keystone species, which is to say that their removal will not have any significant impact on the ecosystem of a place.

Oxitec claims that it has conducted many field tests in various countries across the globe and says that its process has been supremely effective with regard to reducing the invasive species of *Aedes Aegypti*. The most popular test was in the town of Jacobina in Brazil. Oxitec claims that it has been successful in combating the nuisance of mosquitoes, thereby helping in bringing their population down by 85 per cent. A study by an independent Brazilian journal, Journal de Piracicaba, noted that the number of dengue cases in the city were only 29 as of January to June of 2017<sup>[3]</sup>. Oxitec did so by releasing 4,50,000 transgenic males every week for 27 months.<sup>[4]</sup> The test, however, only aimed to reduce the number of mosquitoes in the region and not pass on the genetic modification to the target set of mosquitoes itself.

A study by researchers from Yale University,<sup>[5]</sup> on the other hand, claims that the test has transmitted the modified strain of genes to the naturally existing mosquitoes.

***The researchers think that the mosquitoes might be more robust genetically but have clarified that there will be no concerns to human health.***

The only problem, they say, was that there were unanticipated results. Moreover, they also claim that the females developed a 'mating discrimination' of sorts, which means that they were able to recognize the modified males and did not breed with them. This would render the project useless in the long run. The reputed environment journal, *Down To Earth*, has its own fears about this result. It says that the new genes could increase the virulence of the diseases and also change the host-insect relations.<sup>[2]</sup> The only moral hazard which came up was that of public education and public consultation. While Oxitec distributed leaflets, organised awareness campaigns on social media and through parades<sup>[2]</sup>, public education cannot be taken to be the same as public consultation. In a move, which would potentially impact a significant number of people, even though not lethally, they should have had a say in the matter.

India has also had its fair share with regard to GM. The major but unwarranted failure of Bt Cotton had made both the government and the public quite sceptical about using GM again. Despite this, India also wants in on this new way to eradicate these pests for good. Mumbai based biotech company, Gangabishan Bhikulal Investment and Trading Limited (GBIT), an offshoot of India's oldest agri-tech company, Maharashtra Hybrid Seeds Co., has partnered with the company Oxitec. This partnership aims to suppress the diseases, controlling-the-vector style. The traditional methods do not work on the dengue causing *Aedes Aegypti* because it thrives in urban settings. Unlike the malarial mosquitoes that operate only during the night, *Aedes Aegypti* bite throughout the day.

GBIT and Oxitec have waited for over a decade to sort out regulations and permissions from the Review Committee on Genetic Manipulation (RCGM) and Genetic Engineering Approval Company (GEAC), given India's overly cautious approach towards genetic modification.<sup>[6]</sup> In fact, India started open field trials in January 2017, in Dawalwadi, Maharashtra. Based on these trials, which would last around 55 weeks,

the Department of Biotechnology would give a final go on the usage of OX513A in India on a wider scale. Despite Oxitec's claims that the project was ready to launch in 2019, there have been various delays by the Government. They are looking for *safer* means of handling the situation, one of which is using *Wolbachia* infected mosquitoes. The bacterium *Wolbachia* shortens the life span of the mosquitoes and they cannot replicate the dengue viruses while infected. This also happens to be self-sustaining which allows for a low-cost intervention.<sup>[7]</sup>

This aforementioned over-caution by the Indian Government while dealing with technology might be too traditional for this fast-moving world. Cutting costs and being effective are both important at the same time. Hence, when GBIT said that it could execute the GM project for about the same costs as traditional methods, the authorities should have given it a shot, even after the field trials were successful. It is evident that the world will quickly be moving towards the marvels of science leaving behind the obsolete traditional methods. To support this claim, Tata Trusts announced that they will be investing 70 million USD to set up a Tata Institute of Genetics and Society, one of the first of its kind in the country, which will aim at malaria eradication using vector control.<sup>[6]</sup> It is high time the world saw mosquitoes less as a pest and more as barriers to growth and development. It is no hiding from the fact that communicable and vector-borne diseases need to be controlled. With the advent of globalisation, diseases or vectors do not stay limited to one place. There is no denying the fact that there should be more transparency about the process of creation of these organisms but the world should also weigh the ever-growing cost of inaction.

Would a country be inactive if nano drones were killing tens of thousands of its citizens every year? Then why be inactive on the issue of mosquitoes? As Forbes put it, what would you rather have: dying babies or Genetically Modified Mosquitoes?<sup>[8]</sup>

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# CHAINING THE BLOCKS WITH BLOCKCHAIN

**BY ANUDHII SUNDARAM**

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*Amidst rapid innovation, there is a sophisticated technology that claims to revolutionise our way of life. Is blockchain technology the panacea economics is looking for?*

As a child, I was greatly fascinated by the colorful blocks that could be joined to form different things and would spend quite a lot of time playing with them. Such block games kept my mind occupied and didn't let me pay heed to the mischievous thoughts that cropped up in my head. Years later, I found myself still captivated by blocks. The sole difference was that these blocks were pieces of digital information that could store as much as 1MB of data, and were not the plastic blocks that were the ultimate source of amusement in my childhood.

Among the myriad of technological transformations and developments that have engulfed the world in the past decades, one whose application and legitimacy has been subjected to scrutiny ad infinitum is the distributed ledger technology called 'Blockchain.' The concept of blockchain isn't as convoluted as may be perceived by many. In fact, its sole purpose of existence is to facilitate easy exchange, dissemination, and storage of information. It does this by simplifying the complex systems in place and making digital platforms a more secure and transparent space for people to work in. However, the apprehensions about blockchain can't be negated totally.

## **What is Blockchain and How Did It Come Into Existence?**

Blockchain technology was first outlined in 1991 by Stuart Haber and W. Scott Stornetta, who wanted to implement a system where data could not be tampered with. In addition, many sources claim that Satoshi Nakamoto conceptualized the first blockchain and used it in 2008 in what is globally seen as the first real-world application of blockchain technology – the cryptocurrency, Bitcoin.

As the name suggests, literally, blockchain is made up of many blocks strung together and these blocks are akin to a growing list of stored data. Blocks in blockchain are linked using cryptography, which is the method for securing or protecting information with the help of codes. It is useful in preventing any unauthorized access to the data stored in the blocks. Every block has a timestamp and is immutable, that is, it is tamper-proof and the data is vetted not by a central authority, but by a cluster of computers, more popularly referred to as the peer-to-peer network of computers. Every transaction is visible to all the participants in the network and all participants are accountable for their actions. (Thus, contrary to the state of affairs in our own country, blockchain follows a democratized system.)

## **How a Chain of Blocks is Formed?**

When a block stores new data it is added to a blockchain. In order for a block to be added to a chain, it is imperative for a transaction to take place. Then, the transaction must seek verification from a network of computers that confirm the details of the transaction like the transaction's time, amount, and participants. After verification, the data is stored in a block along with the digital signature of the two parties involved in the transaction. The last step, before a block is added to a chain, is giving a 'hash' to the block. In order to keep data secure, every block in the chain has a cryptographic hash. A hash can be understood as the name of a block. Just like names serve as an identity marker, a cryptographic hash helps us to distinguish one block from the other. Every block has its own unique cryptographic hash as well as the hash of the block prior to it in the chain and this ensures the data stored in the block remains secure and curbs any tampering of data stored in that particular chain. Finally, after the

block is given its hash, it is added to the chain of blocks.

### Types of Blockchain and Security of Data

Blockchains are mainly public and private. A public blockchain is permissionless, that is it has no access restrictions. Anyone can join the network and participate in it. A public blockchain, like Bitcoin, is decentralized. On the contrary, a private blockchain has access restrictions and one can join the network only when one receives an invite from the individual or group of entities controlling the network. Researchers claim that in both these chains, the data stored is largely resistant to modification, is distributed over a peer-to-peer network of computers and the validity of data is verified. A third type of blockchain is called 'Consortium Blockchain', which is restricted, but still relatively more flexible than private blockchain.

A blockchain claims to take into account all security and trust issues and has been adopted by many sectors like healthcare, education, banking, and agriculture because of this feature. Since blockchain is decentralized, it eliminates many problems that are associated with data being held centrally.

“ *The peer-to-peer network lacks any central point of vulnerability and this puts the computer hackers in atight spot.* ”

In a blockchain, once data is recorded in any given block, it cannot be altered retroactively without alteration of all subsequent blocks, which requires consensus of all the participants in the network. In addition, the cryptographic hash makes hacking a cumbersome job. In order to change a single block, a hacker would need to change every single block after it on the blockchain. Recalculating all those hashes would take an enormous amount of computing power. Besides, the proof of work system that requires all the computers to 'prove' that they have done 'work' by solving a complex computational math problem prevents tampering of data. According to the blockchain news site BlockExplorer, the odds of solving one of these problems on the Bitcoin network were about one in 5.8 trillion in February 2019.<sup>[1]</sup> Blockchain security methods also include the use of public-key cryptography. A public key, which is a random string of numbers, is like an address on the blockchain and a private key is like a password that gives its owner access to their digital assets.

### Real World Applications of Blockchain

The most prevalent and renowned application of blockchain is cryptocurrency. Over the years, the crypto market has grown significantly and cryptocurrencies like Bitcoin, Ethereum, Ripple and Litecoin have gained immense popularity. However, there is little knowledge among people about the current and potential

applications of blockchain technology in the various other sectors of the economy. Blockchain has already begun to initiate transformation in the following sectors: banking, agriculture, education, healthcare, stock markets, and real estate.

### Banking

Banking is one of the most crucial sectors in an economy and thus naturally, there are reasonable apprehensions about incorporating blockchain in its operations. Nonetheless, many banks in the world, including Bank of China, HSBC, ING, ALFA Bank, and several others have manifested an optimistic approach towards this new technology and have shown the commitment to embrace it. Most banking systems have a centralized database and hence, are vulnerable to cyber-attacks. But since in blockchain, data is decentralized, the frequency of frauds reduces significantly. Blockchain can also reduce the time for processing each transaction from an average of three days to few minutes and eliminates intermediaries in trade, thereby enhancing accuracy and reliability of transactions and reducing transit costs. Capgemini, a French consultancy, estimates that consumers could save up to \$16 billion in banking and insurance fees each year through blockchain based applications. Santander, a European bank, put the potential savings at \$20 billion a year.<sup>[2]</sup> More importantly, blockchain serves as a potential solution for the enormous expenditure incurred by banks across the world to protect customer data and eliminates the overlapping KYC and AML (Anti Money Laundering) compliance checks. Besides, blockchain can also fasten the process of cross-border payments, which are transactions where the payee and the recipient are based in separate countries. McKinsey estimates that blockchain applied to cross-border payments could save about \$4 billion a year.

Reports by McKinsey and Accenture claim that blockchain technology has immense potential to revolutionize the banking sector but the global banking sector must bolster its infrastructure and widen its network to reap all the benefits. Besides, a regulatory framework must be put in place to curb any misuse of this technology.

### Agriculture

Blockchain technology is very relevant in agriculture and food supply chains because of its fault tolerance ability and transparency. A successful example of blockchain in agriculture is the company AgriDigital that executed the world's first settlement of the sale of 23.46 tons of grain on a blockchain in December 2016.<sup>[9]</sup> Blockchain, by eliminating the need for an intermediary, fastens the process of settlement and reduces operation costs and corruption. Besides, researchers have also found that blockchain responds more efficiently in times of a food crisis through transparent delivery of international aid, disintermediation of the process of delivery and by making records immutable, verifiable and accessible.

For example, digital food coupons have been distributed to Palestinian refugees in Jordan's Azraq camp via an Ethereum-based blockchain where the coupons could be redeemed via biometric data. At the moment, the project is helping 100,000 refugees.<sup>[4]</sup>

Blockchain also allows consumers to trace the origin of food by providing them complete details of the supply chain, thereby increasing both food safety and integrity. In January 2018, the World Wildlife Foundation announced the Blockchain Supply Chain Traceability Project to eliminate illegal tuna fishing by means of blockchain.<sup>[5]</sup> Thus, blockchain serves as a great opportunity for the agriculture sector to capitalize upon.

### Education

The sphere of education is rapidly digitizing and several universities have incorporated blockchain as part of this digital revolution. To date, the primary use of blockchain is confined to academic degree management and evaluation for learning outcomes. In the formal learning context, blockchain technology can formulate a whole transcript which includes students' achievements and academic certificates. This data is then stored in the blockchain that guarantees security and transparency. Massachusetts Institute of Technology has been a step forward than other universities in incorporating blockchain technology in its operations. For instance, students who have attended the projects of MIT Media Lab and passed the assessment have received a certification that is stored on a blockchain network.<sup>[6]</sup> The blockchain technology can also match all kinds of educational information with the user's unique ID that includes learning behavior in class, academic project experience, and educational background. Moreover, blockchain can be used to reduce degree fraud, which is a rampant malpractice among people today. After the data is matched with students' ID cards, it is checked and verified by miners from across the world. (Miners validate the information and record it in blockchain.) And since block distributed ledger is immutable and trustworthy, it curbs degree fraud.

Blockchain has immense potential for broader application in the education sector, especially through Smart Contract, which is primarily a computer protocol that produces real contracts such as economic transactions, employment etc. Besides fastening the process of contract negotiation, execution and settlement, Smart Contracts eliminate third-party costs and ensure security and transparency. Thus, blockchain holds numerous possibilities in the field of education and many of them are yet to be explored.

### Stock Exchange

The stock markets today still operate largely by conventional methods wherein the process of transaction that includes issuing securities, trading, clearing and settlements is cumbersome and costly

due to the presence of intermediaries. The blockchain distributed ledger fastens the process of transactions, makes them tamper-proof and removes the need for a third party. The fiscal crisis of 2008, which was in part triggered by the opaque financial instruments, called into question the transparency of the existing global economic model. Given its properties of transparency and security, many researchers see blockchain as an alternative solution to the traditional mechanisms in this new age of digitalization. Nasdaq was one of the first to explore and incorporate the use of blockchain technology into its applications. In 2015, it launched its own blockchain ledger platform, Linq, with an aim to enable unlisted companies to represent their shares digitally. In addition, the London Stock Exchange Group, in cooperation with IBM, has begun testing a blockchain-based platform to fully digitize trade in the shares of small and medium-sized enterprises.<sup>[7]</sup> However, in order to witness complete assimilation of blockchain in the stock markets, some stringent regulations about security with regards to the use of the distributed ledger technology have to be stipulated.

### Healthcare

In recent years, there is a collective realization and acceptance of the fact that manual handling of medical records of patients is highly vulnerable to manipulation and tampering. Lack of security and transparency of records jeopardizes hospitals' integrity and tarnishes their reputation in the medical community in case of misdiagnosis due to erroneous records. A Johns Hopkins study estimates that more than 250,000 people in the U.S. die every year from medical errors.<sup>[8]</sup> Blockchain technology has emerged as a pragmatic solution to the problem of faulty records and is expected to provide a new model for health information exchanges (HIE) by making electronic medical records more efficient, disintermediated and secure. A secure and easily accessible medical record significantly enhances the quality of care provided to the patient, thereby creating a better ecosystem for the patient. Blockchain technology also has the potential to fasten the operations within the healthcare sector, which is still largely based on paperwork.

Since the data stored in blockchain is immutable and traceable, it ensures safety and security of the healthcare supply chain, especially in case of counterfeit drugs. The World Health Organization has estimated that as many as 250,000 children die every year due to fake drugs. It is firmly believed by researchers that blockchain has the potential to avert these tragic deaths. In addition, today more than 50 per cent of healthcare costs are fraudulent due to overbilling or billing for non-performed services. For example, in the US alone, Medicare fraud caused around \$30 million in losses in 2016.<sup>[9]</sup> The advent of blockchain powered healthcare systems is expected to minimize the medical billing-related frauds by eliminating intermediaries and thereby reducing administrative costs and the time taken for settlement of bills. In a nutshell, healthcare



providers from across the globe view blockchain as a potential tool to streamline the sharing of medical records in a secure way in order to protect patients' personal data, give them control over their information and make their records transparent.

