artha
2022

THE SHRI RAM ECONOMICS JOURNAL

THE ECONOMICS SOCIETY

SHRI RAM COLLEGE OF COMMERCE

artha

2022

FACULTY ADVISOR'S NOTE

One of the most distinguished establishments of the college, The Economics Society, has, through its operations, compellingly fortified the stanchions of academic discourse, ingenious pursuits, scholarly excellence, and an inclusive environment in the college and beyond.

Members of the Society have worked relentlessly to expand and deepen each vertical of The Economics Society, ergo taking it to not just new heights but also new depths. From carrying out extensive primary and secondary data reports to publishing diversified research and policy reports to organising some of the country's most stimulating and prestigious summits to upholding and furthering the legacy of the Society's digital platform, the Society has effectively proven its mettle in all spheres.

The journal this year has been curated as a coalescence of academically rigorous papers and articles striving to set higher standards in the intellectual space.

On behalf of the Economics department of Shri Ram College of Commerce, I give my best compliments to the Society for successfully releasing Artha- the Annual Economics Journal. I applaud the members' zeal and wish them the very best for future endeavours.

Dr. Rajeev Kumar
Staff Advisor
The Shri Ram Economics Journal

Faculty Review Board

Dr. Simrit Kaur
Principal
SRCC

Dr. AJC Bose
Professor
SRCC

Dr. Rajiv Jha
Associate Professor
SRCC

Dr. Aasheerwad Dwivedi
Assistant Professor
SRCC

Ms. Priyanka Bhatia
Associate Professor
SRCC

EDITORS' NOTE

As the world clutches onto every opportunity to recoup the normalcy stolen by the pandemic, one must acknowledge that individual lives and livelihoods still remain fundamentally altered. As economists and policy-makers focus on reviving the economy, the nature of revival remains uncertain for marginalised communities. As a silver lining, these uncertain times have been softened by innovation in healthcare systems and education, and recognition of local communities in bringing about change. It is in this spirit of innovation and evolution that we present a revamped Artha 2022.

Artha, this year, is a conscientious endeavour to foster independent research initiatives among undergraduate students. It is an amalgamation of ideas that adopt analytically rigorous tools to shed light on the interconnectedness between economics and other disciplines. In a world where we are expected to accept the status quo, Artha provides a safe haven for young researchers who dare to question, critique and investigate. Harnessing an indomitable spirit of inquisitiveness, we believe that writing is a potent tool to educate, influence and inspire people.

With the threat of war lurking around every corner, Artha is also expressed as a prayer to realise that education must serve as a medium to build tolerance, mend fractures that divide society, and attain harmony. We hope that the Journal catalyses the reader's urge to understand systems - economic, social and political - with quantitive and qualitative rigour while remembering that human lives can never be reduced to mere data points.

Aastha Jha and Ananya Dhanuka
Editors-In-Chief

Senior Editors

Maithili Sharma
Neeyati Fitkariwala
Srishti Jain

Publisher

Dr AJC Bose
Professor, SRCC

Address: T13-403,
Sunshine County,
Sushant City, Sonipat,
Haryana-131029

Email: ajc.bose@srcc.du.ac.in
Phone: +91 9654462928

CONTENTS

SPECIAL CONTRIBUTIONS

POVERTY TRAPS: FROM THEORY TO EMPIRICAL EVIDENCE

Pia Mahajan

Miranda House, University of Delhi

Abstract:

The purpose of this study is to understand if the concept of poverty traps is borne out by data. The paper begins by briefly reviewing the theoretical underpinnings of single and multiple equilibria poverty traps. It then explores the existing empirical approaches, some that have found evidence of poverty traps, and some that have not. Further, an evidence-based inquiry is undertaken and panel data at the country level is analysed. The figures for Quah's mobility matrix are calculated to investigate whether the countries that were poor in 1980 still witness stickiness.

The motivation behind this paper was to find evidence of poverty traps and use it to underscore the need for targeted intervention. However, through the data analysed, no strong evidence of poverty traps is found. The paper, at best, finds support for low mobility but has reservations about calling it a poverty trap. To interpret this result, a reconciliation of the findings of this study and the existing research is done. It is revealed that geographic location is one of the critical factors, ignored in this study, that could have possibly precluded the observance of poverty traps. Finally, by drawing insights from literature, a more plenary conclusion is reached, i.e., refuting the presence of poverty traps merely on the basis of data is short-sighted. Poverty traps may exist yet remain hidden behind the entanglement of different approaches, data gaps and mechanisms that may go beyond perceptible numbers.

Introduction

A poverty trap is defined as a "self-reinforcing mechanism" due to which those who start out as poor may find it difficult to move towards prosperity. This is because poverty may induce behaviours that lead to stagnantly low levels of income for a sufficiently long period. Such poverty traps can operate at the following levels- micro (at the level of a household), meso (at the level of the community) or macro (at the level of a nation, region, or geography) (*Barrett, Garg & McBride, 2016*).

A variety of parameters can be used to understand if poverty is entrapping. Studies point out that single period welfare measures of poverty can lead to errors in identifying the poor, as they are unable to draw the line between temporary misfortunes and permanent poverty. These measures can thereby result in a misallocation of resources. Thus, well-being indicators like panel data analysis on income have been widely used. Further, income data which adjusts for measurement error and attrition, such as the pseudo-panel analysis (*Antman & McKenzie, 2005*), has also been a metric of choice for understanding poverty dynamics.

Literature Review

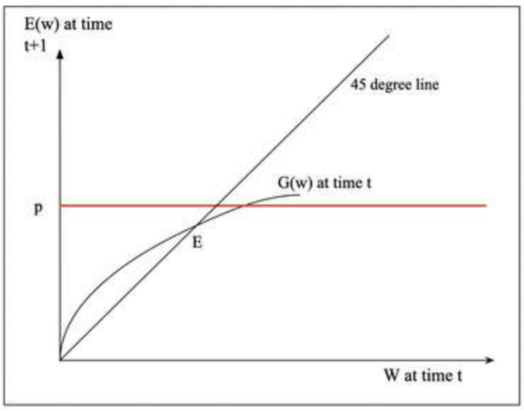
Theoretical Underpinnings - Single and Multiple Equilibria poverty traps

As a starting point, the Solow growth model, where savings and investments are key components of growth, can be used to understand the essence of poverty traps (*Kraay & McKenzie, 2014*).

The mechanism of poverty traps mirrors the explanation of the lower-level of steady-state in the Solow model. The poor have a lower savings rate, implying that the investment is lower for any given amount of capital stock, which results in convergence to a lower level of steady-state capital per capita.

However, this paper uses an adaptation of the "canonical neoclassical model of economic growth" which was used by Barrett, Garg & McBride (2016) to explain the single equilibrium poverty trap. The single equilibrium refers to a unique steady-state that can be categorised as a poverty trap if it falls below the poverty line. As seen in Figure 1, G(w) is the concave growth function that maps current well-being to expected future well-being. E is the single equilibrium, where current well-being is equal to future well-being. This point falls below the poverty line 'p' and thus faces a poverty trap. A non-poor equilibrium does not exist in this hypothetical case.

Figure 1

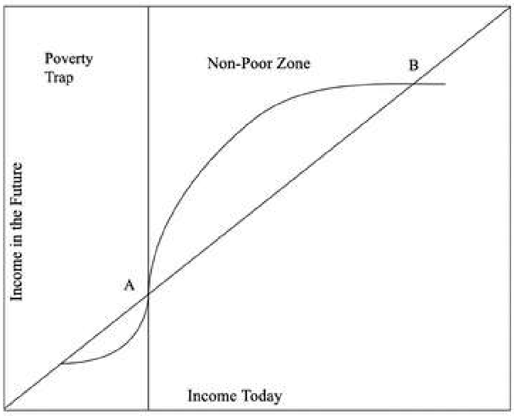


Source: Adapted from Barrett, Garg & McBride (2016).

Further, for understanding the concept of multiple equilibria poverty traps that have both poor and non-poor equilibria, this paper uses an adaptation of the S-shaped curve used by Banerjee & Duflo (2012) and shows the "basins of attraction"- poverty trap and the non-poor zone (*Barrett, Garg and McBride, 2016*).

As seen in Figure 2, very similar individuals can have different points of convergence- some may converge to the non-poor equilibrium B, while others may converge to the poor equilibrium A. The S-shaped curve shows the mapping between income today and income in the future. For those trapped in poverty, income today is higher than income in the future which means that the income curve cuts the 45-degree line from below. If those in the poverty trap zone cross the threshold level of income, they would land in the non-poor "basin of attraction", where income in the future is greater than income today, thereby transitioning out of the poverty trap. Theory suggests that any such transition would require targeted intervention, without which, the poor will remain stuck in the poverty trap. Additionally, any shock can lead a non-poor individual to fall and slip to the low-income level equilibrium, into the poverty trap.

Figure 2



Source: Adapted from Abhijit Banerjee & Esther Duflo (2012) and Barrett, Garg and McBride (2016).

Having familiarised ourselves with the visual representation of multiple equilibria poverty traps, it is equally important to delve into the forces that engender such a mechanism. Barrett, Garg & McBride (2016) summarise that due to market failures, the poor may be unable to invest in higher return assets which are associated with a higher level of risk.

They also point out that exclusionary mechanisms can play a role in ensuring that those who begin as poor, stay poor. For instance, individuals can be forbidden from participating in activities, like borrowing or investing, that can help increase their future incomes. They may lack access to technology, be excluded from financial markets or fall prey to social exclusion and thus end up being stuck at the low-level equilibrium. The crux of the idea is that poverty can induce behaviour, decision-making and conditions that further reinforce poverty.

Existing Empirical Approaches

This section begins by reviewing the results of two commonly used approaches employed to detect poverty traps - panel data and pseudo-panel data analysis.

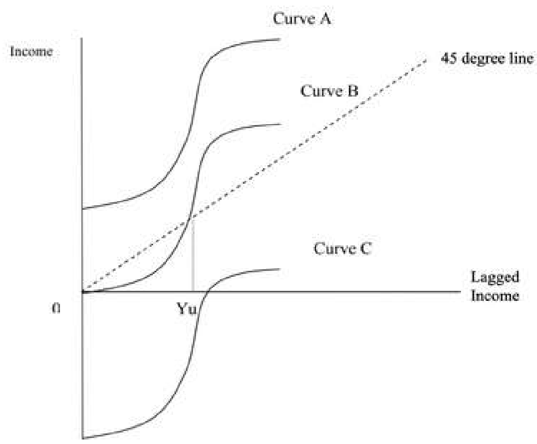
In their research expounding the multiple equilibria of poverty traps, Antman & McKenzie (2005) used the pseudo-panel data analysis, wherein cohorts of individuals were surveyed over repeated cross-sections. It was pointed out that the pseudo-panel approach could act as an improvement over the two limitations of panel data analysis, namely, attrition and measurement errors (*Carter & Barrett, 2005, Antman & McKenzie, 2005*). First, as a new sample of households was taken in each period under the pseudo-panel analysis, the problem of attrition was reduced. Second, to understand the implication of measurement errors, the study of Jalan & Ravallion (2004), which used panel data at the household level for 6000 households over a six-year-long period, was considered.

The authors did not find evidence of poverty traps. The results of their panel data analysis could have suffered from measurement errors which led to a "misclassification of non-poor as poor in one period, followed by the correct classification of the non-poor as non-poor in the next period."

This simply means that measurement errors in panel data analysis could have incorrectly indicated that transitions out of poverty are frequent and easy to make.

Another notable facet of Antman & Mckenzie's (2005) research was that it accounted for heterogeneity. They highlighted that non-linear income dynamics (S-shaped curve as shown in Figure 2) do not necessarily vouch for the presence of a poverty trap. In Figure 3, non-convex curves show the mapping between current and lagged income. The curves are shifted up or down i.e. their intercepts vary across cohorts of individuals. Curve A is non-convex (S-shaped) yet it does not face a poverty trap as it does not cut the 45-degree line from below and lies above the 45-degree line, in its entirety. In the case of curve B, only individuals below the threshold level of income- Yu, face a poverty trap. Finally, in curve C, all the individuals face a trap as the curve lies completely below the 45-degree line. Thus, heterogeneity allows us to understand if some individuals are on curves B or C (i.e. in a trap), even when the average individual is on curve A (and faces no trap), despite the fact that all of them are on an S-shaped curve.

Figure 3



Source: Antman & McKenzie (2005)

However, in contrast to their expectation, on plotting the curve for the average cohort, Antman & McKenzie (2005) observed that the curve crossed the 45-degree line from above (as it had a slope that was flatter than that of the 45-degree line), implying the absence of any poverty trap. Thus even the pseudo-panel approach, despite its purported merits, could not find poverty traps.

Up until this point, this paper has considered two studies- the panel data study of Jalan & Ravallion (2004) and the pseudo-panel analysis of Antman & McKenzie (2005) both of which did not find evidence to support poverty traps. However, it is of paramount importance to consider the studies that have indeed found evidence of poverty traps. In their paper, Barrett, Garg & McBride (2016) ran over the existing studies with a fine-toothed comb and quoted widespread evidence of the self-reinforcing nature of poverty. They pointed towards the following approaches, among the many others-

A) Bloom et al (2003) modelled for two steady states, i.e., high-income equilibrium and low-income equilibrium associated with a poverty trap and reported that their multiple-equilibria model fitted the data better. They found that geography plays a key role in the determination of GDP per capita for the low-level equilibrium countries. Countries that were landlocked, hot and had low rainfall, found it difficult to transition to high-income equilibrium.

B) Jalan & Ravallion (2002) have found “evidence of a single equilibrium geographic poverty trap in southern rural China in the late 1980s”. A household that was identical to another household in all respects, but lived in an area that was better endowed, ended up enjoying a “rising standard of living.” Differences in terrain led to infrastructural bottlenecks and influenced health indicators, thereby affecting consumption growth rates.

Thus, it appears that the evidence of poverty traps is mixed at best.

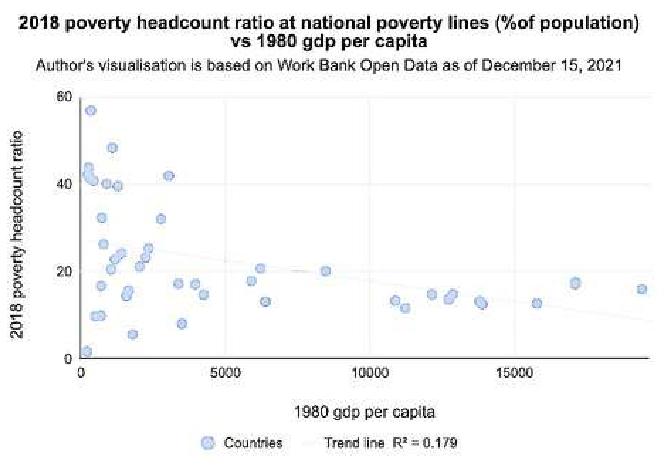
In the following section, this paper analyses panel data at the country level to understand the relationship between past income and current poverty and income levels. The question it seeks to address is- does a past of poverty translate into a present mired in poverty?

From Theory to Empirical Evidence

Reduced Form Evidence

In an attempt to see whether there is an inverse relationship between the present poverty headcount ratio and the past real GDP levels, in Figure 4, per capita GDP levels in 1960 against the poverty headcount ratios in 2018 have been plotted for 44 countries (World Bank Open Data as of December 15, 2021). The choice of these 44 countries is based solely on the availability of data for the poverty headcount ratio. The purpose of this exercise is to find out if countries that were poor in 1960, have a higher poverty headcount ratio in 2018, thus does the trend imply a continued incidence of poverty?

Figure 4

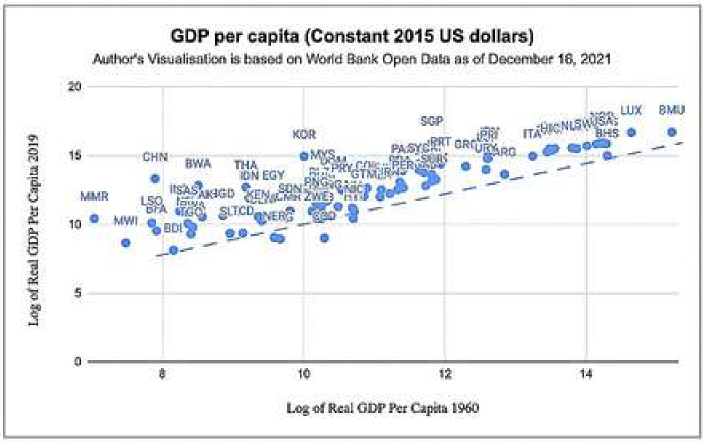


It turns out that this is not the case. The downward sloping line of best fit has a low R-squared value of 0.179. This implies that 17.9% of the variation in the 2018 poverty headcount ratio is explained by 1980 GDP per capita. Hence, past income level isn’t the only determining variable of current poverty levels; there are other factors at play.

Hence, past income level isn't the only determining variable of current poverty levels; there are other factors at play. This representation implies a weak to no correlation (-0.4) between past income and current poverty levels. However, it is important to be mindful of the deficiencies of the poverty headcount ratio as a measure, like the Micawber problem, as pointed out by Angus Deaton. Though the measure is used for convenience, for it is reported regularly and can be easily understood by the audience, it is unable to paint the true picture of poverty as it does not take into account those who barely cross the poverty line.

Further, the presence of poverty traps implies that nations suffer from stagnant levels of income over a long period of time. Kraay & McKenzie (2014) present reduced-form evidence on the persistence of poverty through cross-country aggregates and do not find convincing evidence of stagnation of income levels.
In figure 5, the log of per capita real GDP in 1960 has been plotted on the horizontal axis. This paper updates the data on the vertical axis where the log of per capita real GDP in 2019 for 85 countries has been plotted to have a balanced panel. GDP per capita at constant prices (World Bank Open Data as of December 16, 2021) has been used to arrive at the log of real GDP per capita.

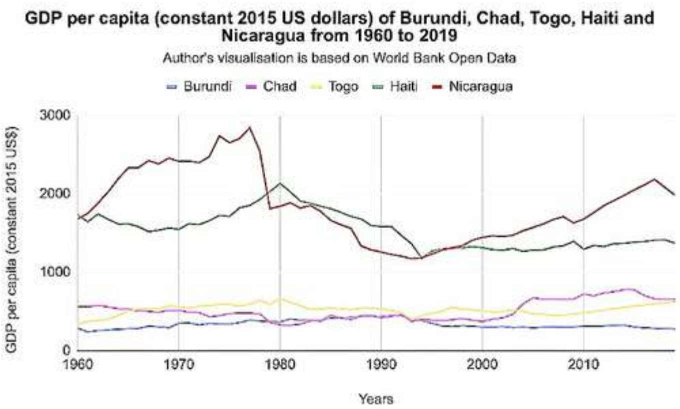
Figure 5



The results of this scatter plot are consistent with the exercise of Kraay & McKenzie (2014). As shown in their visualisation, Figure 5 also shows that most countries are around or above the 45-degree line and hence have witnessed positive growth. This representation does not provide evidence for a poverty trap as even poor countries have not faced stagnation.

However, it is necessary to acknowledge the drawbacks of this approach. The use of per capita GDP masks inequalities that may exist at the granular level as it is an average. Further, this representation of positive growth looks a little optimistic. For instance, Burundi is very close to the 45-degree line in Figure 5 and almost seems to be on the line as its log of real GDP capita is 8.157 in 1960 and 8.120 in 2019. Though, the country had a very low real GDP per capita of $285 in 1960 which further fell to $278 after a 59-year-long period. Conversion to the log scale followed by a comparison with the 45-degree line effectively scales down this retardation and does not convey the grimness of the situation.

Figure 6



As shown in Figure 6, some countries that do not seem as worse off in Figure 5, show a per capita real GDP trend that is clearly not upward sloping even after a period of almost 60 years. This observation is simply based on aggregate trends but offers some noteworthy insights as it does appear that these countries have struggled to stride upwards

To probe this further, this paper also looks at Quah's mobility matrix to get a more comprehensive understanding of how many poor countries actually move to a higher income path. A data set of 97 countries has been employed. First, the GDP per capita figures for the years 1960 and 2019 (World Bank Open Data as of August 18, 2021) have been converted to a fraction of the world's per capita GDP in the respective years. For example, if the per capita GDP of Burkina Faso was 68.42 US dollars in 1960 and the world's per capita GDP was 456.65 US dollars in 1960, then Burkina Faso has an index of 68.42/456.65= 0.149 for the year 1960.

The leftmost column in Figure 7 has the index numbers for the year 1960. Similarly, the topmost row has the index numbers for the year 2019. A country having an index number between 0.5 and 1 has been plotted against the label '1'. Since Burkina Faso has an index number of 0.149 which is less than 0.25, it will be counted under the label '0.25'. Countries with index numbers greater than 2 have been counted under the label of infinity. By calculating the index of the countries for the two points in time, the number of countries that have transitioned from one category to another is found.

This exercise adds to our understanding of whether poor countries faced difficulty in making the transition.

Countries that started out as rich seem to have enjoyed a historical advantage. 50% of the countries that had a per capita GDP ranging from equal to the world average to twice the world average in 1960, and all of the countries that had GDP per capita more than twice the world average, continued to witness prosperity even after about 60 years.

Out of countries that were in the 0.25-0.50 category in 1960, 63% have experienced negative growth, 16% have climbed up the ladder and sit between the category of 0.5-1 and 5% have GDP per capita levels which are greater than twice the world average in 2019. Similarly, 12% of the countries have also made an upward stride by rising above the <0.25 category to the 0.5-1 category.

It appears that countries that started out as poor have faced difficulty in making the transition as 80% continue to remain poor. Countries that were initially poor and fell under the low index numbers seem to have witnessed slow growth or stickiness.

Figure 7. Mobility Matrix

	0.25	0.5	1	2	Infinity	
0.25	80	8	12	0	0	100
0.5	63	16	16	0	5	100
1	12	21	38	12	17	100
2	0	0	10	50	40	100
Infinity	0	0	0	0	100	100

Source: Author's calculations are based on World Bank Data at current USD as of 18 August 2021.

However, since not all the cells of the diagonal show 100%, this is not the extreme case of zero mobility. Yet, this representation does not support high mobility and has undertones of low mobility, though not necessarily a poverty trap. Even Antman & McKenzie (2005) explained that evidence of low mobility of incomes is insufficient to defend for the presence of poverty traps. Low mobility of income implies that the transition out of poverty is painfully slow but doesn't vouch for the existence of a trap.

Reconciliation of Empirical Evidence

The panel data at the country level used in the above section can be summarised as having low mobility in the case of poor countries but the paper has reservations in concluding that those are poverty traps. So do poverty traps not exist?

Indeed, studies quoted in section 2 have found poverty traps. A possible reason behind this contradiction could be that the evidence presented in this paper, the panel data results presented by Jalan and Ravallion (2004) and the pseudo panel data evidence presented by Antman & McKenzie (2005) (all of which do not find poverty traps) do not account for geographic externalities like terrain or infrastructure. As mentioned in point b) in section 2, Jalan and Ravallion (2002) included geographic externalities, like mountainous regions or plains, in their assessment and found poverty traps (their 2004 paper ignored geographic differences and did not find traps). The same goes for Bloom et al. (2003), as discussed in point a) of section 2, who found evidence of poverty traps even at cross country levels because they used latitudes as a proxy for geographic location. There are multiple other approaches that have found poverty traps, like the nutritional approach, asset dynamics, etc. but this paper limits its conclusion to the idea that geography is one distinguishing factor.

This idea also ties in with Kraay & McKenzie's (2014) paper. The authors highlighted that the "strongest evidence on poverty trap is the one based on country of residence". They pointed out that poor individuals can witness an increase in their income if they move out of such countries to areas that are better endowed in terms of production technology. However, they did recognise that migration comes at a cost and most poor families cannot afford to make such a decision due to risk averseness and the lack of institutions like insurance even when returns from moving could be considerably high. Banerjee & Duflo (2019) discussed that the economic incentive of a higher wage may not be a sufficient pull factor; only "disaster scenarios or wars" can motivate people to leave their country of comfort. Thus, allowing flexibility in migration can be a point of policy intervention.

Conclusion

This study was undertaken to see if evidence backs the concept of poverty traps. Using the existing approaches to poverty traps as the building blocks allowed the paper to delve deeper into the different elements and shortcomings of those approaches.

As seen in section 3.1, this paper does not find compelling evidence of poverty traps. However, the paper would be remiss in simply stating that poverty traps do not exist. Rather, it is important to acknowledge that the complex nature of poverty may make traps difficult to identify, even when they do exist. The cross-country income data analysis employed in this paper is of the simplest form as it ignored differences in geography.Additionally, it appears that repeated sampling at a less aggregate level i.e., household or cohorts, that accounts for heterogeneity, is a more rigorous method. These technical differences can mask the presence of a poverty trap.

Coming back to the evidence of geography-based poverty traps, this paper cites studies that have shown that poverty traps centred around terrain, latitudes, low productivity regions and isolated locations have empirical backing. So does that mean that poverty traps are only tied to geography? Additional papers reviewed during the study give food for thought as other poverty traps relating to social mechanisms may be difficult to capture through data. For instance, Barrett, Garg & McBride (2014) highlighted that social networks are crucial in the case of asymmetric information, access to labour markets, or for facilitating migration and in the lack of thereof, people may find themselves in a poverty trap.

Even Sen (1999), who emphasised the need of taking a capability approach to poverty, described social exclusion as a handicap. Yet the evidence of poverty traps based on social networks is “limited” (Barrett, Garg & McBride, 2014).

This begs the question of whether looking at conspicuous data trends may be sufficient, even when it may seem necessary. The paper finally reaches the conclusion that some form of intervention should exist to help the poor out of the vicious cycle of poverty because even when it is not apparent, certain mechanisms may work their way through to make the transition to prosperity extremely slow and difficult.

Bibliography

Banerjee, A., & Duflo, E. (2012). Poor Economics.

Banerjee, A., & Duflo, E. (2019). From the Mouth of the Shark. In Good Economics for Hard Times.

Barrett, C. B., Garg, T., & McBride, L. (2016). Well-Being Dynamics and Poverty Traps | Annual Review of Resource Economics. Annual Reviews. https://www.annualreviews.org/doi/abs/10.1146/annurev-resource-100815-095235

Bloom, D., Canning, D., & Sevilla, J. (2003). Geography and Poverty Traps. Journal of Economic Growth, 355-78.

Carter, M. R., & Lybbert, T. J. (2012). Consumption versus asset smoothing: testing the implications of poverty trap theory in Burkina Faso. UC Davis. https://arefiles.ucdavis.edu/uploads/filer_public/95/f6/95f622c3-8951-45af-94d6-127388360ac1/2012_carter_and_lybbert_jde_asset_v_consumption_smoothing.pdf

Deaton, A. (n.d.). Measuring Poverty (A. Banerjee, R. Benabou, & D. Mookherjee, Eds.).

Francisca, A., & McKenzie, D. J. (2005). World Bank Document. World Bank Document. https://openknowledge.worldbank.org/bitstream/handle/10986/8493/wps3764.pdf?sequence=1&isAllowed=y

Jalan, J., & Ravallion, M. (2002). Geographic poverty traps? A micro model of consumption growth in rural China. J. Appl. Econ. 17: 329–346 (2002).

Jalan, J., & Ravallion, M. (2004). Household Income Dynamics in Rural China. Open Knowledge Repository. https://openknowledge.worldbank.org/handle/10986/19436

Krayy, A., & McKenzie, D. (2014). Do Poverty Traps Exist? Open Knowledge Repository. https://openknowledge.worldbank.org/handle/10986/17719

Ray, D. (1998). Economic Development: Overview. In Development Economics. Princeton University Press.

Sen, A. (1999). Poverty as Capability Deprivation. In Development as Freedom

Appendix

Data Set used for figure 4: Mahajan, Pia (2021), “2018 poverty headcount ratio and 1980 GDP per capita”, Mendeley Data, V1, doi: 10.17632/fr95nzmtrh.

Data set used for figure 5: Mahajan, Pia (2022), “log of GDP per capita (constant US dollars-1960 and 2019)”, Mendeley Data, V1, doi: 10.17632/7228kzbmrx.1

Data set used for figure 6: Mahajan, Pia (2022), "GDP per capita (constant 2015 US$) of Burundi, Chad, Togo, Haiti, Nicaragua", Mendeley Data, doi:10.17632/v7px6v9r7j.1

Calculations for Quah's Mobility Matrix: Mahajan, Pia (2022), "Mobility Matrix", Mendeley Data, V1, doi: 10.17632/kxkfw2fgtb.

STUDYING THE IMPACT OF COVID-19 ON THE INDIAN ECONOMY USING GRAVITY MODEL OF TRADE

Arnav Sinha
Christ University

Abstract:

Crisis such as the global pandemic drastically affects several economic variables. As a silver lining, these unique situations provide the perfect opportunity to test economic theories and models. Hence, this article aims on studying the impact of COVID-19 on the trade component of the Indian economy, and how the Gravity Model of trade influences the same. In other words, the main objective of the paper would be to explain the concepts of the Gravity Model, and then lay out the trend of India's imports and export, finally showing how this model influences and represents the effects of COVID-19 on the global economy. There is a massive research gap in this area, and with Gravity Model being one of the most influential models in International Economics, it is essential that studies are carried out and a comprehensive explanation of the above-mentioned topic is presented, which this paper aims to achieve.

Introduction: The Impact of COVID-19 on Global Economy

COVID-19 induced global health pandemic, created a unique and quite literally once in a lifetime scenario for the global economy; different components of the economy reacted in different ways. The global economy was in a recession with world trade volumes dropping by 21% between March and April 2020, whereas the cumulative growth rate between 2019 to 2020 was negative seven per cent (Barbero et. al., 2021). The World Trade Organization (WTO) estimated that international merchandise trade volumes fell by 9.2% in 2020, a figure similar in magnitude to the global financial crisis of 2008–2009 (Friedt & Zhang, 2020). Further, the impact of COVID-19 on the global economy can also be observed by the rising inflation around the world. Studies by IHSMarkit forecast that the worldwide inflation would likely stay near 5% in early 2022. The Washington Post published an article, titled "Inflation is a Global Problem" citing the high levels of inflation a around the globe.

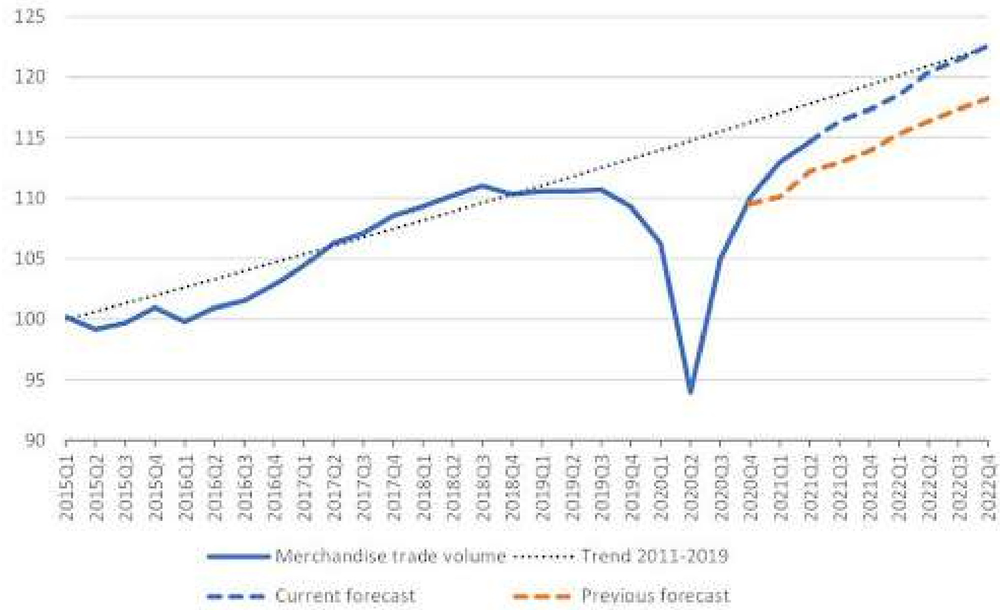
Recent studies by the World Trade Organisation show that the world merchandise trade volume is expected to grow at 10.8% in 2021, revised up from 8.0% forecasted in March. Further, it is forecasted that trade growth will slow down to 4.7% in 2022, up from 4.0% previously. Quarterly trade growth was up by 22.0% year-on-year in Q2 of 2021 but is expected to slow down to 6.6% by Q4, reflecting 2020's drop and recovery. Also, Global GDP growth is expected to slow down
to 4.1% in 2022, up from 3.8% previously. The forecast on merchandise trade volume by the WTO is represented in the following graph. A clear V-shaped recovery is seen, after peak pandemic times.

In this article, we would be focusing on the trade component, specifically on India's trade with the globalised world and how COVID-19 impacted economies around the globe, especially the Indian economy. The core theoretical background for this article would be the Gravity Model of Trade. The following paragraphs would explain the concepts of the Gravity Model, then lay out the trend of India's import and export, and finally show how this model influences and represents the effects of COVID-19 on the global economy, specifically of India's trade activities during these times.

Methodology

The data used in this article is sourced primarily from the official website of the Indian Government, namely, www.commerce.gov.in. The data shows the import, export, total trade and trade balance of India within the time period of 2016-2022. It also shows the top 5 trading partners of India for the years 2019-2022. This data is then tabulated and graphically represented using line and bar graphs, and the values are interpreted. Other secondary figures and statistics used in the article are sourced from studies and papers published on the topic.

Figure 1



Source: https://ihsmarkit.com/research-analysis/empirical-analysis-into-the-impact-of-covid19-on-global-trade.html

Theoretical Background

The gravity model of trade is a model that, in its traditional form, predicts bilateral trade flows based on the economic sizes of and distance between two units or countries. The model was first introduced by Walter Isard in 1954 in the paper titled, "Location Theory and Trade Theory: Short-Run Analysis". The basic model for trade between two countries (i and j) takes the form of

$$F_{ij} = (G^* M_i M_j)/D_{ij}$$

where G is a constant, F stands for trade flow, D stands for the distance and M stands for the economic dimensions of the countries that are being measured.

The equation can be changed into a linear form for the purpose of econometric analyses by employing logarithm. The gravity model of international trade states that the volume of trade between two countries is proportional to their economic mass and a measure of their relative trade frictions. The flow of trade between two countries is considered to be proportional to the economic size of the trading partners and inversely related to their distance from each other.

Literature Review

Barbero et. al. (2021) in their study examined the impact of COVID-19 on bilateral trade flows using the gravity model. They used "monthly trade data of 68 countries exporting across 222 destinations between January 2019 and October 2020." The results revealed a negative impact of COVID-19 on trade that holds across specifications. Further, they concluded that their results did not vary substantially when considering different governmental measures. Finally, the study concluded that the greatest negative COVID-19impact occurs for exports within groups (high-income countries and low-middle-income countries), but not between groups" (Barbero et. al., 2021).

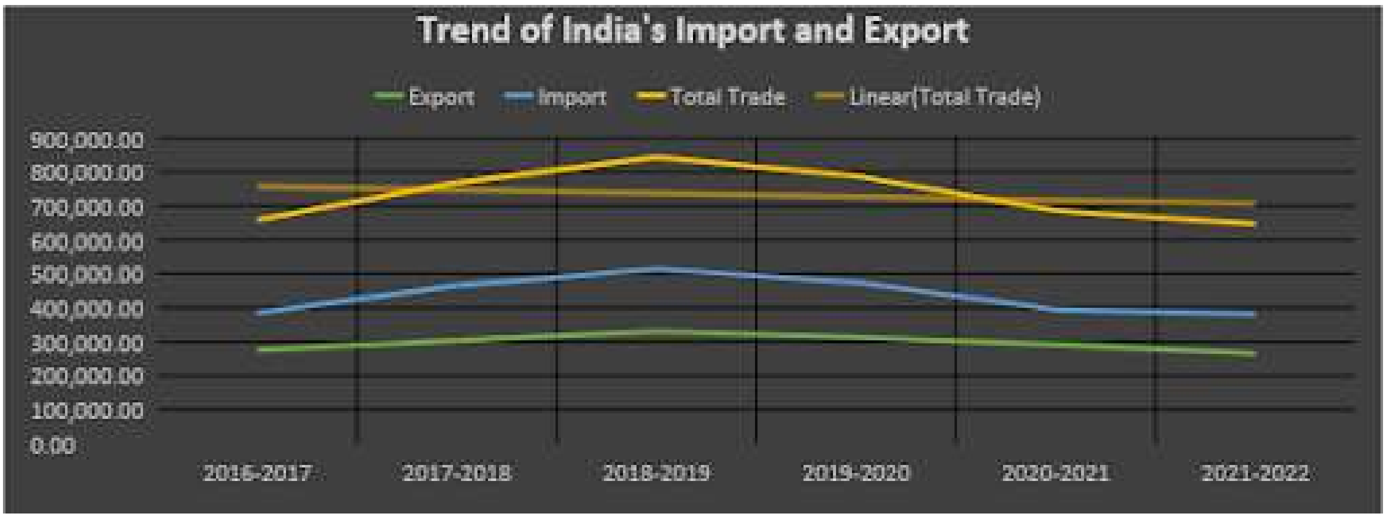
Davidescu et. al. (2021) using panel data gravity models for the 2008-2019 period, found that Romania's exports are significantly influenced by the demand of its major trade partners in the EU, and imports from China and the rest of the world. This means that the higher the demand on the foreign market, the higher the volume of Romania's exports. They also concluded that domestic demand in Romania negatively affects exports.The paper consequently stated that when domestic demand is high, domestic production will primarily tend to cover domestic consumption, which results in a decrease in the size of exports. Hence, they concluded that exports will be higher if the distance between partners is shorter, with neighbouring countries being preferred as export destinations.