### Real Estate

In the current scenario, the real estate sector grapples with a number of challenges, the primary one being related to property-related information that is hosted on disparate systems which leads to a lack of transparency, efficiency and a higher incidence of inaccuracies that, in turn, increase the possibility of malfeasance. In recent times, many industry players have realized the potential of blockchain to streamline all the processes of the commercial real estate (CRE) sector, thereby transforming the core operations of property transactions like purchase, sale, leasing, and management.<sup>[10]</sup> Blockchain is useful in the CRE industry for some basic and primary reasons. Firstly, it settles transactions in real time. Secondly, blockchain provides an opportunity for disintermediation, that is, it allows two parties to directly transact with each other. Thirdly, data recorded in blockchain cannot be altered retroactively, thus it minimizes the possibility of double-spending, corruption, and manipulation of transactions. Fourthly, blockchain facilitates the creation of a shared database that is critical for leasing and sale and purchase transactions. One of the key examples is a multiple listing service, which collates property-level information from private databases of brokers and agents. Besides, since the operations within the CRE industry are largely paper-driven and time consuming, blockchain serves as an opportunity to simplify the complex processes and reduce the time required. Most advocates of block chain in the CRE sector view smart contracts as an emerging power that can revolutionize the functioning of the sector. The key terms of an agreement are recorded in a blockchain and this becomes a smart contract. The smart contract is then used for automated payments and cash flow management. The block distributed ledger also enables cross border transactions to be carried out smoothly.

### Blockchain in India

The former Union Minister for Finance and Corporate Affairs, late Shri Arun Jaitely, said in his budget speech on February 1, 2018 that the government was planning to adopt "blockchain technology for ushering in a digital economy." Niti Aayog, the government think-tank, has been tasked with bringing in blockchain solutions under the aegis of an initiative called IndiaChain, billing it as "the country's largest blockchain network."<sup>[11]</sup> The announcement came in November 2017. This was the first step towards formalizing the use of blockchain in India. By implementing the IndiaChain, the Indian government aims to improve the functioning of land records, supply chain management, identity management, benefit distribution, educational certificates and cross-border finance. Companies such

as Axis Bank, SBI, Kotak Mahindra, Bajaj, IBM and others are also carrying out blockchain pilots in the country. Axis Bank and Kotak Mahindra Bank are jointly testing blockchain transactions, focused mostly on cross-border remittance and trade settlements. ICICI and Emirates NBD successfully executed transactions in international trade finance and remittance using blockchain. Deloitte India is also working on a blockchain based rewards and recognition program. The Securities Exchange Board of India (SEBI) has appointed an advisory committee, called the Committee on Financial and Regulatory Technologies (CFRT), for conducting research on blockchain.<sup>[12]</sup> Thus, it is evident that blockchain technology is gaining prominence in India and policymakers are mulling over its possible incorporation in the public and private sectors.

### Challenges for Blockchain

While blockchain has numerous merits to brag about, people still have reasonable concerns about the technology's potential applications in the various sectors of the economy. Many critics express apprehension over the large amount of power required to use blockchain technology. The consumption of power is needed for maintaining a real time ledger. The network's miners attempt to solve a number of solutions per second in order to validate transactions and for this they consume substantial amounts of computing power. Critics are also concerned about the inconvenience associated with this technology with regards to the data stored in it being strictly resistant to modification. Though this guarantees stability, in times of a genuine need to alter data, one has to go through a cumbersome process. The monetary cost of operation of blockchain is also very high, which is primarily because of high energy consumption along with a large initial capital cost. The society as a whole also incurs an environmental cost because of blockchain. Moreover, lack of awareness about blockchain poses a big hindrance on its path to success. Many people are dubious about adopting or investing in blockchain because they perceive the technology to be still at a nascent stage. Another reason for the unpopularity of blockchain among people is that even though the technology claims immutability and security, there is a belief that there is still scope for hacking by cyber attackers. The concept of 51 per cent attacks is mainly responsible for sowing the seeds of mistrust among people. A 51 per cent attack may happen if one entity manages to control more than 50 per cent of the network, which would eventually allow them to disrupt the network by excluding or modifying the order of transactions. However, the proponents of blockchain argue that this is just a theoretical possibility and in reality, a successful 51 per cent attack on blockchain hasn't taken place.

### Conclusion

On one hand, the global leaders are on the move to digitalize the world economy, and on the other hand, traditional beliefs and inefficiencies of new

technological innovations hamper the world from undergoing a revolution. Blockchain has demerits that portray it in dim light but the world is also compelled to ponder over its potential applications in varied sectors of the economy. It is believed that over time, blockchain adoption can have a broader impact, as it can be linked to public utility services such as smart parking, waste, water and energy billing, and also enable data-driven city management. According to a 2015 World Economic

Forum survey of 800 executives and information and communications technology sector experts, 57.9 per cent of the respondents believe that 10 per cent of the global GDP information will be stored on blockchain technology by 2025.<sup>[13]</sup> Both the critics and proponents of blockchain have substantial arguments to persuade the general public. It will be interesting to see which side of the paradigm outweighs the other.

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# CUT THE CARBS

**BY AARADHYA DAGA AND PARTH CHOWDHARY**

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*Climate change, global warming and rising pollution levels are unquestionable realities of our times. Urgent action is not just desirable but truly, unavoidable. While we seek to prolong the life of our planet, we shift focus to the element present in all known life forms - carbon.*

Nature is, by design, a balancing act. It strives to strike the right combination of all the components it has and sustain them together. This is why most harmful substances are still found organically. In this regard, it is imperative for us to develop containment measures that are not counterproductive. Many steps end up polluting some environmental component, not directly, but via their own production processes. It is their concentration and quantum that crosses the threshold of safety. Even the greenhouse effect serves some necessary functions, but its excessive quantum is where real danger emerges.

## Process

In our environment, ignoring human intervention, carbon exists in many forms and states. These would be found in plants, soils, rocks, air, oceans, etc. Anthropogenic activities, those driven by humans, like the burning of fossil fuels spurs the release of carbon from the less-reactive, solid form. However, a select few of these forms like atmospheric CO<sub>2</sub> have a direct negative impact. This opens up the opportunity to transform the carbon into safer forms rather than the trickier option of eliminating it altogether. The methods of intentionally changing the form in which carbon is found to those which are less harmful is called carbon sequestration.

As high CO<sub>2</sub> levels are linked to global warming, carbon sequestration becomes an important process. While it happens on its own as well, that intensity is insufficient in mitigating the much bleaker climate change reality we have. These processes, including ecosystems like the Amazon rainforest, are also being threatened by human activities. Their benefits accrue to us without a need to demand them, but our offering is merely unrequited harm.

## Lessons Already Learnt

It is crucial to develop such carbon sinks, which are reservoirs for storing carbon and blocking its entrance into the atmosphere. Steps like afforestation and reforestation are textbook examples of sinking carbon. On the other hand, the Intergovernmental Panel on Climate Change focuses on better management and practice of current resources. Improved crop cycles, using non-leaching fertilizers, restoring degraded land and adding organic compounds to soil are given value by IPCC. On similar lines, the Kyoto Protocol as part of the United Nations Framework Convention on Climate Change acknowledges the role of sequestration by allowing countries to receive 'credits' for activities related to land use and forestry.

Advances in technology offer us an opportunity to speed up the process. A geoengineering technique called carbon capture and storage (CCS) involves separating CO<sub>2</sub> from other gases and entrapping it, isolated from the atmosphere. This long term storage includes geological structures like the deep ocean, used up oil reserves and deep saline formations. Accompanied by their own harms like the risk of a leak and increasing power costs, CCS can play a major role in interventionist climate action.

## Improving the Productivity of Forests

As forests play a major role in natural sequestration, it is crucial to understand how much of a role they can play. In this context, productivity is defined in terms of the potential of sequestration the forest can offer. Various studies have shown that better management and control techniques can have a positive impact, thereby allowing greater carbon sinking in the same land area. Forest authorities are primarily concerned about the

maintenance of the forest areas in their current form. The focus needs to shift to revitalizing them and take proactive and pre-emptive control measures.

A productive forest would also offer benefits in terms of being linked to a varied range of markets. This insulates the blows of sudden shifts in demand. This also gives the reins in the hands of the policymaker as the division of land by its purposes is done as per societal need and not constrained feasibility. Regulation becomes more effective due to the additional power which exists.

Mechanisms for this end are sustainable and feasible for various stakeholders. Not cutting trees and taking better care are certain known benefits. However, it also increases the value of the relevant land and delivers consistent product quality. Optimizing the process necessitates scientific exploration coupled with economic farsight. Although benefits are not majorly received by the direct benefactor, their availability itself often serves the purpose of setting up positive chain reactions.

### Ways to Sequester Carbon

While there are numerous ways to sequester carbon, we can broadly divide them into two categories based on how technology-intensive they are: low-tech and high-tech. It is vital to keep in mind that there is no single way to deal with atmospheric carbon and that we would require a diverse portfolio of all methods available and many more new and innovative methods to achieve our carbon goals.

Some of the low-tech approaches would include afforestation & reforestation and carbon farming.

Trees and vegetation have a huge potential to absorb carbon dioxide from the air and store it in their wood, bark, leaves and roots. The Intergovernmental Panel on Climate Change has estimated that a hectare of forests can take up to 1.5 to 30 metric tons of Carbon Dioxide depending on factors like the kind and age of trees. Efforts to plant new trees and replant trees where the forest cover has been damaged will give a huge boost to the overall carbon sequestration levels in the world. Another way we can enhance this is to use carbon-rich wood for construction, which would expand the boundaries of carbon sequestration by trees beyond forests. The only downside to this is that the forest cover would require land, a commodity in short supply these days and in the days to come. It still would be a good start, allowing for achieving more than one goal in the road ahead.

Carbon farming is another method which focuses on using plants to trap and keep carbon dioxide in the soil. It achieves this by planting longer-rooted plants and incorporating organic materials in the soil alongside reducing tilling. This method, mostly untapped, has huge potential and this potential can grow exponentially if research breakthroughs like that of the Advanced

Research Projects Agency-Energy can take substantial form. The focus area of the research is to increase the carbon-absorbing capacity of soils. This has a two-pronged effect as it allows both the soil and the trees to absorb the carbon. This is one of the least expensive methods of carbon sequestration. The only downfalls happen to be reported cases of reduced crop yield and that of the storage capacity levelling off after a period of time.

The high-tech approaches include bio-energy, biochar, rock solutions and direct air capture and storage.

Bio-energy carbon capture and storage or BECCS is a process that latches on after the final part of converting biomass to energy is over. Instead of releasing the carbon dioxide back in the air, BECCS captures and concentrates the carbon and traps it in materials like plastic and concrete and injects it into rock formations below the Earth's surface. Since this method, now in a pilot testing phase, requires land and water, it can be a potential competitor to agricultural land. To counter this, research is being undertaken to utilise the oceans to fulfil the biomass requirements as well as storage.

Biochar is an archaic method which was earlier used to enrich the soil but now commands attention due to its ability to sequester carbon. Biochar is created when materials like logging slash and crop waste are burnt. It is carbon-rich and takes time to decompose and hence can be buried and spread on farmland. This method increases soil quality while decreasing the amount of carbon in the air, making it a win-win for all.

One of the natural processes by which carbon dioxide is removed from the atmosphere is when it reacts with rocks and rainwater. Scientists feel that this can be scaled up to create more sequestration possibilities. This can be achieved by crushing the rocks and spreading them across land and the oceans allowing for a greater surface area for absorption of carbon dioxide. It is to be thought of, however, in view of the costs - monetary and environmental. There is a huge monetary cost involved with running heavy machinery to break the rocks as well as transporting them. Moreover, mining the rocks can create environmental problems and that coupled with the spreading of rocks over land starts competing with our other needs over land usage.

Direct air capture and storage can be described as BECCS without the biomass. This technique focuses on capturing Carbon Dioxide from thin air and then trap them in materials like plastic and concrete before burying them under the Earth. This process is already in function in submarines deep below and spacecraft above them. While this process can be done anywhere on the planet, it is quite energy-intensive.

There is a lot of potential to reduce and reverse the carbon levels in the world, and in a way which protects everyone's interests. The costs involved are astronomical but they are cheaper than climate change. As processes

evolve over time, we can only hope to reverse this as the knocks of an uncertain future grow louder.

### Can there be a market in Carbon Lending?

In 2008, New Zealand launched the first policy scheme to have trading in greenhouse gas emissions. Named the New Zealand Emissions Trading Scheme (NZETS), owners of forests planted after 1990 can opt to receive one carbon credit for every ton of carbon that their forests sequester. Each unit allowed the owner to emit one ton of greenhouse gas, which can be either retained or sold to firms which need them. Once the forest is harvested, however, the owners would have to return as much carbon credit as the reduction of carbon being sequestered by the forests. The scheme was optional and measurements carried out using field measurements for forests above 100 hectares and based on standard tables for smaller forests. The scheme did not work out as planned, though, because of a low carbon price, uncertainty about future policies and future carbon prices.

In a carbon lending market, the owners of credits can lend out the credits at a fixed rate of interest, avoiding carbon price risk and increasing total returns to forestry investments. Interestingly enough, there may be a forwards or futures market in carbon too, but a lending market allows firms to borrow carbon units to finance investments in carbon-reducing technologies without the carbon price risk. A firm can borrow the units, sell them and repay the loan by using the newer credits earned in the future. Hence, with low transaction costs, the lending markets could possibly nudge a conversion from temporarily sequestered carbon to permanent reduction in emissions by increasing the probability of investments in the carbon-reducing technologies.

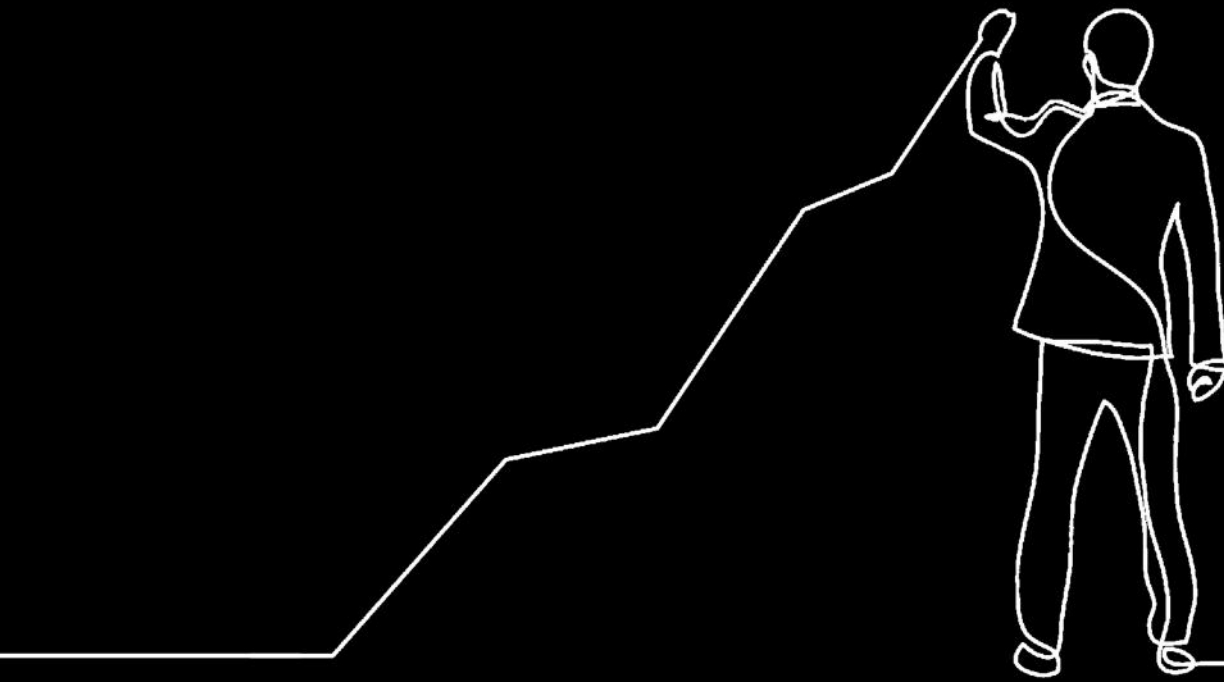
What if this model was scaled up worldwide and the flaws overcome?