Masood et. al. (2021) analysed the impact of the Covid-19 pandemic on bilateral trade using monthly data from January to June 2020. Using a structural gravity model of trade estimated with the Poisson pseudo maximum likelihood estimator, the paper analysed the total imports for fruit and vegetables of the OECD member states. The data for the traditional gravity variables that include distance, contiguity, and colony was taken from the CEPII database.

Their findings show a significant negative impact of the pandemic on both import measures, one that is more pronounced for perishable goods than for aggregate imports.

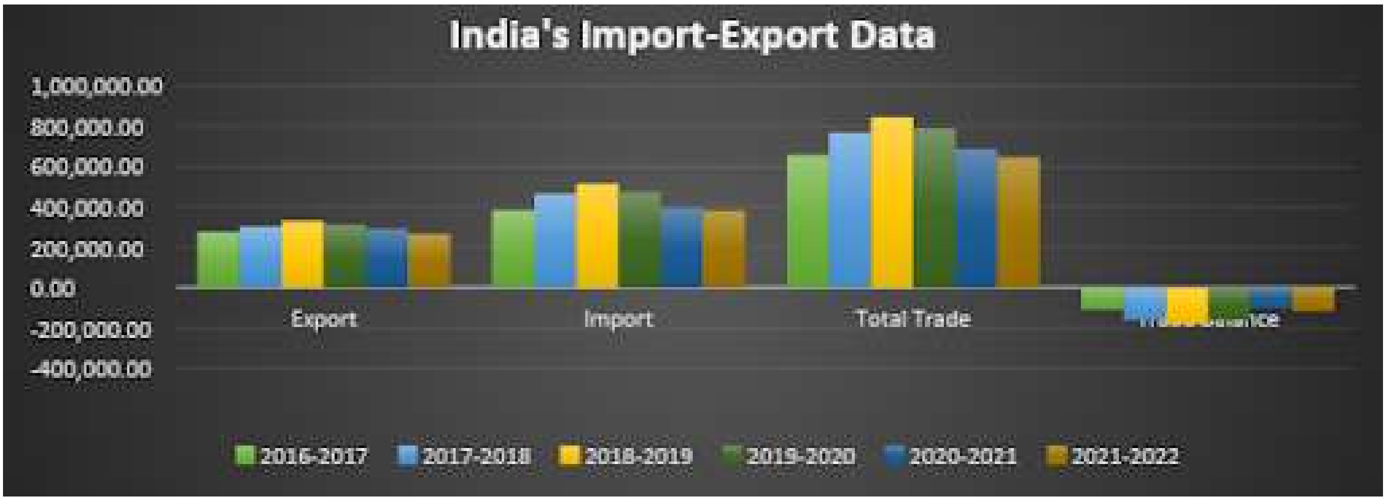
Khorna et. al. (2021) used a gravity model of trade and applied it to Commonwealth countries over the period from January 2019 to November 2020. They reported that a surge in the COVID-19 cases in low-income importing countries reduced Commonwealth exports.

Figure 2



Source: Author's construction using www.commerce.gov.in data.

Figure 3



Source: Author's construction using www.commerce.gov.in data.

Table 1

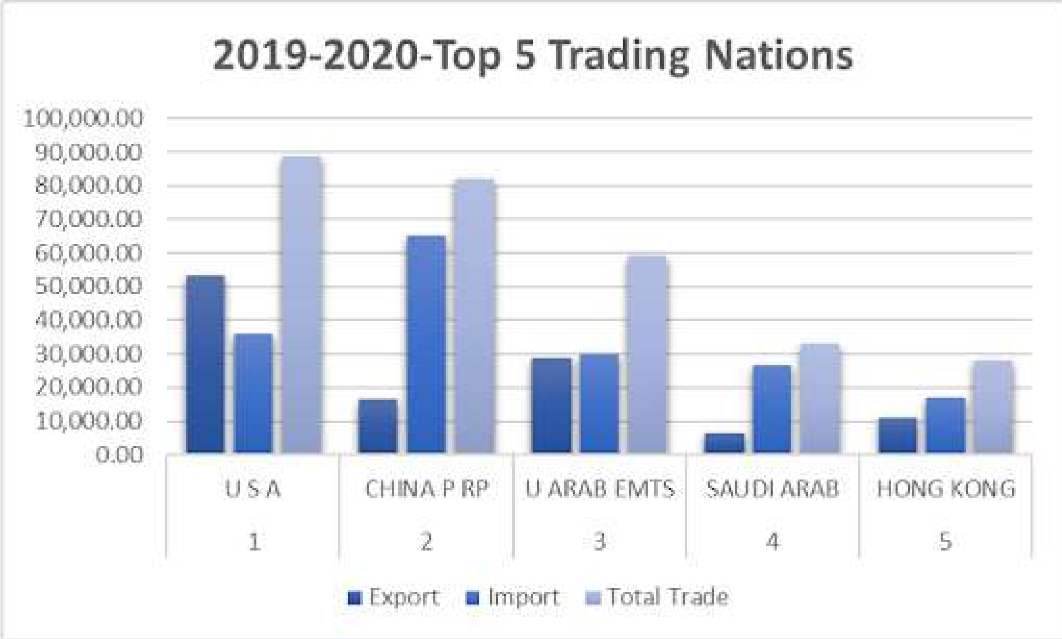
Year	Export	Import	Total Trade	Trade Balance
2016-2017	275,852.42	384,356.39	658,828.66	-108,503.97
2017-2018	303,526.15	465,580.25	769,057.68	-162,054.10
2018-2019	330,078.08	514,078.35	844,148.55	-184,000.27
2019-2020	313,361.03	474,709.27	788,056.15	-161,348.24
2020-2021	291,808.47	394,435.85	686,242.51	-102,627.38
2021-2022	265,776.25	381,449.54	647,194.01	-115,673.29

Source: www.tradestat.commerce.gov.in

As can be observed from Figures 2 and 3, and Table 1, Indian imports were highest in the year 2018-19, i.e., pre-pandemic. Indian trade was severely impacted by COVID-19 and continued to fall as can be noticed from the decreasing import and export levels in the years 2020-21.

Trade numbers continue to be low, however, economists predict that the trade would rise again, owing to opening of the economy, and removal of lockdown restrictions.

Figure 4

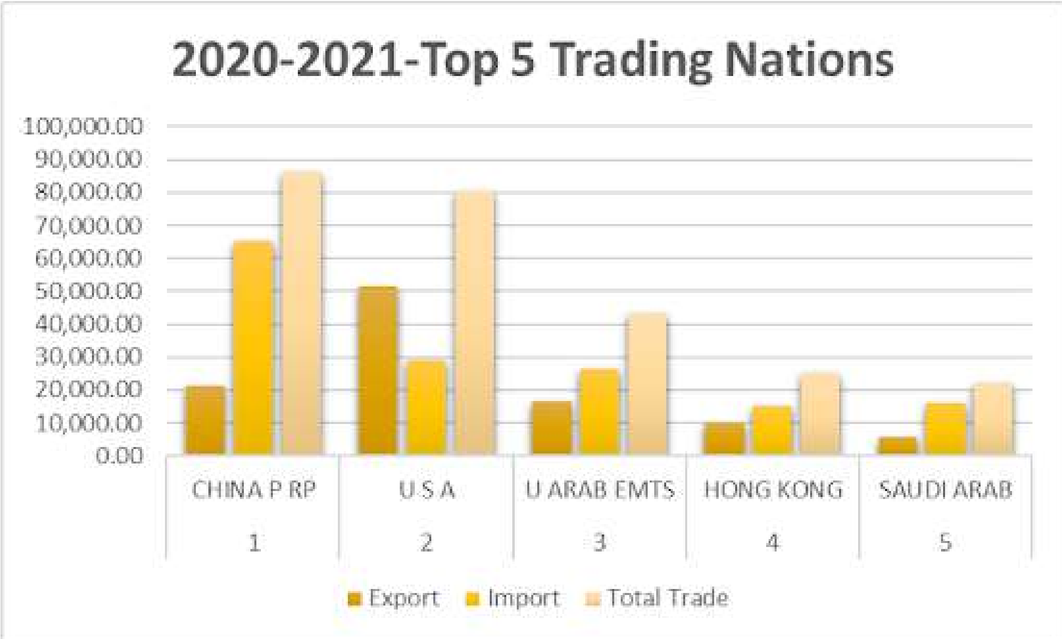


Source: Author's construction using www.commerce.gov.in data.

Figure 5

Source: Author's construction using www.commerce.gov.in data.

Figure 5



Source: Author's construction using www.commerce.gov.in data.

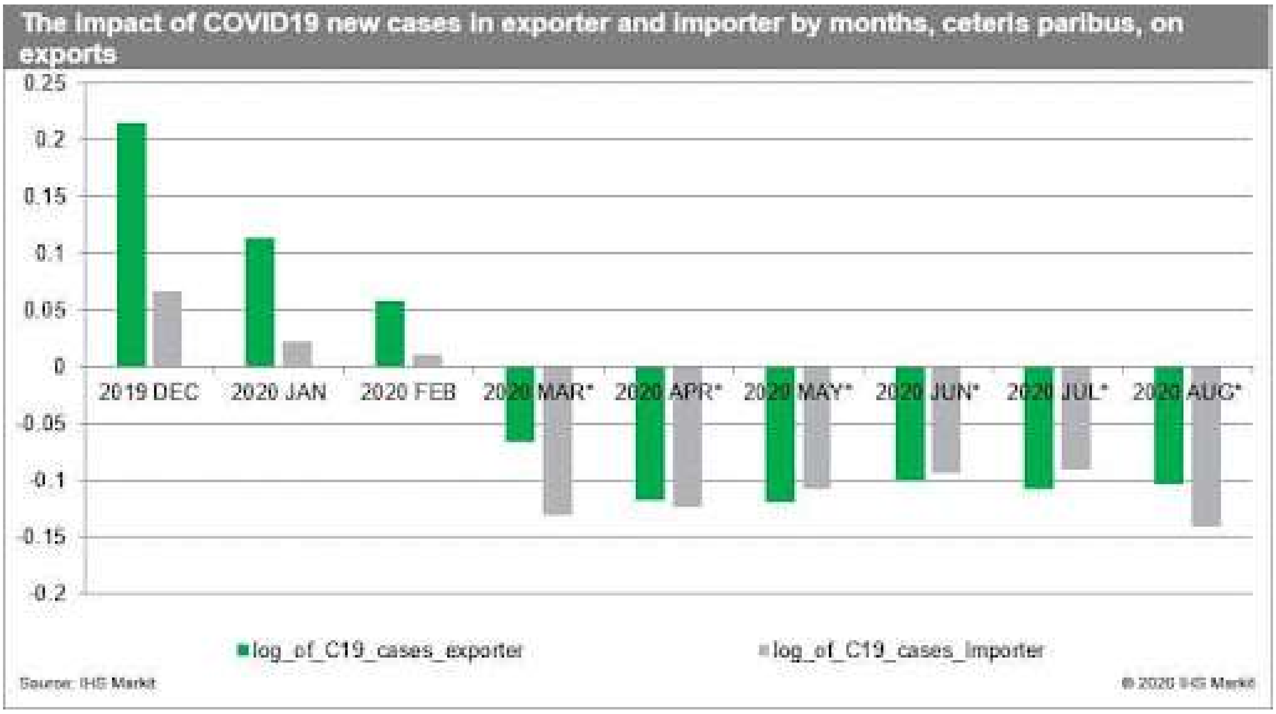
In the case of the Indian economy, we can observe from the trend and past figures as shown above, that the gravity model succeeds in some cases while not in others. For example, the US has been India's top trading nation, even during the global pandemic, even though the distance between India and US is extremely high. However, the Gravity model clearly works in the case of India-China trade relationships. Even though there is high political and economic tension between the two countries, the numbers clearly suggest that China was India's largest trading partner in 2020-2021. India also has adverse relationships with Pakistan and the gravity model fails there despite proximity, thus negatively impacting both countries. Other neighbouring countries of India are either under-developed or developing nations with low GDP and output. Thus, trade with such nations is severely restricted.

Sabyasachi & Nuno (2013) quote the study conducted by (*Tharakan et al., 2005*) that applied the gravity model specification to evaluate the determinants of India's bilateral software trade. The authors showcased distance to be insignificant in comparing Indian software exports to overall goods trade flows. (Bhattacharyya & Banerjee, 2006) used the gravity model for 177 countries with which India had trade relations at least once between 1950 and 2000. By using cross-sectional and panel data models, they found that India's trade responds less than proportionally to size and more than proportionally to distance. In addition to that, they concluded that India trades more with developed rather than underdeveloped countries. They further claimed that the higher economic size of a country pair and geographical proximity positively influence India's bilateral trade flows.

A study by HIS Markit titled, "Empirical Analysis into the Impact of COVID-19 on Global Trade Relations" used the trade gravity framework and gravity equations, to prove the existence of the negative impact of COVID-19 on global trade relations. Their article states that, "the impact of the COVID-19 pandemic on bilateral exports is statistically significant and adverse."

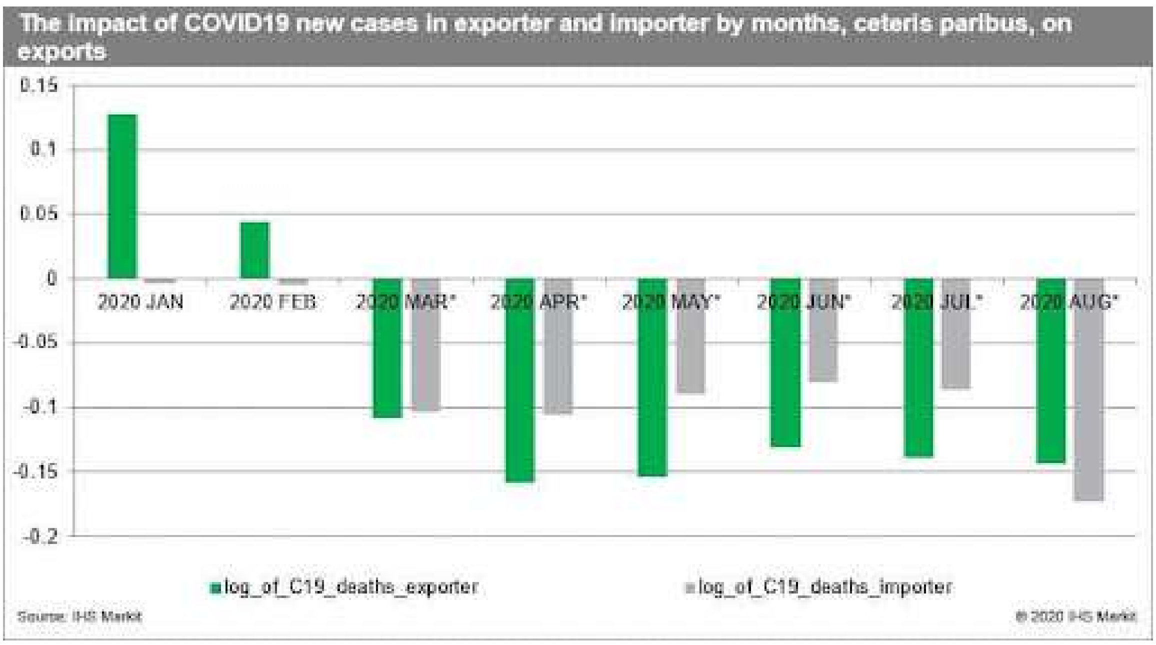
They further state that the magnitude of the reaction to COVID-19 new cases in the exporter is weaker than on the importer's side. However, the magnitude of the effects for new COVID-19 related deaths is on the other hand similar on the exporter's and importer's side. Their results and graphs show that, "starting from March 2020 the elasticities of reaction to COVID-19 cases both on the exporters and importer side become statistically significant and negative". These elasticities of the reaction are visually represented in the following two graphs.

Figure 5



Source: https://ihsmarkit.com/research-analysis/empirical-analysis-into-the-impact-of-covid19-on-global-trade.html

Figure 6



Source: https://ihsmarkit.com/research-analysis/empirical-analysis-into-the-impact-of-covid19-on-global-trade.html

Finally, the study concludes that both the years 2020 and 2021 can be predicted to be the worst two years for global trade relations since the Second World War. The impact of COVID-19 and consequently, a simultaneous supply and demand shock, prove to be adverse and significantly larger than the prior outbreaks including HIV, Ebola, SARS, or MERS in recent years.

Policy Implications and Decisions

Clearly, the impact of COVID-19 has been detrimental around the globe. Governments around the globe have intervened with monetary and fiscal policy measures to counter the downturn and provide temporary income support to both the business sector and to the population. *(Davidescu et. al., 2021*) states that this is similar to the actions taken during the 2007-09 global financial crisis. (*Barbero et. al., 2021*) proposes that countries may need to mitigate the trade shock by implementing public expenditure programmes, as well as encouraging private investment. They further state that, and as is also apparent around the globe, government's attention has currently shifted towards vaccines, which (*Barbero et. al., 2021*) believes would determine the future formulation of policies and that the transition to a non-COVID-19 context is expected to depend strongly on the vaccination efforts that are being undertaken by most countries. Economists' advice that it is essential for countries to remain competitive throughout the course of the COVID-19 pandemic, simultaneously rebuilding their trade relationships.

Conclusion

This article thus successfully presented a thorough analysis of the impact of COVID-19 on global trade and showcased how the Gravity Model of international trade comes into the picture. The Indian economy and how the gravity models dictate its import and exports was showcased. A thorough review of the literature concluded that in India's case, trade responds less than proportionally to size and more than proportionally to distance. Further, it was concluded that India trades more with developed rather than underdeveloped countries. Moreover, studies have shown that the higher economic size of a country pair and geographical proximity positively influence India's bilateral trade flows. When the impact of COVID-19 on trade was studied using the Gravity Model, it was found that the magnitude of the reaction to COVID-19 new cases on the exporter side is weaker than on the importer's side. However, the magnitude of the effects for new COVID-19 related deaths, is, on the other hand, similar on the exporter's and importer's sides. Finally, the study showed that the impact of the COVID-19 pandemic on trade is statistically significant and adverse. In this scenario, it is necessary that governments intervene with suitable monetary and fiscal policy, implement public expenditure programmes and encourage private investment. Further, economists suggest that simultaneous focus should be maintained on strong vaccination efforts as well as on rebuilding and furthering trade relationships.

Bibliography

Barbero, J., de Lucio, J. J., & Rodríguez-Crespo, E. (2021). Effects of COVID-19 on trade flows: Measuring their impact through government policy responses. PloS one, 16(10), e0258356.

Davidescu, A. A., Popovici, O. C., & Strat, V. A. (2021). An empirical analysis using panel data gravity models and scenario forecast simulations for the Romanian exports in the context of COVID-19. Economic Research-Ekonomska Istraživanja, 1-25.

Department of Commerce, India. Retrieved from: https://tradestat.commerce.gov.in/eidb/iecnttopnq.asp

Friedt, F. L., & Zhang, K. (2020). The triple effect of Covid-19 on Chinese exports: First evidence of the export supply, import demand and GVC contagion effects. Covid Economics, 53, 72-109.

IHS Markit. (2020, November 12). Empirical analysis into the impact of COVID-19 on global trade relations. Retrieved from https://ihsmarkit.com/research-analysis/empirical-analysis-into-the-impact-of-covid19-on-global-trade.html

Isard, Walter (May 1954). "Location Theory and Trade Theory: Short-Run Analysis". Quarterly Journal of Economics. 68 (2): 305–320. doi:10.2307/1884452. JSTOR 1884452.

Khorana, S., Martínez-Zarzoso, I., & Ali, S. (2021). The Impact of COVID-19 on the Global and Intra-Commonwealth Trade in Goods. International Trade Working Paper 2021/08. London: Commonwealth Secretariat.

Masood, A., Ahmed, J., & Martínez-Zarzoso, I. (2021). Gravity of Covid-19.

Sabyasachi, T., & Nuno, C. L. (2013). India's trade and gravity model: A static and dynamic panel data. MPRA Paper from University Library of Munich, Germany http://mpra. ub. uni-muenchen. de/45502.

Shahriar, S., Qian, L., Kea, S., & Abdullahi, N. M. (2019). The gravity model of trade: A theoretical perspective. Review of Innovation and Competitiveness: A Journal of Economic and Social Research, 5(1), 21-42.

MATHEMATICAL ANALYSIS OF COVID 19 AND TESTING CAPACITY USING SIQ(S) MODEL

Suhani Silki, Riya Ratan and Bipul Kumar

Satyawati College, University of Delhi

Abstract:

We have set up an epidemiological (SIQ(S)) model with the quarantine-adjusted incidence rate to evaluate the role of testing capacity in the interactive dynamics of COVID -19. Firstly, we present the subject model in the form of differential equations. Secondly, we have found the "disease-free equilibrium and endemic equilibrium" for the model. We conclude the endemic equilibria are stable with condition Rq > 1 and the disease-free equilibrium is stable with condition Rq < 1. This mathematical model aided us in comprehending the impact (Q) of quarantine would have on the pandemic and what testing efficiency reveals to us about the number and severity of infections.

Keywords : COVID-19, Basic Reproduction Number, Quarantine–Adjusted Incidence Rate, Testing capacity

Introduction

An endemic illness spreads over a prolonged period of time. Isolating infectives and quarantining is one of the intervention strategies that are used to restrict the spread of infectious illnesses. Quarantine refers to the forced separation or prohibition of engagement with people imposed by governments. Over the years, quarantine has also aided in the prevention of the spread of diseases such as plague, cholera and smallpox. A relevant demonstration of such activity was witnessed during the coronavirus epidemic.

The coronavirus has drastically affected the health of the human population across the world. The high rate of transmissibility has challenged the entire human race and it has resulted in the imposing of lockdowns all over the world.

SIR models (susceptible-infected-recovered) have been widely used in the literature to model infectious diseases such as cholera and are now being accepted for the Coronavirus due to similarities. Zhang and Zhang (*2020*) incorporated a new class Q of quarantined individuals to evaluate the effect of quarantine on endemics. They are assuming that people in quarantine don't mix with others, hence they are non-infecting agents. In the SIQ (S) model, for infections that do not infer immunity, they only move back to the susceptible class after their entire infectious period, while other infected are transferred to quarantine class Q until they are in the infectious period.

Furthermore, it has been demonstrated that SARS-CoV-2 has a high human-to-human transmissibility rate; thus, early detection, immediate isolation of infected individuals, and early treatment of patients are critical to its successful management without resorting to widespread social and economic lockdowns. Therefore, to break the chain of COVID-19 infection, the efficiency of laboratory testing should be increased, not only for the symptomatic cases but for asymptomatic cases as well.

To adjust to the new normal, India has been fine-tuning its testing strategy in response to changing patterns, taking into account the range, demand and capacity to swiftly scale-up tests carried out every day across the country. Over five months, the number of testing laboratories increased from 14 to more than 1596 in response to COVID-19. The Indian Council of Medical Research (ICMR), in collaboration with the Ministry of Health and Family Welfare (MoHFW), is increasing and diversifying testing capacity via the use of technologies such as automated PCR and RNA extraction systems. It set up molecular diagnostic laboratories in tough terrains such as Ladakh, Arunachal Pradesh, Tripura, Mizoram, Lakshadweep and the Andaman and Nicobar Islands to ensure that no one was left behind. (*WHO, 2021*).

"ICMR intends to make COVID-19 diagnostic facilities affordable and accessible in all districts of India. To achieve this, we are tirelessly working with all partners to enable testing at all government and private medical colleges in India. We are also working with WHO to strengthen the quality control programmes" (Bhargava , 2021)[1].

On July 27, 2020, the Prime Minister of India, Shri Narendra Modi, launched high-throughput COVID-19 testing facilities via video-conferencing. These three high-throughput testing facilities are strategically located at the ICMR-National Institute of Cancer Prevention and Research in Noida, the ICMR-National Institute for Research in Reproductive Health in Mumbai, and the ICMR-National Institute of Cholera and Enteric Diseases in Kolkata, and will be able to test over 10,000 samples per day (Press Information Bureau, 2020). The above measures played an important role in controlling the effects of COVID-19 in the third wave. According to a report published by Statista Research Department, as of February 3, 2022, India tested over 732 million samples for the COVID-19 virus and it's going on at a great pace.

In this paper, we study the effectiveness of the modelling approach in pandemics due to the spread of novel COVID-19 and develop a susceptible-infected-quarantine-(susceptible) model that provides a theoretical framework. The main goal of this paper is to establish a deterministic epidemic model and investigate and study how the transmission is reduced by separating the susceptible group from the infected ones. It also highlights the fact that increasing the testing capacity decreases the number of patients in contact with the disease because of the ultimate and responsible actions taken for it.

Literature Review

The traditional epidemiological model developed by Kermack and McKenderick (1927), has been proved useful for human beings to understand the nature of a disease, its behaving patterns, when it affects a region, and help to determine whether it will be eradicated or spread. We have focused our model on the COVID-19 virus.

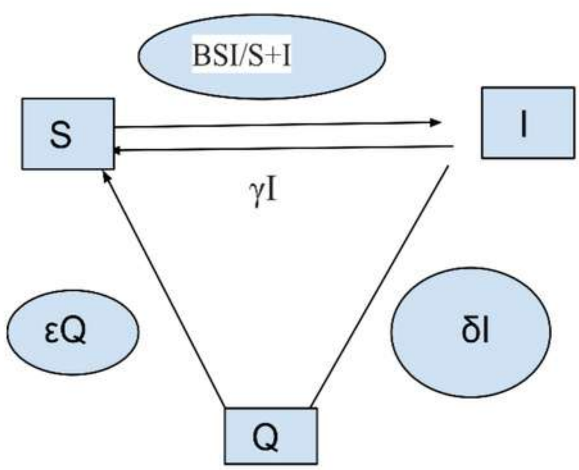
Ming et al. (2020) developed a modified SIR model (Suspected-Infected- Recovered) to project the actual number of infected cases and the specific burden on ICUs. Similarly, many researchers extended this basic framework by adding new variables in models like Quarantine (Q) and exposure to infection (E) leading to new epidemiological models like SEIR, SIQE, etc (*Datta and Saratchand, 2021*). Cooper et al. (2020) developed a theoretical framework of the SIR model to study the impact of COVID-19 by offering valuable predictions. Zhang and Zhang (2020) in their model used the SIQS model with varying populations to investigate how the stochastic perturbation of the transmission rate of the disease affects disease dynamics. In these papers, the most important thing, the testing capacity i.e. the tool to contain viruses easily has not been shown.

Therefore, in this paper, we have further extended the SIQS model and included the testing capacity (δ and drawn the relationship between testing capacity and the COVID-19 infection rate. Along with that, the quarantine-adjusted incidence rate has been presented by Hethcote (2000). which is similar to the standard incidence rate for human-borne diseases, is more realistic than other bilinear incidence rates.

Model and Local Stability

In the epidemiological model, this paper attempts to divide the whole P (population) into three categories, namely; S (t) susceptible group (this group contains the individuals who can get infected if they come in contact with the infected individuals), I (t) infected group (contains the infected individuals) who, overtime, can move to suspected groups or quarantined groups without or with isolation, respectively; and Q (t) quarantine group (who is infected, tested and quarantined) who can move to a susceptible group after proper treatment. For simplicity, we have assumed that the whole population is not changing over time.

We have introduced the following SIQS model showing the testing capacity,



P = S(t) + I(t) + Q(t)

The dynamics of the flow between these three compartments might be expressed in the form

$$\frac{dS}{dt} = -\frac{\beta SI}{S+I} + \varepsilon Q + \gamma I \qquad (3.1)$$

$$\frac{dI}{dt} = \frac{\beta SI}{S+I} - \delta I - \gamma I \qquad (3.2)$$

$$\frac{dQ}{dt} = \delta I - \varepsilon Q \qquad (3.3)$$

Here,
β - infection rate (>0)
γ - recovery rate from the infected population without any proper treatment (>0)
δ - rate at which the infected individual tested and quarantined (testing capacity) (>0)
ε - recovery rate from quarantine group (>0)

(Taking Population as 1), we have

$$1 = S+I+Q \qquad (3.4)$$

From this equation three dimensional dynamical system (3.1 to 3.3) reduces to two dimensional dynamical system (3.5 and 3.6) by making one of the equation redundant by replacing Q = 1-S-I from equation 3.4.

We have,

$$\frac{dS}{dt} = -\frac{\beta SI}{S+I} + \varepsilon(1 - S - I) + \gamma I \qquad (3.5)$$

$$\frac{dI}{dt} = \frac{\beta SI}{S+I} - \delta I - \gamma I \qquad (3.6)$$

The above equations yields two steady -state values
E 1(I*, S*) = (0, 1) and E2(I*,S*) =

$$\left(\frac{\epsilon Rq(Rq-1)}{(Rq-1)(\beta-\gamma Rq)+\epsilon(Rq)^2}, \frac{\epsilon Rq}{(Rq-1)(\beta-\gamma Rq)+\epsilon(Rq)^2}\right)$$

We will call the steady state (I*,S*) = (0, 1) as endemic-free equilibrium as the number of infected individuals is zero in this equilibrium.

On the other hand (I*,S*) =

$$\left(\frac{\epsilon Rq(Rq-1)}{(Rq-1)(\beta-\gamma Rq)+\epsilon(Rq)^2}, \frac{\epsilon Rq}{(Rq-1)(\beta-\gamma Rq)+\epsilon(Rq)^2}\right)$$

will be considered as the endemic equilibrium. Here $Rq^2 = (\frac{\beta}{\gamma+\delta})$

Rq is the Basic Reproductive Number, the same as the model by Hethcote (2000) in the case of quarantine adjusted incidence rate and under the assumption of a constant population over time.

For analysing the local stability properties of the two equilibria, we linearize the dynamical system using a version of the Routh-Hurwitz condition found in Flaschel (2009). Then we compute the Jacobian matrix at steady-state and compute its characteristic equation.

For E1 steady state the characteristics equation is $\lambda^2 + a_1 \lambda + a_2 = 0$

Where is the characteristic root , a1 is negative of trace of the jacobian (trJ), a2 is the determinant of the jacobian (detJ). For E1 to be local stable, the necessary and sufficient conditions are that all the roots of the characteristics equation have negative real parts if and only if the set of inequalities a1 >0, a2>0 is satisfied,

Here ,

$$a_1 = -(trJ) = \gamma + \delta + \epsilon$$

As γ, δ and ϵ are all positive . hence a_1 is positive

Now

$$a_2 = (detJ) = [(\epsilon + \beta)\{(\gamma + \delta) - \beta)\}]$$

When Rq is less than 1 , the second term is positive as is positive and all other parameters to be local stable equilibrium are satisfied i.e. a1 and a2 >0. Therefore a2 positive too. So a2 becomes positive. Hence at steady state E 1(I*,S*) = (0,1) is the local stable steady state.

Now similarly for E2,
The corresponding characteristic equation is

Here

$$a_1 = -[\{\frac{\beta S^{*2}}{(S^* + I^*)^2} - (\gamma + \delta)\} + \{-\epsilon - (\frac{\beta I^{*2}}{(S^* + I^*)^2})\}]$$

After some rearrangement

$$a_1 = -\{\beta/(S^* + I^*) - (\gamma + \delta + \epsilon)\}$$

Now assume Rq > 1, under this assumption3 the term in the bracket becomes negative , and, in turn, a1 becomes positive.

$$a_2 = -(\gamma + \delta)\}\{-\epsilon(+ (\frac{\beta S^{*2}}{(S^* + I^*)^2})\}] - [\{\frac{\beta I^{*2}}{(S^* + I^*)^2}\}\{-(\epsilon + (\frac{\beta I^{*2}}{(S^* + I^*)^2})\}]$$

When Rq > 1 this term will also become positive.Hence for E2 to be a local stable equilibrium point all conditions are satisfied i.e., a1 > 0, a2 > 0.

Therefore endemic free equilibriumE2 (I*,S*)=

$$\left(\frac{\epsilon Rq(Rq-1)}{(Rq-1)(\beta-\gamma Rq)+\epsilon(Rq)^2}, \frac{\epsilon Rq}{(Rq-1)(\beta-\gamma Rq)+\epsilon(Rq)^2}\right)$$

is a local stable steady state.

Comparative Statics of Policy Parameter (δ)

In this section, we explore the dynamic effects of changes in parameters. Here the parameter which might have policy intervention is δ, β, γ *and* ϵ. γ and ϵ are the recovery rates from the infected group and quarantined group, respectively. This isn't of much interest from a policy stance (Datta and Saratchand, 2021). β is the infection rate which has the policy intervention by non-pharmaceutical measures involving widespread lockdown, restriction on economic activities and travel to boil down the value of β but at a severe economic cost. δ is the parameter that has policy intervention, as it represents the rate of testing capacity and quarantines the infected individual, which in turn reduces the infected individual by an amount of δ.

At any point of time, only (1–δ)I infected individual comes into contact with a susceptible individual. Therefore, a better policy mix of low non-pharmaceutical measures and increased the value of δ will help in achieving the twin objective i.e., lowering the spread of pandemic and at the same time increasing the economic activities (Razmi, 2020).

Now , for the comparative statics , we partially differentiate the endemic equilibrium steady
state E2 with respect to parameter δ

$$dS^{*} / d\delta \;=\; \frac{\epsilon[\delta(\beta-(\gamma+\delta)+\epsilon\beta]-\epsilon(\gamma+\delta)\{\beta-(\gamma+2\delta)\}}{(\delta(\beta-(\gamma+\delta)+\epsilon\beta)^{2}}$$

$$> \text{or} < 0 \qquad (4.1)$$

$$dI\,^{*}\,/d\delta \;=\; \frac{\epsilon[2\gamma(\beta+\delta)+\epsilon\beta+\beta^{2}+\gamma^{2}-\delta^{2}\;]}{(\delta(\beta-(\gamma+\delta)+\epsilon\beta)^{2}}$$

$$= \frac{\epsilon[\delta^{2}+\epsilon\beta-\gamma\{\beta-(\gamma+2\delta)\}]}{(\delta(\beta-(\gamma+\delta)+\epsilon\beta)^{2}} \quad > 0 \text{ or } < 0 \qquad (4.2)$$

The sign of dI*/dδ > 0 only when the term δ – 2γ is negative. This only happens when the rate of testing capacity is very low and somehow the recovery rate is greater comparatively, this implies that at the initial stage when the rate of testing capacity increases the number of newer infectious individuals tested. Therefore, the number of infected individuals increases initially when the δ is low in the short run. The sign of dI*/dδ < 0 when the value of parameter δ is high and the other parameter have comparatively lower values, this implies that in the long run when test capacity is expanded more and more individuals get tested and quarantined, so the lesser number of infected individuals left, this might have greater policy implications as we expect.

Now, similarly for dS*/ dδ, the sign of dS*/ dδ < 0, when $\delta^{2} + \epsilon\beta$ is less than $\gamma\{\beta - (\gamma + 2\delta)\}$, this is only possible when the is very low such that it doesn't alter the inequalities of Rq. This implies that at a low rate of testing and quarantine and in absence of non-pharmaceutical measures the pandemic spreads more rapidly. Hence, it lowers the number of susceptible individuals and in turn, increases the number of infected individuals. The sign of dS*/ dδ > 0, when $\beta - (\gamma + 2\delta)$ is negative, this only happens when the rate of testing and quarantine parameters (δ) is high. The implication of it, is that as the value of δ is high then the emergence of new infections becomes low. Hence, the number of susceptible individuals increases as we expect.

Conclusion

The model in this paper can be extended further in numerous ways, of which we only mention a few. Firstly, we could further divide the group of Susceptibles (S) into economic and non-economic groups to make it more detailed, keeping in mind the change the pandemic brought to the economic growth. Secondly, in our model, we focused solely on testing data from India and checked local stability which could further be extended to global stability.

The mathematical model set out in this model is a way to analyse the local stability of disease-free as well as endemic equilibria and through this model, we conclude the endemic equilibria are stable with condition Basic Reproduction Number Rq > 1 and disease free equilibrium is stable with condition Rq < 1. We further find that when the rate of testing and quarantine parameter (δ) is high, then the emergence of the new infection becomes low by adding the Q to the already working model of SIR which is in relation to WHO's an emphasis on the importance of COVID 19 testing, and, for this, to expand the capacity of national laboratories.

Notes

1. The statement is taken from the WHO website.
2. The basic reproduction number, Rq, is defined as the number of secondary infections caused by an infected individual when introduced into a completely susceptible population. Rq is used to assess the possibility of disease transmission. It is also used to evaluate the intensity of viral outbreaks. If Rq is less than 1, then an infected individual spreads the pathogen to less than one susceptible individual on average, and the outbreak dies out after a few cases in the population. If Rq > 1, the outbreak becomes an epidemic, with the number of affected people growing exponentially (Shil et al., 2021).
3. This assumption might hold true as the estimated value of R0 for all the districts of India is as follows; R0 lies between 1-3 for 55.7% of all districts and between 1-4 for 78.4% of all districts (Shil et al., 2021).

Bibliography

Cooper, I., Mondal, A., & Antonopoulos, C. G. (2020). A SIR model assumption for the spread of COVID-19 in different communities. Chaos, Solitons & Fractals, 139, 110057. https://doi.org/10.1016/j.chaos.2020.110057.

Datta, S., & Saratchand, C. (2021). On the Macrodynamics of COVID-19 Vaccination (No. 21/352). https://www.nipfp.org.in/media/medialibrary/2021/08/WP_352_2021.pdf.

Flaschel, P. (2008). The macrodynamics of capitalism: elements for a Synthesis of Marx, Keynes and Schumpeter. Springer Science & Business Media.
http://dx.doi.org/10.1007/978-3-540-87932-9.

Flaschel, P. (2008). The macrodynamics of capitalism: elements for a Synthesis of Marx, Keynes and Schumpeter. Springer Science & Business Media.
http://dx.doi.org/10.1007/978-3-540-87932-9.

Hethcote, H., Zhien, M., & Shengbing, L. (2002). Effects of quarantine in six endemic models for infectious diseases. Mathematical biosciences, 180(1-2), 141-160.
https://doi.org/10.1016/S0025-5564(02)00111-6.

Kermack, W. O., & McKendrick, A. G. (1927). A contribution to the mathematical theory of epidemics. Proceedings of the royal society of london. Series A, Containing papers of a mathematical and physical character, 115(772), 700-721. https://doi.org/10.1098/rspa.1927.0118.

Ming, W. K., Huang, J., & Zhang, C. J. (2020). Breaking down of healthcare system: Mathematical modelling for controlling the novel coronavirus (2019-nCoV) outbreak in Wuhan, China. BioRxiv.
https://doi.org/10.1101/2020.01.27.922443.

Ministry of Information & Broadcasting, Press Information Bureau. (2020). PM to launch High Throughput COVID-19 testing facilities on 27 July. Retrieved from
https://pib.gov.in/PressReleasePage.aspx?PRID=1641340 on 2 Feb 2022.

Razmi, A. (2020). Some short-run macroeconomic considerations as society deals with a once-in-generations pandemic (No. 2020-04). Working Paper.
https://scholarworks.umass.edu/econworkingpaper/287.

Shil, P., Atre, N. M., Patil, A. A., Tandale, B. V., & Abraham, P. (2022). District-wise estimation of Basic reproduction number (R0) for COVID-19 in India in the initial phase. Spatial Information Research, 30(1), 37-45.
https://doi.org/10.1007/s41324-021-00412-7.

World Health Organisation (WHO). 2022. How India scaled up its laboratory testing capacity for COVID19. Retrieved from
https://www.who.int/india/news/feature-stories/detail/how-india-scaled-up-its-laboratory-testing-capacity-for-covid19 on 30 January 2022.

Zhang, X. B., & Zhang, X. H. (2021). The threshold of a deterministic and a stochastic SIQS epidemic model with varying total population size. Applied mathematical modelling, 91, 749-767.
https://doi.org/10.1016/j.apm.2020.09.050.

Appendix

A.1 Partial differentiation of equation 5 and 6 with respect to I and S.

$$d\dot{I}/dI = \frac{\beta S^2}{(S+I)^2} - (\gamma+\delta) \quad \text{A.1}$$

$$d\dot{I}/dS = \frac{\beta I^2}{(S+I)^2} \quad \text{A.2}$$

$$d\dot{S}/dS = \frac{-(\epsilon+\beta I^2)}{(S+I)^2} \quad \text{A.3}$$

$$d\dot{S}/dI = -\frac{(\epsilon+\beta S^2)}{(S+I)^2} \quad \text{A.4}$$

A.2 All the elements of Jacobian matrix evaluated at the steady state

$$J_{11} = \frac{\beta S^{*2}}{(S^*+I^*)^2} - (\gamma+\delta) \quad \text{A.5}$$

$$J_{12} = \frac{\beta I^{*2}}{(S^*+I^*)^2} \quad \text{A.6}$$

$$J_{21} = \frac{-(\epsilon+\beta I^{*2})}{(S^*+I^*)^2} \quad \text{A.7}$$

$$J_{22} = \frac{-(\epsilon+\beta S^{*2})}{(S^*+I^*)^2} \quad \text{A.8}$$

THE PLIGHT OF E-COMMERCE AND CONSUMER SPENDING HABITS

Rishabh Chakraborty and Kripa Jalan
St. Xavier's College (Autonomous), Mumbai

Abstract:

The gargantuan shift in E-Commerce since the beginning of the COVID- 19 pandemic has been a common occurrence in the news over the past two years. With the economies around the world struggling and millions of people losing their jobs, the growth of this sector needs to be investigated. Several psychological aspects of marketing and economics play an important role in understanding this phenomenon, along with the true extent of how much consumer purchasing habits have changed. And, as consumers grow more and more dependent on the internet, understanding how safe and knowledgeable they are about the data being collected from them is integral to the development of the E-Commerce industry.

On conducting multiple regression analyses, it is clear that with an increased amount of money being spent on targeted advertisements, consumer spending increases. The converse is true with regards to cybersecurity, where more investment in cybersecurity increases the difficulty of obtaining data from consumers for the companies, resulting in lower consumer spending. This is not just showcasing the true power of E-Commerce but also throwing light on the need for revised policies regarding the exploitation of data by the Big Tech companies.

Keywords: E-Commerce, Targeted Advertising, Regression Analysis, Behavioural Economics.

JEL Classification C30 D9

Introduction

With the onset of the Covid-19 pandemic, the concept of online shopping has increased more than expected, which has diluted the perceived value of money, especially with the increase in popularity of credit banking. The convenience of payments has caused a major shift in the trust meted out by the consumers. This has exponentially inflated the unrealised risks that are associated with online payments, especially concerning the encryption software and the readily available data exploited by ISPs and other malicious individuals. Consumer behaviour, particularly in times of adversity can be extremely erratic and unpredictable. Through our paper, we would like to hone in on how the consumers from different countries responded.

With a surge in technology and Artificial Intelligence, consumer data is used in ways that are expected to increase targeted advertising. A breach of privacy leads to more data being used by companies. It is evident how an increase in both spending habits and targeted advertising benefits companies. It can be seen through the example of a food and beverage giant, Nestle. The company saw an increase in E-commerce by 49% which resulted in an increase in its overall sales, despite the closure of its in-person coffee boutiques.

In relation to electronic transactions and purchasing habits, the COVID-19 pandemic impacted the sector in three different and staggering ways. The first was a precautionary stage, followed by panic buying and then finally a sheltering stage.

The precautionary stage primarily consisted of medical supplies like masks, sanitisers and disinfectants. The secondary stage of panic buying witnessed consumers spending an increased quantity of money on personal items and non-perishable foodstuffs. The final stage saw an uptick in the sale of technological goods, exercise equipment and others. This was more prominent in the Americas. The length of the lockdowns varied from country to country and non-essential retailers were closed for months. Although making it hard to have efficient supply chains, it created a place for e-commerce to shine. This is backed up by the fact that the prices of several products increased after the onset of the Pandemic.

E-commerce has been one of the greatest flag bearers of remote payments, garnering tremendous traction during the Pandemic. Economic activity all over the world contracted, which caused a decline in overall transactions conducted through cards, yet CNP (Card Not Present) transactions have seen rapid growth. The number of CNP transactions, though reduced from its pandemic peaks, is still higher than pre-pandemic levels, which could have risks associated with it.

Several e-commerce platforms have created much more robust and convenient services, and product offerings with ingenuity, paving the way for different delivery methods.

Objectives

1. To show how the COVID 19 pandemic has affected consumer behaviour.
2. To bring out how data and privacy can be used in unexpected ways to influence the purchasing habits of consumers.
3. To employ the concept of behavioural economics in understanding spending patterns of consumers in the digital market.

Hypothesis

The advent of Machine learning, targeted advertising and the convenience attributed to E-commerce causes an increase in consumer spending.

Literature Review

Online Behavioral Advertising can be broadly defined as “Adjusting advertisements to previous online surfing behaviour” by Smit, Noort and Voorveld (2013). McDonald and Cranor (2010) define behavioural advertising as “One form of targeted advertising, which is the practice of collecting data about an individual’s online activities, for use in selecting which advertisement to display. Behavioural advertising creates profiles for Internet users based on a variety of different data types and inferences drawn from those data.” According to Ham and Nelson (2016) Online Behavioural Advertising (OBA) is “a technology-driven advertising personalization method that enables advertisers to deliver highly relevant ad messages to individuals.”. Now, all these definitions have two main common features; the first one being the use of data that has been collected to individually target users with advertisements, and the second one being the tracking or monitoring consumer’s online patterns and behaviour. Hence, Boerman, Kruikemeier and Borgesius (2017) define OBA as “the practice of monitoring people’s online behaviour and using the collected information to show people individually targeted advertisements.”. Online behaviour can include a variety of factors including web browsing data, media consumption data, search histories, purchases, app-use data, communication content and click-through responses to ads (*Boerman, Kruikemeier and Borgesius, 2017*).

In the paper titled ‘Online Advertising: the impact of targeted advertising on advertisers, market access and consumer choice’ Fourverg, Tas, Wiewiorra and Godlovitch[1] (2021) state that there are three main types of advertising: search advertising, display advertising and classified advertising.

[1] And Alexandre De Streel, Hervé Jacquemin, Jordan Hill, Madalina Nunu, Camille Bourguigon, Florian Jacques, Michèle Ledger and Michael Lognoul

The consumer can be targeted largely in two ways, one by tracking the content visited on a website or by search queries. Another major way of targeting can be via cookies or any other tracking technology, which involves extensive processing of consumers data. This is where data privacy concerns come into the picture. Consumers lack knowledge that their data is being used for targeted advertising. In a report issued by TRUSTe, 57% of the respondents were "not comfortable" with advertisers using history-based behavioural advertising even though the information was not or could not be tied to their names. Around 35% of the respondents felt that their privacy had been invaded due to the tracking methods on the internet. In order to track consumers' behaviour while browsing, companies often use tracking cookies, along with other technologies including device fingerprints and flash cookies (*Altaweel, Good, and Hoofnagle, 2015*). According to a study conducted by Altaweel, Good and Hoofnagle, 100 of the most popular and most visited sites collected over 6000 HTTP cookies out of which 83% are search party cookies. Google's tracking system is unparalleled and it approaches the level of surveillance that can only be achieved by Internet Service Providers (ISPs) (2015). Irrespective of privacy concerns, Online Behavioural Advertising (OBA) is much more effective than non-targeted advertising which results in an increased click-through rate and purchases (*Boerman, Kruikemeier and Borgesius, 2017*). As far as risks are concerned, many individuals consider the collection and use of personal browsing data as an invasive tactic that leads to a rise in negative perceptions. (*Varnali, 2019*). The negative perceptions of data collection over the internet have been supported by the information boundary theory in a paper by Sulanto, Palme, Tan and Phang. It suggests that people and consumers find the collection and usage of personal data and information as an intrusive practice and hence perceive it as a risk (2013).

The social presence theory, that refers to the feeling of being with someone else in a mediated community, stated in a paper by Phelan, Lampe and Resnick titled "It's Creepy, but it doesn't bother me", also backs the fact that consumers find collection and usage of private information as a threat. There is a commonality between the negative feeling that arises when a person spies on people and when a computer collects information and personal data while surfing the internet (*Phelan, Lampe and Resnick, 2016*).

A research by Ponemon Institute (2010) shows that although consumers generally prefer online advertisements that are in line with their preferences (targeted advertising), they still worry about the personal information collected by companies and marketers which are used without their consent. Of all the costs incurred on a product or service, 34% of it is spent on advertising (*Sama, 2019*). This is an important feature in the marketing world since advertisements help in reaching top of the mind recall and hence advertising is an important strategy under marketing especially in the Business to Consumer forum (*Singh, 2012*). In a paper by Opeodu and Gbadebo, it has been indicated that advertisements on various platforms of media have an important role in affecting consumers' choices (2017). Due to its multi-tiered structure, the internet is a more engaging platform in comparison to print media for affecting consumers' buying habits (*Sama, 2019*). In a study conducted by Ramzan Sama, the results concluded that Internet advertisements have a greater impact on the awareness, interest and conviction stages of consumer behaviour in comparison to the purchase and post-purchase stages (2019). These results were in line with the study conducted by Ahmed (2017) which revealed that online advertisements had a greater impact on pre-purchase stages as compared to the post-purchase stages.

An important note is that these studies were conducted in pre-pandemic conditions. In a study conducted by Ponemon Institute (2010), the expected incremental revenue or the expected return on the investment, as a result of online behavioural advertising is around 3 times (304%) the original investment. Another conclusion from their study was that the expected return from modern online behaviorally targeted advertisements was about 50% higher than the traditional and conventional display advertisements. A study revealed that search advertising (advertising based on previously searched keywords, products or services by a consumer (Wlosik, 2018)) is one of the most successful forms of online advertising when it comes to conversion rates. A sponsored search result through Google ads has an average conversion rate of 4.40% across all industries in comparison to a 0.57% conversion rate for display advertising (*Bond, 2021*). This arises from the fact that consumers are already willing to make an active purchasing decision because they have already expressed their interests while searching for a specific product or keywords. Hence, targeted advertising affects consumer behaviour and leads to more purchases.

The Covid-19 pandemic has affected consumer behaviour and purchases in the online markets due to stringent lockdowns and closures of physical markets. There has been a change in the way consumers purchase products, what they purchase and how much they spend on the same. In a study conducted by UNCTAD (2020), it was found that online purchases have increased by 6%-10% across all categories of products, however, there has been a fall in the average online spending per category since the outbreak of the pandemic. In the US online market, there had been an additional $105 billion revenue in the US online revenue in 2020 as compared to the previous year and online sales went up by approximately 32.4% in 2020 (Digital Commerce, 2021). In an article by Shapiro (2020), it has been concluded that there has been an increase in new email (addresses) captures, both year over year and month over month since the pandemic, indicating that there have been new online shoppers since the covid outbreak has taken place. Email conversion rates and adding items to online carts have increased since the pandemic thereby indicating that there is a high purchase intent amongst online shoppers (*Shapiro, 2020*). There has also been an increase in the number of products that have been viewed online, suggesting that there has been an uptick in eCommerce activity (*Shapiro, 2020*). Hence, there has been a change in consumer behaviour in the online market since the pandemic.

Following the literature review, it is clear that consumers in the online medium still feel unsafe and are apprehensive about the information meted to the websites. Behavioural advertising has had a pivotal role in purchasing behaviour and decision making in the eCommerce industry. This shift towards online consumption has occurred due to the COVID 19 pandemic and the past few years have caused a paramount shift in consumer behaviour. This paves the way for more thorough research regarding the aforementioned impact.

Structure & Methodology

The paper aims to use both, qualitative data and quantitative data; and research has been conducted respectively. All the data collected and used is secondary data. A brief introduction and in-depth literature review would be followed by data sourcing and analysis. Our main focus will be on interpretation rather than on predictive modelling. No forecasts have been made or no values or results have been predicted using our data.

The following methodology and research models have been used in the paper:

[2] In Collaboration with NetComm Suisse eCommerce Association and the Brazilian Network Information center and lenvon.

1) Keynesian Models of Economics: To understand consumer spending, models developed by Keynes to measure Marginal Propensity to Consume (MPC) and Marginal Propensity to Save (MPS) in the E-commerce platform have been used. To calculate Marginal Propensity to Consume (MPC), Marginal Propensity to Save (MPS), Average Propensity to Consume (APC) and Average Propensity to Save (APS) data collected from the world bank dataset has been used. A cross-country analysis of over 200 countries and regions from the world to understand global consumer spending patterns has been done. Our appendix includes data on Gross National Income and Final Consumption Expenditure, both measured in current US dollars. 211 regions and countries have been taken into consideration. The countries and regions have been selected on the basis of whether data was available for 2018, 2019 and 2020 for both the variables. For income, Gross National Income (Current US$) of a country has been taken into account and for Consumption, Final Consumption Expenditure (Current US$) has been taken. Basic mathematical calculation has been done on APS, APC, MPS and MPC[3] using Microsoft Excel. For both the variables, data from the world bank data set has been collected.

2) Consumer Behaviour during Crises: Delve deeper into preliminary research about how COVID-19 has manifested consumer panic buying, herd mentality, changing discretionary spending and the role of the media in influencing behaviour.

3) Multiple Regression Analysis: To understand the impact of different factors affecting consumers. Spending habits in the online market, we will run a multiple regression with the following variables:

Dependent Variable (Y): Consumer spending on E-commerce

Independent Variables (X1): Money spent on targeted advertising (implying targeted advertising)

(X2): Cyber Security Software revenue.

Two separate multiple regressions have been run based on the respective years. 2019 is considered as the pre-covid year and 2020 has been considered as the pandemic year. 46 countries have been taken into consideration because an in-depth study, analysis and a comparison has been done on the three variables and regression equations that the regression model takes into account.

4) Statistical tools: Statistical tools such as hypothesis testing and significance level tests have been used to verify the effectiveness of our beta values and regression analysis.
Graphical Trend analysis: General graphical trends would be concluded from the data sets to give a visual representation of our thesis.

Analysis

To begin with our analysis, we tackle the MPC, MPS, APS and APC mentioned above, using the data showcased in Appendix 1, 2 and 3[4]. To compare and contrast the data, we have calculated the aforementioned values for both 2019 (Pre-Pandemic) and 2020 (Post Pandemic).

Table 1: MPS, MPC, APS, APC of the world before and during the pandemic

	Pre-Pandemic (2019)	Pandemic (2020)	Difference between pandemic and pre-pandemic
MPC	0.9168	0.9064	-0.0104
MPS	0.0832	0.0936	0.0104
APC	0.7300	0.7245	-0.0055
APS	0.2700	0.2755	0.0055

Source: World Bank Data

[3]MPC: Marginal Propensity to Consume, MPS: Marginal Propensity to Save, APC: Average Propensity to Consume, APS: Average Propensity to Save.
[4]Link to Appendix https://docs.google.com/spreadsheets/d/1WyZdAdmkdphIfTFogpY4na7_soL3svh78kmsDuj6CkY/edit?usp=sharing

MPC: Marginal Propensity to Consume
MPS: Marginal Propensity to Save
APC: Average Propensity to Consume
APS: Average Propensity to Save

$$MPC=\frac{\Delta C}{\Delta Y}$$

$$MPS=\frac{\Delta S}{\Delta Y}=1-MPC\frac{\Delta C}{\Delta Y}=1-MPC$$

$$APC=\frac{C}{Y}$$

$$APS=1-\frac{C}{Y}=\frac{S}{Y}=1-APC$$

The above table consists of the respective MPC, MPS, APS and APC values of the entire world (cumulative) in 2019 and 2020. From the results drawn with the help of the table above, what we can conclude is that at the world level, there has not been much change in the propensity to consume. Pre-pandemic and during the pandemic, there have been similar values in terms of the MPCs and APSs respectively. Similar results can be accounted for, due to the following reasons:

1. Since the estimate has been taken at a world level, it accounts for all the countries which may have had different responses to the pandemic
2. With a decrease in income levels, the consumption levels also decreased in approximately the same proportion. This was probably due to the idea of cutting down on additional non-essential expenses like consumption of luxury goods that were accounted for from the additional income, or consumers just wanted to save more due to uncertainties in the future.
3. In contrast, if income levels increased, since there wasn’t a shortage when it came to spending, consumers continued to use their increased income to purchase goods/services and save the same proportion of income as they used to before the pandemic.
4. The pandemic estimate constitutes the entire year's income. Only in 2-3 months of the pandemic did income levels remain low for most people, in the following months most income patterns came back to pre-pandemic levels
5. With a reduction in consumption of certain goods and services, a few industries, for example, the medical industry did see a boom in revenue generated, whereas consumption of many essentials like food remained the same.
6. A few countries were not affected as adversely by the pandemic, whereas even many that were, did recover over the year, hence bringing consumption and income levels back to normal.

The data set consisted of 211 regions and countries, out of which only 68 countries had a higher MPC during the pandemic, whereas 141 countries had a higher MPC pre-pandemic. The general dip in Marginal Propensity to Consume would arise from the fact that due to nationwide lockdowns general consumption of consumers would have decreased. Apart from that, there could have been a reduction in income and an increase in consumption, causing the MPC to be negative. A decrease in income could be attributed to the fact that general business levels and production saw a dip in economies. An increase in consumption may have risen because many consumers started purchasing products online and started using digital payments. By using digital payments and not cash payments often, consumers lose track of the amount of money they are spending since they are not losing physical money. By losing digital money consumers often do not understand the impact of the same and continue to buy more, causing them to spend more and increase consumption.

More than 50% of the countries and regions that were taken into consideration had a greater level of Average Propensity to consume during the pandemic year in comparison to the year right before the pandemic. The decreasing gap between income and consumption can be mainly attributed to consumers having lower income in comparison to the previous year.

Due to COVID-19, income levels, in general, had a dip, hence the gap between the two factors was reduced.

Switch to E-commerce Purchasing and Behavioural Patterns in Consumers (Targeted Advertising and Machine Learning)

The COVID - 19 pandemic and the lockdowns imposed as a consequence, were the central worries of every economist, company and individual in the world. With the burden on the health sector and severe supply chain disruptions, there was doubt amongst the economists of the world about how consumer spending would transform and adapt to the different methods of shopping and payment, in relation to the apprehensiveness surrounding it. All the economies faced a downturn in fortune, though an unexpected uptick in the use of E-commerce platforms was observed, and this uptick is forecasted to stay. This pandemic has cemented the need for E-commerce and has brought the spotlight onto the convenience and efficiency it possesses, but is this all that is at play?

Citizens belonging to emerging economies have had the biggest and most sizable shift towards buying goods online, according to a report from the United Nations Conference on Trade and Development. This increase is further showcased by the software giant BigCommerce, which analysed the use of E-commerce platforms across several age groups and demographics. The increase in E-commerce use across demographics comes with a caveat, total spending has decreased according to the survey done by BigCommerce in the UK and USA. This is also backed by other surveys conducted in the European Union.

The value of convenience is immeasurable in a fast-paced world economy and the shift, though instigated by the pandemic is key to have everlasting effects on the psychological mindset of consumers; consumers who have gotten accustomed to the quick and mostly pain-free way of getting goods and services delivered to their doorsteps. This is backed up by a study performed by Deloitte, which investigated the effect of online payments on consumers shopping online. The vast portrayal of COVID 19 safety precautions needed to shop outside and the focus on germs has had an everlasting impact on consumers, who will now think twice, maybe more, before stepping out to buy something. This increase in apprehensiveness, though warranted, is forecasted to stick around, but not to the degree at which it first began. Lifestyles of people have been moulded around the 'new norm' that was introduced with the onset of the pandemic and these changes are ones that have been impressed on the consumers for the better part of a year. 2020 has been unprecedented and critical for the E-commerce industry, whose need has evolved into a necessity, and again proves that a rational consumer is only a theory, a consumer in the real world is affected by several factors that cannot be accounted for. This is where E-commerce is starting to shine, to the irrational consumer, we all have within us.

There is a big issue that is still looming beyond the convenience of E-commerce, it is what makes it convenient for consumers. Consumers, irrespective of whether they are rational or irrational, are subject to the hounding of data done by companies like Facebook, Google etc. as soon as they log onto the internet to use any service. This access to the consumers' likes and dislikes has presented consumers with a dilemma since this came to light, whether to choose convenience or privacy. These companies are able to tap into the behavioural psychology of their consumers and aggressively try to predict their decisions, or in some cases manipulate them.

This is done using elaborate artificial intelligence and these companies are at the forefront of Machine Learning for the aforementioned reason. The regulation against targeted advertising is very rudimentary and will take time to develop and until then, the consumer will be at the mercy of the cookies they choose to accept and the ads they choose to see when shopping on an E-commerce platform.

With this said, the dependence of Machine Learning on the efficiency of targeted advertising cannot be underestimated. Machine Learning is a form of Artificial Intelligence and as a result, tries to emulate the decisions and though processes of humans by harnessing the historical data that is more readily available than ever before. It uses several sets of instructions and algorithms to efficiently calculate or perform a task that a human could never match up to. Machine Learning in Targeted ads, though reliant on severely intrusive data, has a lot of beneficial features. The personalization of ads that we get is due to Machine Learning and complex data analysis it executes day in and day out. It helps advertisers locate their target audience more efficiently and provides their users with a much more holistic customer experience. Human decision-making is rarely the most dependable thing and organisations can fall prey to some hurdles that may lead to less optimal choices. As is the problem with any form of analysis, bias always finds a way of creeping in, making it difficult to determine the areas of improvement from the vast arrays of data collected. Machine Learning and AI provide for a much more informed decision-making ability on the parts of the organisation to accurately target consumers with their products and services. This along with numerous other pros make Machine Learning a powerhouse, especially for targeted ads.

Multiple Regression Analysis (Please refer to Appendix 4, 5 and 6 for the data)

To begin with our statistical analysis, we chose 46 countries from 6 continents of the world due to the plethora of data we could access and work on.

The Multiple Regression included Consumer Spending on E-Commerce as the dependent variable, since it is the crux of the paper, with our independent variables being Money spent on targeted advertising/number of targeted ads and Cyber Security Softwares revenue. Money spent on targeted advertising gives us a clearer picture of the measures companies around the globe took to combat the pandemic. It is vital for us to complete the objectives that were cited. The revenue from Cyber Security Softwares around the world helps us zero in on the measures taken by conglomerates worldwide in order to safeguard the consumers, as more and more traffic moves onto internet-driven mediums of spending. The data can be found in Appendix 4, 5 and 6.

A cross-country analysis for two time periods, 2019 and 2020 has been considered. To study the changes during the pandemic, 2019 has been considered as a pre-covid year, whereas 2020 has been considered as the covid year in our analysis. The level of significance has been kept at 5% for both the regression models.

The Breusch-Pagan test for homoscedasticity has been conducted on MS Excel to ensure homogeneity of variances in respective datasets. A regular multiple regression, with y as the dependent variable and, X1 and X2 as the respective independent variables has been conducted. The predicted values and residuals were calculated, after which another regression was run with square residuals as the dependent and X1 and X2 as the independent variables respectively.

TH0: Homoscedasticity is present in data; p-value ≥ 0.05
H1: Homoscedasticity is not present in data; p-value < 0.05

For 2019:
Chi-square t-stat = 0.1024 [=0.002246]
p-value = 0.9501 [using =CHISQ.DIST.RT]
0.9501 > 0.05, hence we fail to reject the null hypothesis: therefore homoscedasticity is present in the data

For 2020:
Chi-square t-stat = 0.0687 [=0.0014546]
p-value = 0.9662 [using =CHISQ.DIST.RT]
0.9662 > 0.05,
hence we fail to reject the null hypothesis: therefore homoscedasticity is present in the data.
In both the datasets, the multiple regression equation has been constructed and structured as follows:
Y = β1 + β2x1 + β3x2; where the variables denote:
Y: E-commerce revenue in a country (in Million US$) [Dependent Variable]
X1: Online Ad-Spending in a country (in Million US$) [Independent Variable]
X2: Software (Online) Cybersecurity spending in a country (in Million US$) [Independent Variable
β1,β2, β3: Regression Coefficients

Regression Analysis Pre-Covid]

The regression has been done on MS Excel and the summary output table is as follows:

Table 1.2: Regression Statistics- 2019

Regression Statistics	
Multiple R	0.9878
R Square	0.9757
Adjusted R Square	0.9746
Standard Error	26483.9452
Observations	46

Table 1.3: Summary Output - 2019

	Coefficients	Standard Error	t Stat	P-value
Intercept	6898.0178	4096.2038	1.6840	0.0994
Ad-spending	14.5696	0.3813	38.2141	7.97E-35
Cybersecurity Spending	-88.3571	3.2024	-27.5907	5.60E-29

From the tables above, the regression equation can be constructed as follows:

y = β1 + β2x1 + β3x2
y = 6898.0178 + 14.5696x1 - 88.3571x2
Hence,
β1 = 6898.0178
β2 = 14.5696
β3 = -88.3571

Table 1.5: Summary Output - 2020

	Coefficients	Standard Error	t Stat	P-value
Intercept	12334.08	4892.6903	2.5209	0.0155
Ad-spending	16.6447	0.4146	40.1490	1.01E-35
Cybersecurity Spending	-110.2469	3.7924	-29.0706	6.62E-30

From the tables above, the regression equation can be constructed as follows:

$$Y = \beta1 + \beta2x1 + \beta3x2$$
$$Y = 12334.08 + 16.6447x1 - 110.2469x2$$
Hence,
$$\beta1 = 12334.08$$
$$\beta2 = 16.6447$$
$$\beta3 = -110.2469$$

The core findings through the multiple regression analysis of the period during Covid are comparable to those of the period before Covid, with the magnitude of the numbers changing.

When looking at the coefficient β1, the autonomous e-commerce revenue, we can see that on average, consumers in the the sample countries would spend $ 12334.08 Million if there was no online cybersecurity or targeted advertisements present. This is a 44.07% increase Year on Year, which is in line with the qualitative findings of our paper.

The coefficient β2, which indicates the change in e-commerce revenue per unit spent on targeted advertising, also changed positively Year on Year, giving a multiple of 16.6447. This is an increase of 12.47%, showcasing the power of targeted ads during the pandemic. Hence, targeted advertising had a more positive impact on online consumer spending in the year 2020.

β3, the coefficient showcasing the change in e-commerce revenue per unit spent on cybersecurity, decreased even further, with the multiple being -110.2469, which indicates that per unit spent on cybersecurity software, the revenue for e-commerce players drops by 110.2469. This is a 19.86% increase from 2019. This decrease in revenue could be attributed to the stricter worldwide norms put in place for cybersecurity as most of the world moved online and worked remotely.

Like the data for 2019, all coefficients that were found for the data in 2020 were statistically significant, with the t stat value not lying between -2 and +2 (β2 Value: 40.14, β3 Value: -29.07) and the p values for both coefficients being less than 0.05.

Hence, from the above regression equation and analysis, we can conclude that an increase in Online Ad-spending (or targeted ads) has a positive impact on consumer spending, whereas an increase in cyber security spending has a negative impact on consumer spending. Additionally, the R2 value is 0.978 which indicates that 97.8% of the variability in the e-commerce revenue or consumer spending is explained by the two independent variables, money spent on online advertising and money spent on cyber security.

From the findings, the coefficient β1 indicates the amount consumers spend on e-commerce platforms if the internet was free from targeted advertisements or any form of software cybersecurity. It is the e-commerce revenue irrespective of targeted ads or cybersecurity. Hence on average, in the 46 countries, consumers per country would spend $6898.0178 Million if no online advertising or software cybersecurity was present. This value is constrained to the data-set that we have taken from 2019 across 49 countries. Some e-commerce spending is independent of the amount spent on targeted ads (hence the number of targeted ads) and any amount spent on cyber security (hence how secure the internet is).

The coefficient β2 indicates the amount by which e-commerce revenue or consumer spending on e-commerce platforms changed with a unit change in the amount of money spent on targeted ads. In the regression above, β2 takes the value of 14.5696. Since the value is positive, we can infer that with a unit change in money spent on online ads, e-commerce revenue increases by 14.5696. Since our variables are in million USD, with an increase in spending on online or targeted advertising by 1 million USD, consumer spending increases by 14.5696 million USD. Hence, targeted advertising has a positive impact on online consumer spending, making it beneficial for companies to invest in targeted ads. For the β2 value, the data is statistically significant since the t-stat value does not lie between –2 and +2 (value: 38.214) and the p-value is less than 0.05.

β3 indicates the amount by which revenue of e-commerce websites would change with a unit change in the amount of money spent on software cybersecurity. In the regression above, β3 takes the value of -88.3571. The negative value indicates that e-commerce spending by consumers and the amount spent on software cyber security have an inverse relationship; since money spent on cyber security is the independent variable when additional money is spent on cyber security, e-commerce revenue decreases. With an increase in cybersecurity spending by $1 million, e-commerce revenue decreases by $-88.3571 million. From a consumer's point of view, not only do they reduce their online consumption (save money) but also get increased protection from cyber-attacks, phishing etc. The reason why a negative relationship exists between the two variables is that with stronger cyber security, data and private information of consumers gets even more difficult to access, thereby fewer targeted ads or stronger website security is available to consumers. The β3 value is statistically significant since the t-stat value does not lie between –2 and +2 (value: -27.5907) and the p-value is less than 0.05.

Hence, from the above regression equation and analysis, we can conclude that an increase in Online Ad-spending (or targeted ads) has a positive impact on consumer spending, whereas an increase in cyber security spending has a negative impact on consumer spending. Additionally, the R2 value is 0.957 which indicates that 95.7% of the variability in the e-commerce revenue or consumer spending is explained by the two independent variables, money spent on online advertising and money spent on cyber security.

Regression Analysis During Covid

The regression has been done on MS Excel and the summary output table is as follows:

Table 1.4: Regression Statistics - 2020

Regression Statistics	
Multiple R	0.9890
R Square	0.9782
Adjusted R Square	0.9772
Standard Error	31710.55
Observations	46

Pre-Covid vs Post Covid

Coefficient	Pre-Covid (2019)	Covid (2020)
β1	6898.01776	12334.08
β2	14.5696	16.6447
β3	-88.3571	-110.2469

From the table above, there are certain conclusions and inferences that we can draw from the analysis, which are as follows:

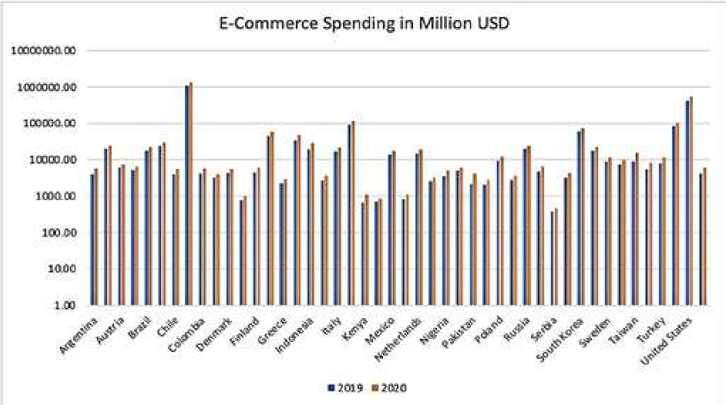
- Coefficient β1: Since the onset of the pandemic, there has been an increase in the amount of money spent by consumers on e-commerce websites irrespective of the money spent on targeted ads and cybersecurity. This may arise due to the fact that since the outbreak of the pandemic there have been other factors that affect consumer spending, for example, use of online transactions, availability of goods and services through online shopping only, risk factors related to offline shopping and further on. Apart from these factors, certain factors regarding the change in consumer behaviour, such as ease of shopping from home, quick on-the-go purchases, 24*7 availability of e-commerce platforms, availability of additional offers, increased choices and the concept of checking reviews of other consumers have impacted the same.
- Coefficient β2: As seen in the table above, in 2020 money spent on advertising in the online space has a greater impact on consumer spending in comparison to 2019. Hence, during the pandemic, targeted ads worked better in terms of revenue from a company's point of view. This probably arose due to the fact that a major part of the consumer spending shifted to e-commerce platforms due to covid reasons.

People started spending more time shopping online thereby causing companies and websites to collect more data, information and cookies. Hence, since the onset of the pandemic, money spent on advertisements online had a greater impact.

- Coefficient β3: In 2020, money spent on cyber security has a greater impact on consumer spending in comparison to 2019. With increased security, although companies did collect data and manage to convert their targeted advertisements into purchases, it was harder for the companies to track data and collect information on consumers' spending habits. Hence, money spent on the same has also increased, as can be seen from the above data.