Under an ideal situation, the terms of the loan would be determined by the market forces and the loans brokered by specialist firms or banks. There might be reservations on whether there would be natural players in the market, but rest assured there will be many. Companies which are willing to make investments to reduce their carbon emissions - which will be many in the foreseeable future - are the likely players in this market. A carbon lending market would allow the firms to manage the carbon price risk as well as maybe make a profit out of it depending on the interest rates.

***If these markets were to exist, they would have a net gain to the society because of the risk-sharing between the borrowers and the lenders. The costly investments would not be so uncertain and conditional on the unknown price of carbon.***

As long as the transaction costs are low, we could see a major increase in projects undertaken to mitigate carbon emissions.

Carbon sequestration allows for a major reduction in greenhouse gas concentrations and globally, governments should explore the idea of setting up a trading scheme like this. It may not be enough just to set up a credit distribution system and allow trading - there is too much risk in that which might deter borrowers or lenders. What can be done, however, is that the carbon lending market can be in the form of an institution. Here both parties can effectively hedge their positions on account of a carbon price change. The transactions are not riskless but the risk is significantly minimized. For the benefits to the environment, governments should look into incorporating an emissions trading scheme and building a carbon lending market from scratch.



「SPECIAL TAKE」  
**BUSINESS**

# FLYING IN THE DARKEST HOURS

BY ANUDHII SUNDARAM

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*While graphing Boeing's turbulent journey across the global economic radar, it is imperative to factor in the several externalities that eventually led to this aviation giant's current downfall.*

An American icon and one of the biggest contributors to the US economy, Boeing is an American multinational corporation that is among the largest global aerospace manufacturers and is the second-largest defence contractor in the world. Even though it has garnered unparalleled fame worldwide due to its proficiency in manufacturing aeroplanes, presently, Boeing is amidst its worst crisis since it was founded in 1916 – a deep and multidimensional one.

Within a span of five months, Lion Air Flight 610 and Ethiopian Airlines Flight 302, both Boeing 737 MAX aircrafts, crashed and led to the death of all passengers on board. Adding to the list of the most horrific accidents in the history of aviation, these accidents marred Boeing's century-old reputation and standing in the aviation industry. In response to these tragic accidents, in March 2019, aviation authorities across the world grounded the Boeing 737 MAX passenger airliner; the Civil Aviation Administration of China being the first regulator to do so.

Since then, these Boeing airliners have stayed grounded – the longest ever for a US jetliner– and due to stalling of its operations, the company incurred an estimated cost of \$18.6 billion<sup>[1]</sup> till March 2020. Due to the deteriorating conditions of the company, former CEO Dennis Muilenburg was ousted last December, and after a steady decline, the production of Boeing 737 MAX was shut down altogether. While there is scepticism about Boeing's rebound and revival in the aviation industry, let us first closely analyze the factors that have and are leading to the downfall of this behemoth manufacturer.

## McDonnell Douglas - Boeing Merger

In August 1997, two of the most powerful players in the

global aviation industry joined hands to become a single giant. Boeing acquired its longtime rival, McDonnell Douglas, in what was then the country's tenth-largest merger. This merger is relevant in the present day as it explains the transformation of an innovation-driven company to a profit-driven business.

“*For about 80 years, Boeing functioned as a company where each worker worked diligently to achieve excellence in engineering.*”

However, after the merger, one of the most successful engineering cultures of all time quickly gave way to the McDonnell mind-set and this marked the onset of what the world is witnessing today – Boeing's crisis. The McDonnell culture prevalent in Boeing focused more on cost-cutting and raising its stock prices, thereby compromising engineering excellence for increasing profits. The safety culture at Boeing was also corrupted under pressure from Wall Street and the top management of the company.

When Philip Condit, CEO of Boeing was forced out and replaced with Harry Stonecipher, former CEO of McDonnell Douglas, the latter affirmed, “When people say I changed the culture of Boeing, that was the intent, so that it's run like a business rather than a great engineering firm.”<sup>[2]</sup> This paradigm shift in the company's approach took a toll on its internal operations, and the consequent inefficiencies in the production process became evident with time. Few years after the merger, Boeing's conservative culture also became embroiled in a series of scandals which further tarnished its image in the global market. In December 2011, Public Campaign,

a non-partisan organization, lashed out at Boeing for spending about \$52 million on lobbying and not paying taxes from 2008 to 2010, despite making a profit of \$9.7 billion, and displacing about 15000 workers since 2008.

### Internal Turmoil

Over the decades, one big cultural change in Boeing has been a disruption in communication. Lack of communication between the top management and workers has severely affected the efficient functioning of the company. Under Harry Stonecipher, in the early 2000s, “less family, more team” became the new slogan in the company, which was enough to drive the white-collar engineering union, which had historically functioned like a professional debating society, into acting more like organised labour. The dissatisfaction and unrest among the workers continued to grow and culminated in a 40-day strike that halted production. The workers asserted that “We weren’t fighting against Boeing,” rather, “We were fighting to save Boeing.”

The aviation giant has often come under negative light in recent years as workers within the company have accused the authorities of digressing from the company’s traditional engineering culture and focusing more on profit-maximization. After recent crashes of the two 737 MAX planes, the level of estrangement among engineers, operators and executives was evident and shocking. The very fact that the pilots were not aware of the software system, MCAST – Maneuvering Characteristics Augmenting System – manifests the ramification of lack of communication within the company. A year ago, Bloomberg headlines read, “Boeing’s push to make training profitable left 737 MAX pilots unprepared.” Clearly, the company’s shift in priorities tainted its global image and raised questions about its credibility.

### Outsourcing and the Wall Street Wonder

Further evidence of a shift in priorities was the decision to move company headquarters to Chicago, while Boeing’s jet manufacturing and aeroplane designers were in Seattle. The biggest motivation was probably to send a message to Wall Street that the American icon would make investment decisions purely on the basis of investment returns. Boeing even adopted the technique of stock buyback to boost its stock price. From 2014 to 2019, Boeing re-purchased about \$38 billion of its own shares with over 30-90 percent cash being returned to investors. However, this came at the cost of cutting capital expenditure, laying off experienced engineers for cheap workers, cutting pensions and compromising on detail and excellence. While Wall Street loved the company for tripling its stock prices in less than a decade, it was a bitter moment for the loyal Boeing workforce.

Besides, a company that was known for manufacturing all its parts in-house to ensure perfection began capitalizing on the cheap labour available in the developing countries. For the Boeing 787, the company outsourced

much of the plane’s design and manufacturing to its biggest suppliers. Many aviation experts expressed concern over this move as it meant compromising safety and excellence for maximizing returns. Workers loyal to the company also expressed their apprehension over the decision to outsource software development tasks to the easily available and cheap but unskilled and inexperienced labour. The apprehension proved to be right when, contrary to the American company’s legacy, the Boeing 787 was launched three years late and around \$40 billion over budget. The drive for profits hasn’t helped the company’s true spirit and in fact led to counter-productive unprofitable moves. Technical errors resulted in engine explosions and electrical fire on flight test aircraft.

### Increasing Competition in the Industry

It is well known that Boeing and Airbus, an European multinational aerospace company, have a duopoly in the aviation industry. In the wake of Boeing’s crisis, most people believed that it wouldn’t be a surprise to see Airbus emerge as a global monopoly. Contrary to that, Boeing’s difficulties are not entirely benefiting the European icon as the firm’s production capacity does not allow it to deliver to new customers before four years. However, after eight years of Boeing leadership, Airbus has again become the world’s leading aircraft manufacturer. It surpassed its order of 1,000 aircrafts in 2019 and broke its record of aircraft delivered with 863 units while Boeing delivered a mere 345.

While Boeing had planned to build an all-new jet to replace the 737, which was sidetracked by the Dreamliner debacle, Airbus surprised everyone by announcing a simple upgrade to its A320 family of planes, known as A320 Neo. Since the new planes had engines that were more fuel-efficient and did not require lengthy training for pilots to fly, it became a huge cost saver for airlines and a big success for Airbus. Airbus has also been selected by Qantas to operate the longest flight in the world between London and Sydney. In December 2019, after launching a tender to the two manufacturers, Qantas chose the A350-1000 over the Boeing 777X. The European company has exceeded \$100 billion in market valuation with its shares rising by 59 percent in 2019.<sup>[3]</sup>

Besides, Boeing must also prepare itself to confront a new competitor in the aviation market. In 2017, the Chinese association Commercial Aircraft Corporation of China, COMAC and the Russian group United Aircraft Corporation, UAC, created the joint venture CRAIC,<sup>[3]</sup> China-Russia Commercial Aircraft International Corporation in order to launch aircraft they claimed as fuel-efficient as those of Airbus and Boeing, but more cost-friendly. CRAIC intends to launch its maiden flight, CR929, between 2025-2028 and aims to take 10 percent of the market dominated by Boeing and Airbus by 2035. While the aircraft will be manufactured in Shanghai, the research and development centre will be located in Moscow.



## China's Withdrawal

China is one of the fastest-growing aviation markets in the world and has the potential to surpass the US to become the single largest market. A part of the reason why China poses a threat to Boeing's market share is the fact that China is one of its biggest customers. China single-handedly earns Boeing more money than any continent in the world.<sup>[4]</sup> Prior to the grounding of 737 MAX, China was its largest operator, with a total of 97 MAXs, while the US had only 72. Despite MAX's suitability to China's geography, China's civil aviation administration was the first to ground it after two successive accidents. Post grounding, Chinese airlines have demanded compensation from Boeing for the losses they have suffered and if Boeing fails to compensate, it will most certainly lose China's enormous market to Airbus.

Another issue is the ongoing US-China trade war. Some aviation experts speculate that Boeing can be used as a pawn in this trade war. Boeing is America's largest exporter and significantly contributes to the US GDP and therefore, the US government backs the company. As the largest international market for Boeing, China has the key to either help or hurt the American economy through how many planes it decides to order. In the height of the US-China trade war, in March 2019, Chinese President Xi Jinping announced a massive \$35 billion order of 300 Airbus aircraft and this was viewed as a move intended to send a message to the US. Moreover, since the beginning of the trade war, China's order of Boeing aircrafts has seen a significant decline.

While the skies can turn blue again for Boeing after the trade war is settled, the biggest issue is that China is building its own plane. It is being built by COMAC, which has the potential to break the duopoly of Boeing and Airbus. With China's expertise in low-cost, high-

tech manufacturing, it could possibly prove a low-cost alternative to Airbus A320 and Boeing 737.

## What Does the Future Hold for Boeing

Now with a new CEO, David Calhoun - who in his initial days took the important decision of completely shutting down the production of the 737 MAX jetliner - the questions about other Boeing aircrafts, strong competition, a possible economic slowdown, continuing management and communications issues and distrust throughout the industry pose as obstacles on the company's path to revamp itself. Besides, the outbreak of Covid-19 has further harmed Boeing's goodwill, whose stock prices have plunged significantly during this time. Recently, senior executives in Boeing made it clear to the White House that if the aerospace giant does not receive government assistance, it would decline rapidly, causing significant damage to the US economy. Responding to this, US President Donald Trump recently announced a bailout for Boeing giving a \$850 billion stimulus package,<sup>[4]</sup> which is expected to give some respite to the Covid-19 struck aviation industry.

Undisputedly, Boeing has lost a significant share of its market due to loss of credibility and erosion of trust. It is going through a reputational crisis, with the group having entered a spiral of failures and an era of suspicion. With the massive 737 MAX still grounded, the re-emergence of Boeing on the global platform in the near future seems distant. However, some aviation experts are still optimistic about the company's revival with government assistance. It will be interesting to see whether or not, under Calhoun's leadership, Boeing will shift its priority away from pleasing Wall Street and return the company to its engineering roots and heritage of creating top-flight planes.

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# VEBLEN HYPE: SPELLBOUND BY LUXURY

**BY KANISHKA AJMERA**

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*In this era of stiff competition, it is but natural to wonder how brands manage to differentiate themselves from their competitors. How is hype being used as an economic fuel to expand sales and profits?*

It is not so hard to make a sumptuous purchase for those with the silver spoon and if the purchase comes with 'prestige and status,' it is even better. For years, such an acquisition was always admired by the proletariat. But in this era of mass-production, individuals have tonnes of options available on the affordable side of the market too. However, contrary to expectations, this change has not led to a fall in the consumers of luxury goods. Today, luxury markets have become the biggest stimulator of economic activity around the world, and what is more remarkable is that the middle class is not behind in the game, rather their consumption habits are strikingly similar to the present-day rich.

Why is all of this so jumbled up? Well, the answer is 'hyper-consumerism.' Today, individuals link their purchases with ongoing trends, where products serve the purpose of having vintage calibre and surpassing quality.

**“ Even if the product does not have any functionality, consumers consume those goods evincing a type of behavior that is peddled by the modern capitalist society. ”**

These days, luxury goods are put up on sales and are widely sold on online platforms. The immutable human motivations are one amongst many factors that are contributing towards developing this culture.

From Gucci's iconic 'double-G' logo to Hermès leather skin, luxury brands always tend to have this distinguishable peculiarity about their products in the form of logos, brand image and quality descriptions creating a big hype among consumers. And this hype will not die down anytime soon, as now, these brands are witnessing inclusiveness from every demographic and

economic amplitude. Consumers are willingly saving money to shop from luxury brands and they consider this a meaningful way of gaining happiness, which in psychological terms is known as retail therapy - another trend that behavioural psychologists have highlighted, showing the influence of scarcity on human behaviour.

Although this industry is expanding at an inordinate rate, the growth of luxury brands in recent years has increased competition in the market. As a result of this, brands have started using hype as a medium to ramp up their sales and profits, ushering the markets into a new era of the drop culture. Drop culture is based on the phenomenon of scarcity and is the new fuel for these luxury brands. Even Supreme, the streetwear label, uses drop culture by manufacturing only a limited number of pieces of its product, creating an aura of rarity around its products. The limited availability of a product helps to endorse brand exclusivity, which in turn encourages a higher price tag. And insanely enough, the higher the price, the more likely are people to buy the product because from a psychological perspective, people want to own what others cannot, just for the sake of feeling empowered and special.

But these days, a whole new tactic is being used by these brands wherein, they are trying to produce large quantities of products, rather than maintaining a short supply. To increase their sales, they are even collaborating with other brands, so as to dismiss hardcore competition. Actions like launching limited-edition collections in collaboration with other brands stimulate crowd enthusiasm and increase the chances of gaining profits, especially when the majority of consumers are millennials.

What is so jarring about this whole ordeal is that it ac-

tually works, contrary to the traditional economist's law of demand and supply. Therefore, for such veblen goods, as price goes up demand also goes up, and it all takes a double flip in the resale market, where they are sold for multiple times the original price, just because of the popularity and the collector's item status that such products have gained over time.

Today, the chasm between the rich and poor is not subtle, to say the least. But the increasing desire of the millennials and the middle class to be associated with upper class society and the new capitalist culture boosts their desire to own the luxury items. This is where the consignment markets and companies come into picture, which repair the luxury goods and sell them at a much affordable price and today, this is a booming business.

In order to keep the hype alive, some brands are coming out of their confined boundaries and are experimenting by developing new products. However, in the cut-throat competition among brands, one of the prime blunders that they end up committing is that they increase the supply overtime with borrowed funds, because higher demand translates to higher manufacturing costs,

as opposed to the limited supply which they originally had. All this seems to work fine, until the consumers stop buying the products because there are now so many of them being sold in the market. After this, once companies repay their debts, they eventually fall apart.

For luxury companies, it is not easy to start anew. So, they have to look upon other brands to come forward to collaborate with them on specific products. In some cases though, where the companies do not have enough funds, they choose the option of merging with other companies. However, when a company is too deep in bankruptcy to be rescued by a merger, it ends up completely selling off the entire brand to either a similar company or to a private enterprise group.