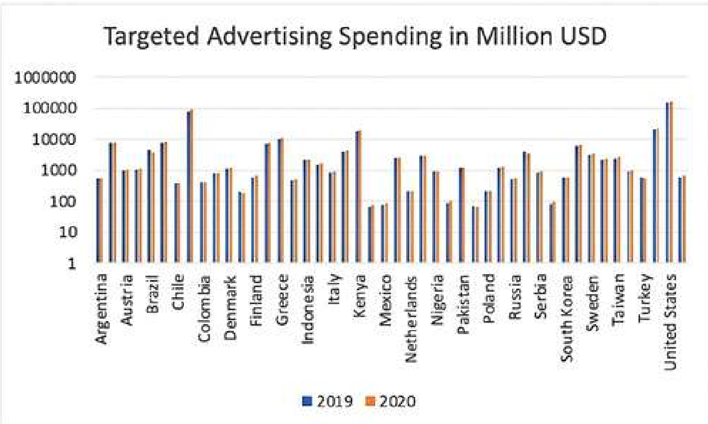
In conclusion, there has been a change in consumer spending habits in the pandemic year. Targeted ads had a greater impact and so did cybersecurity. Consumer spending also increased over the period from 2019 to 2020. Hence, proving our hypothesis, that targeted ads affect consumer spending habits, and had a greater impact during the pandemic.

Graphical Trends



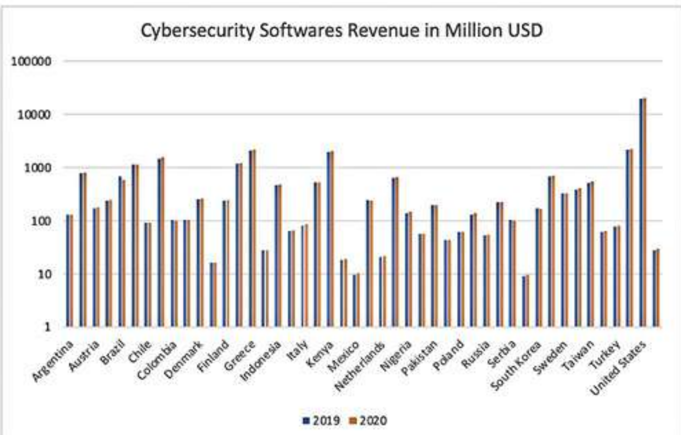
Graph 1

As can be observed from graph 1 (refer to Appendix 5 for data) illustrated above, there is a 21.73% increase in E-Commerce spending by consumers between 2019 and 2020. Please note that the values are in the Logarithmic scale.



Graph 2

Graph 2 (refer to Appendix 6 for data) above showcases the increase in the amount spent on targeted advertising in the years of 2019 in relation to 2020. The increase was measured to be approximately 9.51%.



Graph 3

Graph 3 (refer to Appendix 7 for data) indicates the slight increase in revenues of cyber security softwares of 3.03% from 2019 to 2020.

The hypothesis which we set out while writing this paper is "The advent of Machine learning, targeted advertising and the convenience attributed to E-commerce causes an increase in consumer spending", and over the course of the research, analysis and calculations, with the help of the literature review, we can conclude that the hypothesis is true.

Policy Suggestions

While we conclude the paper, it is vital to touch upon the policies that have been used worldwide in relation to the topic of the Plight of E-commerce and Consumer Spending habits. As mentioned in the paper previously, the framework for policymaking surrounding this topic is still in its infancy, with the Indian Union Minister, Piyush Goyal, proposing an e-commerce policy in October of 2021. A contrast can be seen worldwide in comparison to India, with first world countries like UK, USA and Singapore having adopted E-commerce policies from as early as 1997 in some shape or form. A portion of the paper delved into the cyber security aspect of e-commerce and the UNCTAD has adopted a system of E-commerce Legislation worldwide with the implementation of the UNCTAD global cyberlaw tracker. By accessing this, it can be seen that 81% of the countries worldwide have E-transaction laws, 59% of the countries have consumer protection laws, 67% of the countries have privacy laws and 80% of the countries have cybercrime laws.

Several countries have set themselves the non-quantified goal of becoming a leading nation for e-commerce, according to the aforementioned cyberlaw tracker. For example:

• UK - The best environment in the world for e-commerce.
• Canada - A global centre for excellence in e-commerce.
• Singapore - To become an e-commerce hub.

With this said, it is evident that a more robust policy framework is required worldwide in order to keep a check on the E-commerce industry, which is being scrutinised for the lack of competition in some regions. This, along with specific reforms to targeted advertising and cyber security are essential moving forward. The government can tie up with internet giants like Google to ensure that websites are at the optimal level of security and are not misusing consumer data. A committee can be formed to mandate the implementation of a team which verifies the security provided by the website/app developers.

For E-commerce giants, the use of terms of service has been mandated for a long time but this is just cryptic jargon for most users of the platforms. This can be eased for the consumers by including examples with each section in the document of terms and conditions. One approach is to move the contract out of the one-second moment before access is granted and to place its terms before the user when they become relevant. The governments around the globe should call for an easier and more understandable way of presenting terms and conditions and highlighting what information is taken from them and used to advertise them. This is something that each user should consent to before they are subjected to it.

With the E-commerce space being heavily controlled by big players like Amazon, it is essential for countries to institute ways to promote MSMEs, small businesses and other retailers by imposing visibility quotas on websites for the aforementioned groups. This will ensure that the stronghold over the consumer is lessened and the consumer has an option to choose whom to shop from or give data to. The Government or certain government organisations related to e-commerce should promote the correct usage of data in both big players and MSMEs. Transparency is key in this regard and governments have already started trying the giants on how they operate and how simple mismanagement of data could lead to catastrophic consequences, like the data mismanagement done by Facebook in the 2010s which was used for political advertising and creating biases. This is something that the world should not lose sight of since it is essential in the growth of E-commerce and will give a much more informed choice to the consumer, helping them make informed decisions.

In order to make consumers feel safer with respect to their data, companies themselves can adopt certain measures. Starting by obtaining customer consent for data processing is the most basic step that a company can follow. Certain other measures like anonymizing data to protect customer privacy, guaranteeing notification in the event of a data breach, explaining careful cross-border data transfers and providing a dedicated data protection officer (for some companies) can help the company. Regular checks on such policies especially from the government's side should be incorporated.

Considering that consumers often do not realise the amount of money they spend on e-commerce platforms due to just a number changing in their bank account and since they do not directly feel the impact of targeted advertising, a certain app or checker can be developed by the government to notify the consumers the amount they have been spending in order to keep their spendings in check.

Limitations

To now move forward with the suggestions to the research paper, we encountered a few things that could have been represented more clearly.

Lack of Representative Data Worldwide:
The regression analysis conducted consisted of 46 countries, a compromise that had to be made due to the lack of data available on several countries' government websites. The R2 value came out optimally, but a more representative data set of the world would have been ideal.

Lack of data available for dependent variables:
The data of cybersecurity software revenue worldwide, though in line with our research, was suboptimal, as this gives us the picture of what companies worldwide earned and not how much consumers spent on ensuring their cybersecurity.

Conclusion

The varying consumer spending has proved to be extremely vital to the economy as we fight this global pandemic and, one of the reasons why E-Commerce has been at the forefront of bringing the global economy is this unpredictability.

In a year filled with turmoil and worries about an "imminent" economic collapse, the irrationality of consumers prevailed. This is also corroborated by the use of even more targeted advertisements in the past year, harnessing the power of the consumers. E-commerce, something that was once a beacon of doubt in the eyes of consumers, has put its foot in the door in terms of convenience and prices in terms of shopping. This psychological change in the way consumers shop and avail of services is here to stay. The true power of targeted advertising and behavioural marketing has come to light during this time and will only continue to rise.

This is ratified by the Hypothesis Testing conducted earlier, the result of which demonstrated that the rise in spending on targeted advertising and cybersecurity has led to an increase in consumer spending in 2020, as compared to 2019. The question that consumers should ask themselves is how much they value their data, especially in terms of purchasing decisions. The government frameworks around citizen safety with regards to this still have a long way to go, but, if implemented correctly, could prove to be the way forward for all forms of commerce.

Bibliography

World Bank. (n.d.). Final consumption expenditure (current US$). World Bank.

World Bank. (n.d.). GNI (current US$). World Bank.

Guthrie, C., Fosso-Wamba, S., & Bryce-Arnaud, J. (2021, July). Online consumer resilience during a pandemic: An exploratory study of e-commerce behavior before, during and after a COVID-19 lockdown. Science Direct.

IMCO. (2021, June). Online advertising: the impact of targeted advertising on advertisers, market access and consumer choice.

The National Law Review. (2021, January 6). Can Target Marketing Withstand Emerging Privacy Regulations? Litigation (and Time) will Tell. The National Law Review.

Valaskova, K., Durana, P., & Adamko, P. (2020, July 21). Changes in Consumers' Purchase Patterns as a Consequence of the COVID-19 Pandemic. Oxford Academic. https://academic.oup.com/raps/article/10/4/834/5874450?login=true

McDonald, A. M., & Cranor, L. F. (2010, August 16). Beliefs and Behaviors: Internet Users' Understanding of Behavioral Advertising. 1-28.
http://aleecia.com/authors-drafts/tprc-behav-AV.pdf

Boerman, S. C., Kruikemeier, S., & Borgesius, F. J. Z. (2017, May 28). Online Behavioral Advertising: A Literature Review and Research Agenda. Journal of Advertising, 46(3), 363-376.
https://www.tandfonline.com/doi/full/10.1080/00913367.2017.1339368

Smit, E. G., Noort, G. V., & Voorveld, H. A.M. (2013, December 14). Understanding online behavioural advertising: User knowledge, privacy concerns and online coping behaviour in Europe. Computers in Human Behavior, 32, 15-22. https://isiarticles.com/bundles/Article/pre/pdf/74240.pdf

Altaweel, I., Good, N., & Hoofnagle, C. J. (2015, December 14). Web Privacy Census. Technology Science.

Fourberg, N., Taş, S., Wiewiorra, L., Godlovitch, I., Streel, A. D., Jacquemin, H., Hill, J., Nunu, M., Bourguignon, C., Jacques, F., Ledger, M., & Lognoul, M. (2021, June). Online advertising: the impact of targeted advertising on advertisers, market access and consumer choice. Publication for the committee on the Internal Market and Consumer Protection, Policy Department for Economic, Scientific and Quality of Life Policies, European Parliament, Luxembourg. https://www.europarl.europa.eu/RegData/etudes/STUD/2021/662913/IPOL_STU(2021)662913_EN.pdf

Varnali, K. (2019), Online behavioural advertising: an integrative review, Journal of Marketing Communications, Vol. 27 No. 1, pp. 1-22.

Sutanto, J., Palme, E., Tan, C. and Phang, C.W. (2013), Addressing the personalization–privacy paradox: an empirical assessment from a field experiment on smartphone users, MIS Quarterly, Vol. 37 No. 4, pp. 1141-1164.

Phelan, C., Lampe, C. and Resnick, P. (2016), It's Creepy, but it doesn't bother me, Proceedings
Wågström, G. (2019, March 5). Why Behavioral Advertising Should Be Illegal. Forbes.

Wiosik, M. (2018, January 22). What Is Search Advertising and How Does It Work? Clearcode
Impact of advertisement on the brand preference of aerated drinks. Asia Pacific Journal of Marketing & Management Review, 2(2), 147–160.

Singh, B. (2012). Ahmed, A. Y. M. (2017). The impact of exposure to advertisement online on purchase decision empirical study of Saudi customers in Western Region. International Journal of Academic Research in Business and Social Sciences, 7(7), 366–386

Opeodu, O. I., & Gbadebo, S. O. (2017). Factors influencing choice of oral hygiene products by dental patients in a Nigerian Teaching Hospital. Annals of Ibadan Postgraduate Medicine, 15(1), 51–56.

Ham, C.-D., & Nelson, M. (2016, September). The role of persuasion knowledge, assessment of benefit and harm, and third-person perception in coping with online behavioral advertising. Computers in Human Behavior, 62, 689-702.

Lind, Olsson, Linnea, Cassandra, & Jonkoping University. (2018, May 18). Consumer Experience of Online Behavioural Advertising. https://www.diva-portal.org/smash/get/diva2:1208728/FULLTEXT02

Marketing Evolution. (2021, June 9). Tackling Data Privacy Issues in a Data-Driven Marketing World. Marketing Evolution.

Sama, R. (2019, December). Impact of Media Advertisements on Consumer Behaviour. Journal of Creative Communications, 14(1), 54-68.

Ponemon Institute. (2010, April 30). Economic impact of privacy on online behavioral advertising.

Barua, A. (2021, June 28). A spring in consumers' steps: Americans prepare to get back to their spending ways. Deloitte. https://www2.deloitte.com/us/en/insights/economy/us-consumer-spending-after-covid.html

Bond, C. (2021, October 12). Conversion Rate Benchmarks: Find Out How YOUR Conversion Rate Compares. Word Stream. https://www.wordstream.com/blog/ws/2019/08/19/conversion-rate-benchmarks

Digital Commerce 360. (2021, June 16). Coronavirus adds $105 billion to US ecommerce in 2020. Digital Commerce 360.

Ham, C.-D., & Nelson, M. (2016, September). The role of persuasion knowledge, assessment of benefit and harm, and third-person perception in coping with online behavioral advertising. Computers in Human Behavior, 62, 689-702.

Lind, Olsson, Linnea, Cassandra, & Jonkoping University. (2018, May 18). Consumer Experience of Online Behavioural Advertising. https://www.diva-portal.org/smash/get/diva2:1208728/FULLTEXT02

Marketing Evolution. (2021, June 9). Tackling Data Privacy Issues in a Data-Driven Marketing World. Marketing Evolution.

Ponemon Institute. (2010, April 30). Economic impact of privacy on online behavioral advertising.

Shapiro, S. (2021, September 10). The Impact of COVID-19 on eCommerce Shopping Behavior. Bluecore.

UNCTAD. (2020, October 8). https://unctad.org/news/covid-19 has changed online shopping forever survey shows. UNCTAD.

Appendix

Please refer to the link below for the appendix. The sheets highlighted in blue refer to Appendix 1, 2 and 3 which have been used for the MPC and APC calculations. The sheets highlighted in purple represent Appendix 4, 5 and 6, the data that has been used for the regression and graphical analysis.

Link to Appendix:

https://bit.ly/Appendix-Artha

IMPACT OF TRADE ON INCOME INEQUALITY IN G7 COUNTRIES

Arpita Rathi and Sejal Nathany

Shri Ram College of Commerce, University of Delhi

Abstract:

This research analyses the impact of openness to trade on the level of income inequality in members of the G7 nations, namely – Canada, France, Germany, Italy, Japan, the United Kingdom and the United States. Using panel data of these seven countries over the time period 2000-2018, this study found that an increase in total trade reduces income inequality.

When total trade was split into imports and exports, it was found that the former may be associated with increasing inequality, though the coefficient was not statistically significant. On the other hand, the study yielded that higher exports reduce income inequality.

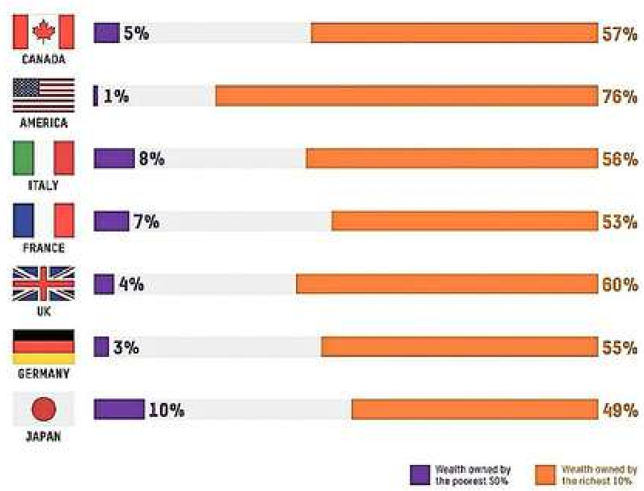
This study also found that higher inflation raises income disparities. Conversely, higher government expenditure and employment in industry lower inequality. Furthermore, the authors found that FDI inflows and technological progress do not have a significant effect on income inequality in G7 countries.

Keywords: International Trade, Income Inequality, Gini Coefficient, Research

Introduction

In many developed countries, the recent growth in income disparity is gaining traction. Viewed from a global perspective, inequality is in decline as developing economies, primarily led by China and India, have been able to narrow down the gap between wealth and income inequality with the developed nations since the 1980s. However, inequality within many advanced economies seems to be moving in the opposite direction, in view of the declining inequality trend. In this context, both income and wealth inequalities within G7 countries have been on the rise since the 1980s (Figure 1 & Figure 2). With the exception of Japan and Canada, every G7 country's disparity has widened since 2004, particularly in the United Kingdom and Italy. (Based on labour income distribution data from the ILO as of July 2019.)

Figure 1: Wealth inequality in G7 countries (2018)[8]



All G7 countries have committed themselves to Sustainable Development Goals of the UN, including goal 10, which aims to minimise wealth disparities within and across countries.

However, the G7 countries have failed to take serious measures to close the gap between the poor and the wealthy or to challenge the 'neoliberal economic model' and 'wealth accumulation capitalism,' as President Macron puts it. (President Macron's recent speech for the 100th anniversary of the creation of the International Labour Organisation.)

This could make it more difficult to create political consensus across the income spectrum, limiting a country's overall development prospects (*Soubbotina, 2004*). Thus, understanding the causes of the rise in income inequality in developed countries is necessary in order to design policies that improve the allocation of income across the population.

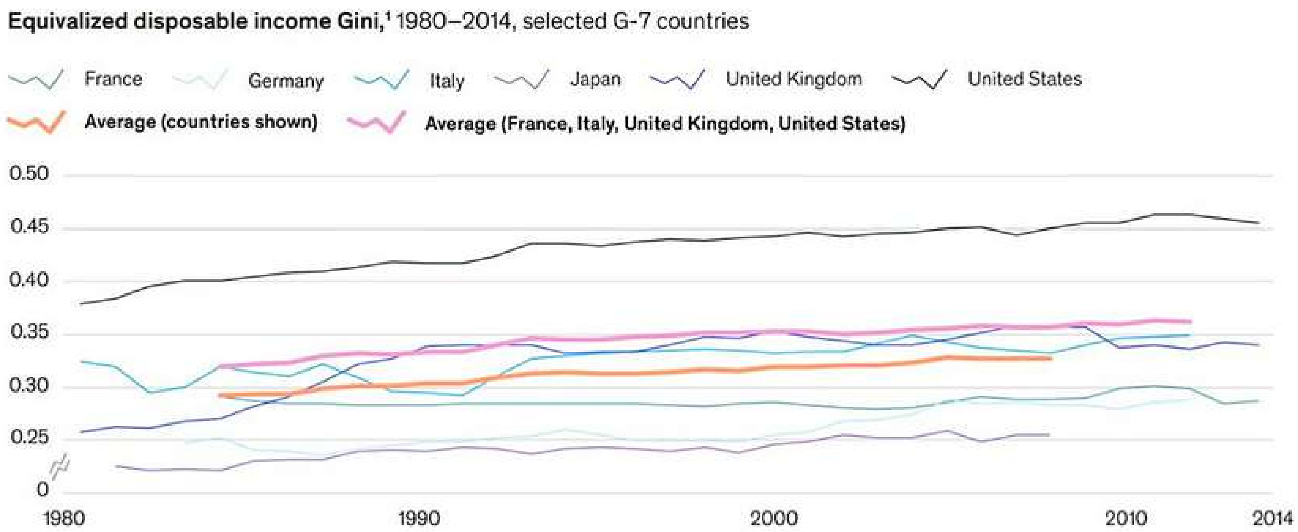


Figure 2: Income inequality (as measured by the GINI coefficient) has increased since the 1980s. Source: World Inequality Database, February 11, 2019, wid. World/data; McKinsey Global Institute analysis

One might wonder why countries around the world are striving to reduce income disparities. Inequality, by itself, might have a negative impact on the economy, society, or political stability of a country. Numerous arguments suggest that a rise in income inequality may restrict a country's growth potential since a share of the population might be unable to take advantage of economic opportunities *(Alesina and Rodrik, 1994 Galor and Moav, 2004)*. In addition, increased inequality might render individuals in more precarious economic conditions, especially during recessionary periods *(Jaumotte et al., 2008)*. An excessively high level of inequality may also affect the political stability of a country if a growing share of the population becomes discontent with its economic situation.

The possible linkage between international trade and income inequality has been suggested by various studies in the past. This study delves into this issue more deeply by way of regression analysis.

The remaining sections of the paper are organised as follows. Section II compiles findings from past literature relevant to this study. Section III outlines the variables included in this research as well as the method of estimation used. Section IV summarises the empirical results and identifies the main factors explaining income inequality. Section V discusses the empirical findings in further detail and concludes the paper. Section VI talks about the limitations of the study and the scope to undertake further research.

Literature Review

There exists vast empirical and theoretical literature on the impact of trade openness on income inequality.

The Heckscher-Ohlin and Stolper- Samuelson theorems are two of the most widely used models for describing the impact of trade between developed and developing nations on income inequality (*Ohlin, 1933, Stolper and Samuelson, 1941 and Cassette et al., 2012*). The Heckscher-Ohlin model says that trade is driven by differences in relative factor endowments between countries. A country is expected to export items which intensively use the factors of production with which the country is relatively abundantly endowed, and import goods which are produced intensively using the factors that are relatively scarce in the country (*Epifani and Gancia, 2008b*). Developed countries are regarded as relatively abundantly endowed with skilled labour and developing countries with unskilled labour (*Wood, 1994*). Thus, according to the Heckscher-Ohlin model, developed countries will export skilled-labour intensive commodities while importing unskilled-labour intensive goods. On the other hand, the Stolper-Samuelson theorem states that an increase in the relative price of a good will raise the return to the factor which is used intensively in the production of the good and decrease returns to the other factor (*Cassette et al., 2012*). As trade is likely to increase the demand and price for skilled vis-à-vis unskilled labour in developed countries, the wage disparity between these two factors is anticipated to widen in developed countries. Thus, these theories contend that trade leads to increased income inequality in developed countries.

Barusman and Barusman (2017) analysed the impact of openness to trade on the level of income inequality in the United States between 1970 and 2014. By using time series data of the aforementioned period, they found that an increase in trade volume leads to an increase in income inequality (measured by two types of dependent variables – the GINI coefficient and the income share of the top 10%). Upon bifurcating trade into the export side and import side, the study found that both significantly contribute to higher income inequality when measured by the GINI, with export having a greater effect. However, when the income share of the top 10% was taken as the dependent variable (as opposed to income inequality as measured by the GINI coefficient, taken as the dependent variable earlier), it was concluded that only the import side contributes to the increase in income inequality. Furthermore, this study found that FDI inflow has a negligible effect on income inequality in the United States.

Jaumotte et al. *(2013)* analysed the impact of globalisation on income inequality. The study divided globalisation into two categories: trade openness and financial openness. It found that globalisation as a whole has a limited impact on income inequality. This is because its aforementioned components have offsetting effects: while trade openness reduces income inequality, financial openness (particularly FDI) raises income disparity. Using panel data of 51 countries over 23 years from 1981 to 2003, the paper reported estimates which suggested that technological progress has a greater impact than globalisation on inequality.

Aradhyula *et al. (2007)* studied the impact of trade on levels and distribution of income. Using an unbalanced panel data set of 60 countries over a period of ten years (1985-1994), the authors found that trade openness increases income inequality in the overall sample.

However, when the sample was split into two groups, it was found that trade increases inequality in developing countries while it reduces inequality in developed countries, though the results were not statistically significant.

Lawrence and Slaughter *(1993)* did not find any empirical support for the claim that a Stolper Samuelson process has caused the rise in income inequality and belittled the role of trade in explaining the increased income disparity.

Dollar and Kraay *(2001)* researched globalisation's impact on inequality and poverty. They began by identifying the group of developing countries that has a higher participation rate in globalisation, and then compared it to the wealthy nations. They came up with a series of important findings: (1) the post-1980 globalists are catching up to the rich countries while the rest of the developing world is falling farther behind, (2) trade has a significantly positive impact on growth, (3) increase in growth rate that occurs with greater trade leads to corresponding increases in poor people's earnings; and the study concluded that globalisation causes quicker growth and poverty alleviation in poor countries.

This association has also been the subject of recent research that has voiced skepticism, as trade based on relative factor endowment differences is only a small fraction of total trade (*Epifani and Gancia, 2008b*). From an empirical approach, the impact of trade with developing nations on income disparity in rich countries is thus ambiguous.
The research undertaken in this paper seeks to analyse the effect of trade on income inequalities in the G7 countries. To the best of our knowledge, no previous study has independently undertaken an investigation of the effects of trade on income inequality in G7 countries with a recent time frame of 2000-2018. The paper also seeks to look at the separate impacts of imports and exports on income inequalities.

Data and Methodology

This section will discuss the sample and variables that will be used for the purpose of study in this research paper and the sources for the same. We further reason as to why the variables have been added to our regression model.

1. Sample

This research will focus on G7 countries. Table A in the appendix lists these countries as of 2021. Time series data have been used. This research has covered a period ranging from 1996-2019, barring a few years due to the unavailability of data. The data consist of a balanced panel of annual observations totalling 101 observations. Table B in the appendix presents summary statistics of all the variables.

2. Dependent Variable

Inequality - the dependent variable - is operationalised as the Gini Coefficient, which is the most commonly used measure of income inequality (*Jakobsson, 2006*). The value of this coefficient ranges from 0 to 1, which implies complete equality and inequality, respectively. Data on Gini coefficients based on household disposable (i.e., post-tax and post-transfer) income were obtained for each country and year from the Standardised World Income Inequality Database (SWIID). This recently developed database has comprehensive coverage across nations and time periods, as well as a high degree of comparability across observations. (*Pop et al., 2013*).

3. Independent Variable of Interest

The primary purpose of this research is to determine whether international trade has a significant impact on income disparity or not. We use openness to trade as an indicator.

It is considered to be a good measure, and it has been widely used previously to study the impact of trade on income inequality. There are three types of openness to trade measures that will be used.

Trade volume *(Reuveny, 2003, Jaumotte et al., 2008, Jakobsson, 2006):* By using trade volume, the size of the country is filtered out due to the amount of export and import that are denominated in GDP. The data is obtained from World Bank World Development Indicators (WDI) and defined as the total amount of export and import of goods and services of a country as a percentage of GDP. Additionally, a bifurcation of trade volume into Export/GDP and Import/GDP (*Squalli and Wilson, 2009*) will be used to know which side of trade contributes more to income inequality. WDI has been used to acquire these data.

4. Control Variables

There are five control variables that will be used in the model. These variables have been added keeping in mind their potential to affect income inequality as pointed out by many previous studies.

a. FDI Inflows: This variable represents net inward foreign direct investment flows. It is measured in US Dollars at current prices and current exchange rates as a percentage of GDP. The data can be found from the World Bank. If we add equity capital, reinvestment of earnings, other long-term capital, and short-term capital as a percentage of GDP, we obtain the FDI Inflows. FDI inflows are likely to increase income inequality since they are expected to raise the relative demand for skilled labour and thereby increase the skill premium *(Demir et al., 2012).*

b. Technology: The number of fixed broadband internet subscriptions per 100 people is used as a proxy for this variable. Statistics on broadband subscriptions were collected from the World Development Indicators account for the structure of the economy; employment in the industry has been operationalised by employment in mining, manufacturing, construction and public database. Technological progress is regarded as skill-biassed, as it enhances the productivity of primarily skilled labour. Thus, this variable is predicted to increase income inequality *(Jaumotte et al., 2008).*

c. Inflation: Inflation has been introduced to capture the macroeconomic environment. The yearly growth rate of GDP implicit deflator has been utilised to calculate inflation in this study. The data for inflation has been obtained from the World Bank World Development Indicator (WDI). A positive relationship is expected between inflation and inequality as it disproportionately affects the lower-income earners through erosion of real wages *(Cassette et al., 2012 and Sarel, 1997).*

d. Employment in the industry: In order to ac utilities (consisting of electricity, water and gas) as a percentage of total employment. The data for the same has been obtained from the World Development Indicators database. As employment shifts from the agricultural to the industrial sector, a greater share of low-skilled labour benefits from higher incomes. The average wage in the industrial sector is also higher and characterised by a lower standard deviation compared to the service sector. This may suggest a negative relationship between income inequality and employment in the industry. *(Bergh and Nilsson, 2010 and Alderson and Nielsen, 2002).*

e. Government Expenditure: Government final consumption expenditure is expressed as a percentage of GDP. The WDI database provides this information. As poorer individuals are likely to benefit more from increased government spending on income transfers and areas such as education and healthcare, income inequality and the variable are expected to have a negative relationship. (*Demir et al., 2012 and Sarel, 1997).*

5. Estimation Method

For the purpose of this study, OLS estimators have been used. For the estimation to be considered reliable, three assumptions have to be satisfied (*Stock & Watson, 2015, pp. 170-174*). Firstly, the conditional mean of the error term should be zero. Second, the sample drawn should be independently and identically distributed. Third, large outliers should be unlikely.

$$\text{Inequality}_{j,t} = \alpha + \beta_1 * \text{Total Trade} + \beta_2 * X_{j,t} + \varepsilon$$

where, j = 1, 2, ...,7 and t = 2000, 2001, ..., 2018 denote the country and year indices $X_{j,t}$ is a set of control variables and ε is the error term. Model 1 regresses inequality only on total trade, and thereafter, each control variable is added one by one to form each of the subsequent models.

EMPIRICAL RESULTS

Table 1 below shows the results when Income Inequality was regressed on Trade Volume and the control variables. The regression was run for six models, beginning with the baseline model consisting only of Trade Volume and then adding the control variables one by one.

It was found that Trade Volume has a significant negative effect on Income Inequality in all six models (1-6). This suggests that an increase in total trade leads to lower income inequality in G7 countries

Looking at the control variables, significant effects were found at the 5% level for Inflation, Employment in Industry and Government Expenditure when all control variables were included in the regression model (i.e., Model 6). Thus, an increase in Employment in Industry decreased Inequality. Higher Inflation, on the other hand, leads to increased Inequality. These findings are similar to those of Jaumotte et al. (2008), Cassette et al. (2012), and Fredriksson (2014).

Furthermore, it was found that Government Expenditure has a negative effect on Inequality. This contradicts the results of Fredriksson (2014), but is in line with the findings from Demir et al. (2012) as well as Barusman and Barusman (2017). It is in line with the expectation that an increase in government expenditure benefits the lower class more than the rich, hence reducing income inequality.

Model	1	2	3	4	5	6	7
Trade Vol ume	-0.16488* (0.01275)	-0.16669* (0.012881)	-0.17382* (0.013185)	-0.17231* (0.012033)	-0.16074* (0.015302)	-0.0856* (0.012262)	
FDI Inflows		0.086247 (0.087221)	0.129113 (0. 088581)	0.079518 (0 .081543)	0.037169 (0 .088455)	-0.06835 (0.059611)	

Technology			0.036336* (0.018243)	0.052992* (0.017042)	0.029401 (0.025767)	0.014143 (0.017194)	
Inflation				0.906589* (0.199927)	0.8296045 * (0.209197)	0.478256* (0.142767)	
Employment in Industry					-0.09133 (0.074966)	-0.23154* (0.051468)	
Government Expenditure						-0.68788* (0.0626)	
Export/GDP							-0.30279* (0.08980)
Import/GDP							0.020047 (0.11988)
N	101	101	101	101	101	101	101
Constant	43.36550 (0.71715)	43.24827 (0.72696)	42.6520 (0.77622)	40.90407 (0.80622)	43.27719 (2.10742)	57.118175 (1.8845)	42.07550 (1.09481)
R-square	0.6281605	0.6318339	0.6463039	0.7086986	0.7131796	0.8744518	0.6370649
Adjusted R square	0.6244046	0.6243203	0.6353649	0.6965611	0.6980838	0.8664381	0.6296581
p-value (of full model)	0.000	0.000	0.000	0.000	0.000	0.000	0.000

Table 1. OLS Regression Results for Income Inequality in G7 countries (Period: 2000-2018) (Dependent Variable: Inequality as measured by GINI coefficient)

Note: Standard errors in parentheses; *Significant at 5% level

The aforementioned variables were not only statistically significant, but were also found to have sizable effects on Inequality in terms of magnitude. For example, an increase in Employment in Industry by one per cent reduced the Gini coefficient by 0.23154 units. A similar increase in Government Expenditure decreased the Gini coefficient by 0.68788 units. Additionally, if Inflation rises by one per cent, the Gini coefficient is raised by 0.478256 units.

The remaining two control variables, FDI Inflow and Technological Progress, were insignificant in the full model (i.e., Model 6). The absence of a significant effect of FDI confirms the results of Milanovic (2005a), Demir et al. (2012) and Fredriksson (2014). It is interesting to note that Technological Progress was significant in both models 3 and 4, until Employment in Industry was added to the regression in model 5. This implies that the latter variable captures some of the effects of Technological Progress on Inequality.

The results show that approximately 87% of the total variation in Income Inequality has been explained by the full regression model. This is much higher in comparison with models 1-5, suggesting that the inclusion of all control variables improves the regression.

Model 7 examines the impact of Imports and Exports separately on income inequality. The resulting estimates suggest that there is a negative relationship between exports and income inequality in G7 countries. This effect was found to be significant at the 5% level. On the other hand, imports are associated with a negligible increase in inequality, though the coefficient is not statistically significant.

Conclusion

We found in our study that trade leads to lower income inequality, and the results are significant. It is possible that developed countries gain more as they export higher-value goods. Government trade policies play an important role as well. Moreover, dependence on factor endowments is another reason why there may be a negative effect, which is in line with a study by Spilimbergo, Londono, and Szekely (1999) where skill-intensive countries, such as the ones taken in this paper, show more equitable income distribution.

To assess the separate impacts of the components of trade, inequality was regressed separately on imports and exports. It might be interesting to note here that exports have shown to have a significant negative impact on income inequality, whereas imports have an insignificant positive impact on inequality. Thus, while strong conclusions about the impact of imports cannot be drawn, exports are seen to contribute significantly to income inequality. However, this has no effect on the overall results.

From the empirical findings mentioned earlier, it can be concluded that FDI Inflows do not have a significant effect on income inequality in G7 countries throughout the six models.

This study finds that greater technological progress is associated with higher income inequality, though the coefficient is not statistically significant. Technological advancement raises the value of skills and tends to substitute away low-skill inputs. Consequently, the relative demand for higher skills rises, hence exacerbating income inequality.

This paper confirms the hypothesis that higher inflation leads to higher income inequality. This positive relationship exists because inflation leads to an erosion of real wages that high-income earners can shield against.

Additionally, this paper reports estimates which provide empirical support to the hypothesis that higher industrial employment leads to a reduction in income inequality.

As the economy transitions from agriculture to industry (where the average salary is higher), a larger percentage of low-skilled workers benefit from increased wages. In comparison to the service sector, the average wage in the industrial sector is higher and has a lower standard deviation.

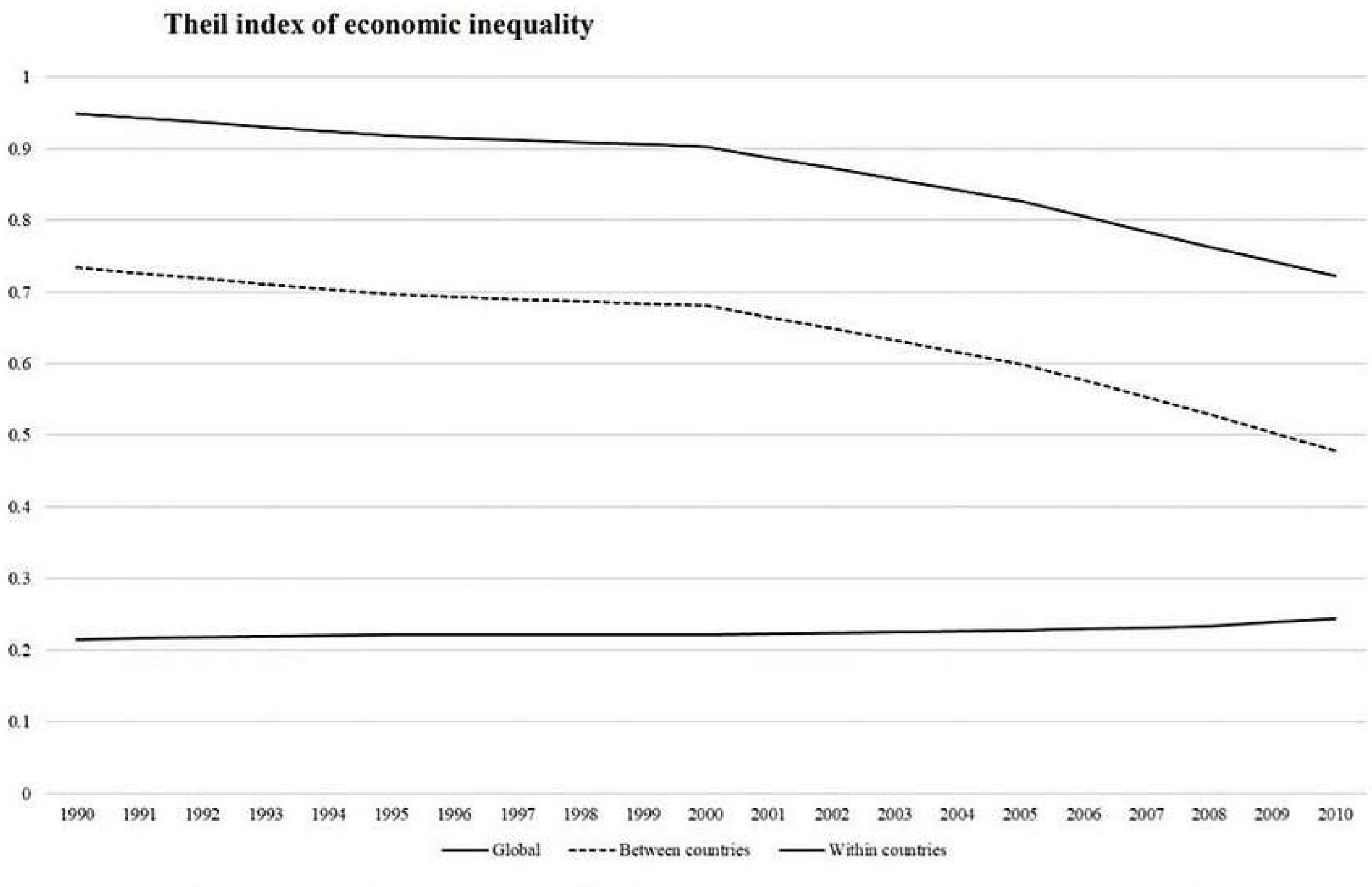
Furthermore, the study finds that government expenditure has an inverse relationship with income inequality. This is in line with studies that suggest that social aid, subsidy and grant expenditure have an effect on reducing income inequality and poverty by benefiting the poor more than the rich.

Scope of Further research

Given that the findings are based on cross-country data, they should be understood as the long-run estimated effect of trade on real income and total inequality.

As a result, the projections are silent on the potential temporary adjustment costs as a result of deeper integration. Furthermore, while the findings suggest that there are significant gains from trade over time, they are mute on the pathways via which this effect materialises. In this regard, more disaggregated studies are essential to help design policies that tap trade integration to spur growth.

Moreover, some studies suggest that economic inequalities between countries have declined, but have increased within each country on average – those at the top of the income distribution have risen rapidly, while incomes at the bottom have remained constant (see figure). Separate studies need to be undertaken for the same.



Source: F Bourguignon, 2016, *The Globalization of Inequality* (Princeton University Press, Princeton, United States).
Note: Higher values mean greater inequality.

Appendix

Table A: G7 countries

Canada
France
Germany
Italy Japan
The United Kingdom
The United States of America

Table B: Summary statistics

	No. of Observations	Min	Max	Mean	Standard Dev
Gini	101	28.8	41.5	34.51287129	3.505956741
Volume of Trade	101	22.15	86.51	53.69158416	16.85300084
FDI Inflows	101	-0.72648821	12.76319308	2.484392802	2.488912505
Tech	101	0.08976074	44.7757673	24.01238514	12.307115
Inflation	101	-1.89516354	4.593831662	1.533495537	1.008861372
Employment	101	18.2600002	33.5299988	24.13554446	4.139739898
Govt. Exp.	101	14.02601	24.12589283	19.37004536	2.659662223
Export/GDP	101	9.043069872	46.92073836	26.7596871	9.707906894
Import/GDP	101	13.02202296	40.20693474	26.93195769	7.271997368

Bibliography

Alderson, A. S., & Nielsen, F. (2002). Globalisation and the Great U-Turn: Income Inequality Trends in 16 OECD Countries. American Journal of Sociology 107, 1244-1299.

Alesina, A., & Rodrik, D. (1994). Distributive Policies and Economic Growth. The Quarterly Journal of Economics 109, 465-490.

Antonio Spilimbergo, Juan Luis Londono and Miguel Szekely: Journal of Development Economics, 1999, vol. 59, issue 1, 77-101

Aradhyula, S.V., Rahman, T. & Seenivasan, K. (2007). Impact of International Trade on Income and Income Inequality. Annual Meeting, July 29-August 1, 2007, Portland, Oregon 9999, American Agricultural Economics Association (New Name 2008: Agricultural and Applied Economics Association). https://ageconsearch.umn.edu/record/9999

Barusman, A.F., & Barusman, M.Y.S. (2017). The Impact of International Trade on Income Inequality in the United States since 1970s. European Research Studies Journal, 2017, vol. XX, issue 4A, 35-50. https://www.ersj.eu/dmdocuments/2017-xx-4-a-3.pdf

Bergh, A., & Nilsson, T. (December 2010). Do liberalisation and globalisation increase income inequality? European Journal of Political Economy 26, 488-505.

Cassette, A., Fleury, N., & Petit, S. (2012). Income inequalities and international trade of goods and services: short and long-run evidence. International Trade Journal 26, 223-54.

Demir, F., Ju, J., & Zhou, Y. (2012). Income Inequality and Structures of International Trade. Asia-Pacific Journal of Accounting and Economics 19, 167-80.

David Dollar, Aart Kraay (2001) Growth is good for the poor. World Bank Policy Research Working Paper No. 2587

Epifani, P., & Gancia, G. A. (den 7 October 2008b). Why does trade liberalisation raise wage inequality worldwide? VOX

Galor, O., & Moav, O. (2004). From Physical to Human Capital Accumulation: Inequality and the Process of Development. The Review of Economic Studies 71, 1001-1026.

Jakobsson, A. (2006). Trade Openness and Income Inequality. 30

Jaumotte, F., Lall, S., & Papageorgiou, C. (2008). Rising Income Inequality: Technology, or Trade and Financial Globalisation. IMF Working Papers 08/185

Lawrence, R. Z., & Slaughter, M. J. (1993). International Trade and American Wages in the 1980s: Giant Sucking Sound or Small Hiccup? Brookings Papers on Economic Activity: Microeconomics 2, 161-226.

Ohlin, B. (1933). Interregional and International Trade. Cambridge: Harvard University Press.
Pop, I. A., van Ingen, E., & van Oorschot, W. (2013). Inequality, Wealth and Health: Is Decreasing Income Inequality the Key to Create Healthier Societies? Social Indicators Research 113, 1025-1043.

Reuveny, R., & Li, Q. 2003. Economic openness, democracy, and income inequality: an empirical analysis. Comparative Political Studies, 36(5), 575-601

Sarel, M. (1997). How Macroeconomic Factors Affect Income Distribution: The Cross Country Evidence. IMF Working Paper 97.

Soubbotina, T. P. (2004). Beyond Economic Growth: An Introduction to Sustainable Development. Washington D.C.: The World Bank.

Stock, J.H. and Watson, M.M. 2015. Introduction to econometrics. Essex: Pearson Education limited.

Stolper, W. F., & Samuelson, P. A. (1941). Protection and Real Wages. The Review of Economic Studies 9, 58-73.

INDIA AND THE REGIONAL COMPREHENSIVE ECONOMIC PARTNERSHIP

Parineet Chowdhary and Latika Dutta

Shri Ram College of Commerce, University of Delhi

Abstract

In November 2019, India announced its decision to abstain from joining the Regional Comprehensive Economic Partnership (RCEP), which had been under negotiation since 2012. Since then, there has been much debate over the merits of this decision. In this paper, we aim to analyse the reasons underlying India's decision and the arguments for and against joining the bloc. By exploring factors such as India's trade relations with the RCEP member nations, its past experiences with Free Trade Agreements, the geopolitical environment, support and opposition from industries within the country and the Covid-19 pandemic which has ravaged the globe over the past two years, we aim to present a comprehensive understanding of the myriad reasons behind India's decision to stay away from the bloc, at least for the present. As neither India nor the current RCEP members have ruled out the possibility of India joining in the future, we also explore the potential paths India can take in the future and the way to move forward.

Introduction

A free trade agreement is a pact or agreement between two or more nations to reduce barriers to trade (i.e., imports and exports) among them. These could be bilateral (between two countries), such as India's bilateral trade agreements with several countries like Sri Lanka (Indo Sri Lanka Free Trade Agreement), Malaysia (Indo Malaysia Comprehensive Economic Cooperation Agreement), Singapore (India Singapore Comprehensive Economic Cooperation Agreement), Japan (Japan India Comprehensive Economic Partnership Agreements) and South Korea (India Korea Comprehensive Economic Partnership Agreements) (Ministry of Commerce and Industry, 2021). They could also be multilateral (among several countries), for example, ASEAN and the European Union. The World Trade Organisation (WTO) defines Regional Trade Agreements as "reciprocal preferential trade agreements between two or more partners" (World Trade Organisation, 2021). Under a free trade policy, goods and services can be traded across international borders with very limited or no government tariffs, quotas, subsidies, or prohibitions to inhibit their exchange.

Since free trade agreements reduce barriers to trade between countries significantly, they integrate the economies of the countries involved to a great extent and this can have benefits as well as disadvantages for them. The potential for economic growth and an increase in the competitiveness of domestic industries and businesses when faced with increased foreign competition are some of the commonly presented advantages of free trade agreements. Other possible benefits include increased attractiveness for Foreign Direct Investments (FDIs) which in turn can help domestic businesses expand (*Burfisher & Jones, 1998*) and exposure to superior technology and expertise through the increased interaction of domestic economic players with multinational corporations (*Brown & Manolakas, 2000*). Another potential benefit could be lower expenses for governments if they eliminate subsidies for sectors as part of these agreements (Grossman, 2016).

Despite these benefits, there are also potential disadvantages of entering into such agreements. Developed countries entering into agreements with developing countries, where the cost of labour is lower, often fear increased outsourcing of jobs and loss of jobs in sectors like Manufacturing. On the other hand, developing countries, which often rely heavily on agriculture for employment and exports, find it difficult to compete with the larger, subsidised products in these industries from developed nations. This in turn can lead to crowding out of domestic businesses and industries (*Zhang & Wan, 2017*), coupled with an increase in imports and a potential increase in trade deficits. Smaller countries that enter into such agreements might also struggle to replace the revenue lost from import tariffs and fees (European Union Directorate-General for External Policies, 2017).

Literature Review

The RCEP has been widely talked about, especially because of its potential to impact India and International Trade. The motivation to write this article came from the importance and relevance of this particular trade agreement, the decision of India and its potential ramifications.

In Chandran 2018 "India in the Regional Comprehensive Economic Partnership (RCEP) Need for Caution", he talks about the agreement and gives a warning for India to be cautious. In it, he talks about three primary reasons for India to be wary of the RCEP. The first concern is the problem of large-scale import of manufactured goods from developed members of RCEP, particularly China, which enjoys a trade surplus of more than 50 billion US$ with India. Second, the tariff reduction programme will lead to an influx of cheaper commodities into India affecting the manufacturing sector. Third, easy access to the growing Indian consumer market may affect a large number of informal players and their livelihoods. Moreover, the previous experiences of India's RTAs did not yield desirable results as India's imports increased rapidly compared to exports. Thus, the paper lays the base for India to be cautious about the RCEP.

In Seshadri 2017 " Regional Comprehensive Economic Partnership (RCEP) Agreement: Need for a Strategy", the paper focuses on RCEP and its need to be more successful with a great deal of planning and strategising being critical. India needs to be more competitive for the concessions it secures to translate into realisable market access. It should also be sufficiently flexible to be able to ensure that domestic players have a fair playing field in being able to withstand competition. It also lays down possible strategies and approaches, being a precursor to the fallout.

In Gaur 2020 "India's withdrawal from RCEP: Neutralising National Trade Concerns" briefly elaborates on India's concerns and rising trade deficit. It talks about the global protectionist attitude which has led to slow global growth. It dwells on the reasons for India's backout and also talks about how it would lose its export potential and an opportunity to be part of value chains in the region. Concomitantly, other members of the grouping would also lose their export potential in the Indian market. Therefore, it discusses that RCEP members should re-evaluate the grouping without India and India should consider a middle way approach to be a part of this mega-regional.

In Ray, Deepika and Narayanan 2021 "Analysis of India's competitive position in RCEP", the findings showed low export intensity for India with RCEP member countries. It then suggested that higher revealed comparative advantage and duty reduction in partner countries may help India in enhancing exports of only a few commodities. India has a high Revealed Comparative Advantage (RCV) in commodities, for which the tariffs by RCEP countries are already moderate. Considering India's present trade balance position, it suggested that India has limited options but to opt-out of RCEP. Although the members of RCEP are still open to accepting India, building competitiveness for Indian commodities and the future strategy for negotiations is important, if India considers itself to be a part of RCEP in the future. It then goes on to talk about how given the limited participation of India in regional blocks, it should identify its core areas of interest in goods and services where it can enhance its competitiveness and attain better trade performance using strategic bilateral negotiations and possibly exploit imported inputs to promote higher value-added exports.

What is RCEP?

In November 2019, fifteen Asia-Pacific economies signed the Regional Comprehensive Economic Partnership (RCEP), which has been described as the largest regional trading agreement to this day, covering nearly a third of the global population (The Economic Times, 2020) and about 30% of its global gross domestic product (*Whiting, 2021*). With India included, the 16 countries negotiating the RCEP together would have accounted for a third of the world gross domestic product (GDP) and almost half the world's population, with the combined GDPs of China and India alone making up more than half of that (Business Standard, 2021). According to computer simulations published by Peter A. Petri and Michael G. Plummer, RCEP could add $209 billion annually to world incomes and $500 billion to world trade by 2030 (*Petri & Plummer, 2020*). The RCEP was originally negotiated between 16 countries — the ten ASEAN (Association of South-East Asian Nations) member nations (Brunei, Vietnam, Laos, Cambodia, Thailand, Myanmar, Malaysia, Singapore, Indonesia and the and the Philippines) and the countries with which they have free trade agreements (FTAs), namely Australia, China, Korea, Japan, New Zealand and India (*Raghavan, 2020*). It has finally been signed by all the above countries with the exception of India.

The purpose of RCEP was to make it easier for the products and services of each of these countries to be available across this region (*Raghavan, 2020*), with an aim to progressively lower tariffs and counter protectionism, boost investment and allow freer movement of goods within the region (The Economic Times, 2020). The negotiations for the pact focused on trade in goods and services, investment, intellectual property, dispute settlement, e-commerce, small and medium enterprises and economic cooperation (Business Standard, 2021). The pact will eliminate tariffs on 91% of goods as well as introduce rules on investment and intellectual property to promote free trade (*Whiting, 2021*). Negotiations to chart out this deal had been on since 2013 and India was expected to be a signatory until its decision in November 2019 (*Raghavan, 2020*). Even as India opted to stay out after walking out of discussions last year, the new trading bloc has made it clear that the door will remain open for India to return to the negotiating table.

Reasons for not joining RCEP

India's primary apprehensions regarding joining the RCEP were the potential for it to become a dumping ground for products of other nations as well as geopolitical factors. Its fears can be analysed by focusing on the extent to which India ran trade deficits with other RCEP member nations, the mechanism of possible flooding of Indian markets with imports, the potential impact of RCEP on the specific sectors of the economy which raised opposition to the pact and the geopolitical factors that may have influenced India's decision to abstain from the agreement.

Figure 1 - Members of RCEP and CPTPP (Comprehensive and Progressive Agreement for Trans-Pacific Partnership) (Numbers present 2018 GDP in trillions of US dollars)

Source - Peter A. Petri and Michael Plummer, Brookings 2020

FTA's and existing Trade Deficits

India already has free trade agreements in place with several of the RCEP members, such as the ASEAN India Free Trade Agreement (AIFTA) with ASEAN, and trade pacts with South Korea and Singapore. Many of these trade agreements have been lopsided and have hurt India' domestic industries, which is why it wants to review its trade pacts with South Korea and ASEAN (*Panda, 2019*). India has trade deficits with 11 of the 15 RCEP countries (refer Figure 2) and according to trade expert Biswajit Dhar, professor at JNU's Centre for Economic Studies and Planning, "Our share in the imports of RCEP partner countries have either stagnated or fallen" (*Raghavan, 2020*). This can be seen in the fact that India's trade deficit with RCEP nations increased from US$7 billion in 2004 to US$78 billion in 2014, leaving domestic industry reeling under the impact of the agreements that led to these outcomes. In 2018-2019, while India's total imports from RCEP countries were US$172.9 billion, its exports accounted for only US$67.8 billion, leaving it with a deficit of US$105.1 billion (Panda, 2019). Over the last five years, RCEP members were, on average responsible for almost 70% of India's trade deficit (*Erken & Every, 2020*), with China accounting for nearly half of India's total trade deficit (Bhutani, 2021). On the whole, India's terms of trade with RCEP nations have been unfavourable, given past experiences (refer Figure 3). This is also a reason why it aims to pursue separate trade agreements with some of the countries that will be part of the RCEP, such as Australia and New Zealand, as well as those with which it has not made significant progress in negotiations thus far, such as the European Union (*Panda, 2019*).

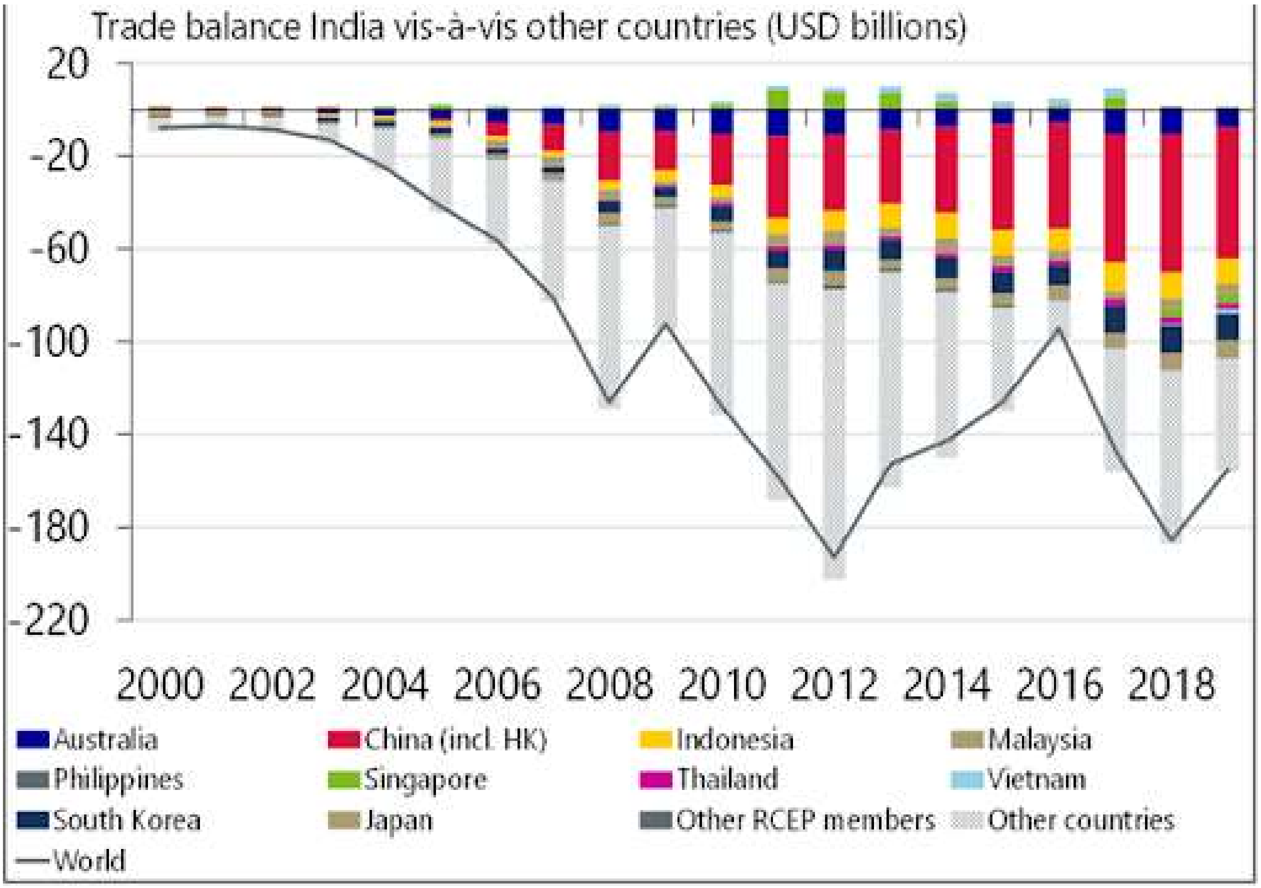
Figure 2 - India's Trade Balance with RCEP Members

RCEP Member	2018-19	2019-20
ASEAN	-21.85	-23.82
China	-53.58	-48.65
South Korea	-12.05	-10.81
Japan	-7.91	-7.91
New Zealand	-0.25	-0.14
Australia	-9.61	-6.93

All figures in $ billion

Source: Ministry of Commerce and Industry

Figure 3 - India's Trade Balance with Other Countries for 2000-2018



Source: IMF, Macrobond, RaboResearch

Table 1 - Many RCEP Members Are Net Exporters

↓ Trade balance of county with trading partner, % GDP

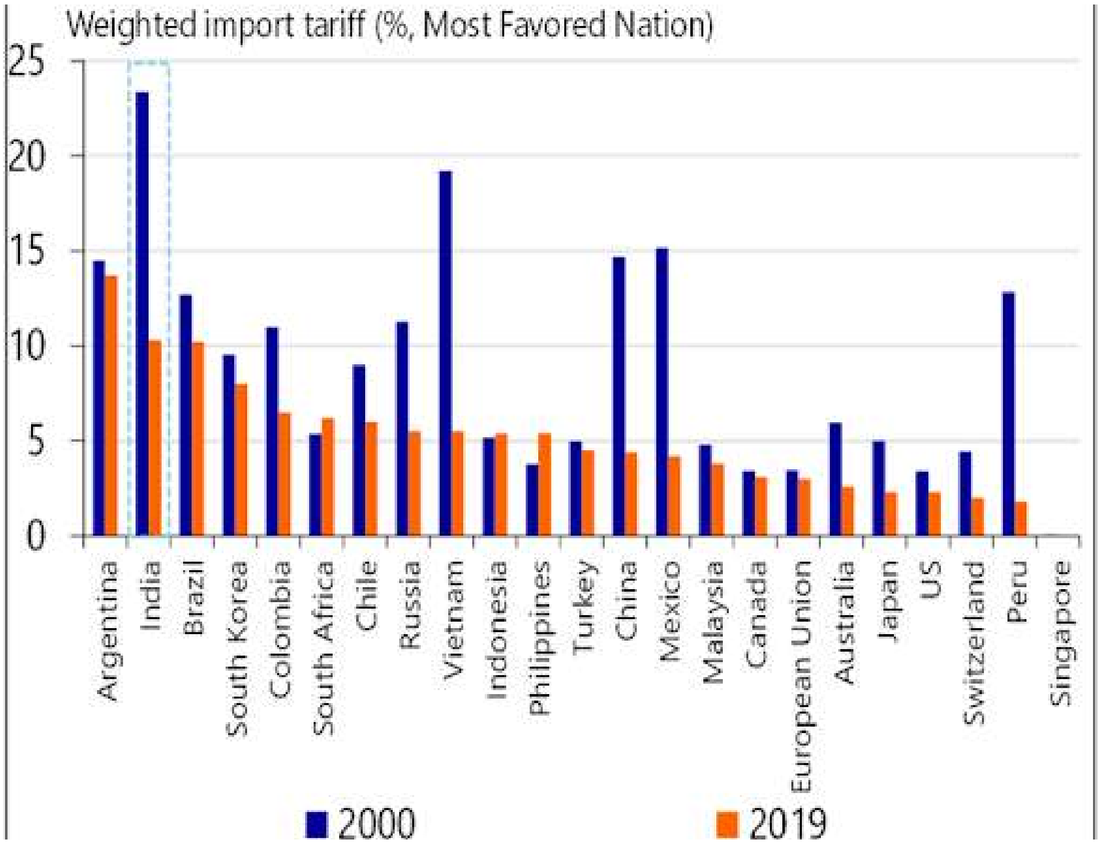
→ Trading partner	Australia	China	Indonesia	Japan	Laos	Malaysia	New Zealand	Philippines	Singapore	South Korea	Thailand	Vietnam	India	EU	US
Australia		-0.4	-0.3	-0.5	-0.1	0.8	0.8	-0.2	2.0	-0.5	1.3	0.1	-0.3	0.2	0.1
China	2.2		-1.5	-0.1	0.9	0.1	-0.4	-1.6	13.1	4.8	-2.0	-8.3	-2.1	-1.0	-1.7
Indonesia	0.0	0.1		-0.1	-0.2	-0.3	0.0	-1.4	3.3	-0.1	0.4	-0.3	-0.4	0.0	-0.1
Japan	1.3	-0.3	0.3		-0.2	0.7	-0.2	0.3	-0.9	-1.4	-2.3	0.0	-0.3	0.0	-0.3
Laos	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.4	0.0	0.0	0.0	0.0
Malaysia	-0.3	-0.2	-0.2	-0.1	-0.1		-0.3	-0.7	0.6	0.0	-0.4	-0.8	-0.2	-0.1	-0.1
New Zealand	0.1	0.0	0.0	0.0	0.0	0.1		-0.1	0.3	0.0	0.2	0.0	0.0	0.0	0.0
Philippines	0.1	0.1	0.5	0.0	0.0	0.6	0.2		0.4	0.4	0.8	0.6	0.0	0.0	0.0
Singapore	-0.1	-0.1	-0.5	0.3	-0.2	2.9	-0.3	-0.6		0.3	0.3	-0.7	0.0	0.1	0.8
South Korea	0.4	-0.7	-0.1	0.4	-0.4	-0.6	-0.1	-1.5	-0.2		-0.8	-9.1	-0.4	0.0	-0.1
Thailand	-0.6	0.0	-0.3	0.1	-4.7	0.4	-0.6	-1.2	2.0	0.1		-2.1	-0.1	0.0	-0.1
Vietnam	-0.1	0.2	0.0	-0.1	1.5	0.5	0.0	-0.5	2.6	1.6	1.3		0.1	-0.2	-0.2
India	0.4	0.4	0.9	0.1	0.4	1.0	0.0	-0.3	1.3	0.6	0.6	0.3		0.0	-0.1
EU	-1.9	0.9	0.3	-0.2	0.5	0.8	-1.8	0.2	-2.0	-0.4	0.4	8.9	0.0		-0.8
US	-1.1	2.3	0.9	1.2	-0.1	1.7	-0.1	0.5	-2.8	1.2	2.6	12.0	0.8	1.0	
Total	0.3	3.5	0.0	0.1	-2.7	7.9	-1.3	-10.0	13.0	4.8	2.2	1.1	-5.6	2.1	-4.1

Source: RaboResearch based on Trademap, IMF, Macrobond. China's trade includes trade via Hong Kong.

As can be inferred from Table 1, most of the larger RCEP members are net exporting nations. Furthermore, the RCEP members do not have particularly large trade deficits with each other (with a few exceptions). This implies that most RCEP members are exporting beyond RCEP borders, thus making RCEP largely a trade bloc of net exporters, focused more externally than internally. This in turn generates the need for one of the members to become a 'buyer of the last resort' within such a large agreement, facilitating extensive trading within the bloc by sucking up the goods from other nations, when needed, through large scale imports. Being a huge manufacturing hub that is keen to promote domestic production for its domestic market, it is unlikely that China will fulfil this role, which thus makes India the most likely candidate. If India were to sign the agreement, it would substantially decrease its relatively thigh tariffs, which are among the highest, (refer Figure 4) and thus enable other RCEP members to gain easier access to its large market of over 1 billion consumers.

Note: Table 1 shows the relative bilateral trade position of the larger RCEP members with each other, as well as India, the EU, and the US. Each column is read from top to bottom, where green represents a trade surplus as a percentage of GDP and red represents a deficit. For instance, Australia had a trade surplus with China in 2019 of 3.7% of GDP, whereas it had a deficit of -0.6% with Thailand.

Figure 4 - India's tariffs came down, but are still among the highest



Source: World Bank, WTO, RaboResearch, Macrobond

Rules of Origin

Rules of origin are the criteria needed to determine the national source of a product. Their importance is derived from the fact that duties and restrictions in several cases depend upon thesource of imports (World Trade Organisation, 2021). Cumulative rules of origin refer to situations involving different member countries or regions under the same preferential trade agreement, where when determining the origin of the goods, the countries or regions under the same preferential trade agreement can be treated as an economic region and the value components generated during the production and processing of goods in the economic region can be regarded as the domestic value components (*Jia & Ning, 2021*). This is exactly what will take place between RCEP countries, as under the agreement, any member of RCEP can import parts from another RCEP member to create a finished good and it will be considered as a product originating from the former member nation.

For countries like China, which extensively produce raw materials and semi-finished products, this is an opportunity to expand markets and overcome trade barriers that might have existed earlier among RCEP member nations (*Jia & Ning, 2021*). However, for countries like India which would seek to limit such imports in order to strengthen domestic industries and production capabilities, this measure would prove to be a severe disadvantage if it joined the RCEP. Thus, the potential misuse of the cumulative rules of origin was also a major concern for India.

As a way to deal with this issue while respecting the principles of a free trade agreement, India proposed the inclusion of an auto-trigger safeguard mechanism (ATSM) and snapback measures (*Panda, 2019*). In the event of imports crossing a specific threshold limit, these measures would be automatically triggered towards the partner country to contain any damage to the Indian economy. Although this was primarily aimed at China for manufacturing imports, it was also applicable in the case of Australia and New Zealand for their dairy products, and ASEAN for plantation products (*Bhutani, 2021*). However, as no agreement was reached regarding this issue, the fear that some countries might route their products through RCEP members at low duties remained (*Chaturvedi & Sharma, 2020*).

Dumping and Tariffs

Another major concern for India was the potential for the dumping of goods from other countries due to a drastic reduction in import duties combined with the cumulative rules of origin measures. Along with easier service and investment rules, the RCEP deal would have brought down import duties on 80% to 90% of the goods (The Economic Times, 2020), which is much more broad-based than what India has committed under its existing FTAs with Japan, South Korea or ASEAN(*Srivastava, 2020*). As a result of this, a large number of sectors including dairy, agriculture, steel, plastics, copper, aluminium, machine tools, paper, automobiles, chemicals, leather goods, electronics, textiles and others had expressed serious apprehensions regarding RCEP, stating that the dominance of cheap foreign goods would dampen their businesses (The Economic Times, 2020). The primary fear is that Chinese manufactured goods and dairy products from New Zealand will flood Indian markets (Panda, 2019). The agricultural sector also had concerns, with farmers expressing strong reservations and voicing worries that they would be unable to compete at a global scale (Business Standard, 2021). It is also important to note that some of India's top ten exports, such as engineering goods, chemicals, pharmaceuticals, and electronics, would be likely to face erosion in market share on account of the lower tariffs that would prevail among the members of RCEP for trading among themselves. The impact of this would be substantial. For example, engineering products alone account for a quarter of the India's merchandise exports. According to Amitendu Palit, a senior research fellow at the National University of Singapore, "In sectors where India is somewhat contributing to the global supply chain, RCEP would prove to be disadvantageous" (*Srivastava, 2020*). Furthermore, India had not received any credible assurance on market access and non-tariff barriers (*Panda, 2019*) and had tried and failed to win substantial concessions in areas like work visas for its software outsourcing sector (*Crabtree, 2019*).

The particular fear of dumping of Chinese goods is relevant as China is a large-scale exporter of manufactured and semi-finished goods. In the past three years, India's anti-dumping duties against Chinese companies has been the maximum against any country (*Panda, 2019*). Chinese state-owned enterprises have access to huge official and unofficial support, along with significant excess capacity, leaving them in search of more and more markets to export their goods to. One possible outcome of India joining the RCEP could have been a failure to industrialise in the face of a surge in imports, thereby leaving its economy dominated by agriculture and services. Although Ricardo's theory of comparative advantage advocates for nations specialising in the production of goods they have the least opportunity cost for, the aforementioned kind of Ricardian comparative advantage between India and China would mean a larger number of lower-wage jobs in India, which would throw a spanner in the works of the economic aspirations of campaigns like "Make in India" and "Atmanirbhar Bharat", which were intended to boost local manufacturing (*Erken & Every, 2020*). As a safeguard against such a situation, regarding both China and other RCEP members, India had proposed a three-tier approach for tariff reduction to the member countries. With ASEAN, India planned to reduce tariffs at 80 per cent of tariff lines; for Japan and Korea, which already have an FTA with India —tariff reductions of 65 per cent of tariff lines were proposed; and for countries like China, Australia and New Zealand, with which there were no existing trade agreements, a provision of 42.5 per cent of tariff lines was proposed. However, the RCEP member countries required a greater reduction in tariff lines — aiming at 90% — and this proposal from India was neglected by the member countries (*Bhutani, 2021*).

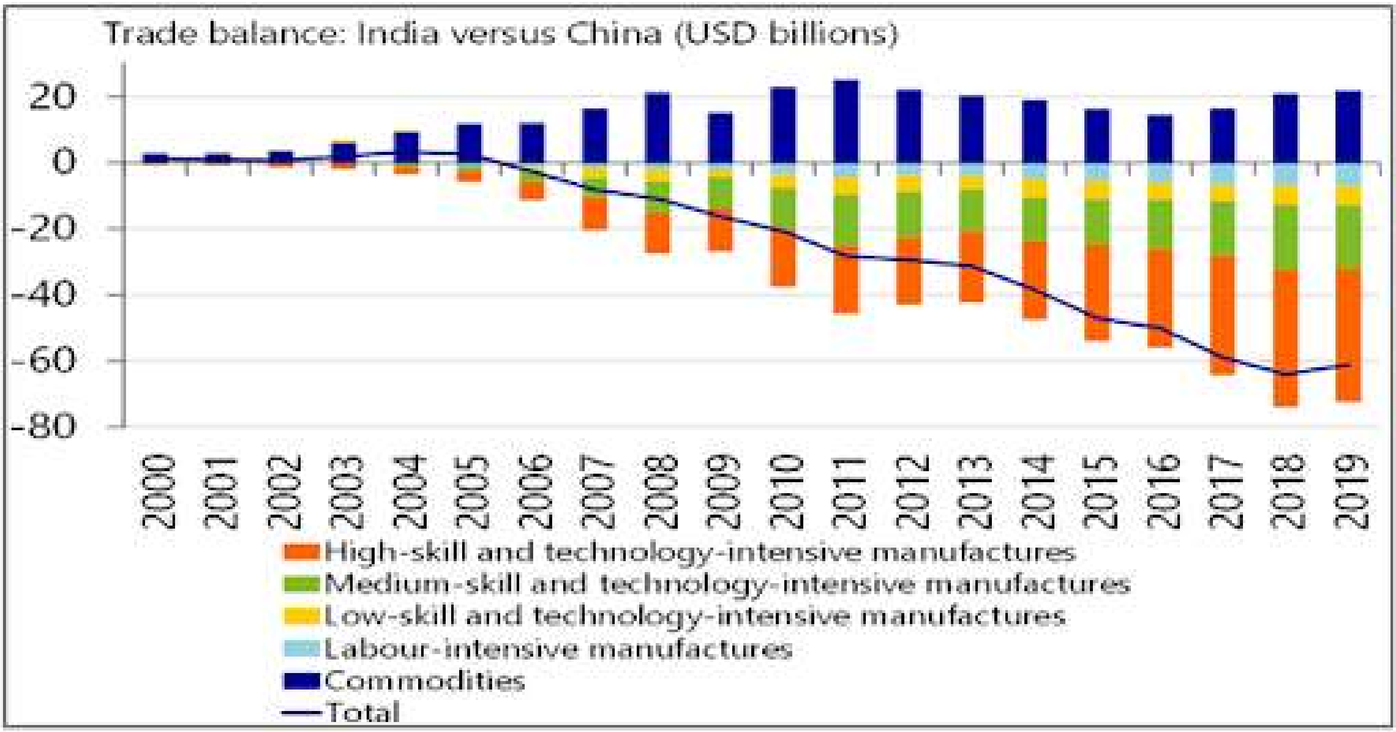
Geopolitical Factors and MFN Obligations

Other than the major issue of dumping of goods and the worsening of an already large trade deficit, tense relations with China are also a factor in determining India's decision as regards joining the RCEP. Border disputes such as the clash at Galwan Valley have led to an escalation of tensions in the past few years. India has attempted to take measures to reduce its exposure to China, but these would have been difficult to maintain upon joining a multilateral free trade agreement like RCEP with China as a fellow member(*Raghavan, 2020*). Chinese pressure to conclude the RCEP as soon as possible also suggested the idea that it might be eyeing this as a route to becoming the next economic superpower (*Bhutani, 2021*).

Past data reveals that deeper trade relations with China have exacerbated a shift towards imports of high-skill and technology-intensive manufactures from China while limiting India's exports to a stable set of commodities (refer Figure 5). The implications of this in a scenario where India is flooded with imports, an outcome whose possibility has been discussed earlier, could be a potential situation of a lack of development of India's own industrial and technological base. This in turn could lead to India becoming inferior to China in terms of technological, geostrategic and hence military positions as a result of potentially becoming dependent on China for key inputs or products that might be withheld when needed. This would be highly undesirable in a regional geopolitical environment that is becoming increasingly volatile (*Erken & Every, 2020*). A part of India's fear of such an outcome arises from the most-favoured-nation (MFN) obligations in the investment chapter of the RCEP agreement.