To conclude, luxury markets are vital for our economy and with their desire to grow further, these markets are becoming even more imperative. But to retain the pressure that these brands go through, they have to find new tactics to keep themselves afloat, because hype, afterall, has a limited shelf life. So, they have to keep up with the new unfolding trends to ensure that they remain profitable in the years to come.

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# GOING SOFT

**BY ANSHDEEP SINGH CHADHA**

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*The gargantuan rise of SoftBank has been phenomenal to say the least. Achieved through an unconventional philosophy, how long before the rise becomes the fall?*

On 3<sup>rd</sup> September, 1981, Masayoshi Son, the “Warren Buffet of Japan,” stood on a crate in front of his only two employees and promised them that one day, SoftBank shall be the greatest company in the world.

<sup>[1]</sup> Though those two employees quit a few days later, we know that Masoyashi’s ambitions have led SoftBank to the platform where it is today. Founded as a telecommunications company, SoftBank presently has a hand in a number of sectors including e-commerce, finance, artificial intelligence, broadband and more. It has been quite famous around the globe for its diverse investment portfolio.<sup>[2]</sup>

Starting off in 1996, SoftBank proposed to budding entrepreneur Jerry Yang, the then CEO of a struggling startup called Yahoo, a \$100 million investment. Surprisingly, Masayoshi’s gamble paid off and by the year 2000, Yahoo had become one of the most dominant web search engines in the pre-crash era of the Internet<sup>[3]</sup>. Though currently not popular in the Western world, Yahoo is one of the most prominent service-providers in Japan. This started SoftBank’s journey of being known internationally for its investment portfolio rather than its main revenue-generating activities, which is quite ironic for a company, isn’t it?

In 1999, Masayoshi’s company invested \$20 million into a then-fledgling Chinese Internet venture called Alibaba. In 2006, SoftBank bought Vodafone Japan’s cellphone unit for \$15.4 billion. In 2013, SoftBank acquired US telecom Sprint for \$22.2 billion and Finnish game developer Supercell for \$1.5 billion. In 2016, SoftBank purchased UK-based chip manufacturer ARM for \$32 billion.<sup>[4]</sup> Also, around the same time, SoftBank announced that it would buy another additional robotics company from Alphabet, Boston Dynamics - a company which wanted to change the world by building robots with biomechanical abilities superior to that of

humans.<sup>[5]</sup> This investment turned to \$60 billion when Alibaba turned public in 2014.

Seems like SoftBank was on a merry chase of getting the creamiest of startups to invest in right? Well, not really.

Market Analysts have often blamed the toxic nature of SoftBank’s core investment philosophy, saying that SoftBank deserves more losses because it takes investing from a bad thesis - it aims to create monopolies, which is not the true spirit of business. It puts so much money into a company that it leaves its competitors in dust and consumers with no choice. The basis for this philosophy, according to the former SoftBank executive Nikesh Arora is, “there is evidence that if you throw enough money at a company in the consumer space at the outset, it could, theoretically, outgrow all its competition and leave it in the dust.”

***Its plan to fabricate itself as a monopolist in the field of technology suggests that SoftBank has brought upon itself the reckoning it is currently facing.<sup>[6]</sup>***

In 2015, SoftBank invested in Didi Chuxing – a Chinese ride-sharing company. Describing the acquisition as a “big bang,” Masoyashi went on to say that “the next big bang is going to be even bigger. To be ready for that, we need to set the foundation, and that foundation is SoftBank’s Vision Fund.”<sup>[7]</sup> In the early 2000s, given its exhaustive investments, SoftBank was running low on finance and also required a recognized name for managing its \$100 billion Vision Fund. They found that name in Rajeev Misra, who met Masoyashi in 2002 when he was head of Global Credit at Deutsche Bank.

It was Misra who lent money to SoftBank and then helped it structure the complex takeover of Vodafone Japan. Thus, Masoyashi found in Misra a man who could manage his dream and become the face of it.<sup>[8]</sup>

In 2016, both of them travelled the world, meeting companies in the United States, pension funds and sovereign wealth funds in Asia and the Middle East. Though courteously received, their proposal mostly faced rejections as the investors viewed \$100 billion for a single investment fund as a totally implausible sum to attempt to raise, regardless of ambition. However, in spite of the sceptical reception, a few were intrigued by SoftBank's proposition. And one of them was Mohammed bin Salman, the Crown Prince of Saudi Arabia. Masoyashi told Bin Salman that he wanted to give him a \$1 trillion gift which caught the attention of the prince. Masoyashi said, "Here's how I can give you a \$1 trillion gift: you invest \$100 billion in my fund, I give you a trillion." He left the meeting with a non-binding commitment of \$45 billion over the next five years.<sup>[9]</sup>

Currently, Vision Fund has a portfolio of more than 60 companies. This includes a \$7 billion stake in US graphics processor manufacturer Nvidia, a \$502 million stake in British startup Improbable, which develops large-scale virtual reality worlds for gaming and training and a \$250 million stake in the productivity platform Slack.

However, SoftBank's story isn't the fairy tale that it seems like, it has a lot more to it.

In 2019, SoftBank invested around \$4.7 billion out of its \$100 billion investment fund into WeWork, an American commercial real estate company that provides shared workspaces for technology startups and services for other enterprises. WeWork had consistently promoted itself as an asset light model, a model where a company owns relatively fewer capital as assets compared to the value of its operations, with its buildings leased from developers and then rented out on a short-term basis. The offering to tenants is highly flexible - one can rent month to month and can easily expand or shrink their space according to their needs. This meant that their revenue can vary substantially over a year. This type of model is fairly risky in terms of returns and requires an

unusual source of investment. On 14<sup>th</sup> August, 2019, WeWork publicly filed for its initial public offering. A month after the company announced its IPO, it slashed down its valuation from \$47 billion to as low as \$10 billion, removed its CEO Adam Neumann and delayed the IPO indefinitely.<sup>[10]</sup> WeWork didn't invent the coworking space, so what elevated its valuation to \$47 billion while their biggest competitor, Regus has a market cap of a mere \$3.7 billion?

WeWork's valuation was based on little more than hype and unchecked fervor. WeWork's board clung to old school management theories which overvalued gut decision-making, experience and intuition. Masoyashi acknowledged making some mistakes in his investment strategy and accepted that WeWork's dramatic fall in recent months had led people to question his judgment and the viability of SoftBank's massive Vision Fund. SoftBank recorded a \$3.4 billion write down on its WeWork investment about two weeks after taking 80 percent control of the company.<sup>[11]</sup>

Also in 2019, SoftBank was in talks with a San-Francisco based home care company, Honor, to invest \$150 million. However, the deal was cancelled a week before Christmas without providing any specific reason.<sup>[12]</sup> The case with San-Francisco based developer of hamburger robots, Creator, was similar in nature as SoftBank was to put in \$12 - \$15 million into the company but the deal died soon thereafter.<sup>[13]</sup>

Market sentiments indicated that this is happening because of the shell-shock that the WeWork debacle created in Tokyo. Masayoshi Son is considering focusing SoftBank's investment strategies on profitability and public offerings, rather than phenomenal growth alone.

If SoftBank is trying to quash competition by absorbing diverse, unique and young startups, it may make investors rich by spending a huge amount of capital. In this process, the small scale businesses or young startups it destroys or discards, the democracies it corrupts or the data it is careless with goes unaccounted for. All of this follows Masoyashi philosophy, "one who controls data, controls the world." Maybe if SoftBank invests in a good spirit, it may do well.

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# TO INFINITY AND BEYOND

**BY ANURAG JAYAL, ISHAAN MITTAL AND ISHIKA DAGA**

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*Being a largely unexplored mystery, space has always attracted fascination from the young and old alike. Delve into the new avenues that humans are exploring in space.*

There is absolutely no place on earth that humans have left unexplored. Be it the high mountains, stormy seas or frigid poles, humans have exploited natural resources to their maximum advantage. However, the question remains - what next? The answer seems to be a massive vacuum full of tiny bodies, electromagnetic radiations, magnetic fields and cosmic rays, i.e. the space. We already have hundreds and thousands of satellites transmitting TV and radio signals and relaying them to Earth. However, there are a plethora of other opportunities that space can provide and humans can capitalize on.

Imagine if goods that we used in our daily lives came from outer space. The first of such attempts was made by Russia during the Soyuz mission in 1969; an experiment involving the welding of aluminium, titanium and stainless steel.<sup>[1]</sup> The project aroused interest in this field and over a period of time a station was set up as part of the Skylab mission, which was a processing facility with a furnace, growth chamber and an electric beam gun. Today, we have come a long way with Made in Space Inc 3D printers involved in the repairs, upgrades and installation of various 3D printed products in space.<sup>[2]</sup>

The advantages of space manufacturing are manifold. One of the major factors distinguishing space manufacturing from traditional manufacturing is the difference in environment. The microgravity in space allows control of convection in liquids and gases, eliminates sedimentation, facilitates diffusion and thereby allows immiscible materials to be mixed. The power of space is demonstrated by how it eliminates an entire set of impossibilities. Furthermore, the clean vacuum ensures that objects and materials are produced in their purest forms and surface tension causes liquids to form completely round spheres. In addition, space

can provide extreme temperatures, both hot and cold, ideal for the production of many goods.

ZBLAN, a fibre optic cable is a good example of a commercially viable product that can be produced in space.<sup>[1]</sup> The microgravity leads to less crystal formation and thereby reduces signal loss. There are a myriad of applications of this cable such as fibre amplifiers, laser cutting, infrared imaging and remote IR, while leaving scope for more innovation in this field. Similarly, gallium nitride, a chemical used to make LEDs, can be better made due to the reduced movement of the melted fluids in space.<sup>[1]</sup>

Not just production units, space is also capable of ensuring that these production units are self-sustainable. Solar power can be used as a ready source of electricity to run them. Even with heat alone, thermally fused materials can be used for the construction of stable structures and the soil from the moon can be melted to form highly durable glass-like materials which can in turn be used for making a strong structural base.

However, one of the biggest hindrances to space manufacturing is the high cost of carrying material from Earth to space. Although the prices of space flights have reduced over the years, they remain expensive and hence, we need to switch to other alternatives that are more affordable. One alternative that can be explored is the procurement of raw materials through space mining.

Humanity's future as a space-faring species with a large pool of trillionaire entrepreneurs is just around the corner - facilitated by a seemingly unimpressive lump of rocks. These rocks have the potential to become cosmic gas stations and the building blocks for habitats. For

example, an asteroid named Davida is valued at more than \$100 trillion due to its rare minerals, elements and metals which are impossible to find on earth. Generally, it is anticipated that metallic asteroids are most precious because of the presence of palladium, platinum, gold and other valuable metals. However the real jackpot here are carbonaceous asteroids, which hold large amount of water. A water source in our planetary neighbourhood would be like a space oasis - a source of hydrogen and oxygen for rocket fuel and a tool to shield us from radiation along with being a source of drinking water for astronauts.

However, traditional mining methods involve application of force, which is a challenge in low gravity. Asteroids are held together by microgravity, which is a million times weaker than the gravity on earth. As a solution to this, Dr. Sercel and his team at TransAstra are developing Optical Mining,<sup>[4]</sup> a mechanism to use some of the water they mine from asteroids as a propellant to come back.

***The cost of human exploration will reduce tremendously if we can turn near-Earth Asteroids into gas stations to refuel spacecrafts.***

TransAstra is developing a propellant thruster by channeling the most industrious creatures of the animal kingdom - honey bees. Just like they harvest nectar and use its energy to power their civilization, the Application Program Interface's (API's) architecture will harvest water and other valuable matter from the asteroids and then use those materials with sunlight to power space industrialization and settlement. Thus, once we find the right asteroids, we have to capture them, blast them with highly concentrated sunlight, catch their debris and use it to propel insect-inspired spacecrafts. At the same time we must ensure our intergalactic future follows the one-eighth principle so that seven-eighths of the exploitable solar system is left as space wilderness at any point in time.

Only once in human history has an asteroid sample been brought back to Earth - the Hayabusa<sup>[5]</sup> Mission in 2010, though the sample was merely dust particles. However, Japan's most ambitious mission, Hayabusa 2, operated by Japan Aerospace Exploration Agency (JAXA) is a step forward. It engaged near-Earth asteroid 162173 Ryugu and surveyed it for 18 months. NASA also targets the mission of "16 Psyche," an asteroid which is entirely composed of iron, nickel and gold as a project to be launched in 2022. These missions make it possible for space agencies to launch the first asteroid mining vehicle in the next decade.

Another opportunity for humans to capitalize upon is space advertising, which proposes the projection of a massive advertisement visible from Earth. Even though an enormous amount of money will be required to pull

this off, the number of people it will reach will reduce the per unit cost. To take the idea of space advertising forward, Space Marketing Inc. plans to create an enormous inflatable billboard and put it 150 miles away from the surface of the Earth. Since its proposal, 11 companies have expressed interest and at one point we were pretty close to having the first such advertisement - a set of Olympic Rings to promote the Atlanta Games in 1996.<sup>[3]</sup> Although this couldn't materialise due to budgetary constraints, it goes to show the scope of space advertising in the future.

The technological and economical costs aren't the only hindrances to such a model. Putting up an advertisement in space can interfere with astronomical observations, affecting research in the field of astronomy. Besides, we must fathom that the fact the sky has an aesthetic value attached with it and hence, cluttering it with numerous advertisements may negatively affect this model of advertising. Moreover, the debris generated is going to exaggerate the already mammoth problem of space debris.

Taking cognizance of the obstacles that exist, more tangible solutions in the near future could be advertisements on objects going to space. One of the classical examples of this is the Soviet Soyuz Mission to the Mir Space Station.<sup>[3]</sup> The rocket was highly commercialised with its nose cone and fins covered with logos of Tokyo Broadcasting Systems (TBS), the major sponsor. The project by TBS, the creators of Takeshi's Castle, was a catalyst with NASA looking to explore all sorts of commercial opportunities including astronaut endorsements and equipment naming rights.<sup>[6]</sup> Additionally, we have seen advertisements being shot in Space like the 1997 commercial by Truva and the Pepsi commercial of an oversized drink can outside the Mir space station. These nomenclature and design related methods are safer bets as they do not compromise the quality and efficiency of the actual project at hand.

Apart from this, space also offers a lot of opportunity for innovation in the medical industry, especially in organ formation. Lower gravity in space allows the cells to grow more easily, thereby having the potential to save many lives.<sup>[7]</sup> In an environment where there is a gross shortage of organs, Techshot, a space technology company has developed a BioFabrication facility to develop organs in space.<sup>[8]</sup> Currently, it is researching on the materials, biology and vascularisation required for 3D bioprinting organs, but it plans to replicate the technology on-board the International Space Station very soon.

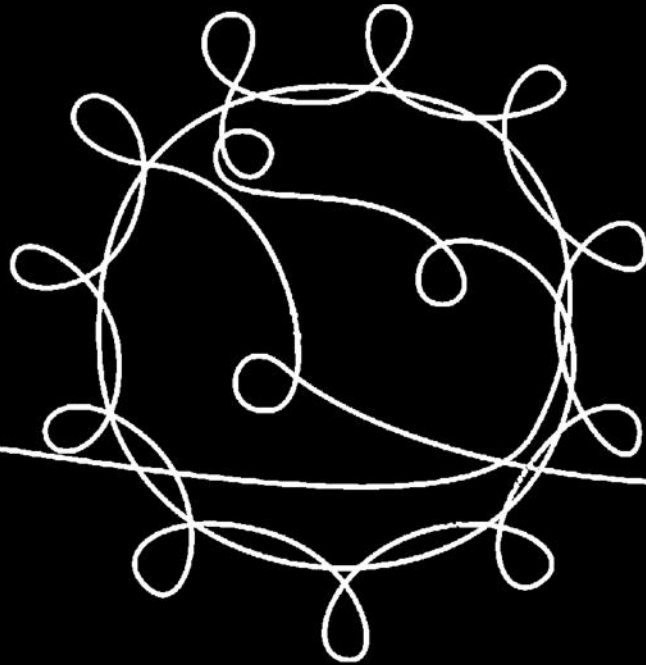
Clearly, space has the potential to meet all our needs and has the ability to support a full scale civilisation. It is an endless ocean of opportunities and innovation. A word of caution, however, is imminent, as a failure to employ resources with care is a sure shot recipe for disaster.