Under the principles of the World Trade Organisation (WTO), countries cannot normally discriminate between their trading partners. This principle is known as most favoured-nation (MFN) treatment and it requires that except for certain very specific special circumstances (e.g., a free trade agreement with certain countries), every time a country lowers a trade barrier or opens up a market, it has to do so for the same goods or services from all its trading partners (World Trade Organisation, 2021). The application of this principle within the RCEP agreement, particularly in the investment chapter, would imply that to extend specific benefits to any RCEP members, or to allow any of them to invest in sensitive sectors like defence, India would have to extend those rights to all member nations. This was not a desirable situation for India, as it did not want to give benefits extended to strategic allies or for geopolitical purposes to countries that it had border disputes with (*Raghavan, 2020*). Thus, the MFN obligations were also a factor in India's decision to abstain from joining the RCEP.

Figure 5 - Shift towards high-skill and technology imports from China



Source: UNCTAD, RaboResearch

Covid 19 and its Impact

Covid-19 has altered the domestic economic landscape and policies which have changed in order to revive India's economy. Tensions with China have increased and concerns of Chinese imports flooding India have accentuated after Covid-19. Moreover, at the expense of crisis and other geopolitical constraints, a rational approach to trade has been lost in ways it was present before. As trade wars increased and countries were moving towards increasing self-sufficiency, the general global climate, in part, contributed to India's decision to opt out of the RCEP. Additionally, the uncertainty of crisis and disruption of supply chains made self-reliance extremely important, something that wouldn't have been possible due to the reasons mentioned above and would have hampered India's trade balance further.

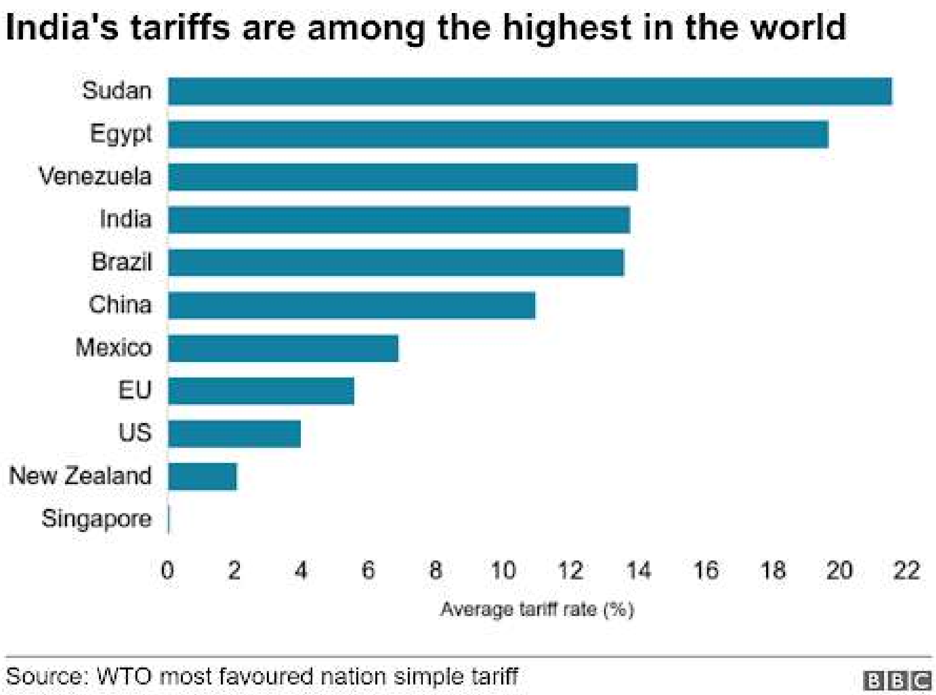
Reasons for not joining

Various critics of India's decision lay out a myriad of reasons for it to not have refused to join the agreement. They are:

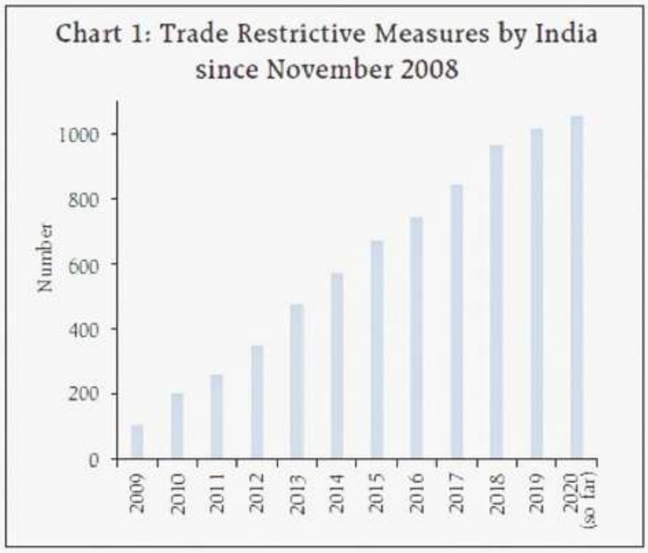
Protectionist Tendencies

A country's attitude to trade agreements is a function of trade politics or the distributional costs some groups are willing to bear in return for market access abroad. India opting out of the RCEP has made its policies more protectionist, with a substantial increase in import tariffs on many product categories. The government has announced production-linked incentives (PLI) for 13 sectors with a financial commitment of ₹1.45 trillion. It wants these sectors to match the international standards and offered protection via import tariffs. The main argument for opting out was the limited advantage India got out of the existing free trade agreements. India has trade deficits with ASEAN, Japan and South Korea with whom it has FTAs. But countries such as Indonesia, the Philippines and Vietnam which are member countries of RCEP also run trade deficits with China; and many, including Japan also have territorial disputes with China. Yet, these countries decided to sign the pact.

Figure 5 - Shift towards high-skill and technology imports from China



FFigure 7 - The increase in trade restrictive measures by India



Source - Reserve Bank of India - RBI bulletin

Viewing trade agreements from the point of trade balance alone is not appropriate, as opposed to the view of many politicians who consider buying foreign goods as anti-national. For a country like India, which is still in the developing stage, having more imports than exports may not necessarily be that undesirable

Rising import is a key sign of a growing economy and the people benefit by getting access to better quality products. Further, staying out of RCEP can affect the bilateral trade relationship with RCEP members. It can, for instance, affect the Australia-India-Japan network in the Indo-Pacific. The recent Supply Chain Resilience Initiative (SCRI), aimed as a trade bloc to counter China, promoted by Japan and endorsed by Australia and India, will also be impacted adversely.

Supply chain issue

Attracting international supply chains will be an issue by not joining the RCEP as member countries are more likely to establish value chains among themselves. Reason: components and parts manufactured in one country can be freely traded with other member-nations, without attracting any import tariff. By the time India makes its domestic industry competitive, it might be too late.There have been suggestions that India must now focus on joining the US-backed Trans-Pacific Partnership (TPP), now that the Trump administration has ended and the Biden Government has taken over and also focus on forging a trade agreement with the EU. Under the TPP, in Obama's regime, the US had proposed duty-free market access for many products to member-countries, however this might further create an issue.

Trans- Pacific Partnership

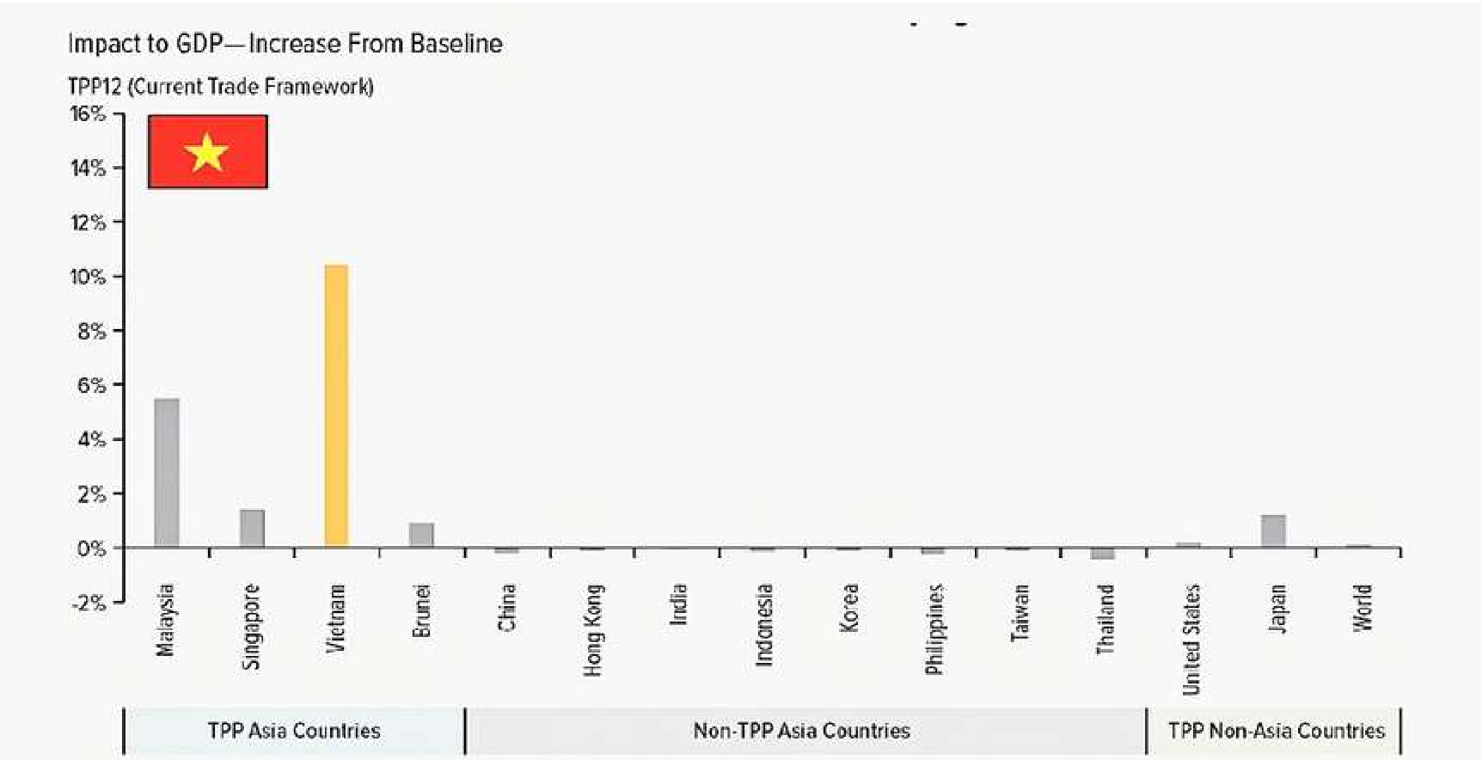
Signing up with the TPP can create challenges for India's textile industry. Vietnam,a TPP member and a major competitor of India in the sector will get free access to Indian markets. Also, there were several clauses in TPP related to the IPR regime and the digital economy that were not agreeable to India. If the negotiations begin once again, then it would not only be a challenge to safeguard the interest of several sectors but also difficult for India to join the TPP with the existing protectionist regime.

The negotiation on the India-EU trade agreement is making little progress as India is pushing for a "mini deal", while the EU will not sign anything less than a comprehensive trade and investment agreement and has clearly stated so. India should focus on strengthening the Quad grouping (with Australia, the US, Japan) to play an important role in the Indo-Pacific region and deepen its economic ties with neighbours such as Nepal, Bangladesh, Sri Lanka and Bhutan, which has not been given much importance so far

Geopolitical concerns

In the current scenario where global economic world order is changing, forging multilateral agreements has become very important. Despite certain costs, India should have signed the agreement to influence the institutional politics of regional trade that will revolve around the RCEP ambit. Being part of open trade and getting integrated with a trading bloc will be important for India to play an important role in the global economy and politics.

Figure 8 - Vietnam Poised to benefit most from Trans - Pacific Partnership Agreement



Source: Petri, AsiaPacificTrade.org, Credit Suisse, IS Global Investors

India will remain outside the institutionalized orbit of RCEP where future discussions, amendments, additions and revisions to RCEP could occur.This platform could necessitate discussions on issues RCEP does not cover now like artificial intelligence, digital currency and block chain, for instance. This may put India at a disadvantageous bargaining position and Indian officials or firms will not be compelled to innovate or adapt their internal operations for a regional market evolving beyond their reach.

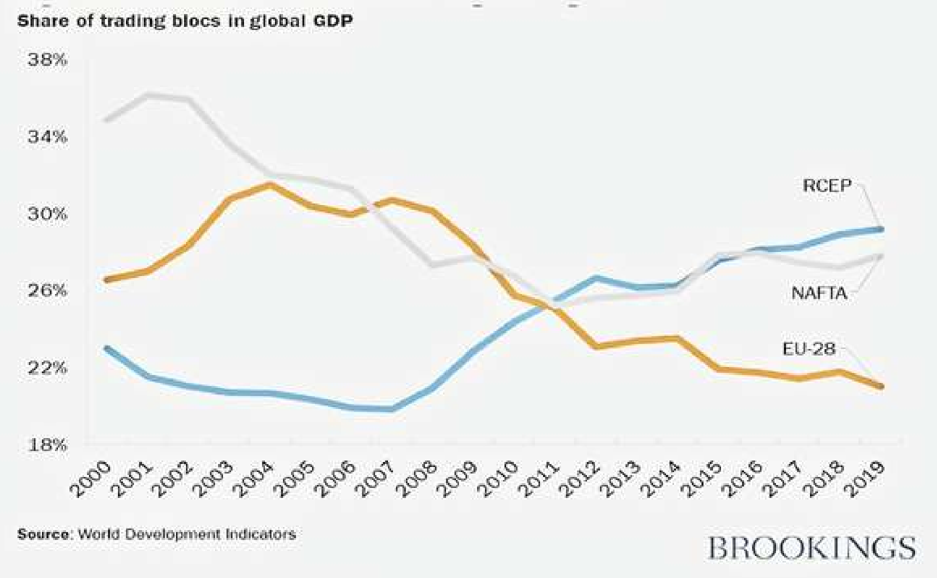
The China Factor

As mentioned above, it was believed that the RCEP is a “China-led" project, emphasising, instead, its Asean-centric origins. Such fears are facile since RCEP, in its current form is a shallow agreement riddled with exceptions, exemptions, exclusions and transition periods on many issues allowing countries that sign to gradually adhere to provisions.. To describe RCEP as a China-led trade initiative misses broader trends in Asia, where countries are focused on diversifying trading partners, solidifying supply chains, and achieving economic and job growth through a pan-regional trade agreement. However, China is to benefit more from RCEP from an export - import perspective by virtue of its size and the impending need to reorient its economy toward consumption. RCEP rules do not require China to make any changes that cover exchange rate policies or domestic subsidies, reforms other countries wanted to ensure a level playing field. As a result, it could make Asean member states and other RCEP signatories more vulnerable to Chinese power and coercion. This was a gamble that other countries were willing to take, but not India due to reasons mentioned earlier.

The Way Forward

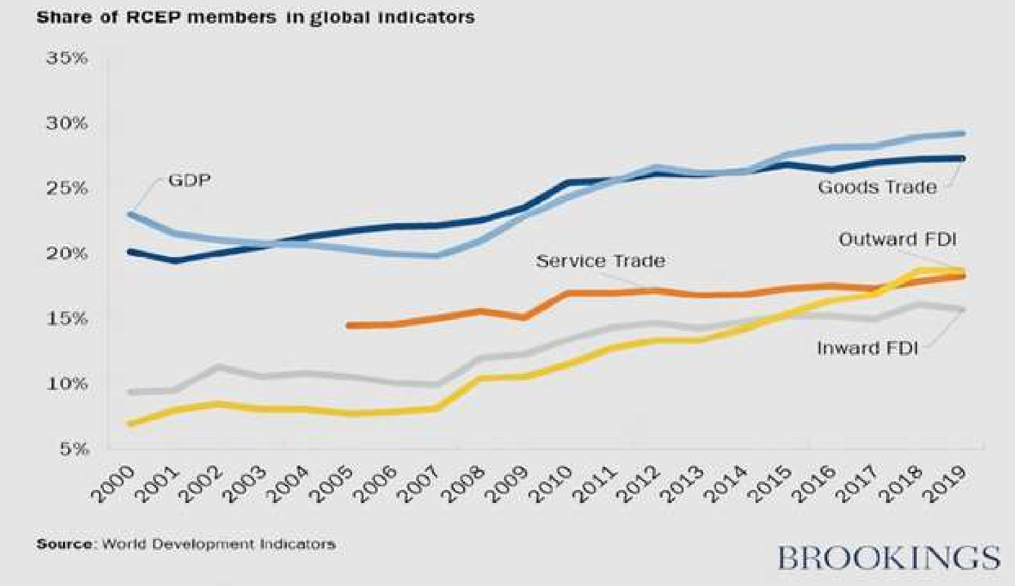
Keeping in mind the reasons stated and the arguments provided for and against joining the RCEP, one thing is clear - India needs to improve its export competitiveness and domestic capabilities. Further, if it wants to consider joining the agreement in the future, there needs to be certain provisions that aid said decision, especially in the agreement. As mentioned above, RCEP is an important agreement, considering the kind of influence it can generate on international trade.

Figure 9 - RCEP members are overtaking the largest trade blocs



Source: World Development Indicators

Figure 10 - RCEP members have gained prominence in the global economy



Source: World Development Indicators

To be able to have a say in international agreements and global trade, India needs to take a more active role in such agreements, but with definite caution. Thus, the decision to enter the agreement or not solely rests on how it is able to overcome the difficulties that prevented it in the first place. In the case wherein it decides to not join at all, India needs to find alternatives to ensure it has a say on matters of global economic concern. Further, one of the most important reasons highlighted above, the China factor needs to be dealt with keeping in mind ways to improve domestic sufficiency instead of blaming outwards. This can only happen with sound economic policy and increased prioritization of trade and growth.

Conclusion

Did India have sufficient cause to reject the agreement, given the fears? Most of India's concerns can be relegated to the fear of imports flooding the Indian market where Indian officials have specifically pushed back against specific goods like dairy and agriculture from markets like Japan and Australia which could hurt domestic producers. Moreover, the dominance of China and its unfair advantage and the lack of any effective regulation within RCEP was a serious area of concern. The current agreement did not allay India's concern and in fact, India's trade deficit with the Asean worsened from 2018-19 to 2019-20 from $22 billion to $24 billion. It is therefore difficult to sign and ratify a trade agreement when the trade balance with the countries involved is not improving. Ratifying RCEP would have definitely exposed domestic traders and manufacturers to Chinese imports, loss of jobs and falling business.

However, staying out of a major trade deal where potential decisions regarding trade in the new global order could be taken is also risky and might hurt our bargaining position. Judging from trends, RCEP could become an institutionalized core with a secretariat, staff and platform where trade officials will be discussing a widening RCEP agenda which could facilitate trade not only between the ASEAN but also the other five - China, Japan, South Korea, Australia and New

Zealand. Given the WTO's failures, countries across the Asia-Pacific will likely engage through trade agreements like RCEP to clear immediate bottlenecks and secure extra market access. Remaining out of such an important and growing bloc could also potentially harm India.

Whether India's decision to not join RCEP was beneficial or not is a result that now depends on future economic policies of India, the way covid - 19 shapes itself, the role RCEP plays in global trade agreements, and various other geopolitical and trade related factors. there are both positives and negatives to not joining the agreement as elaborated during the course of this article, but irrespective of the outcome, the RCEP did definitely pave the way for India towards self reliance and set out a bold message of protectionism. Now the ways in which it manifests itself can only be seen with time.

Bibliography

Chandran, S. (2018). India in the Regional Comprehensive Economic Partnership (RCEP) Need for Caution. SSRN Electronic Journal. Published. https://doi.org/10.2139/ssrn.3110581

Ray, A., Deepika, M. G., & Narayanan, G. B. (2021). Analysis of India's Competitive Position in RCEP. Vision: The Journal of Business Perspective, 25(3), 336–349. https://doi.org/10.1177/09722629211003699

Gaur, P. (2020). India's withdrawal from RCEP: neutralising national trade concerns. Journal of the Asia Pacific Economy, 1–19. https://doi.org/10.1080/13547860.2020.1809772

Seshadri, V. S. (2017). Regional Comprehensive Economic Partnership Agreement: Need for a Strategy. RIS Discussion Papers. Published.

Sarma, N. (2020, April). Free Trade after RCEP: What Next for India? ORF Issue Brief. https://www.orfonline.org/wp-content/uploads/2020/04/ORF_Issue_Brief_353_RCEP_NEW-08_ April

Bhutani, A. (2021, February 10). Observer Research Foundation. https://www.orfonline.org/expert-speak/india-reluctance-joining-rcep-boon-bane-long-run/

Brown, C., &Manolakas, C. (2000). Trade and Technology Within the Free Trade Zone: The Impact of the WTO Agreement, NAFTA, and Tax Treaties on the NAFTA Signatories. Northwestern Journal of International Law and Business, 21(1), 84. https://scholarlycommons.law.northwestern.edu/cgi/viewcontent.cgi?article=1520&context=njilb

Burfisher, M., & Jones, E. (1998, November). Regional Trade Agreements and Foreign Direct Investment. USDA. https://www.ers.usda.gov/webdocs/publications/40898/32571_aer771j_002.pdf?v=41304

Business Standard. (2021). Business Standard. https://www.business-standard.com/about/what-is-rcep

Chaturvedi, H., & Sharma, A. (2020, December 1). Business Line. https://www.thehindubusinessline.com/opinion/why-it-is-better-to-be-in-than-out-of-rcep/article33223852.ece

Crabtree, J. (2019, November 5). Nikkei Asia. https://asia.nikkei.com/Opinion/India-makes-historic-blunder-in-abandoning-RCEP-trade-deal

Erken, H., & Every, M. (2020). Why India is wise not to join RCEP. Utrecht: Rabobank/RaboResearch.https://economics.rabobank.com/publications/2020/december/why-indi a-is-wise-not-to-join-rcep/

European Union Directorate-General for External Policies. (2017). Addressing Developing Countries' Challenges in Free Trade Implementation. European Union Directorate-General for External Policies, Policy Department. European Union. https://www.europarl.europa.eu/meetdocs/2014_2019/documents/acp/dv/study/studyen.pdf

Grossman, G. (2016). The Purpose of Trade Agreements. Princeton University. https://www.princeton.edu/~grossman/Purpose_of_Trade_Agreements_WP.pdf

Jia, S., & Ning, J. (2021, January 8). Allbright Law Offices. https://www.allbrightlaw.com/EN/10475/621866ffa1744ca3.aspx

Ministry of Commerce and Industry. (2021) .https://commerce.gov.in/international-trade/trade-agreements/.

Mint. (2020, November 15). Mint.: https://www.livemint.com/news/world/what-is-the-rcep-trade-deal-explained-11605402188531.h tml

Panda, R. (2019, December). GlobalAsia. https://www.globalasia.org/v14no4/feature/a-step-too-far-why-india-opted-out-of-rcep_rajaram-p anda

Petri, P., & Plummer, M. (2020, November 16). Brookings. https://www.brookings.edu/blog/order-from-chaos/2020/11/16/rcep-a-new-trade-agreement-thatwill-shape-global-economics-and-politics/

Raghavan, P. (2020, November 26). The Indian Express. https://indianexpress.com/article/explained/india-out-of-rcep-china-economy-trade-angle-705387 7/

Srivastava, S. (2020, November 26). Bloomberg. https://www.bloomberg.com/news/articles/2020-11-25/india-risks-losing-to-trade-bloc-defeatingvery-reason-it-exited

Sharma, H. C. (2020, December 1). Why it is better to be in than out of RCEP. @businessline. https://www.thehindubusinessline.com/opinion/why-it-is-better-to-be-in-than-out-of-rcep/article3 3223852.ece

Grewal, K. (2020, November 17). How will RCEP benefit member nations and what does India's exit from the trade pact mean. ThePrint. https://theprint.in/theprint-essential/how-will-rcep-benefit-member-nations-and-what-does-indias -exit-from-the-trade-pact-mean/545701/

Zhang, Y., & Wan, G. (2017). Exploring the Trade-Urbanization Nexus in Developing Economies: Evidence and Implications. ADB Institute. https://www.adb.org/sites/default/files/publication/223156/adbi-wp636.pdf

CONSUMER RATIONALITY: FALLACY OR JUSTIFIED?

Aryan Gangwar and Vibha Patawari

Shri Ram College of Commerce, University of Delhi

Abstract:

The notion of rationality and consumer decision making has fascinated many different researchers across different fields like Economics, Mathematics, Psychology and many more. Consumers' decision-making processes rely on many different contexts, situations and other critical variables, and the changes in those variables depend on our preference ordering and what would be chosen. The field of Behavioural Economics is one such field that studies the consumer and how they make choices. It makes adequate use of intuition from Psychology to formulate projections about choices agents make and many of these predictions do not fulfil the assumption of "Rational" consumers. The paper is based on theoretical reasoning backed by empirical data, primarily dealing with the decision-making mechanisms and how it depends on the social potential a good or service has. Moreover, it is equally important for policymakers to develop policies in such a way that would impact consumers' consumption and decision-making habits to make them healthier, more ethical to aid domestic products. Economic models are quite helpful in developing intuitions about things happening in the real world, but it's also important to understand their flaws and take measures to improve them to get better results.

Keywords: [1] Rational consumer Theory [2] Utility maximisation [3] Economic Efficiency [4] Framing Effect [5] Competent Optimizers [6] Relative Efficiency [7] Heuristics [8] Marginal Analysis [9] Self Branding [10] Brain Plasticity

Introduction

The Rational Choice Theory is a theory of decision-making and preference behaviour including individual consumers' decision making, often applied to the marketplace. It forms the base for different law-and-economics movements. Although there are many contexts where choice behaviour plays a very significant role in making fruitful decisions. The choice process, particularly consumer choice, has been well researched. The theory of the efficiency of consumers stems from an axiom derived from a greater assumption of rationality in decision making implanted in both social and mathematical psychology. This axiom underlines that consumers are rational as they choose the most economically efficient brand.

According to some early Economic theorists like- Alfred Marshall, Adam Smith, Jeremy Bentham and others, an agent's desire for goods or services may exceed his purchasing power. Therefore, buying decisions are taken through a rational process during which we assign a value to each desired product or service based on the ability of that offering to satisfy our needs and wants. The ability of a product to satisfy the want of an agent is termed "utility". Since different consumption bundles provide different levels of utility (satisfaction), a rational consumer always wants to maximise utility level given his/her financial constraints. In essence, it means that an agent always wants to feel as satisfied as possible out of the money they have in their pockets.

In the contemporary world, people are strongly affected by how choices are presented to them or framed. A pair of shoes in an economy store can be perceived very differently than the same pair sold in a deluxe shop. The decision to buy a photocopy of a book at $20 would feel quite different from buying the same book at $35. These are examples of framing effects and can be seen as a very powerful force in choice behaviour. Indeed, much of the marketing practices are based on understanding and utilising such biases in consumer choice. Framing effects are common in choices involving uncertainty.

What does the term Rationality mean?

The everyday definition of “rationality" is “having the ability to reason”. Confusion over the technical definitions of some specialised terms frequently results in many inadequate meaningless differences. Researchers occasionally use less accurate and basic everyday terms for the theories given by them to understand the concepts better and to make assumptions appear more captivating. It seems as though it is safer to assume that consumers are rational rather than assuming that consumers are competent optimizers with perfect foresight and a whole set of knowledge regarding the firms' cost structure. In this sense, the usage of the term 'rationality' is an attempt to build a consumer theory sufficing a set of technical plus mathematical assumptions. Like other assumptions, the attractiveness of "rationality" as an assumption will rely on whether the successive theories can anticipate significant variables.

In Economics, rationality is usually associated with the sufficient condition for the existence of a consumer utility function. Traditional Economic theory implicitly formulates consumer rationality in terms of maximising utility given the agent's financial constraint. Hence, rational consumers do what suits them best and gives them maximum satisfaction.

Mathematically, it is represented by:

Max Utility$(x_1,x_2,\ldots,x_n)$
Subject to
$P_1x_1+P_2x_2+\ldots P_nx_n$= Money Income (M)
Where $x_i \geq 0 \ \forall \ i = 1,2,\ldots,n$ are ‘n’ different commodities
$P_i \ \forall \ i = 1,2,\ldots,n$ are the prices of 'n' different commodities

In sum, a rational consumer takes the best possible action in the concerned model. Given that different models employ different decision variables, exogenous factors, situations and exhibit different properties, the precise meaning of rationality differs from model to model.

Rationality as an Economic Assumption

Assuming rationality implies taking the best possible action within the world of the model which is often regarded as a very strong assumption to maintain extraordinary consistency across and within models that might appear entirely independent. At first, it might seem like a strong assumption but it is not. In almost all circumstances, we could introduce ad hoc factors or revise the payoff function to make any outcome appear best. We might, for example, allow consumers to consider the perceived fairness of the outcome, imagined legal constraints, perceived risk of litigation, social accessibility, possible reputation effects, regret, intuition and so on. A consumer might pay a higher price than necessary as a form of charity or as a subsidy to help a lower stave off bankruptcy. A consumer might select a lower quality option as a means of experimentation. He also might want to signal modesty in a social setting. Some consumers might deliberately try to make their behaviour unpredictable as a part of a more general strategy.

Of course, some modifications might appear to resemble ad hoc attempts to explain irrationality. This is not to say that all actions are reasonable. Not all models are an approximation of any conceivable real-world setting or decision making. This is only an argument, assuming that consumers take the best action is not as strong an assumption as it appears to be. The critical assumption, which was argued later, is whether the model itself provides a sufficient approximation of the real-world setting. Moreover, outcomes might remain rational despite violations of the rationality assumption.

Consumer Choices vs Efficient Consumer Choices

A typical assumption of most economic and strategic models is that all products in the marketplace are portrayed as efficient. However, the study by *Hjorth-Anderson (1984*) indicates that at least at the micro-level there do exist inefficient variants of a commodity. From this, it doesn't seem plausible to determine that all of the products evoked by an individual consumer would lie on the efficient frontier. While standard economic theory would say that all inefficient brands will be pushed out of the marketplace, this may not be true when we are dealing with the short-run concept. So at least in markets that are in a state of flux, perhaps due to factors such as new products being introduced or current products undergoing modification and so forth, customers may evoke brands that do not lie on the efficient frontier. over, outcomes might remain rational despite violations of the rationality assumption.

From the demand side perspective, a rational consumer would always want to make the "best" possible buy which would give him the maximum satisfaction visibly from all other bundles. Therefore, the notion of economic efficiency is a necessary condition for consumer rationality.

In other words, he/she will choose that which provides the highest utility per dollar.

From the supply side, under certain conditions, it may be actually to the benefit of the firm to introduce an inefficient brand. When it comes to rationality along with efficiency, a firm would always want to produce till it achieves the level of output such that marginal cost is equal to marginal revenue and marginal cost is greater than marginal revenue after that so that it would be able to gain the maximum possible profits. The argument in favour of this is that an inefficient variant on consumer choice strategies, the decoy may prove beneficial by boosting the sales of the most efficient counterpart. Therefore, a consumer will quite likely encounter less than efficient brands in the marketplace.

Consumers appear rational in situations in which our models can predict their behaviour. Consequently, consumers are well-studied. Choice situations appear to exhibit a high degree of rationality because we have accurate models for familiar situations. In other less studied situations, consumers might appear irrational because our extant models are unable to accurately predict the outcomes. In this sense, rationality is a property of the model and not a property of a consumer. The concept of subjective probability is analogous. The world is in some true state. For example, we might wonder whether the true box office collection of a movie is $1 million, $10million, or $100 million. Likely, time will reveal the true box office collection. A better model is better at predicting outcomes than other models when its variance is under control. Subjective probability reflects researchers' uncertainty. Similarly, irrationality reflects the researchers' inability to predict behaviour. Authenticating irrationality is not necessarily our task. Our default assumption is that consumers are irrational either because their behaviour is inherently unpredictable or because we have not yet discovered how to predict it.

To present the linear programming model underlying the distribution of efficiency, we first enlist some notation. Let yij denote the benefit accruing along the ith dimension (attribute) of the jth brand. Let xkj denote the input required to be spent along the kth dimension of the jth brand to obtain the associated benefits. Assuming that there are M brands with N outputs and K input attributes that characterise the product evaluation process, we denote by Y the matrix of output attributes, of order N× M. Similarly, we let X be the matrix of input attributes, of order K×M. Assume that in attribute-space, these arrangements can be defined by combinations of these x and y vectors, then the set of all feasible arrangements, such that proportionality is retained between x & y is

$$C=\{(x,y):y\leq Y.z,\ X.z \leq x,\ z\in R+M \}$$

where, z = (zl,z2,...,zM) denotes the vector of parameters that define the combination of the attributes of the brands. Let (x0,y0) be a given observation of attributes of some brand. Then the relative efficiency (RE) of that brand is:

$$RE(x0,y0) = \max\{1/\theta: (x0,\theta y0) \epsilon\ C\}$$

which is the optimal solution of the following linear program i.e the linear programming solution:

$$\max \theta$$

subject to:

$$zY \geq \theta y0 \ldots\ (1)$$

$$zX0 \leq x0 \ldots\ (2)$$

$$z \geq 0 \ldots\ (3)$$

Thus, in the mathematical model given above, the relative efficiency measure, 1/θ, indicates the proportional growth in the output attributes that can be attained keeping the current level of input cost constant. Many different modifications and variations are plausible in the basic efficiency measure model but we restrict ourselves to individual choices only.

How are decisions usually made?

Whether we realise it or not, we are making decisions all the time. Some are automatic, such as wishing our peers "Good Morning" or making a cup of tea. Some are semi-automatic, as they are a part of our routine such as deciding which clothes to wear in the morning or which flavour of milk to drink. Then comes the highly deliberated decisions, such as buying a house, choosing a career.

Even though these decisions might seem quite different from each other, the process is similar. The basic steps include:

- Requirement of a motive,
- A set of alternatives called an opportunity set to choose from. Typically, opportunity sets are huge to be examined, hence consumers limit their size to a consideration set.
- Cost-Benefit Analysis of the alternatives in the consideration set
- Choice is made

Certain heuristics are typically used in decision-making due to the desire for lower decision-making costs and restricted cognitive abilities. People might also attempt to consider all possible options and features (making a so-called rational decision) or decide intuitively or nearly automatically (i.e., habitually). Some populist books such as Malcolm Gladwell's Blink: The Power of Thinking Without Thinking, has led to growing excitement over intuitive decision-making whether appealing thought of saving one's efforts of deciding and still making the right choices. Academic researchers on the other hand are much more sceptical with regard to intuitive decision-making arguing that intuition only works well in certain cases and only when the professionals are making the decisions. Consumption situations, consumer characteristics, consumer motives, and available alternatives can be held as exogenous variables, which could then be jointly taken as frames for the choice.

Heuristics are defined as methods of easing the decision-making process by eliminating certain information and paying attention only to some aspects of alternatives. Despite having diverse opinions, all the researchers seem to agree that heuristics and decision strategies are adaptive and depend on personal preference as well as they depend on the decision context.
Some typical heuristics are:

● Satisficing heuristic: The individual considers the alternatives one at a time, as and when they are remembered. The first satisfactory and acceptable alternative is chosen, otherwise, the process is started again to accommodate relaxations.

● Lexicographic heuristic: The most demanding feature is chosen first and the alternatives are ranked accordingly, for example, the cheapest, fastest, trustworthy, etc. Here, the consumer is not satisfied with the first possible choice but will choose the best alternative according to one chosen attribute.

● Eliminating by aspects heuristic: The consumer begins with considering the most important aspect and then eliminates the alternatives below the set cut-off level. Then the second-most important feature is analysed and the process is repeated until only one alternative remains. It is a mixture of both lexicographic and satisficing strategies.

● Frequency of good and bad features heuristic: A list of the good and bad attributes of each alternative is formed and then the sum is evaluated. The sum of bad attributes is deducted from the good ones and the option with the highest score is chosen.

● Equal weight heuristic: Each attribute is assigned a value, all the alternatives' values are added, and the one with the highest score is the winner.

The choice of decision strategy that an agent takes into consideration is of utmost importance since it determines what is likely to be chosen. For example, if I were to choose a travel bag, I might go for colour (intuitively) or price, or I might consider price, capacity, quality, colour, brand, etc., and try to find out the plus and minus points i.e., frequency of good and bad features. Even with the same preferences, same options and same alternatives, the choices differ based on the decision strategy that an agent has chosen.

Factors Affecting the Choice of Decision Making

Each decision strategy can be identified based on its accuracy and the effort it requires. Agents choose strategies based on some kind of trade-off between the preference to make an accurate decision and to minimise cognitive effort. If one opts for increasing accuracy, one needs to dedicate a large amount of cognitive effort to achieve it as reducing mistakes requires having knowledge and information along with proper comparisons with evaluations. If the choice is important for a decision-maker, we put in more effort, search for more information, ask for advice and agonise over difficult trade-offs. The complexity of a decision task has a direct impact on consumer choices.

The decisions can be difficult if there are many options, motives, conflicting values, difficult trade-offs, etc. For example, a typical trade-off difficulty arises when it comes to deciding between low price and product safety. If the task is too complicated, it may stave off people from preferring an option at all. It has been found that emotions affect cognitive processes and play a rather important part in decision-making. Negative emotions arise when the decision task is complex or when one is under time pressure.

Human emotions provide an immediate and automatic evaluation of the “goodness” or “badness” of a feature or possible consequence. People especially rely on their emotions when they are not able to make decisions easily, when there is a limited amount of information or when they feel the emotions are relevant.

The Psychological Drivers of Consumer behaviour

Everything that one consumes can be used as an identity claim, social currency, a tool for self-branding, or a signal for values. People tend to be emotionally attached to products. These types of relationships are explained by brands which is the image others have about the product, company or person and are possessed by all products.

One chooses what one consumes to define themselves. Products act as identity claims for belonging to certain groups, one’s identity, achievements or future goals. Brands and their consumption have the property of being transferred to user qualities. One can brand themselves by the amount and type of consumption, the status of consumption or by the brands they use. Consumed products are generally used as signals to communicate our identity and values or our ideal selves. We buy brands to act as feeling regulators and mood uplifters.

Will Consumers become more rotational in the upcoming years?

Consumers have an enormous amount of opportunities nowadays. Since the products are quite similar and there are no substantial differences in product quality and pricing, the choices are based on more than primitive ways. It is necessary to look at how consumers make decisions and the variables they include while making these decisions.

Some of the key variables and their correlation with different decision-making strategies, always intrigue a wide variety of researchers across fields. Research on future consumer decision making is almost non-existent. Gastrein-Teufel's research regarding consumer choices, electricity providers and crowd energy management environments are in a particular context and cannot be generalised to all consumer decisions.

A complicated world and more specific social needs would be an interplay between easy decisions. One interesting consequence of this complicated world and consumers wanting to minimise effort while deciding is that the appeal of outsourcing decision-making will grow and different shopping suggestions like Flipkart and Amazon recommendations will become more popular. The decision-making outsourcing could also be seen when people make voting decisions and rely more on voting advice apps. The future of decision-making would be interesting to analyse further in light of what neuroscience has recently found out about brain plasticity, the ability of the brain to modify its structure and function, based on what we do.

Conclusion

From this research paper, it is quite evident that consumers' decision-making strategies rely on many contexts and situation-dependent variables, and the changes in those variables depend on how we are making our preferences and what would be chosen. It was often argued by several researchers that consumer decision making will firstly be dependent on identity play and social currency-related needs and social identity-related potential.We have seen that by mathematically formalising the idea of marginal analysis, economists have implicitly assumed that people know how exactly they want and they possess the self-control to act accordingly.

Different examples have proved that economic assumptions aren't completely error-free, but that doesn't mean we simply abandon them. Simplified models are based on strong principles (sometimes taking extreme cases), allowing us to discover connections between behaviours that would have been imperceptible without a formalised approach. Economic models are quite useful in developing intuitions about things happening in the real world, but it is also important to know their limitations and take measures to improve them to get better results.

Bibliography

Payne JW, Bettman JR, Luce MF (1996) When time is money: decision behaviour under opportunity-cost time pressure. Organ Behav Hum Decis Process 66(2):131–152

Edland A, Svenson O (1993) Judgment and decision making under time pressure: studies and findings. In: Svenson O, Maule AJ (eds) Time pressure and stress in human judgment and decision making. Plenum, New York, pp 27–39

Kelly N (2013) Is predictive modelling the future of decision making? Social media explorer, 28 May 2013.

Lindstrom M (2008) Buyology: truth and lies about why we buy. Crown Business, New York

Pfister H, Böhm G (1992) The function of concrete emotions in rational decision making. Acta Psychol 80(1):199–211

Malhotra NK (1988) Self-concept and product choice: an integrated perspective. J Econ Psychol 9(1):1–28

Gigerenzer G, Todd PM (1999 The Fast and frugal heuristics the adaptive toolbox. In: Gigerenzer G, Todd PM, ABC Research Group (eds) Simple heuristics that make us smart. Oxford University Press, Oxford, pp 3–34

Posavac S, Herzenstein M, Sanbonmatsu D (2003) The role of decision importance and the salience of alternatives in determining the consistency between consumers attitudes and decisions. Mark Lett 14(1):47–57

Squalli, J., & Wilson, K. 2009. Openness and access. Applied Economics, 41(3), 363- 379.

Wood, A. (1994). North-South Trade, Employment and Inequality: Changing Fortunes in a Skill-Driven World. Oxford: Oxford University Press

Data Sources

ILO's Labour Income Distribution data from July 2019.

https://www.ilo.org/global/about theilo/newsroom/news/WCMS 712234/lang--en/index.htm)

(President Macron's recent speech for the 100th anniversary of the creation of the International Labour Organization. Original quote: 'ces dernières décennies ont été marquées par quelque chose qui n'est plus le libéralisme et l'économie sociale de marché, mais qui a été depuis quarante ans l'invention d'un modèle néolibéral et d'un capitalisme d'accumulation qui, en gardant les prémisses du raisonnement et de l'organisation, en a perverti l'intimité et l'organisation dans nos propres sociétés.')

https://ilo.cetc.stream/2019/06/11/address-by-h-e mr-emmanuelmacron-president-of-the-french-republic-closing-of-the-sitting/.

EXAMINING THE RELATION BEWTEEN CALORIE DEFICIENCY AND INCOME IN RURAL INDIA

Vibhor Vanvani

Atma Ram Sanatan Dharma College, University of Delhi

Abstract:

The objective of this study is to carefully examine the calorie intake of vulnerable income groups in rural India and its relation to their respective income change. The study aims to explore the trends in food spending patterns across 11 MPCE (Monthly per capita expenditure) classes in rural areas to derive their estimated calorie intake, discover whether an increase in income across higher classes improves nutritional values and ultimately calculate a correlation between the two variables. Such a study is integral from the perspective of policy implications in the country to analyse if targeting increased income levels actually leads to lower malnutrition.

This paper strives to find out if calorie deficiency exists despite having increased incomes, thus aiding the future policy programs to enhance the nutrition of vulnerable socio-economic groups in rural areas efficiently.

Introduction

Malnutrition refers to deficiencies, excesses or imbalances in a person's intake of energy and/or nutrients. Globally 462 million are underweight, while 159 million children under the age of 5 years are stunted. Approximately 45% of deaths among children under 5 are linked to undernutrition (*World Health Organisation, 2020*).

India continues to be one of the biggest contributors to global malnutrition and calorie deficiency. India ranks 101 out of 116 countries in the Global Hunger Index 2021. With a score of 27.5, India has a severe level of hunger and a 15.3% population undernourished in 2021. The Ministry of Women and Child Development reports over 33 lakh children in India as malnourished. In 2019-21, 35.5% of children below 5 years were stunted (National Family Health Survey, 2020). Despite achieving substantial economic growth in the last few decades, the situation of malnutrition in India has not seen much improvement. Average per capita per day calorie intake trends are not satisfactory. Consumption and expenditure on cereal food items, which are a great source of calories, have seen a decline.

The paradox of substantial economic growth in the country and such widespread undernourishment is concerning. Even after earning increased incomes, people still seem to be calorie-deprived and way under the daily calorie requirement of 2400 kcal as suggested by ICMR for the rural population. Malnutrition and calorie deficiency specifically, pose significant costs to society and the individual. Gaiha, Jha and Kulkarni (2010) postulate that in developing countries with low levels of nutrition, workers are incapable of doing extensive manual labour. This results in lower productivity, implying lower wages and thus insufficient nutrition levels, which reduces their chances of escaping the poverty-nutrition trap.

Literature Review

Malnutrition is considered by many economists and policymakers to be a widespread problem in several developing countries. One widely held perception is that this problem of malnutrition will disappear only with improvements in income. The World Bank (1981) states that "There is now a wide measure of agreement on several broad propositions. Malnutrition is largely a reflection of poverty: people do not have income for food. Given the slow income growth that is likely for the poorest people in the foreseeable future, large numbers will remain malnourished for decades to come. The most efficient long-term policies are those that raise the income of the poor."

There have been some studies that showcase high elasticities of nutrient intakes with respect to income which support this statement by the World Bank. However, many studies concerning nutrition and its relation to income indicate that improvements in nutrition do not necessarily arise from higher incomes. Strauss and Thomas (1995) conclude that income will play some role in defeating hunger but it may not be as strong of a factor as previously thought by analysing calorie-income elasticities.

Behrman and Deolalikar (1987) examine the relationship of calories to income using data from surveys conducted by International Crops Research Institute for the Semi-Arid Tropics (ICRISAT) across villages in South India. In sharp contrast to the position of the World Bank (1981), the study concludes that an increase in income will not result in substantial improvements in nutrient intake. They observe that the expenditure on food rises substantially more or less proportional to income-but the marginal rise in food expenditure does not lead to obtaining more nutrients as the direct nutrient expenditure elasticities are not significantly positive. The study suggests that more education about the benefits associated with correct nutrient intake can help solve the problem of malnutrition.

Behrman, Foster and Rosenzweig (1997) analyse the calorie and income trends of Rural Communities in Pakistan. It covers 926 households in 52 villages. The study estimates the calorie-income elasticity of only 0.05 which displays income or wealth increases that have little effect on calories consumed by the sample households.

These studies display a minimal relation between calorie intake and income. However, there is a need to examine this relation at a broader scale in the context of India. With time, the standards of living, poverty benchmarks and awareness regarding nutritional intakes have seen a drastic change. There is a need to categorically analyse different income groups in the country, their expenditure patterns and their calorie intake. This study aims to shed light on the current scenario of calorie deprivation in rural India and its relation to income.

Keys et Al (1950) observed that when calorie intakes of workers were reduced from 3500 calories to 1500 calories for a period of 24 weeks, the activity levels dropped immediately. A study by Wolgemuth et al (1982) proved a positive relationship between caloric consumption and the output of male workers in Kenya. The average daily calorie intake of workers was 2000 kcal. One of the groups was provided with an additional 1000 calories a day and the other group just 200 additional calories. A 22.5% increase in productivity was observed for the high calorific workers. Strauss (1986) attempted to test the relation of nutrition with productivity. Strauss found calorie deprivation beyond a certain number of calories had a negative impact on effective labour.

(*Schofield, 2014)* demonstrates that changes in calorie intake result in substantial changes in productivity among undernourished and calorie deprived in India. An additional 700 calories per day provided to cycle rickshaw drivers led to an increase in labour supply and earnings by 10% approximately in five weeks in the randomised controlled trial. Schofield also examines the decline of calorie intake during Ramadan Fasting amongst Agricultural Labourers in the rural areas which shows a roughly 20 to 40 per cent decline in productivity for Muslim Individuals. Numerous such studies have observed a direct relation between calorie intake and the productivity of workers.

Objective

The objectives of this paper are outlined as follows:

1. To analyse the trends of food consumption of different income classes in Rural Areas
2. To observe income and food expenditure patterns and explore the relationship between change in income and calorie intake.
3. To calculate a correlation between calorie intake and income level change.

From the perspective of policy formulation, the results of this study will have significant implications on providing nutritional security to the rural population.

Data and Methodology

The data for this study has been obtained from National Sample Survey (NSS), 68th (2011-2012), Consumer Expenditure Schedule. Values to calculate calorie intake (in kcal) per kilogram of cereals or pulses are obtained from Nutritional Intake in India, 61st (2004-2005). These rounds of the survey conducted by the National Sample Survey Organisation are large scale sample surveys and provide in-depth information on consumer expenditure. Consumer Expenditure Survey provides information on the quantity and value of different products in a household in 30 days across all states/UTs in India, separately for urban and rural areas.

Rural MPCE Classes

For the purpose of this paper, 11 out of the 12 MPCE classes have been selected for the analysis to target the truly vulnerable sections of rural society in terms of income. Table 1 demonstrates the distribution of MPCE1. Here the first class is 0-5% fractile class of MPCE (URP) and 90- 95% is the 11th. In this range, the minimum MPCE is Rs 40 while the highest is Rs 2626 with the median value of Rs. 979.5. This survey contains 285796 persons, providing us with a large enough sample to derive reliable conclusions from the data.

Food Consumption and Calorie Intake

The initial step under the analysis of this data would be to calculate the existing calorie intake across all considered fractile classes. Here, the data for food consumption for both cereals and pulses, which form the majority of calorie intake in these classes, is obtained from the Consumer Expenditure Schedule, NSSO (2011-2012). This data is available in the form of consumption of cereals/pulses in kilograms for a total of 20 food items (Appendix: Table - A1).

Table 1: Per 1000 break-up of households, minimum and maximum of MPCE by fractile class of MPCEURP and number per 1000 households of adults and children by sex in different fractile classes of MPCEURP

fractile class of MPCE (URP)	$MPCE_{URP}$ (Rs.)		no. per 1000 of households	no. per 1000 households of					sex ratio	sample house-holds
				adults		children		persons		
	min	max		male	female	male	female			
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
										Rural
All-India										
0 - 5%	40	526	41	1638	1645	1219	1162	5664	983	1662
5 – 10%	526	599	40	1645	1706	1201	1172	5724	1011	1560
10 – 20%	599	722	86	1641	1641	1087	1008	5377	971	3758
20 – 30%	722	826	89	1675	1654	958	885	5171	964	4076
30 – 40%	826	923	93	1631	1630	895	777	4934	953	4333
40 – 50%	923	1036	96	1641	1608	842	702	4794	930	4999
50 - 60%	1036	1167	98	1636	1611	766	692	4706	959	5520
60 – 70%	1167	1336	102	1650	1583	693	565	4491	917	6310
70 – 80%	1336	1583	110	1598	1529	586	490	4203	925	7317
80 – 90%	1583	2054	114	1565	1491	534	444	4033	922	8751
90 – 95%	2054	2626	62	1477	1419	473	368	3737	917	5183
95 – 100%	2626	413310	70	1390	1278	350	273	3291	892	6226
all classes	40	413310	1000	1603	1564	765	671	4602	944	59695
estd. no (00)			1721285	2758421	2691478	1316746	1154514	7921159		
sample no.			59695	101926	99860	44720	39290	285796		

- Key Indicators of Household Consumer Expenditure in India, NSSO, (2011-2012)

The Consumption figures available in kilograms are converted to Calorie Intake (in kcals) with the help of Nutritional Charts provided by the Nutritional Intake in India, NSSO (2004-05) which is largely based on “Nutritive Values of Indian Foods” by C. Gopalan, B.V. Ramasastry and S.C. Balasubramanian, revised and updated by B.S. Narasinga, Y.G. Deosthale and K.C. Pant, 1991.

Calculating Calorie Intake from Cereals

This section contains 9 varieties of cereals commonly consumed by Indian Households.

The values in kilograms have been converted into their respective calorific values in Table 2.1. From Table 2.2 we derive the per day calorie intake across all classes.

Table 2.1 - converting cereal consumption (in kgs) to calorie intake (in kcal) for 11 fractile classes in the rural areas

Fractile Class	1	2	3	4	5	6	7	8	9	10	11
Rice(kgs)	6.258	6.61	6.389	6.397	6.115	6.184	6.026	6.043	6.044	5.773	5.805
Rice- Calories (kcal) @3460/kg	21652.68	22870.6	22105.94	22133.62	21157.9	21396.64	20849.96	20908.78	20912.24	19974.58	20085.3
Wheat (kgs)	3.607	3.728	4.048	4.037	4.325	4.286	4.623	4.675	4.654	4.912	5.16
Wheat- Calories (kcal) @3410/kg	12299.87	12712.48	13803.68	13766.17	14748.25	14615.26	15764.43	15941.75	15870.14	16749.92	17595.6
Jowar (kgs)	0.052	0.066	0.118	0.190	0.209	0.244	0.229	0.205	0.323	0.218	0.227
Jowar- Calories (kcal) @3490/kg	181.48	230.34	411.82	663.1	729.41	851.56	799.21	715.45	1127.27	760.82	792.23
Bajra(kgs)	0.067	0.033	0.99	0.148	0.265	0.207	0.342	0.339	0.336	0.374	0.341
Bajra- Calories (kcal) @3032/kg	203.144	100.056	3001.68	448.736	803.48	627.624	1036.944	1027.848	1018.752	1133.968	1033.912
Maize(kgs)	0.18	0.135	0.095	0.191	0.149	0.166	0.145	0.136	0.114	0.094	0.079
Maize- Calories (kcal) @3420/kg	615.6	461.7	324.9	653.22	509.58	567.72	495.9	465.12	389.88	321.48	270.18
Barley(Kgs)	0	0	0.001	0	0	0.003	0.001	0.001	0.002	0.001	0.001
Barley- Calories (kcal) @3360/kg	0	0	3.36	0	0	10.08	3.36	3.36	6.72	3.36	3.36
Small Millets(Kgs)	0.006	0.008	0.003	0.004	0.003	0.004	0.002	0.003	0.003	0.002	0.003
Small Millets- Calories (kcal) @2615/kg	15.69	20.92	7.845	10.46	7.845	10.46	5.23	7.845	7.845	5.23	7.845
Ragi(Kgs)	0.004	0.024	0.038	0.058	0.074	0.084	0.088	0.095	0.099	0.095	0.102
Ragi - Calories (kcal) @3280/kg	13.12	78.72	124.64	190.24	242.72	275.52	288.64	311.6	324.72	311.6	334.56
Other Cereals	0.012	0.003	0.011	0.009	0.002	0.007	0.005	0.007	0.006	0.007	0.007
Ragi - Calories (kcal) @2615/kg	31.38	7.845	28.765	23.535	5.23	18.305	13.075	18.305	15.69	18.305	18.305

- Author's Calculations
- Food Consumption (kgs) from Key Indicators of Household Consumer Expenditure in India, NSSO, (2011-2012)
- Calories per kilogram of cereal from Nutritional Intake in India, NSSO (2004-05)

Table 2.2 – calculating calorie intake from cereals per day

Fractile Class	Calories Consumed from Cereals in 30 Days	Calories Consumed from Cereals per day
1	35012.96	1167.10
2	36482.66	1216.09
3	39812.63	1327.09
4	37889.08	1262.97
5	38204.42	1273.48
6	38373.17	1279.11
7	39256.75	1308.56
8	39400.06	1313.34
9	39673.26	1322.44
10	39279.26	1309.31
11	40141.29	1338.04

- Author's Calculations

Calculating Calorie intake from Pulses

This section contains 11 varieties of pulses commonly consumed by Indian Households.

The values in kilograms have been converted into their respective calorific values in Table 3.1. From Table 3.2 we derive the per day calorie intake across all classes.

Table 3.1 - converting pulses consumption (in kgs) to calorie intake (in kcal) for 11 fractile classes in the rural areas

Fractile Class	1	2	3	4	5	6	7	8	9	10	11
Gram(Kgs)	0.021	0.019	0.024	0.031	0.035	0.044	0.047	0.056	0.06	0.069	0.078
Gram- Calories (kcal) @3720/kg	78.12	70.68	89.28	115.32	130.2	163.68	174.84	208.32	223.2	256.68	290.16
Cereal Subt. (Kgs)	0.011	0.006	0.004	0.008	0.013	0.019	0.023	0.029	0.044	0.051	0.085
Cereal Subt.- Calories (kcal) @2090/kg	22.99	12.54	8.36	16.72	27.17	39.71	48.07	60.61	91.96	106.59	177.65
Arhar (Kgs)	0.114	0.140	0.160	0.184	0.207	0.219	0.224	0.231	0.253	0.255	0.275
Arhar- Calories (kcal) @3350/kg	381.9	469	536	616.4	693.45	733.65	750.4	773.85	847.55	854.25	921.25
Gram Split (Kgs)	0.039	0.052	0.054	0.062	0.063	0.074	0.074	0.091	0.092	0.102	0.113
Gram Split- Calories (kcal) @3720/kg	145.08	193.44	200.88	230.64	234.36	275.28	275.28	338.52	342.24	379.44	420.36
Moong (Kgs)	0.028	0.04	0.046	0.063	0.073	0.083	0.093	0.104	0.125	0.133	0.151
Moong- Calories (kcal) @3480/kg	97.44	139.2	160.08	219.24	254.04	288.84	323.64	361.92	435	462.84	525.48
Masur (Kgs)	0.09	0.113	0.116	0.122	0.126	0.117	0.108	0.116	0.111	0.104	0.096
Masur- Calories (kcal) @3430/kg	308.7	387.59	397.88	418.46	432.18	401.31	370.44	397.88	380.73	356.72	329.28
Urd (Kgs)	0.049	0.043	0.05	0.064	0.072	0.071	0.0083	0.089	0.096	0.118	0.136
Urd- Calories (kcal) @3470/kg	170.03	149.21	173.5	222.08	249.84	246.37	28.801	308.83	333.12	409.46	471.92
Peas (Kgs)	0.107	0.087	0.09	0.061	0.057	0.053	0.046	0.036	0.028	0.028	0.021
Peas- Calories (kcal) @3150/kg	337.05	274.05	283.5	192.15	179.55	166.95	144.9	113.4	88.2	88.2	66.15
Khesari (Kgs)	0.028	0.027	0.022	0.017	0.015	0.011	0.01	0.01	0.007	0.006	0.01
Khesari- Calories (kcal) @3450/kg	96.6	93.15	75.9	58.65	51.75	37.95	34.5	34.5	24.15	20.7	34.5
Other Pulses (Kgs)	0.031	0.02	0.023	0.023	0.026	0.025	0.031	0.033	0.04	0.049	0.05
Other Pulses- Calories (kcal) @3400/kg	105.4	68	78.2	78.2	88.4	85	105.4	112.2	136	166.6	170
Pulse Products (Kgs)	0.031	0.027	0.036	0.042	0.052	0.053	0.061	0.066	0.076	0.085	0.098
Pulse Products- Calories (kcal) @3400/kg	105.4	91.8	122.4	142.8	176.8	180.2	207.4	224.4	258.4	289	333.2

- Author's Calculations
- Food Consumption (kgs) from Key Indicators of Household Consumer Expenditure in India, NSSO, (2011-2012)
- Calories per kilogram of Pulses from Nutritional Intake in India, NSSO (2004-05)

Table 3.2 – calculating calorie intake from pulses per day

Fractile Class	Calories Consumed from Pulses in 30 Days	Calories Consumed from Pulses per day
1	1848.71	61.62366667
2	1948.66	64.95533333
3	2125.98	70.866
4	2310.66	77.022
5	2517.74	83.92466667
6	2618.94	87.298
7	2463.671	82.12236667
8	2934.43	97.81433333
9	3160.55	105.3516667
10	3390.48	113.016
11	3739.95	124.665

- Author's Calculations

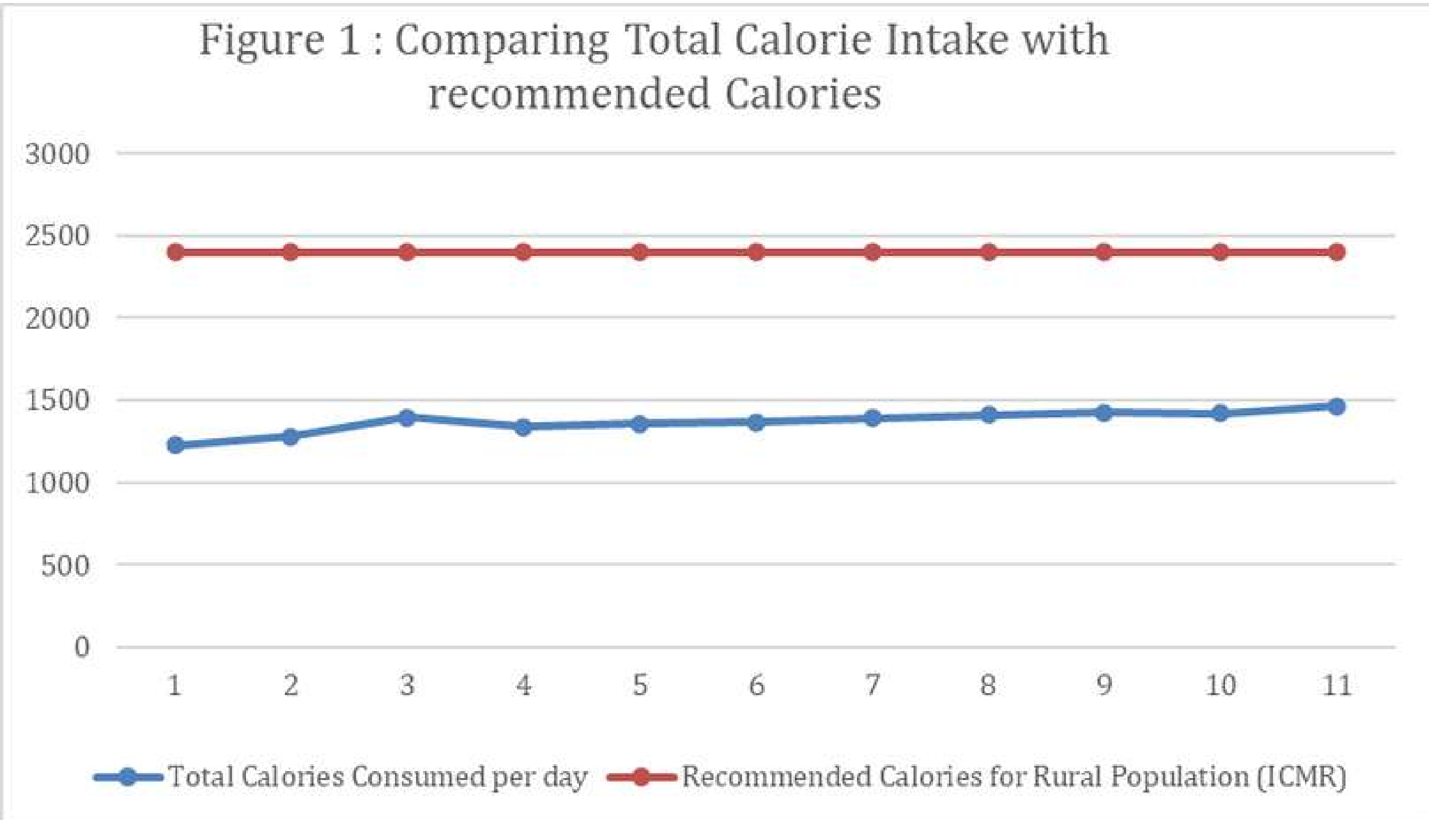
Total Calorie Intake Trends

After calculating Calorie Intake from Cereals and Pulses separately, we combine the two values and get the total calorie intake across all vulnerable income classes in rural areas. The recommended calorie intake for the Rural populations in India as per the Indian Council of Medical Research is 2400 kcal. Table 4 displays the values for daily total calorie intake (in kcal). None of the classes in the available sample consumes the recommended number of calories, showing clear signs of malnutrition and calorie deficiency. Figure 1 gives a clear portrayal of the severe malnutrition in all these classes.

Table 4 – Total Calorie Intake Trends across 11 fractile classes in rural areas

Fractile Class	1	2	3	4	5	6	7	8	9	10	11
Calories Consumed from Cereals in 30 Days	35012.96	36482.66	39812.63	37889.08	38204.42	38373.17	39256.75	39400.06	39673.26	39279.26	40141.29
Calories Consumed from Cereals per day	1167.099	1216.089	1327.088	1262.969	1273.481	1279.106	1308.558	1313.335	1322.442	1309.309	1338.043
Calories Consumed from Pulses in 30 Days	1848.71	1948.66	2125.98	2310.66	2517.74	2618.94	2463.671	2934.43	3160.55	3390.48	3739.95
Calories Consumed from Pulses per day	61.62367	64.95533	70.866	77.022	83.92467	87.298	82.12237	97.81433	105.3517	113.016	124.665
Total Calories Consumed per day	**1228.722**	**1281.044**	**1397.954**	**1339.991**	**1357.405**	**1366.404**	**1390.681**	**1411.15**	**1427.794**	**1422.325**	**1462.708**
Recommended Calories for Rural Population (ICMR)	2400	2400	2400	2400	2400	2400	2400	2400	2400	2400	2400

- Author's Calculations



- Author's Calculations (Recommended Calories from ICMR)

Income and Expenditure on Food

This section analyses the MPCE trends in all classes and related food expenditure to each class. The MPCE URP values (Appendix: Table A1) and Value (Rs.) of consumption of cereals and pulses per person for a period of 30 days for each fractile class (Appendix: Table A2) are obtained from Consumer Expenditure Schedule (2011-12). Table 5 contains values of expenditure on food for both cereals and pulses, average MPCE and percentage increase for these values across all classes.

Table 5 – Expenditure on Food, MPCE and respective percentage changes across classes

Fractile Class	1	2	3	4	5	6	7	8	9	10	11
Expenditure on Cereals (Rs)	101.22	120.48	130.40	139.38	144.46	149.59	154.76	163.05	171.94	173.81	185.87
Expenditure on Pulses (Rs)	22.78	25.77	28.84	32.68	35.96	37.62	39.58	42.60	46.96	50.00	54.61
Expensiture on Cereals and Pulses (Rs)	124.00	146.25	159.24	172.06	180.42	187.21	194.34	205.65	218.90	223.81	240.48
Percentage Increase in expenditure along each fractile class		17.94	8.88	8.05	4.86	3.76	3.81	5.82	6.44	2.24	7.45
Average MPCE (Rs) of each fractile class	445.81	564.37	663.42	772.62	876.87	977.69	1098.59	1246.49	1451.61	1787.41	2292.09
Percentage Increase in Average MPCE along each fractile class		26.59	17.55	16.46	13.49	11.50	12.37	13.46	16.46	23.13	28.24

Figure 2 : Value (Rs.) of consumption of cereals and pulses per person for a period of 30 days for each fractile class

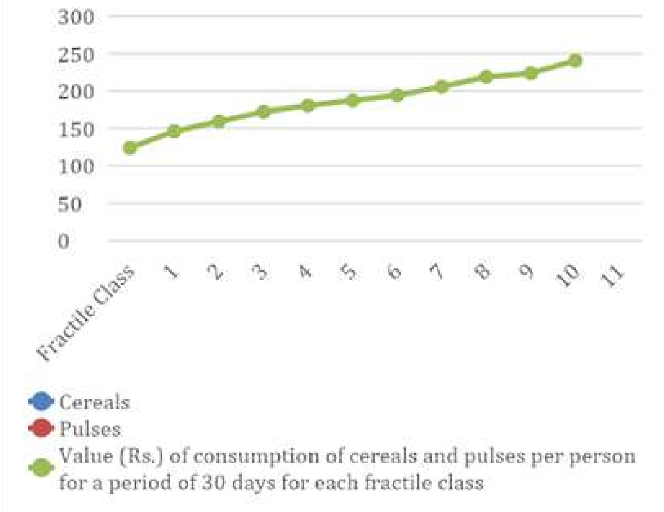


Figure 3 : Average MPCE (Rs) of each fractile class

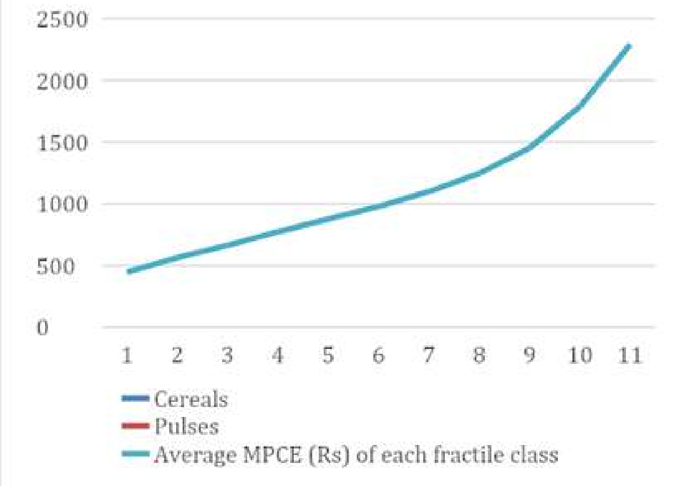
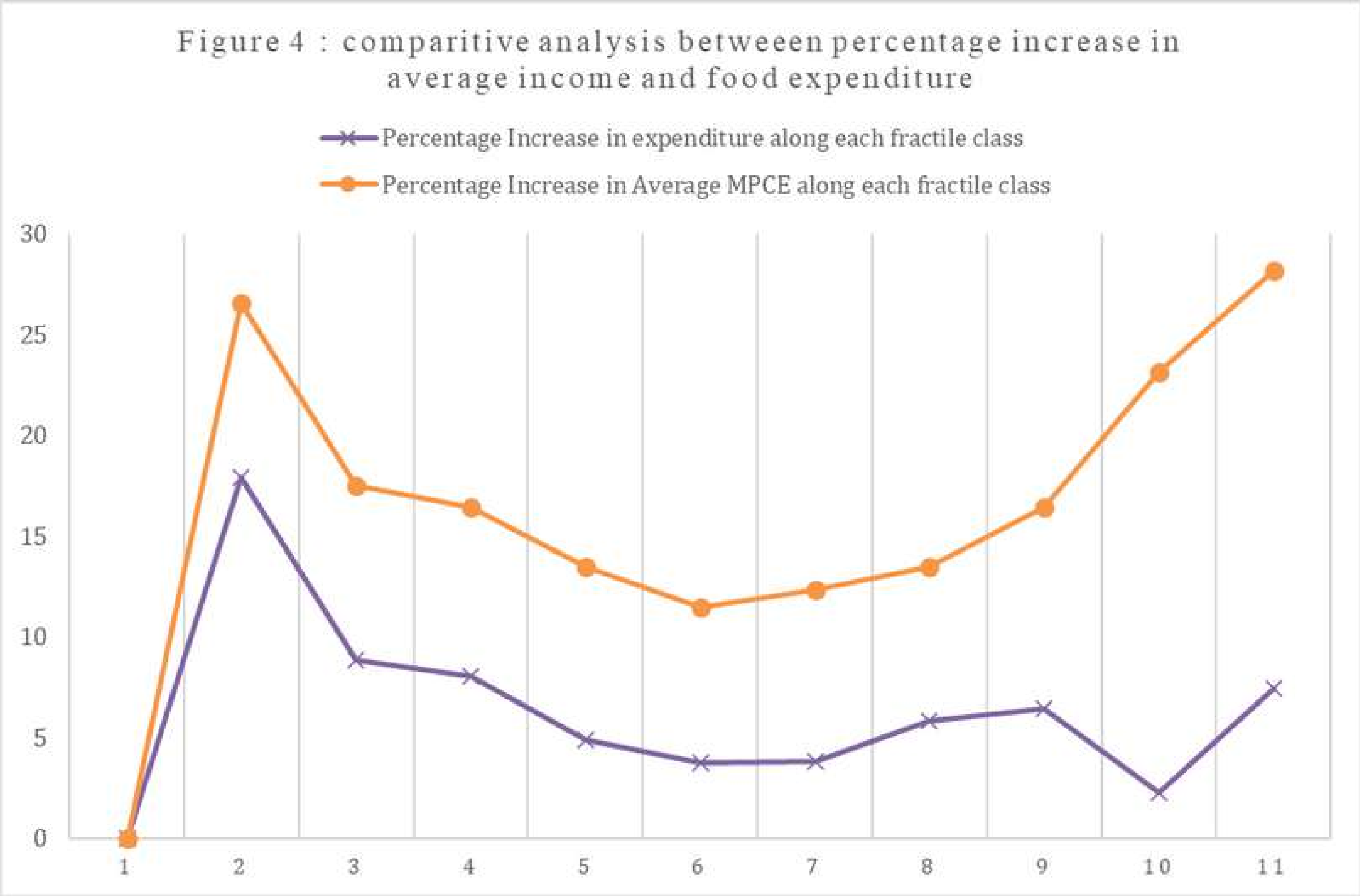


Figure 4 provides us with a deeper insight into these statistics through a comparative analysis of the percentage increase in average income and food expenditure. It is clearly visible that with every percentage increase in average MPCE across all classes, the food expenditure does not rise in the same proportion. This is intriguing from the perspective that we have already established in previous sections that these classes are severely calorie-deprived. This shows that even after having an increased income, people are not voluntarily spending that extra amount to fulfil their calorie requirements.