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「SPECIAL TAKE」

# GLOBAL PANDEMIC

# RECOGNISING SPECIAL NEEDS DURING A WIDESPREAD CRISIS

BY RISHABH SINHA

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*A pandemic-led economic crisis is bound to spare nobody. But, that doesn't mean it hits everyone equally hard. Read on to know why the policy response to the COVID-19 crisis will require a sector-specific component.*

The COVID-19 pandemic is expected to have a significant economic impact worldwide. Factoring the disruption in economic activity, Moody's revised India's GDP growth forecast to 2.5 percent for the calendar year 2020. The ratings agency anticipates that the national lockdown will cause a major loss of income, which in turn will weaken domestic demand. Though the effect is likely to be widespread, some sectors will be more affected than others. Travel, accommodation and food services are among the sectors that might undergo a severe contraction in demand. The vulnerability of these sectors is not only rooted in the fact that they constitute the discretionary share of demand, but also that the delivery of goods and services produced by these sectors also entail human contact. Hence, the weakness in demand is likely to persist even after lockdown is lifted, as consumers and businesses continue practicing social distancing as a safety measure. As the shocks originating from the pandemic are sector-specific, policies that will help businesses navigate the crisis will need to be sector-oriented as well.

## Contraction in Final Demand of a Sector May Spill Over to Other Parts of the Economy

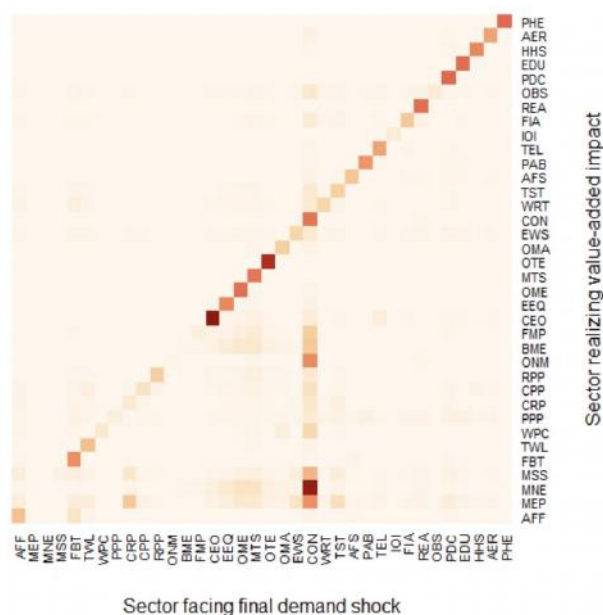
A shock to the final demand of a sector might have cascading effects on other sectors through input-output relationships. As an example, consider the transport sector which consumes petrol and diesel to deliver its services. Often, it also relies on outside support for repair services. As such, a decline in the final demand for transport services will result in a slump in its intermediate demand, affecting the associated sectors in the process. Hence, understanding inter-sectoral linkages is a crucial step in formulating a successful sector-oriented strategy.

Figure 1 summarizes the degree of association across 36 sectors that constitute the economy. The sectors

on the horizontal axis are the ones that face the final demand shock. The vertical blocks originating from each horizontal sector represent how these shocks flow through the economy with darker blocks signifying larger effects. A first point to notice is that the diagonal blocks are usually the darkest implying that the sector undergoing the final demand shock is often the most impacted sector. Still, the variability within the diagonal blocks is substantial. For instance, a ten percent decline in final demand of computer, electronics and optical products (CEO) translates to a massive 14 percent decline in its value-added. Yet, a similar decline in the final demand of IT and information services (IOI) results in a much smaller contraction of 1.5 percent. This implies that sectors differ in terms of how exposed they are to shocks to their final demand.

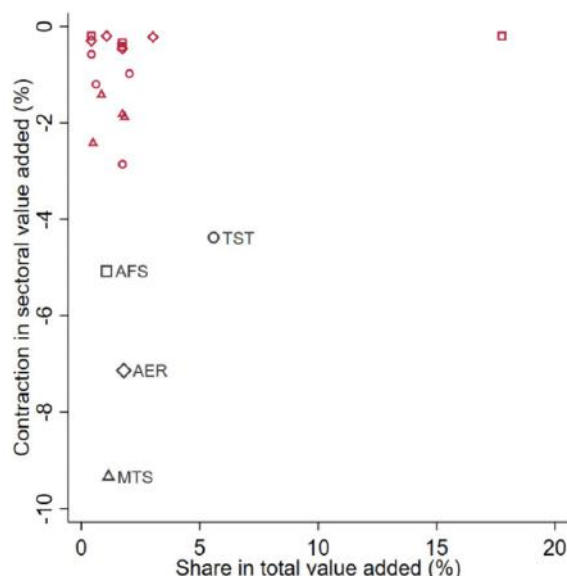
However, another relevant dimension is the variability across the blocks that lie in the same vertical. This variation captures the vulnerability of the sectors that supply intermediates to the final demand sector undergoing the shock. Mining of energy producing products (MEP) presents an extreme case. A demand shock originating in the sector is fully contained within it with no other sector reporting any meaningful decline in its value-added. On the other hand, a demand shock originating in the construction sector (CON) has widespread effects. Mining of non-energy producing products (MNE) supplies a large share of its production to the construction sector as intermediates, so much so that a decline in construction demand leads to a larger decline in MNE than CON itself. In summary, the heatmap offers valuable insights for policy. If demand shocks originate in sectors that absorb most of the impact, then focusing on them is of first-order importance. In contrast, a multi-sector approach is required in case the shocks are borne by sectors with cascading links.

Figure 1: Linkage effects<sup>1</sup>



<sup>1</sup>Author's calculations using data from OECD's [input-output database](#). [Online appendix](#) lists sector definitions and ISIC Revision 4 mapping.

Figure 2: Spillover effects of negative demand shocks<sup>1</sup>



<sup>1</sup>Author's calculations using data from OECD's [input-output database](#). AER: Arts, entertainment, recreation and other service activities, AFS: Accommodation and food services, MST: Motor vehicles, trailers and semi-trailers. TST: Transportation and storage.

**Preliminary Analysis Suggests that the Economic Impact is Likely to be Relatively Well-Contained Within Sectors Directly Affected**

Which sectors are going to see a decline in final demand as a result of the pandemic? Also, how large are the expected sectoral contractions? Unfortunately, there is a lot of uncertainty regarding the two questions. The coming months will bring more clarity as more data starts trickling in. Nonetheless, it is possible to make some reasonable assumptions. McKinsey expects large downside risks in commercial aerospace, travel and automotive sectors. The business environment for the arts and entertainment sector also remains sensitive. The consumption of such services is often contingent on social proximity. Based on this, I consider a somewhat ad-hoc set of four sectors expected to be drastically affected by the outbreak – arts and entertainment (AER), accommodation and food services (AFS), motor vehicles (MTS) and transportation and storage (TST).

The vertical axis in figure 2 shows the implied contraction for the five most affected sectors when the final demand in the four sectors contracts by ten percent individually. <sup>[2]</sup> Sectors experiencing final demand shocks are shown in gray whereas intermediate sectors are represented in red. The horizontal axis corresponds to the sector's value-added share in the aggregate economy. The main takeaway from the figure is that the four sectors bear the bulk of the contraction brought about by a reduction in final demand. The economic impact is especially well-contained when the shocks originate in AER and AFS. Still, the linkage effects are quantitatively significant in a handful of sectors that supply inputs to MTS and TST. A ten percent decline in the final demand

of the former is associated with a 2.4 percent decline in the value-added of MNE whereas a similar decline in the latter reduces the value-added of MEP by almost three percent. To the extent that demand shocks remain contained in the above four sectors, policy makers will only need to focus on a few sectors outside the ones directly impacted.

**Positive Demand Shocks Elsewhere will Likely Help Mitigate the Negative Spillovers**

Even as the crisis weighs demand down for the aggregate economy, some sectors are likely to receive positive demand shocks. Human health (HHS) together with chemicals and pharmaceuticals (CPP) will see more demand for their goods and services as infections and containment efforts rise. Some sectors like wholesale and retail (WRT) which includes retail internet sales and manufactured food and beverages (FBT) will also see tailwinds as consumers shift their expenditure away from sectors like AFS that require personal contact. Finally, any fiscal stimulus will raise demand in sectors associated with government consumption. Can an expansion in such sectors partially offset the negative effects discussed above? To the extent that vertical blocks in Figure 1 are non-zero for any two horizontal sectors, then the negative spillovers generated by negative demand shock in one can be offset by positive spillovers generated by a positive shock in the other. A better circumstance will entail a positive correlation between two vertical columns as the sectors most adversely affected by the negative shocks reap the largest benefits.

Table 1 reports the pairwise correlation coefficients

Table 1: Correlation matrix<sup>1</sup>

Positively Shocked		HHS	CPP	WRT	FBT	PDC	EDU	CON
Negatively Shocked	AFS	0.43**	0.60***	0.59***	0.79***	0.68***	0.49***	0.21
	AER	0.73***	0.79***	0.91***	0.37**	0.91***	0.82***	0.40***
	MTS	0.40**	0.57***	0.50***	0.18	0.46***	0.30*	0.83***
	TST	0.56***	0.97***	0.85***	0.48***	0.88***	0.60***	0.46***

<sup>1</sup> Author's calculations using data from OECD's input-output database. AER: Arts, entertainment, recreation and other service activities, AFS: Accommodation and food services, MST: Motor vehicles, trailers and semi-trailers, TST: Transportation and storage.

between the linkage effects generated by sectors likely to experience negative (in rows) and positive (in columns) demand shocks.<sup>[3]</sup> All coefficients are positive and are often statistically significant. This is a welcome finding as an immediate endogenous response to crisis via increased expenditure on health and other sectors will provide more respite to sectors most in need. Moreover, the table also shows that negative spillovers originating in AER and TST are easier to mitigate as their effects are highly correlated with those of positively shocked sectors. Similarly, CPP, WRT and PDC are generally more effective in mitigating the negative effects. However, there is no magic response sector whose positive spillovers dominate the other positively shocked sectors. For instance, CPP is most effective in allaying the effects of demand shocks originating in TST but not so much for those originating in MTS. Instead, CON is the best response sector to MTS-generated effects but performs relatively worse in every other case.

### Conclusion

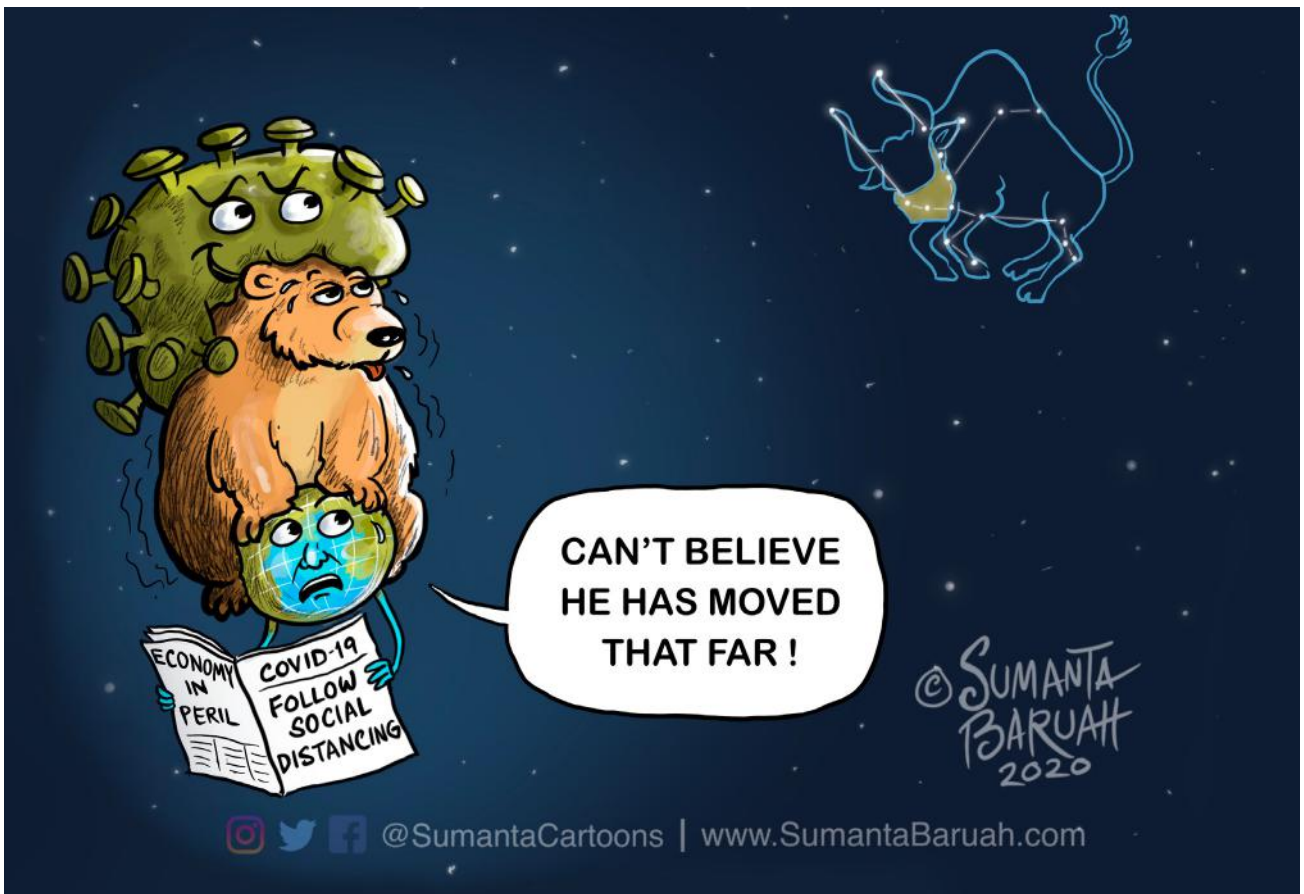
There is a lot of uncertainty associated with the crisis. As such, the estimates presented above should be treated as preliminary. The main purpose of the note is to introduce a framework so that sector-specific issues related to the crisis can be analyzed. Relatedly, a sector-specific policy response does not imply that sweeping measures will be less effective. Policies that seek to arrest the impact of the outbreak at a household-level by providing health and income support are necessary. But, effective management of the crisis will require a holistic approach that supports the production-side of the economy in navigating the challenges posed by the pandemic as well. It is in this context that a sector-specific approach will prove more effective and will probably be complementary to more general measures undertaken elsewhere.

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[1] Contact: [rishabhsinha@worldbank.org](mailto:rishabhsinha@worldbank.org). The findings, interpretations, and conclusions expressed in this article are entirely those of the author. They do not necessarily represent the views of the International Bank for Reconstruction and Development/World Bank and its affiliated organizations, or those of the Executive Directors of the World Bank or the governments they represent.

[2] I only show five sectors to maintain readability as the impact is usually very small on intermediate providers. The mean contraction across the sectors not shown in the figure stands at -0.07% (AER), -0.04% (AFS), -0.27% (MTS) and -0.13% (TST).

[3] The correlation does not include the effect realized by the sector experiencing the demand shock, i.e., the diagonal elements in figure 1 are dropped. I assume public administration and defense (PDC), education (EDU) and construction (CON) to be the sectors that might benefit from a fiscal stimulus. The first two are the largest sectors in terms of accounting for government final expenditure. CON accounts for the largest share of investment spending but the available data does not allow separating it into public and private components.



# DELINKING CHAINS AND CHANGING TRACKS

**BY JHOOMAR MEHTA AND KARAN BHASIN**

- New Delhi based Public Policy and Development Finance Researcher  
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*Globalization implied interdependence and interconnected webs. When these systems fall prey to uncontrollable factors, how does the global economy settle back down?*

The world has witnessed one of its biggest exogenous economic disruptions in the form of a global pandemic. The COVID-19 disruption is unlike any economic shock that was experienced post the Industrial Revolution and the closest similar situation was the Black Death.

The biggest challenge we're witnessing is a simultaneous demand and supply shock. That is, there is nearly zero economic activity taking place across major economies which have announced a lockdown – which includes India – therefore, there is a supply shock. On the demand side, since there's no markets beyond essential products due to lockdown and greater uncertainty regarding the future, therefore, there's no demand in the system.

Another disruption has happened in oil markets as oil prices touched 18-year lows due to concerns of lack of storage space for them over the coming weeks. The reason for the oil price shock is, again, a simultaneous demand and supply shock. The demand shock originated due to lockdown while the supply shock is caused by the lack of agreement before Russia and OPEC to curtail their oil production. Consequently, both Russia and Saudi Arabia increased their oil production even as there is limited demand for oil across the globe.

To be fair, the low oil prices benefit India, but we cannot assume that prices will remain this low going forward. However, for oil exporting countries, these low prices limit their ability to address vulnerabilities that may emerge in their economies due to the COVID-19 disruption.

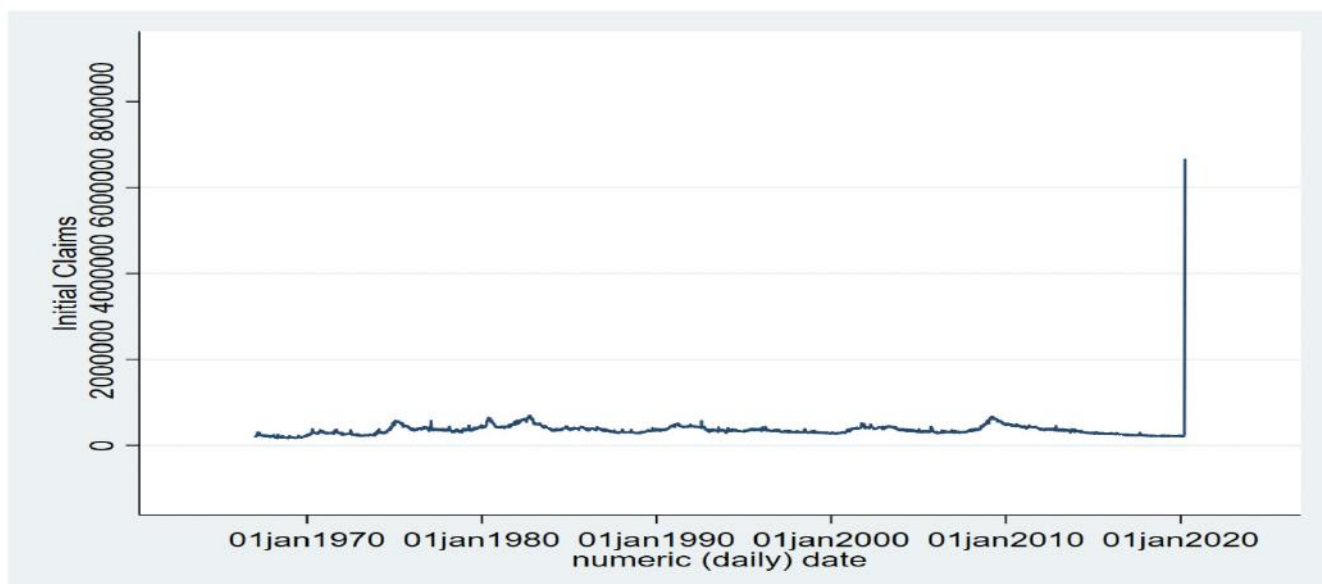
In general, it is difficult to assume that economies would go back to the pre-lockdown situation and that both demand and supply will be back. This, therefore,

requires every economy to address vulnerabilities across different sectors in a timely fashion to avoid entering into a recession that could be deeper than the Great Depression. In order to stabilise the market, the Federal Reserve went to the extent of cutting interest rates to near zero, a move previously exercised during the Global Financial Crisis. However, the issue at hand during 2008-09 was a credit crisis; currently, we find ourselves witnessing a fall in demand and loss of incomes as more people find themselves out of work.

To appreciate the scale of the problem, we present here the US Weekly Jobless Initial Claims weekly data from 1970 onwards. The data shows a steep increase which is far greater than any other point in history. In fact, between the week of 23<sup>rd</sup> March and 30<sup>th</sup> March 2020, the jobless claims have doubled. This illustrates the sheer scale of the present economic problem which could spread across economies over the coming weeks. The key issue will be addressing concerns of firms to ensure that they have adequate liquidity to come out of this, without much costs. Therefore, governments have to absorb a major chunk of the economic shock that has been caused by such frequent lockdowns.

Essentially, the key problem here would be of a cash-flow mismatch, where a firm would face financial liabilities even while it generates limited cash by virtue of no economic activity. Professor Lawrence Summers termed this as a situation where economic time is set to 0 but financial time continues just as before. Governments have indeed taken several interventions to address some of these concerns. However, it is difficult to predict just how many of the firms will be able to survive this shock, adding to global uncertainty.

That global growth will be hit adversely is well regarded



now, even as leading investment banks and multilateral agencies revise downwards their initial growth estimates. The key variable here would be just how quickly the lockdowns can be lifted – and the virus be contained. However, the key question is whether it is possible to go back to the pre-crisis situation where US-China had just agreed to a temporary trade deal. This is important as any future uncertainty will only dampen the prospects of growth and for a quick recovery, we would want the supply chains to be restored as quickly as possible.

Indeed, by the second half of the current financial year, we should see a major part of the global value chains to be functioning just as before. However, this will only be temporary as the anti-globalization sentiment gets strengthened.

The fact that this virus came after a prolonged trade war between US and China along with the UK voting for Brexit hints indeed, COVID could be the last nail in the coffin of globalization as we have known over the last few decades. That is, the recent shift away from free trade will continue going forward, even though the world witnessed a significant reduction in inequality due to globalization (refer to *New Wealth of Nations* by Dr Surjit S Bhalla). This shift away from a regime of free trade is partly because of stagnant wages in the Western economies for working class populations, as there is a greater inflow of skilled workforce from developing economies. Moreover, monopolization of free trade by China through its non-transparent trade policies and frequent currency manipulations are responsible for the loss of substantial jobs in advanced economies.

The situation will only get worse as COVID-19 provides another compelling reason to shift global value chains away from China. Over the course of 20 years, China has entertained foreign companies in search of cheap labour with attractive bonus conditions i.e. government

subsidies, weak environmental regulation, currency manipulation and low wages. Supply-managers very well understand the risks entailed in single sourcing, they give it a green flag anyway to secure supply or cost targets. The pandemic has managed to shed light on the vulnerability of countries dependent upon a limited number of trading partners and the fragility of global supply chains which survive on outsourcing and thin margins. In light of the recent U.S-China trade war, firms had initiated the process of diversifying their supply chains out of China, the speed at which this takes place will only accelerate.

This event has provided a situation where we now have an additional risk to supply chains that gets consolidated in the event of overdependence on one country. A reshuffle of global supply chains would mean companies would come under pressure to diversify where their products are made, giving advantage to some over the others. Consequently, there could be significant diversification by companies in order to hedge some of these risks, and this diversification will not be driven by any of the trade policies but by protecting the supply chains from such exogenous shocks in future. This diversification is expected to be more structural and long-term in nature.

Post the pandemic, countries would move to develop their indigenous manufacturing capabilities and depend more on transparent rules based democratic regimes. For a large agrarian economy, this presents as a once in a lifetime activity to integrate India with global value chains and create adequate non-farm employment in the medium term. It is indeed true that only India is a viable alternative to China. India has been hopeful for a strong and thriving export sector for long, the time is right to leverage the changing global dynamics and transcend this dream into a reality.

Access to cheap labour and availability of land provide



the required competitive advantage. An increase in production capacity, trade and manufacturing could pose as a possible answer to India's unemployment issue.

Diversification of global chains to India could also provide the needed push to the government's 'Make in India' initiative. However, in order to take the

baton over from China, the next steps should include creation of suppliers' networks and industrial clusters, coupled with an increase in the capacity of skilled and semi-skilled workers which can compete with China's army of disciplined and skilled workers. The COVID-19 disruption has the potential to alter the course of global and Indian history – it now depends on us to seize this opportunity and transform our economy.

# BLACK PLAGUE

CAUSE: Rats (carrying infected fleas)



**DEATHS:** 25-50 million



**DURATION:** 1347-1353



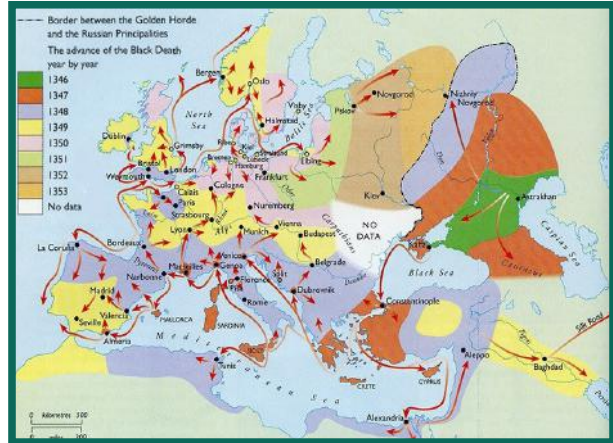
**MEASURES TAKEN:**

- Quarantine: border controls at city gates, harbours, and mountain passes; individual health passports (which identified a person and certified where he or she came from)
- Spy networks to signal when a plague had erupted in a foreign city or region



- ECONOMIC IMPACT:**
- Extreme inflation because of the difficulty and danger involved in producing goods
  - Because of illness and death, workers became exceedingly scarce which resulted in a rise in wages

**SPREAD:**



# SARS

CAUSE: SARS-CoV is thought to be an animal virus from an as-yet-uncertain animal reservoir, perhaps bats



**INFECTED:** 8,098



**DEATHS:** 774



**DURATION:** November 2002 to 2003



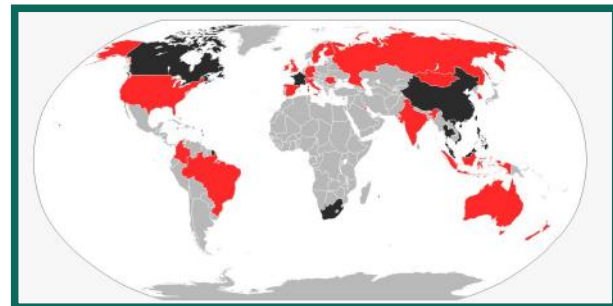
**MEASURES TAKEN:**

- A policy of isolating people suspected of having the condition and screening all passengers travelling by air from affected countries for signs of the infection.  
 A person suspected of having SARS should be admitted to the hospital immediately and kept in isolation under close observation.  
 Treatment is mainly supportive, and may include:
- assisting with breathing using a ventilator to deliver oxygen
  - antibiotics to treat bacteria that cause pneumonia
  - antiviral medicines
  - high doses of steroids to reduce swelling in the lungs



**ECONOMIC IMPACT:** US 40 billion in 2003

**SPREAD:**



# SPANISH FLU

**CAUSE:** H1N1 virus with genes of avian origin



**INFECTED:** 500 million



**DEATHS:** 20 million to 50 million



**DURATION:** January 1918 to December 1920



## MEASURES TAKEN:

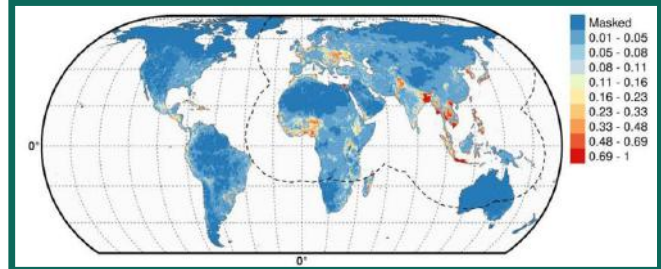
- Focusing on reducing transmission by preventing contact
- Ban on all kind of public gatherings in the US and Europe
- Work shifts were staggered and streetcar ridership was strictly limited
- Most of the steps included forms of social distancing, this varied from country to country due to the difference in authorities of healthcare systems and their societal acceptance in the institutions



## ECONOMIC IMPACT:

- Labour shortages
- Fall in real GDP growth rates
- Retail business closed
- Fall in exports and imports

## SPREAD:



# SWINE FLU

**CAUSE:** A strain of influenza virus that usually only infects pigs



**INFECTED:** 16,32,710



**DEATHS:** 2,84,000



**DURATION:** April 15, 2009 to August 10, 2010



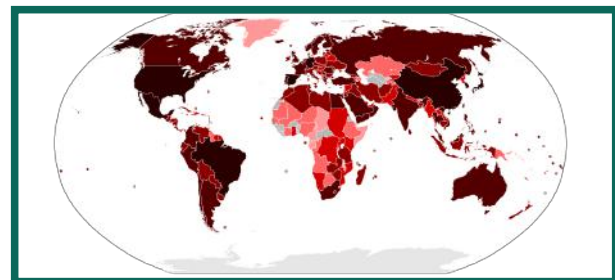
## MEASURES TAKEN:

- Many countries adopted social distancing as a measure to contain the spread of the virus but the extent of stringency with regards to lock down varied across countries. Countries took to closing schools and workspaces, and in some extreme cases, healthcare facilities.
- In most countries, infected people were instructed to strictly quarantine to avoid the transmission of the virus to others.
- Some nations had employed thermal fever screens at the border to limit the importation of swine flu and some even completely restricted international travel.
- Some countries imposed a ban on the import of animal husbandry products. Egypt in particular slaughtered 300,000 pigs to avoid any sort of risk of transmission.



**ECONOMIC IMPACT:** Cost to World economy: \$45-55 Billion

## SPREAD:





# OBITUARIES



## Alan B. Krueger



Alan Bennett Krueger was an American economist who was the James Madison Professor of Political Economy at Princeton University. He served as an economic advisor to Bill Clinton and Barack Obama during their presidencies. Krueger was also a research associate at the National Bureau of Economic Research. He researched and wrote about a vast array of topics — happiness, pain, terrorism, education — and is perhaps best known for his work on the minimum wage. One of the most innovative and influential economists of the past four decades, his passing away from suicide on March 16, 2019, is a devastating loss for many.

Born in Livingston, New Jersey, Krueger received a bachelor's degree from Cornell University's School of Industrial and Labor Relations in 1983. He earned a master's and a doctorate in economics from Harvard University in 1987. Shortly after, he became a professor at Princeton University.

One of his most remarkable works was the minimum wage theory. He was always interested in understanding why workers earned what they did. But he recognised that in order to truly understand the problems faced by labourers, he had to focus on empirical data rather than abstract theories. He set out to challenge the conventional wisdom on the relationship between minimum wages and jobs. While abstract theories dictated that if there's a minimum wage, employers' demand for workers falls while the supply of workers increases. This meant that the minimum wage destroys jobs. In order to prove this theory wrong, Krueger approached 400 fast-food restaurants in New Jersey and Pennsylvania and compared their minimum wages. While New Jersey increased its minimum wage, Pennsylvania did not. The study showed that despite higher minimum wages in New Jersey, their employment increased while that of Pennsylvania decreased. Krueger's commitment to exhaustive research centred around humans, rather than regressions, and this novel approach to research shook economists' understanding of the labour market to the core. One staffer who worked with Alan Krueger in the Obama administration noted, "without that research, we would not have \$15 an hour minimum wage."

## Manfred Max-Neef

Mathematician, environmentalist, philosopher and musician, Manfred Max-Neef - "The Barefoot Economist" - left an indelible mark in the field of economics.

Having gained international repute for his work and writing on development alternatives, his passing away on the 8th of August 2019 will be a loss mourned by the entire world.

Max-Neef started his career as a professor of economics at the University of Berkeley, California in the early 1960s. Subsequently, he served as a Visiting Professor at several US and Latin American Universities. Throughout his academic career, Max-Neef extensively researched poverty and social inequality and was an early critic of growth-based capitalist economics and a father of the emerging degrowth movement.

In 1981, Max-Neef authored *From the Outside Looking In: Experiences in Barefoot Economics*, a narrative of his travels among the poor in South America. The same year, he set up the Centre for Development Alternatives (CEPAUR), dedicated towards the revitalization and development of small and medium-sized urban and rural communities.

In 1983, Max-Neef was awarded the Right to Livelihood Award for his work in poverty-stricken areas of developing countries. He once remarked that economists think they know all about poverty by sitting in fancy offices and coming up with a number of mathematical models. This, he insisted, was far from true. In order to really understand the subject, an economist had to (metaphorically) step into the mud. He thus coined the term 'Barefoot Economics.'

During his life of 86 years, Max-Neef received several prestigious recognitions, including the Kenneth Boulding Award, the highest honour bestowed by the International Society for Ecological Economics; the National Prize for the Promotion and Defense of Human Rights, Chile, as well as multiple honorary degrees from international universities.

Manfred Max-Neef was thus a radical thinker, an advocate of a new approach to not just economics, but also to life. He was a leader seeking to bring change from the bottom up. Though he has passed, his ideals and contribution to the fields he worked in will continue to inspire countless many.



## Martin Weitzman



Martin Lawrence Weitzman, an American economist and a Professor of Economics at Harvard University passed away at the age of 77, owing to suicide on 27 August 2019. One of the world's most influential economists, his research was largely focused on environmental economics, specifically climate change and the economics of catastrophes.

Weitzman graduated from Swarthmore College in Pennsylvania in 1963, where he majored in Math and Physics. He earned a Master's in Statistics and Operations Research at Stanford and a doctorate in economics at the Massachusetts Institute of Technology (MIT). Weitzman began his teaching career in 1967 at Yale University, from where he moved to MIT in 1972 and finally to Harvard in 1989.

Much of Weitzman's research was focused on global climate change. He demonstrated that the traditional cost-benefit analysis understated the small but nevertheless credible risks that worst-case environmental damage posed to the world and therefore, he added dramatic global climate change to the analysis to point out that immediate measures must be taken with regard to climate change regulation. His analysis of the economics of climate change became known as the Dismal Theorem.

Weitzman is also known for his study of price versus quantity controls. His theory proposed that in a situation of uncertainty, the relative slopes of the marginal benefits versus the marginal costs must be examined in order to determine which type of control will be most effective.

Weitzman also authored 3 books - *The Share Economy: Conquering Stagflation* in which he wrote about how fixed labour wages lead to inflation; *Income, Wealth, and the Maximum Principle* in which he focused on problems of allocation and highlighted the relationship between income accounting and welfare; and *Climate Shock*, (jointly with Gernot Wagner) in which he described unknown, uglier truths of global warming than what we already know.

Weitzman's research and writings won him numerous accolades - from being an elected fellow of the American Academy of Arts and Sciences to winning three awards from the Association of Environmental and Resource Economists. He also served as a consultant to The World Bank, International Monetary Fund and Agency for International Development.

## V.G. Patel

Born on 6 September, 1939, Dr. V.G. Patel belonged to Karamsad, a small village of Charotar, Gujarat. After a Masters Degree and Doctorate in Economic Development from the University of Wisconsin, he joined the Planning Commission as a Consultant Economist and was entrusted with the responsibility of formulating export policies for the Fourth Five-Year Plan. On invitation, he returned to shoulder the responsibility as the Chief Economic Advisor of the Gujarat Industrial Development Corporation (GIDC) at an early age of thirty.

In 1970, he developed a unique entrepreneur creation model for common people, when entrepreneurship was not even considered a career option. He challenged the myth that entrepreneurs are born and, to the contrary, proved that entrepreneurs can be created by designing the Entrepreneurship Development Program (EDP) and also formulating various policies and schemes to promote new entrepreneurs. By this, he triggered an entrepreneurship movement in Gujarat which then spread nationally. Later on, his EDP approach was made a part of self-employment schemes like the Union Government's 'Rojgar Yojana'.

Fondly known as 'VG' in his circles, Dr. Patel is the author of *The Seven Business Crisis & How to Beat Them*, *Managing India's Small Industrial Economy* (with V. Padmanand) and *Entrepreneurship Development Programme in India and its Relevance to Developing Countries*.

In 2017, the Government of India awarded him a Padma Shri for his contributions. He was called upon to institutionalize entrepreneurship, leading to the establishment of many institutions. He was the Founder-Director of the Entrepreneurship Development Institute of India (EDII) - the first of its kind in Asia. It is now the nucleus of several other institutions, organizations and initiatives across the country. Dr. Patel's work towards the inclusion of entrepreneurship in the formal education system has been commendable and widely recognised.

Dr. V.G. Patel passed away on 4th April 2019, in Ahmedabad after a brief illness at 79.



## *Subir V. Gokarn*



Subir Vithal Gokarn was a well-rounded macroeconomist with an impeccable understanding of fiscal policy, industrial economics and trade relations. One of the brightest minds of India, Dr. Gokarn's passing away on 30 July, 2019 is a loss mourned by the entire nation.

Dr. Gokarn received a Bachelor's degree in Economics from St. Xavier's College, Mumbai in 1979 and earned a Master's degree in Economics from the Delhi School of Economics. He obtained his PhD from Case Western Reserve University of Cleveland, Ohio in 1989 after which he was awarded a Fulbright scholarship at Yale University.

As a distinguished economist, Dr. Gokarn combined the two divergent schools of economic thought: the Mumbai and the Delhi school. While his education in Mumbai taught him that democratisation of entrepreneurship was essential for economic success, the Delhi School had sensitised him to the virtues of public investment induced growth. Dr. Gokarn was instrumental in fostering evidence-based policy research on the themes of liberalisation and poverty eradication in India, Bangladesh and Pakistan. In his research, he covered issues like financial crises and banking performance. He held an academic position at Indira Gandhi Institute of Development & Research, Mumbai after which he was the Chief Economist at the National Council of Applied Economic Research, New Delhi.

Appointed at the age of 49, Dr. Gokarn was one of the youngest Deputy Governors of RBI in its 76-year history. He oversaw RBI's famous Research Department and represented the Reserve Bank at the G-20 Deputies' forum. Dr. Gokarn was also appointed by the Narendra Modi government as the Executive Director on the board of the IMF. Often described as a brilliant man with a great sense of humour, the passing away of Dr. Gokarn has resulted in the loss of a rare economist who combined human values with technical skills.

## *Paul Volcker*

Regarded by many as the 'man who waged a war on inflation,' Paul Volcker was the Chairman of the Federal Reserve from August 1979 to August 1987. Appointed by the Carter Administration, he was entrusted with the job of solving the inflation crisis which crushed the US economy in the late 1970s.

Volcker started his career as a research assistant in the New York Federal Reserve. This was followed by his education at Harvard and LSE after which, in 1952, he returned to the NY Federal Reserve as a full-time economist. He was appointed as the Under Secretary of the Treasury for International Monetary Affairs where he played a crucial role in the disintegration of the Bretton Woods System.

As the Chairman of the Federal Reserve, Volcker's stringent policies against inflation garnered a lot of attention. From peaking in March 1980 at 14.8 per cent, inflation was pushed below three per cent by 1983 under Volcker's leadership. But this wasn't achieved without a fair share of problems. The federal funds rate was raised from 11 per cent to 20 per cent which caused an economic recession in the early 1980s. This long period of extremely high interest rates in the economy was termed as the 'Volcker Shock'. As the unemployment rate rose to 10 per cent, the Federal Reserve had to face widespread protests against the high interest rates. Despite all that, Volcker's term at the Federal Reserve was considered as the beginning of an era where this institution became independent of any political interference.

In 2009, decades after his departure from public service, President Obama appointed Mr. Volcker to the Economic Recovery Advisory Board, charging him with putting the economy back on track after the subprime crisis of 2008. Paul Volcker was a visionary who saw through the flaws of the U.S. financial sector and dedicated his entire life to bringing changes to this system. One of the greatest minds in the field of finance, Mr Volcker will be remembered for years to come. Paul Adolph Volcker, central banker and economist par excellence, died on 8 December, 2019 in New York at the age of 92.





**SHRI RAM ECONOMICS  
SUMMIT 2020**



# SHRI RAM ECONOMICS SUMMIT '20



Organised between 4th and 6th February 2020, the Shri Ram Economics Summit 2020, featuring speaker sessions, panel discussions, workshops and competitions, witnessed a footfall of 4000+ students across the three days, while the competitions attracted a cumulative participation of 8500+ members of the academia. Covered by NDTV and Business Standard, SRES '20 garnered registrations from 80+ institutions, including IITs, IIMs, DU and Xavier's among others.

## *Parmeshwaran Iyer and Yasmin Ali Haque*

This panel discussion, moderated by Mr. Anand Narsimhan, featuring Mr. Parmeshwaram Iyer, Secretary of the Ministry of Drinking Water and Sanitation and Ms. Yasmin Ali Haque, the UNICEF Representative in India, revolved around the Swachh Bharat Mission. Recalling its journey, the panelists spoke about the hurdles they faced, the social stigmas they had to tackle and the issues in popularising the campaign. Also touching upon the Jal Jeevan Mission and the future of the scheme, the experts concluded on a positive note by highlighting the need for continuing the 'Swachhata' consciousness.

## *Neeraj Kumar and Sunetra Choudhury*

Mr. Neeraj Kumar, Former Commissioner of Delhi Police and Mrs. Sunetra Choudhury, National Editor, Hindustan Times, engaged in an interesting discussion on Jail Economics. The panellists shared insights on the facilities available in a jail, its culture and the inefficiencies plaguing the system. The experts interacted with the audience on the prevalence of capitalism and capital punishment, while also covering aspects of pride and dignity of the prisoners.

## *Sanjeev Sanyal and Subhash Chandra Garg*

In an enlightening panel discussion with Mr. Subhash Chandra Garg, former Finance Secretary of India, and Mr. Sanjeev Sanyal, a Shri Ram alum and the current Principal Economic Adviser in the Ministry of Finance, students asked various questions, delving deeper into the intricacies of the recently launched budget of 2019-20. The panel also discussed the problem of an economic slowdown and provided insights on topics such as bilateral netting, marketisation of public services, a larger savings scheme, the importance of achieving prosperity through wealth creation and the role of privatisation in it.

## *Parth Shah and Rajeev Gowda*

Free Markets and Liberal Economics was the focal point of this panel discussion, featuring Mr. Parth Shah, the president of The Centre for Civil Society and Mr. Rajeev Gowda, Member of the Rajya Sabha. Both the speakers fervently expressed their views on the importance of free markets to foster competition and growth in an economy. The panel acknowledged the supremacy of the US in the adoption of free markets and liberalism and provided various arguments to the questions posed by the audience by citing relevant examples from history.



### *Salman Khurshid & Prashant Bhushan*

Featuring Salman Khurshid, a senior politician, lawyer and an eminent author, and Prashant Bhushan, a public interest lawyer in the Supreme Court of India and an activist, this engaging panel discussion was directed towards constitutional and legal reforms. Both the panelists discussed various issues like the need for upholding constitutional values, ensuring an efficient system of checks and balances and delays in judicial reviews. They also shared their insights on political interference in the judiciary and the dynasticism associated with it, and suggested possible solutions to overcome these problems.



### *Hindol Sengupta*

The editor-at-large of Fortune India, Mr. Hindol Sengupta, engaged in a conversation about the startups in Bharat. Delving deeper into the hidden entrepreneurial opportunities of India, Mr. Sengupta spoke about the startup stories of Teabox and Naara Aaba wines. He also highlighted the contributions of industrialists and entrepreneurs across the country. Overall, he captivated the audience by his knowledge of the history of startups in Bharat.



### *P. Chidambaram*

A riveting talk was delivered by the former Finance Minister, Mr. P. Chidambaram, focussing on the current downturn in the Indian economy and the shortcomings of the Budget 2020-21 in dealing with it. Listing both demonetisation and the GST as blunders, Mr. Chidambaram also pointed out certain pessimistic assumptions taken by the current government. Lamenting on the fact that the government may have missed a huge opportunity to revive the economy, Mr. Chidambaram capped off his speech by saying, "I only hope your parents do not reduce your pocket money."



### *Shiv Khera*

Over the course of an hour, a renowned author and motivational speaker, and an alumnus of SRCC itself, Mr. Shiv Khera took the audience through a journey of realistic perspectives, giving anecdotes and examples from his own life and those of many others, to highlight the simple, but often overlooked keys to success. While effortlessly overturning the much-popularised ideas of achieving moral stature, he effectively provided the audience with an alternative perspective of life.



### *Anil Swarup*

Mr. Anil Swarup, a retired IAS officer and an author, provided insightful lessons on handling tough situations in life, highlighting the importance of being creative, positive and strong-headed. As the person behind the ideation of the Rashtriya Swasthya Bima Yojana, he also spoke about the importance of being innovative.



### *Sonal Mansingh*

Dr. Sonal Mansingh, one of the most renowned Bharatanatyam dancers and a recently elected Member of Parliament, spoke about various elements of dance as an art form and also advocated for respect and tolerance of views. Dr. Mansingh recalled her journey as a dancer and as a Member of Parliament and offered interesting insights on her life's experiences to the audience.





### *Rajdeep Sardesai*

In a Campus Face-Off moderated by the journalist Mr. Rajdeep Sardesai and featuring representatives from across the political spectrum, including Mr. Amit Malviya (BJP), Ms. Supriya Shrinete (Congress) and Mr. Jasmine Shah (AAP), students grilled the political *netas* on a variety of issues ranging from the Indian Economy, Delhi Polls, CAA, NRC, and the like. In an intense hour of debate addressing questions around the freebie culture, healthcare, education and data management, the speakers voiced the stance of their respective political parties and put forward their grievances openly.

### *Jean Dreze*

A notable developmental economist, widely known for his Jholawala Economics, Dr. Jean Dreze interacted with the students in a *baithak* setting over a cup of tea. Speaking through the lens of research-driven methodology, Dr. Dreze discussed the pros and cons of Randomised Controlled Trial (RCT) as an evidence oriented method. He also shed light on the Maoist Movement in Jharkhand and the vitality of debate on social media trends. Attaching special importance to healthcare under the broader theme of Developmental Economics, Dr. Dreze also reflected on the holistic nature of 'development' and the importance to acknowledge its broad nature.

### *Beyond Economics:*

#### *The Lallantop Show: Mr. Rahul Pandita and Mr. Saurabh Dwivedi*

In a book discussion hosted by Mr. Saurabh Dwivedi, the moderator and anchor of the famous TV program, The Lallantop Show, and the Indian author and journalist Mr. Rahul Pandita shared valuable insight and experiences speaking through the lens of his book "Our Moon had Blood Clots".

#### *The Public Conversation: Ms. Aparajita Bharti, Mr. Anshul Tiwari and Mr. Tamseel Hussain*

The Founders of YLAC (Young Leaders for Active Citizenship), Youth Ki Awaaz, and PLUC (People Like Us Create) engaged in 'The Public Conversation' in collaboration with Twitter, discussing the role that social media platforms have played in giving voice to the youth.

#### *TVF: Ms. Kritika Avasthi, Ms. Himali Shah and Mr. Apoorv Singh Karki*

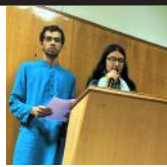
Well known for starring in videos of The Timeliners under the umbrella brand of TVF – The Viral Fever, the guests offered great insights on the effort that goes into curating every second of these binge-worthy videos. In a free-rolling discussion on the theme of "YouTube: The New Silver Screen," the panelists spoke about various aspects of this booming platform.





# SHRI RAM RESEARCH FESTIVAL

CELEBRATING THE  
IDEAS OF TOMORROW



# RESEARCH FESTIVAL



Research and policy have been the cornerstones of The Economic Society, SRCC's legacy. 9-10th November, 2019 marked the inaugural edition of the Research Festival, an unparalleled event dedicated to celebrating the ideas of tomorrow. In collaboration with renowned think tanks like ICRIER, TERRE Policy Centre and Centre for Civil Society, the Research Festival witnessed a cumulative participation of 1500+ students from prominent institutions like IITs, IIMs and NLUs.



## *Speaker Sessions:*

### *Yamini Aiyar*

The festival commenced with a riveting discussion on economic policy-making with Ms. Yamini Aiyar, President and Chief Executive, Centre for Policy Research. Under the theme of "Welfare Economics," she shared her experiences of building research methods from scratch while interacting with government officials on the field. The importance of using primary data for policy formulation was highlighted during the course of the discussion.

### *Ashok Lahiri*

Mr. Ashok Lahiri, Member of the 15th Finance Commission and former Chief Economic Advisor to the Government of India, engaged in a discussion on banking reforms and the challenges faced by the sector. He addressed the shortcomings of the Indian banking sector and the importance of Non-Performing Assets.

### *Pulapre Balakrishnan*

Prof. Pulapre Balakrishnan, teaching Economics at Ashoka University, interacted with students in a Q&A session on the theme of 'Economic Slowdown.' He spoke about a gamut of topics ranging from monetary policy to resource management. The structural reforms needed to overcome the crisis were debated as solutions to macroeconomic concerns.

## *Research Competitions:*

### *Shri Ram Paper Competition*

One of the oldest research paper competitions in Delhi University, Shri Ram Paper Competition explored the theme of 'Celebrating Economic Diversity.' It encouraged the participants to delve deeper into the nuances of economic functioning and formulate policies that complement the diversity of economies.

### *Shri Ram Recouvrer*

This event was an initiative to stimulate participants to explore the intricacies of recessions and economic bubbles. Shri Ram Recouvrer provided a dynamic simulation of a global recession. It challenged the analytical and creative skills of the participants as they tried to manoeuvre through economic downturns.

### *Shri Ram Research Challenge*

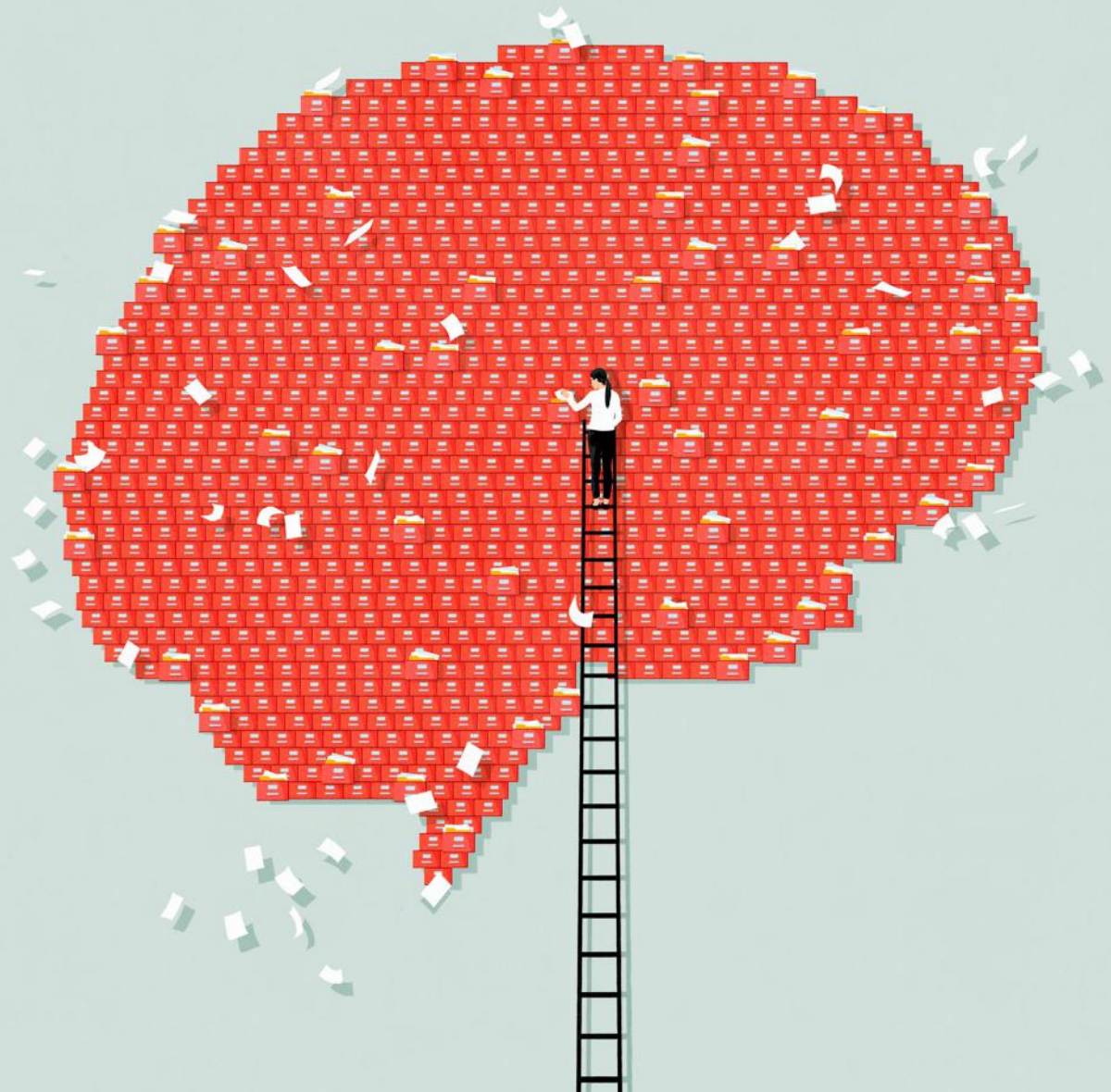
In collaboration with the Indian Council for Research on International Economic Relations (ICRIER) and TERRE Policy Centre, Shri Ram Research Challenge was a comprehensive competition on research, data and policy. The rounds provided an exhaustive approach to research as they included policy analysis, primary data collection and case presentation.



# DISCOURSE

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AN ARCHIVE OF IDEAS



# DISCOURSE

## *An Archive of Ideas*



**Mr. Kishan Rana**

Former Ambassador and High Commissioner for  
Algeria, Germany, Kenya & Mauritius  
**Topic:** India's Economic Diplomacy



**Mr. Rajeev Kher**

Former Commerce Secretary to the  
Government of India  
**Topic:** A Trade Policy for Emerging India



**Mr. Kirit S. Parikh**

Founder Director of IGIDR, Senior Economic  
Adviser to the UNDP  
**Topic:** Sustainable Development & Free Trade



**Mr. Jairam Ramesh**

Indian Economist and Member of  
Parliament, Rajya Sabha  
**Topic:** Economic and Environmental Concerns



**Dr. Deepali Pant Joshi**

Former Executive Director of RBI  
**Topic:** The Pace of Reforms and India's  
Development Spanse



**Mr. Prabir De**

Professor at ASEAN India Center  
**Topic:** Global Trade and Indian Foreign  
Policy Challenges



**Dr. Krishnamurthy Subramanian**

Chief Economic Adviser to the  
Government of India  
**Topic:** State of India's Economy



**Mr. Shivshankar Menon**

Former National Security Adviser of India,  
Former Foreign Secretary of India  
**Topic:** Rethinking India's Foreign Policy



# PROJECT JAANKARI



# PROJECT JAANKARI

*An initiative by college students to propel knowledge-sharing and enable primary research in relatively neglected sectors.*

## Introduction

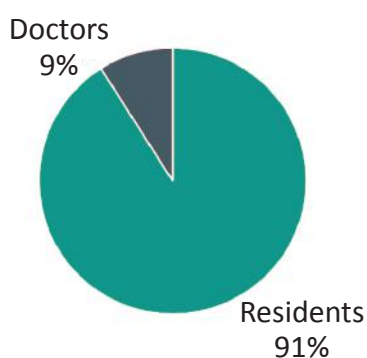
The objective of this research project is to analyze the effectiveness of Mohalla Clinics in providing primary healthcare facilities to people free of cost.

The Mohalla Clinics healthcare system was initiated by the Aam Aadmi Party government in Delhi in 2015. From then, until now, the Delhi Government has set up 450 such neighbourhood healthcare clinics, with a plan to set up 1,000 such facilities across Delhi, each catering to a radius of 5 kilometres.

Through both primary and secondary data collection, this research project aims to conclude whether or not the Mohalla Clinics play an efficient role in the public healthcare system of the national capital. These clinics provide basic medical care based on standard treatment protocols which include curative care for common illnesses like fever, diarrhoea, skin problems and respiratory problems, first aid for injuries and burns, dressing and management of minor wounds.



## Residents



Composition of Respondents

## Methodology

We developed two sets of questions, one for the doctors and medical staff, the other one for the residents.

The section for the doctors and medical staff contained questions regarding experience and qualifications of the doctors and the medical staff, salary, availability of medicines, the records of patients & job satisfaction.

Similarly, the other segment of the questionnaire for the residents/patients contained questions such as awareness about clinics, quality of treatment & medication, upkeep & sanitation of the clinics, suggestions for improvement.

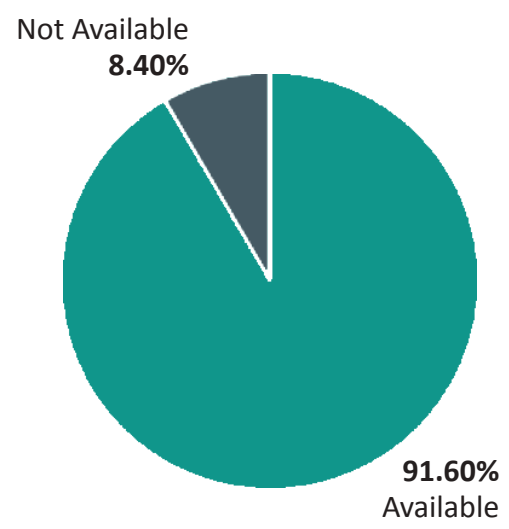
35 doctors/members of staff and 356 residents, aged 18-80, from communities located around an area of 1-2kms of a Mohalla Clinic were interviewed across 8 broad Mohalla Clinic Zones around Delhi.

**Our approach to the analysis can be summarised in the following:-**

- **Intra Questions (Doctors and Patients)** - To gauge the performance of the Mohalla clinics from the viewpoints of both the patients and the doctors.
- **Intra Head Inter Question (Doctor)** - To examine two correlated questions of doctors and staff officials.
- **Intra Head Inter Question (Patients)** - To develop and analyse a correlation out of the content and issues of patients.
- **Inter Questions** - To derive correlations between questions pertaining to doctors and patients simultaneously.
- **Zonal** - To develop a comparison between the performance of clinics in different zones with respect to varied parameters.

# FINDINGS

## Availability of Medicines



The average waiting time is **45 mins** and this leads to crowding outside clinics

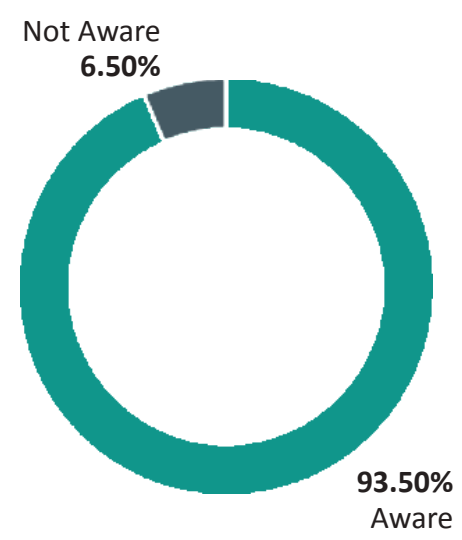
95% of the patients feel that the doctor is cooperative

The medical staff generally has to bear the brunt of late remuneration

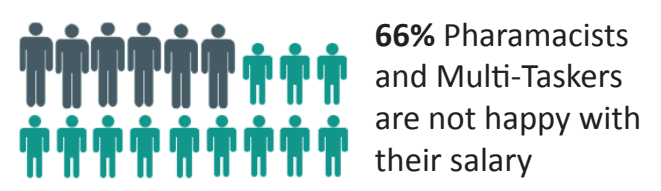
Most of the Clinics are able to fulfil the target of **120 patients** per day set by the government

Many clinics didn't have the facility to conduct X-rays, Ultrasound and Rabies tests

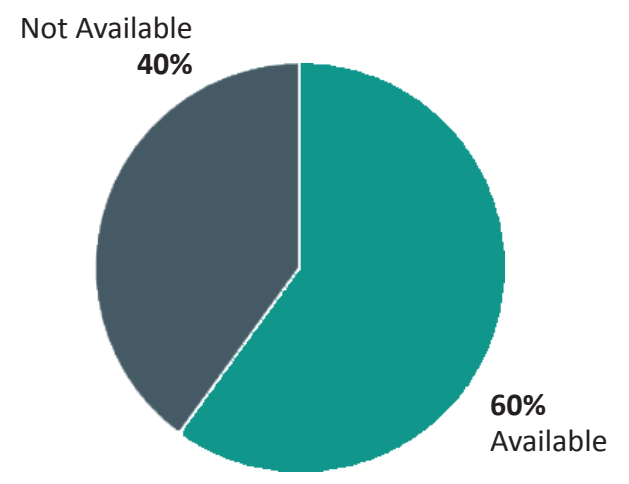
## Awareness about Mohalla Clinics



## Doctor Rating



## First-Aid Facilities



# RECOMMENDATIONS

## FEMALE-CENTRIC CAMPAIGNS

With female participation being higher in mohalla clinics, some clinics can be made all-female and be celebrated for the same. Even in other clinics, one day can be selected when a female doctor would be available. We recommend the recruitment of new doctors for this purpose who want to help Mohalla Clinics but are not willing to leave their old jobs. This shall help ensure greater safety for women.



## MENTAL HEALTH ISSUES

Mohalla clinics currently do not have provisions for mental health issues. In this light, we recommend that a separate mental health doctor be there in 10 clinics across Delhi on a visiting basis, say for 2 days a week. Doctors in clinics should openly talk to people about these issues and recommend them to these clinics should a need arise.

## MOBILE APPLICATION

The government can introduce a mobile application for mohalla clinics. It should enable people to book appointments, thereby reducing waiting times. At the same time, it should help maintain a complete record of patients for all their visits across clinics. It should also be able to keep a track of the supply of medicines to ensure that they do not run out of them.

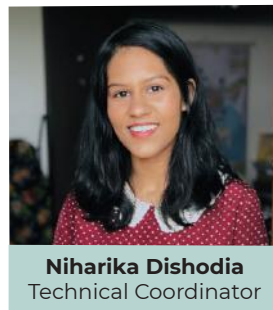


## LOCATION MAPPING

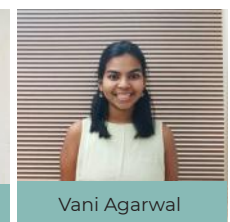
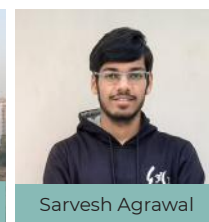
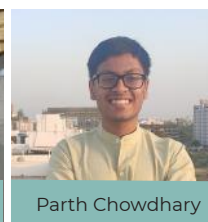
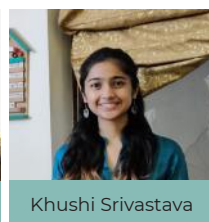
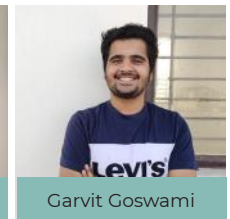
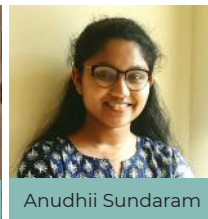
Mohalla clinics should be set up on the basis of a complete demographic analysis for the region. For example, in areas with low population density, the clinics can have less staff and vice versa. Similarly, in the case of areas with high-income levels, the mohalla clinics should have less staff. This shall help ensure that the resources are used in an optimum manner.

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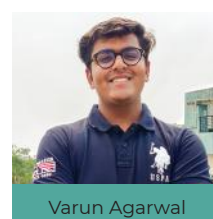
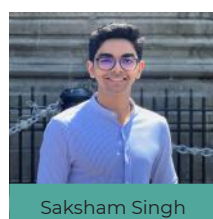
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