Author's Calculations

Correlation between Income and Calorie Intake

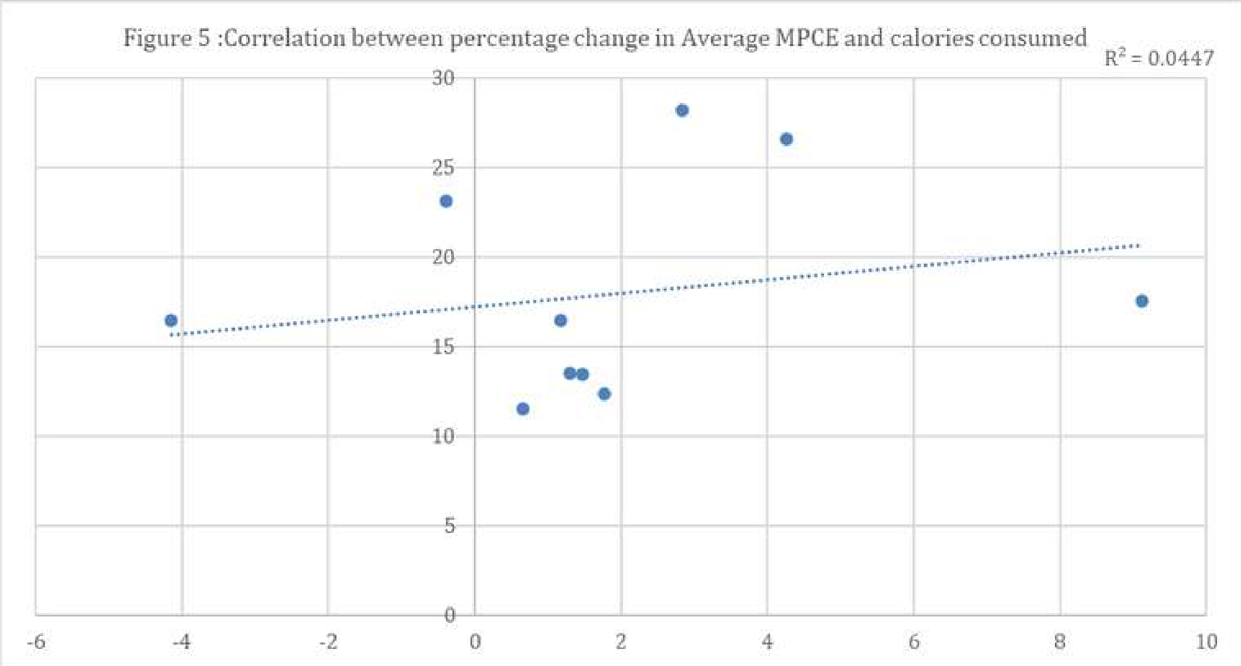
After a thorough analysis of both the variables separately, a correlation between the two variables can be established to explore the relation between the two and discover the importance of income in improving nutrition in rural India. Table 6 drafts the percentage changes for both the variables – Calories and Average MPCE (Income).

Table 6 – Percentage Change in Calories and MPCE across fractile classes

Fractile Class	Change in Calories Consumed (%)	Increase in Average MPCE (%)
1		
2	4.258208675	26.59428905
3	9.126121374	17.55054308
4	-4.146224684	16.46016098
5	1.299545686	13.49304962
6	0.662916783	11.49771346
7	1.776710244	12.36588285
8	1.471864377	13.46271129
9	1.17946153	16.45580791
10	-0.383024558	23.13293515
11	2.839246067	28.23526779

- Author's Calculations

Based on the values in Table 6, we derive a correlation graph for the same in Figure 5. The x-axis contains the values of Calorie Change (%) while the y-axis contains Income Change (%). After calculations, we obtain the Correlation Coefficient as 0.211390695. A correlation between the range of 0 and 0.3 is considered a positive relation with negligible importance. Such minimal correlation clearly demonstrates a weak relation between the two variables which is likely unimportant.

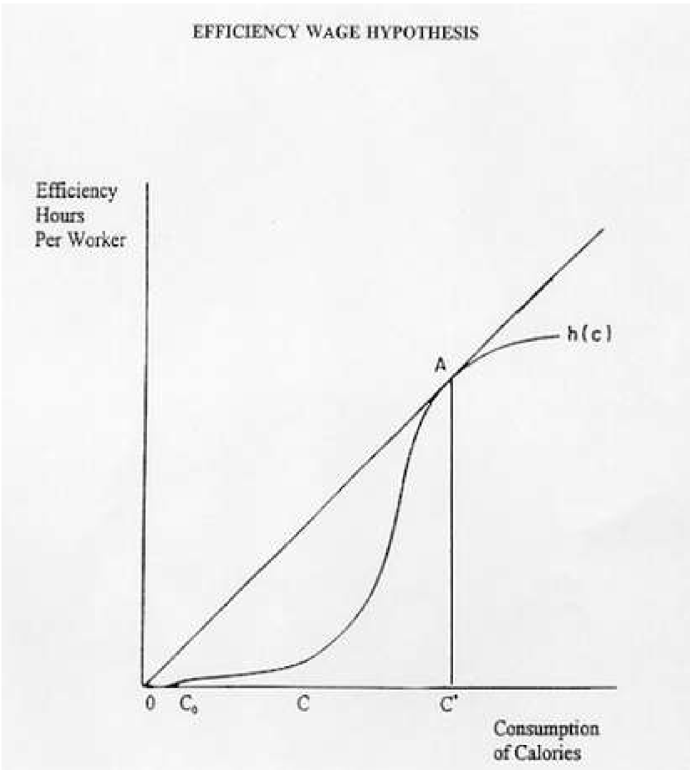


Impact of Calorie Deficiency on Productivity

The Efficiency Wage Hypothesis model is based on the assumption that at low levels of income, there is a relationship between food consumption and labour productivity. *(Leibenstein, 1957)*

Figure 6 clearly demonstrates the relationship between the consumption of calories and its impact on Efficiency Hours. Workers in underdeveloped nations, particularly those with low levels of nutrition, are incapable of doing hard manual labour, according to the Efficiency Wage Hypothesis. As a result, their productivity is low, which means they earn low salaries, have low purchasing power, and hence have poor nutrition, culminating in a vicious circle of deprivation.

Figure 6 – Efficiency Wage Hypothesis



- Economic backwardness and economic growth, Leibenstein (1957)

Findings

The primary objective of this study was to discover the relation between calorie deficiency and income in Rural India. In order to do so, systemic calculations and analysis of data were done. The predominant findings from this study are:

- After careful examination of calorie intake trends across different income classes, a severe calorie deficiency was discovered with an average calorie intake of about 1371 calories, which is way lower than the recommended 2400 calories for the Rural Population as per the Indian Council of Medical Research.
- With the rise in income across the 11 fractile classes, the proportionate increase in expenditure was not found. For every increase in the household income, there was just a marginal increase in food expenditure. This result was particularly shocking given the fact that these individuals are severely calorie-deprived and even an increase in income is not incentivising them to fulfil their calorie consumption.
- Lastly, a correlation was established between a percentage rise in income and calorie intake. The correlation coefficient turned out to be approximately 0.2 which shows a positive but weak and negligible relation between the two. This clearly demonstrates that just increasing the income of households will not improve the nutrition of people in rural regions.

Conclusion

The issue of calorie deficiency is still severe in India, especially in the Rural Population. These deficiencies in calories lead to a huge productivity loss in the country along with health disorders which result in a Poverty Nutrition Trap. The significance of raising household incomes to tackle malnutrition has always been questioned. According to the analysis of this study, the correlation between increased incomes and calorie intake is found to be minimal.

(Banerjee & Duflo, 2011) explains why the poor might not be consuming more calories despite having increased income. The poor appear to have numerous options, and they do not choose to spend as much money as they can on food. Similarly, even when people do spend money on food, it is not spent to increase calorie or micronutrient intake. When very poor individuals have the opportunity to spend a little more money on food, they do not spend it all on consuming more calories. Instead, they spend more money on better-tasting calories. In developing countries, the poor might even give up essential calories in order to spend on weddings, dowries, and christenings to fulfil the social customs.

This necessitates policymakers to adopt different pathways to achieve better calorie intake levels in the rural population. Relying on raised incomes might not be the only solution to raising nutrition levels. Perhaps stronger associations between nutrient intakes and increases in income could be developed with more education about the relationship between nutrients and other food characteristics, or with the development of food varieties in which the nutritional benefits are more strongly associated with the food attributes that consumers value most at the margin.

Education regarding the benefits of correct nutrition and calories can help make households more rational decisions regarding their food intake. It is necessary to make people realise the importance of calorie intake and its impact on productivity to stimulate higher calorie intake. A combination of good policy and education can fix the problem of malnutrition in India.

Bibliograhy

Babatunde, R. O., Adejobi, A. O., & Fakayode, S. B. (2010). Income and Calorie Intake among Farming Households in Rural Nigeria: Results of Parametric and Nonparametric Analysis. Journal of Agricultural Science, 2(2). https://doi.org/10.5539/jas.v2n2p135

Behrman, J. R., & Deolalikar, A. B. (1987). Will Developing Country Nutrition Improve with Income? A Case Study for Rural South India. Journal of Political Economy, 95(3), 492–507. https://doi.org/10.1086/261469

Behrman, J. R., Foster, A. D., & Rosenzweig, M. R. (1997). The dynamics of agricultural production and the calorie-income relationship: Evidence from Pakistan. Journal of Econometrics, 77(1), 187–207. https://doi.org/10.1016/s0304-4076(96)01812-x

Gaiha, R., Jha, R., & Kulkarni, V. S. (2010). Diets, Nutrition and Poverty: The Indian Experience. SSRN Electronic Journal. https://doi.org/10.2139/ssrn.1734590

BANERJEE, A., & DUFLO, E. (2011, May). More Than 1 Billion People are hungry in the World. Poverty Action Lab. https://www.povertyactionlab.org/sites/default/files/4.25.11-ED-AB-Foreign%20Policy.pdf

Jha, R. (2003). Calorie Deficiency in Rural India in the Last Three Quinquennial Rounds of the NSS. SSRN Electronic Journal. https://doi.org/10.2139/ssrn.460420

Jha, R., Gaiha, R., & Sharma, A. (2006). Calorie Deprivation and Poverty Nutrition Trap in Rural India. SSRN Electronic Journal. https://doi.org/10.2139/ssrn.896021

Jha, R., Gaiha, R., & Sharma, A. (2009). Calorie and Micronutrient Deprivation and Poverty Nutrition Traps in Rural India. World Development, 37(5), 982–991. https://doi.org/10.1016/j.worlddev.2008.09.008

Ku, H. (2022). Does Minimum Wage Increase Labour Productivity? Evidence from Piece Rate Workers. Journal of Labour Economics, 000. https://doi.org/10.1086/716347

Lederman, Z., & Voo, T. C. (2021). The Minnesota Starvation Experiment and Force-Feeding of Prisoners—Relying on Unethical Research to Justify the Unjustifiable. Journal of Bioethical Inquiry, 18(3), 407–416. https://doi.org/10.1007/s11673-021-10109-z

Meenakshi, J. V. (2016). Trends and patterns in the triple burden of malnutrition in India. Agricultural Economics, 47(S1), 115–134. https://doi.org/10.1111/agec.12304

Strauss, J. (1986). Does Better Nutrition Raise Farm Productivity? Journal of Political Economy, 94(2), 297–320. https://doi.org/10.1086/261375

Strauss, J., & Thomas, D. (1995). Chapter 34 Human resources: Empirical modelling of household and family decisions. Handbook of Development Economics, 1883–2023. https://doi.org/10.1016/s1573-4471(05)80006-3

Tinbergen, J., & Leibenstein, H. (1959). Economic Backwardness and Economic Growth. Econometrica, 27(3), 538. https://doi.org/10.2307/1909507

Wolgemuth, J. C., Latham, M. C., Hall, A., Chesher, A., & Crompton, D. W. (1982). Worker productivity and the nutritional status of Kenyan road construction labourers. The American Journal of Clinical Nutrition, 36(1), 68–78. https://doi.org/10.1093/ajcn/36.1.68

World Bank annual report 1981 (English). Washington, D.C.: World Bank Group. http://documents.worldbank.org/curated/en/233361468764733839/World-Bank-annual-report-1981

Strauss, J., & Thomas, D. (1998). Health, Nutrition, and Economic Development. Journal of Economic Literature, 36(2), 766–817. http://www.jstor.org/stable/2565122

ARROW'S IMPOSSIBILITY THEOREM

Devjoyti Chakraborty
Shri Ram College of Commerce, University of Delhi

Abstract

Kenneth Arrow's monograph Social Choice and Individual Values (1951) and the theorem within it, marked a watershed moment for welfare economics, giving birth to modern social choice theory, an intertwining of voting theory and collective choice. Later, Amartya Sen through numerous contributions in a series of lectures, articles and books further explored these spheres of economics with a particular concern over the welfare of lower-income individuals and ways of addressing existing inequalities. This paper pays homage to these two titans of social choice theory through an examination of Arrow's theorem, and possible alternatives to majority voting, finally concluding with a discussion regarding the role of justice and equity in social judgements.

Keywords: *Impossibility Theorem, Range Voting, Interpersonal, Comparisons, Justice*

Introduction

Why do we vote? A process that originated as early as 508 BC in Ancient Greece, it is intriguing how widely voting is regarded as a natural and integral component of modern democratic systems. At its core, voting is a medium for aggregating people's choices over possible courses of action. The Second Fundamental Theorem of Welfare Economics shows that under a set of assumptions, it is possible for society, through a system of lump-sum taxes and subsidies, to choose and sustain different Pareto optimal allocations as competitive equilibria. Deciding on which allocations and how these allocations are achieved brings in the role of voting mechanisms. This brings us to The Impossibility Theorem by Arrow, a result aptly deemed as The Third Fundamental Theorem of Welfare Economics *(Feldman, 2018*) owing to its significance.

The theorem questions whether such an aggregation of choices is possible in the first place. Or to put it more formally, whether there exists a social welfare function. Arrow proved that any such function that satisfies unrestricted domain, Pareto consistency, and independence of irrelevant alternatives would lead to the existence of a dictatorship (more on the meaning of these assumptions in later sections). But when there exists an axiomatic structure built on reasonable assumptions suggesting the existence of a dictator, it is not surprising to see the theorem garner the reputation of being "formidable" as Sen (2014*)* remarks. However, there is a problem with such a reputation; it puts up unintended barriers to the exploration and questioning of the theorem. This paper attempts to bridge this gap and demonstrate an appreciation for the theorem regarding the relevance of its results, which lead to a better understanding of our voting systems.

We begin with the problems that are inherent in majority voting and then proceed to look at some possible alternative voting systems and how few of the existing systems can be improved.

Majority Voting

"A minority may be right, a majority is always wrong."

- Henrik Ibsen (An Enemy of the People)

Before addressing Arrow's theorem, it is first imperative to consider what led to the said theorem. Arrow sought to understand if and how individual preferences about possible alternative states could be transformed through a social welfare function, which chooses a simple alternative based on the reported preference profile of the agents. Mathematically, for the n-individual case, where R1, R2, R3, … Rn represent individual preference orderings and R denotes the social welfare function, we look at the following;

$$R = f(R1, R2, R3, \dots, Rn)$$

Here for some alternatives 'a' and 'b', aRb would denote that society weakly prefers 'a' over 'b', with similar analogues for all Ri where i = 1,2,3,…,n of all possible agents. Should R be a social ordering, by definition it would satisfy the following two properties:

1. It should be complete, that is given any two alternatives, they should be comparable (either one is preferred over the other or vice versa or that society is indifferent between the two) and

2. It should be transitive, thus for alternatives 'a', 'b' and 'c', if aRb and bRc then aRc.

The most common medium for choosing among courses of action or alternatives in a democracy, is majority voting. In spite of that, the inconsistency of majority voting has been known since Condorcet's "*Essai sur l'application de l'analyse à la probabilité des décisions rendues à la pluralité des voix*", published in 1785.

Consider three agents namely '1', '2' and '3' and their preference orderings over three alternative proposals 'x', 'y' and 'z'.

$$1:\ x \succsim y \succsim z$$
$$2:\ y \succsim z \succsim x$$
$$3:\ z \succsim x \succsim y$$

Majority voting based on pairwise comparisons between alternatives leads to the paradoxical result of 'x' defeating 'y', 'y' defeating 'z' and finally 'z' defeating 'x', thus our social preferences do not satisfy transitivity. The remarkability of Arrow's theorem lies in its extension of Condorcet's voting paradox and its generalisation to all voting systems.

Consider now the axioms underlying the theorem:

1) Unrestricted Domain: Agents can have any possible preferences over the given social states.

2) Pareto Consistency: Among alternatives 'x' and 'y', if all individual voters prefer 'x' over 'y', then society must also prefer 'x' over 'y'.

3) Independence of Irrelevant Alternatives: The social ranking of alternatives, say 'x' and 'y', depend only on the individual rankings of 'x' and 'y', with the social rankings remaining unchanged even with the inclusion or removal of other alternatives.

4) Non-dictatorship: The preferences of a single individual shouldn't dictate the social rankings.

Combining these axioms we get the theorem as stated by Arrow (1951);

"If we exclude the possibility of interpersonal comparisons of utility, then the only methods of passing from individual tastes to social preferences which will be satisfactory and which will be defined for a wide range of sets of individual orderings are either imposed or dictatorial."

By dropping the assumption of the unrestricted domain, and assuming that all agents have single-peaked preferences (which is equivalent to all agents having quasiconcave utility functions over the social states), the aggregation of individual preference orderings through majority voting would lead to a social preference ordering. There are similar problems that exist with other voting systems such as Borda count or Rank Order Voting.

Consider the following example for Borda count: 'A' and 'B' are two agents, and 'x' and 'y' are alternative social states, such that A prefers x over y and B prefers y over x. Based on these preferences, A and B rank the given social states and these ranks correspond to the points the social state is assigned as shown in the below table. So if x is ranked first by A, x gets 1 point. After doing the same for B, the points are added up to get the total points. The social state with the least total points is declared the winner.

Social States	A's Ranking	B's Ranking	Total Points
x	1	2	3
y	2	1	3

From the above table it is clear that since the total points for x and y are the same, society is indifferent between the two alternatives. Now introduce another alternative, 'z', such that A's preferences are x ≻ y ≻ z and B's preferences are y ≻ z ≻ x. The revised table then becomes

Social States	A's Ranking	B's Ranking	Total Points
x	1	3	4
y	2	1	3
z	3	2	5

Based on total points, y is now preferred over x which is preferred over z. The introduction of z changed our social preference from x and y being indifferent to y being preferred over x.

This is a clear violation of the independence of irrelevant alternatives assumption. But knowing that the final outcome changes might lead to situations where people vote strategically, that is, voters vote to avoid an undesirable outcome.

The above examples from majority voting and Borda count thus show that by giving up one of the reasonable assumptions of the theorem, it becomes possible to get a social preference ordering.

Range Voting

"I never voted for anybody. I always voted against."
- W.C. Fields (*W.C. Fields: His Follies and Fortunes)*

The publication of Arrow's result prompted invigorating discussions and literature attempting to explore ways of avoiding such pessimistic results of our voting systems and methods for further improving these systems with a focus on issues of justice. The answer to how such results are avoided would be taken up in this section using the example of range voting, deferring the suggestions regarding improvement for the next section. What is range voting or score voting, and how does it work? Under this system, voters are asked to give each possible alternative a score, this score lying in a predetermined range. For instance, this could be a numerical score between 0 to 10 or the number of stars from 0 to 5 in a star-based rating system. After that, the numerical scores given by all voters are totalled and an average score is calculated for each alternative. The alternative with the highest average score is declared to be the election's winner. Examples of this system in real life include the Olympic scoring system and even the product rating systems used by Amazon and Netflix.

To observe how range voting rectifies and addresses some of the problems of majority voting as discussed above, we appraise the ability of this mechanism to satisfy the different axioms of Arrow's theorem.

All individual preferences are accounted for and there are no restrictions on how people can score different alternatives, thus satisfying the unrestricted domain condition. Pareto consistency is fulfilled since if all voters prefer say 'x' to 'y', they would certainly give 'x' a higher score than 'y' and consequently a higher average score for 'x' over 'y'. The inclusion or removal of alternatives wouldn't affect the average scores for the remaining alternatives, so the independence of irrelevant alternatives condition also holds. Finally, as the set of individuals increases, the ability of a single voter to significantly impact the average score diminishes while each voter's score contributes to the final score. Accordingly, the system cannot lead to a dictatorship. Another reason to opt for this mechanism is that it removes the prospect of insincere or strategic voting (where voters attempt to vote against alternatives rather than for a particular alternative). This happens because an individual does not have any incentive to betray their preferences by giving their favoured alternative a lower score.

The point that is being made through this mechanism is that extracting more information from voters about their individual preferences could possibly lead to a refinement of the final results. But there are caveats to this. As a hypothetical albeit not unreasonable situation in the given political climate, consider a situation where voters are voting over two candidates, with one of them being a polarising candidate. If the majority gives this candidate a higher score, this candidate would win the election, however at the cost of the result being dissatisfactory for the minority. We would ideally want a mechanism where all voters have an equal say but at the same time, it is of essence to not ignore the voice of the minority. In that case, what is a 'fair' result? The Gibbard-Satterthwaite theorem shows how any voting system is susceptible to strategic manipulation.

Given such a result, it's thus a question that opens up numerous possibilities for value judgements beyond the axiomatic structure of Arrow’s theorem. It is these judgements that we approach next.

Interpersonal Comparisons

“That amid our highest civilization men faint and die with want is not due to niggardliness of nature, but to the injustice of man.”
- Henry George (Progress and Poverty, 1879)

Interpersonal comparisons refer to comparisons of the welfare of different individuals in a society, with the purpose of answering the question, what should society be? Imagine a society full of selfish people and there happens to be an unpleasant proposal under which income would be taken away from the poorest section and given to the rich. With majority voting, it is a real likelihood for such a proposal to actually be passed in such a society. In this imaginary situation, the criticism of majority voting would not be in its inability to fulfil the transitivity condition of social orderings, but rather on the more fundamental problem of allowing such a perverse outcome (Sen, 2014).

There are questions about how such interpersonal comparisons are used. Aggregation exercises in collective choice can be distinguished into two types: 1) those involving the aggregation of conflicting interests and; 2) those of aggregating conflicting judgements. While aggregating conflicting judgements as in the cases of choosing among candidates or political parties, we have already discussed how range voting as a mechanism drawing on additional information about an individual's preferences possibly leads to more refined results. As an instance of this, consider a policy proposal prioritising the interests of the poor over the rich. If for all agents, additional income makes them better off, whether rich or poor, then on what basis can we distinguish and prioritise the poor over the rich?

As noted in the original theorem statement above, interpersonal comparisons of utility are not allowed so differences in utility cannot be used for distinguishing the two income groups. The other obvious choice would be to classify those agents who have more income as rich. But the ranking of social states is done on the basis of personal utilities, and this criteria for differentiating relies on non-utility information. Thus, there doesn't seem to be a way to identify and prioritize the poor vis-à-vis the rich. It is this contradiction of welfare economics of wanting to base social judgements on utility information but using such information in poor and limited capacities that leads to inconsistencies and impossibilities (*Sen, 1979)*.

There is an additional drawback of Arrow's theorem; apart from not involving interpersonal comparisons, it fails to take into account issues pertaining to the rights and liberties of individuals in a society. In any given society, there are inherent acceptable standards of what is right and wrong. The enforcement of such a standard underlies the vanguard role opposition parties or even constitutions play in society. But then, what happens in situations of oppression of minority rights and choices? Given the significance of personal liberty, it becomes necessary to strive to uphold such standards, even when it requires going against the widely held beliefs of the majority. The inability to accommodate liberty is thus a political limitation of both majority voting and Arrow's axioms.

To address some of the issues, one requires a change in perspective. It is inadequate to simply examine just and fair societies. Rather, our focus should be directed towards comparative questions of justice. How should we advance justice? How do we reduce inequalities and increase fairness? It is this change in perspective that informs decisions on progress, including but not restricted to provisions of education, healthcare, and income support to lower-income groups of the society (Sen, 2012).

A final observation regarding Arrow is stated next. The theorem does paint a bleak picture in terms of fairness. This contrasts the spirit of democratic commitment. However, Arrow in his optimism had initially named this thereon the "General Possibility Theorem". All pieces of literature exploring the shortcomings of and suggesting improvements to our voting systems carry this discussion forward and thus, carry on his legacy.

Conclusion

We shall not attempt to summarise the paper, but rather put forward some general remarks and reiterate some of the issues considered.

First, a social welfare function transforms individual social preference orderings into a social preference. We would ideally want the function to be a social preference ordering. However, majority voting, a commonly used method of voting, does not satisfy the transitivity condition of a social ordering. Second, Arrow extended this paradox of voting and generalised it to all voting systems through the Impossibility Theorem in an axiomatic structure.

Third, all voting systems have their relative advantages and disadvantages. Thus what is being sought is not a perfect system, but rather a system that leads to more refined results. We receive more refined results by extracting more information from voters about their preferences while ensuring that minorities do have a say in the final outcome. For this purpose, the mechanism of range voting was discussed, consisting of its features, strengths, and weaknesses in comparison to majority voting. Finally, this paper looked at the role of interpersonal comparisons of welfare in improving social judgements, and the problems immanent with interpersonal comparisons, and concluded with some comments on addressing questions of justice and fairness.

Bibliograhy

Arrow, Kenneth J. 1951. “Social choice and individual values”. New York: John Wiley.

Arrow, Kenneth J. 1977. “Current Developments in the Theory of Social Choice.” Social Research, 44(4), 607–622

Condorcet, Jean-Antoine-Nicolas de Caritat. 1785. “Essai sur l'application de l'analyse à la probabilité des décisions rendues à la pluralité des voix.” A Paris: De l'Imprimerie royale

Feldman, Allan M. 2018. “Welfare Economics.” In The New Palgrave Dictionary of Economics,edited by Matias Vernengo, Esteban Perez Caldentey, Barkley J. Rosser Jr. United Kingdom: Palgrave Macmillan

Sen, Amartya. 1979. “Personal Utilities and Public Judgements: Or What’s Wrong With Welfare Economics.” The Economic Journal, 89(355), 537–55

Sen, Amartya. 2012. “The Reach of Social Choice Theory.” Social Choice and Welfare, 39(2/3), 259–272

Sen, Amartya. 2014. “Arrow and the Impossibility Theorem” In The Arrow Impossibility Theorem (pp. 29-42). New York Chichester, West Sussex: Columbia University Press

1 The logical proofs for the lemmas can be viewed at Sen (2014).

A SHIFT IN CONSUMER PREFERENCES FROM BRICK AND MORTAR STORES TO E-COMMERCE WEBSITES

Harsh Narain, Bharat Mahesh

College of Vocational Studies, University of Delhi
Hansraj College, University of Delhi

Abstract

Trade and Commerce are some of the most important innovations of the human race, owing to which we stand out from other living creatures of the planet. Brick-and-Mortar, better understood as the physical purchase of goods, has remained the dominant marketing structure for centuries. But now new models of businesses have emerged which have reduced its relevance. This paper is focused on one such form of trade of the modern age viz. Electronic Commerce or E-Commerce. With rapid advancements in technologies, digital platforms are being preferred for purchasing goods. But even so, many people still prefer the brick-and-mortar mode of transaction. An important milestone for the virtual platforms was the time when the world was hit by the Covid-19 Pandemic.

The Coronavirus Pandemic has led to an upsurge in digitalisation. But how has it changed the usage of E-Commerce websites? This paper aims to throw light on the shift of consumers' preferences from brick-and-mortar to E-Commerce that took place during the Covid-19 Pandemic. In particular, it tries to develop an understanding of the inclination of people of different age groups towards online shopping, the shift to online shopping during the pandemic and what people would prefer in the future: E-Commerce or brick-and-mortar, the advantages and disadvantages of online shopping as against the conventional Brick-and-Mortar, etc. This has been done through a comprehensive analysis of data collected through a survey. It also focuses on the coverage of E-Commerce in India and mentions possible steps that could be taken to further increase its coverage. In conclusion, the results obtained from the survey's analysis have been interpreted to come to a definite inference.

Keywords: E-Commerce, Covid-19, Brick-and-Mortar, Online Shopping, Consumers' Behaviour Shift, Survey

Acknowledgement

We are thankful to everyone who has guided us and shown us the path. It would not have been possible to complete this paper without the guidance of our respected professor Dr. Harshil Kaur, who is a professor in the Department of Economics at the College of Vocational Studies, Delhi University.

The present work is to highlight *"The Shift in Consumer Preference from Brick and Mortar Stores to E-Commerce Websites"*.

We would also like to thank our parents, relatives, and friends who were always there to support us with our first research paper.

Introduction

Trade and commerce have seen a lot of evolution over time. The Barter system, by which goods were directly exchanged, is a primitive form of trade. The invention of money gave an impetus to mercantile activities. The development of the brick-and-mortar system, whereby buyers and sellers met at a particular place with sellers selling the goods and buyers paying money for that, was a revolutionary change in this regard. This form of exchange remained dominant for centuries. Even today, it remains prevalent. But change was imminent in the modern era of high scientific progress. The I.T. revolution is arguably the most significant achievement of today's world. Due to it, unprecedented changes have taken place in various fields. This wave of change has also brought under its purview the mode of trade and commerce, the product of which is E-Commerce.

E-commerce or Electronic commerce refers to the exchange of goods and services on the internet and not in a physical market. In this, if a person wishes to purchase a good, he may do so by pre-ordering it on the internet. He may pay prior to receiving the goods or after that. Simply stated, a person can buy a commodity without having the need of going anywhere through the mode of E-Commerce. Various platforms have come up through which goods can be purchased online. These include Amazon, Flipkart, Snapdeal, eBay, among others. A wide range of goods can be bought using these platforms. The rise of the mode of E-Commerce is clearly apparent. The owner of Amazon, Jeff Bezos is among the richest persons in the world. E-Commerce has gained new heights of popularity in the Covid-19 pandemic era.

How did E-Commerce originate? How is it different, if not better, from the brick-and-mortar system? Is it more reliable and safer? How has its popularity increased during the Pandemic? Has the popularity of brick-and-mortar decreased with the rise of E-Commerce? What could be the future of online shopping? These are the questions this paper aims to address.

Objective

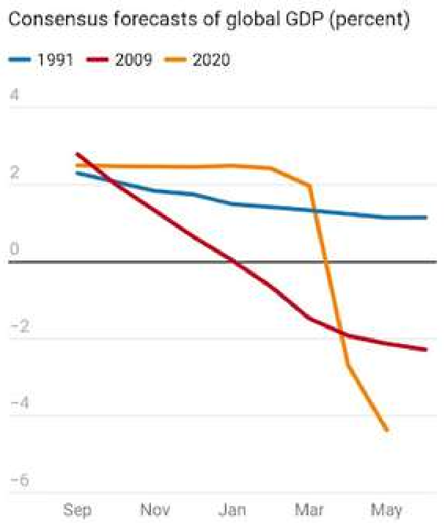
The objective of this paper is to understand and analyse the shift in consumer preference from brick-and-mortar to e-commerce during the Covid-19 pandemic (if any).

The paper aims to analyse the following topics and reach a conclusion regarding the same. Firstly, we look at the number of people across different age groups who have shifted from brick-and-mortar stores to online shopping during the pandemic. Then we analyse the types of goods being bought online and the types of goods consumers still prefer to buy from physical stores. And finally, we discover the advantages of online shopping according to the consumers and which mode of transaction they'd prefer in the near future.

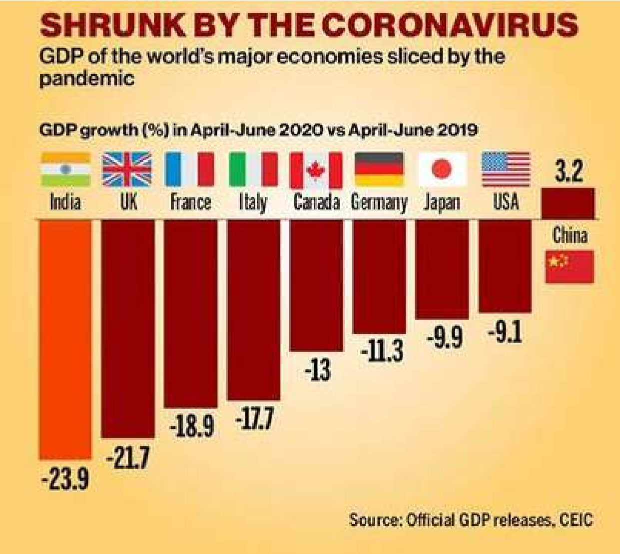
Literature Review

Ever since the emergence of Covid-19, humans have had to go through a number of lifestyle changes. A very noticeable change was that many consumers started buying goods from e-commerce websites instead of brick-and-mortar stores. Consumers have shifted to e-commerce during the pandemic due to a number of reasons, some willingly and some forced due to the unforeseen complications.

It is a known fact that the GDP of every economy hits new lows during the pandemic. The graphs below depict the fall in GDP in some developed and developing countries.



September to December shows forecasts made in the previous year, while January to June shows data for the current year. Data for 1991 are for advanced economies only due to data availability.
Source: Consensus Economics, World Bank



Many businesses have been affected due to Covid-19. According to a survey of about 5800 small businesses, around 43% of them had temporarily closed between February 2020 and April 2020.
Further, around 54% of the firms had closed in the Mid-Atlantic Region around the same time, leading to 47% unemployment in this region specifically. This also led to the unavailability of goods and services, especially in physical stores. As per a report, retail sales in India declined by around 79% in May 2021 as compared to the retail sales in May 2019.

Brick-and-Mortar Stores

The term *"brick-and-mortar"* refers to a traditional street-side business that offers products and services to its customers face-to-face in an office or store that the business owns or rents. The local grocery store and the corner bank are examples of brick-and-mortar companies. Such stores have existed from the time towns came into existence.
As per Statista, there are 12.8 million retail grocery stores in India as of 2021 including both traditional and modern retails within this segment as compared to 12 million in July 2020.

Advantages of Brick-and-Mortar Stores

Firstly, consumers get a personalized shopping experience which they cannot in online methods of shopping. Exploring the shops, taking their time, listening to music, and most importantly, getting to touch and feel the product before buying.

According to a survey, around 96% of the surveyed consumers did at least a part of their shopping from physical stores in the festive season of 2018 because of the in-store decor and the ambience.
Secondly, consumers have the liberty to exchange a product more quickly at a physical store if they are not satisfied with it.
Thirdly, the consumers enjoy quick and easy customer service.
Consumers have the liberty to go to the shop and get on-the-spot service.
A Retail CX Trends study suggests that 30% of consumers claim that personalized treatment improves the experience.

Fear

There is a sense of fear among the consumers as the payments are made online to someone unknown and without any face-to-face interaction. Thus, it is a very common fear among people as they have to share their private information on these e-commerce websites which can be hacked by cybercriminals. Sensitive details the likes of credit card number and pin.

Disadvantages of Brick-and-Mortar Stores

There are certain disadvantages of brick-and-mortar stores as well.
A businessman has to make a number of payments such as payment of fixed costs, employee costs, start-up and overhead costs.
Also, the market it deals with is limited and only the consumers living in and around the area of the store would prefer to buy from that shop.

A consumer has to make an extra effort to go to the store, which adds to the time liability and also to the travel expenses.

Consumers often don't find variety in products and have to settle for what's available in the market. They also have to wait in queues which adds up to the time limitation.
There also is a geographical bias as the consumers mostly prefer to travel to nearby stores only.

E-commerce

The term electronic commerce (e-commerce) refers to a business model that allows companies and individuals to buy and sell goods and services over the Internet. E-commerce operates in four major market segments and can be conducted over computers, tablets, smartphones, and other smart devices. Nearly every product is available through e-commerce transactions, including books, music, plane tickets, and financial services such as stock investing and online banking. As such, it is considered a very disruptive technology.

Traditionally, there are four types of e-commerce, i.e., Business to Consumer (B2C), Business to Business (B2B), Consumer to Business (C2B) and Consumer to Consumer (C2C).

Advantages of E-Commerce

Faster Buying Process
It is easier to buy a product online instead of going to the store because of the filters available, which enables a consumer to search for the exact features he needs in a product.
It is also easier for a consumer to check whether the product is available in stock or not.

Cost Reduction
Setting up an e-commerce business is much cheaper than setting up an in-purchase store.
There is no fixed cost in terms of rent, store design, repairs, inventory, etc.
There are no maintenance costs either and thus, the total cost for a business falls considerably, leading to more profit generation and therefore higher returns on investment as well.

Cheap and Efficient Marketing
The cost of marketing reduces as there are a lot of ways to market the product online at low costs.
E-commerce marketplaces act as visual channels where sellers can showcase their products to the consumers.

Flexibility for Customers
E-commerce gives a customer a number of advantages.
A customer can buy a product at any point of the day as the products are available 24*7 which is not the case with brick-and-mortar stores.
The customers also get certain other advantages such as free shipping, discounts, subscription advantages, etc.

Product and Price Comparison
E-commerce websites provide an easy way to compare the same product on different websites and also compare the prices of the product on those different websites as well.

Several Payment Methods
Unlike brick-and-mortar stores, shopping from e-commerce websites often provide several payment methods like net banking, UPI, cash on delivery, credit cards/debit cards, etc.

Disadvantages of E-Commerce

Lack of Security
E-commerce websites have some disadvantages, security being one of them.
There have been a number of data breach reports all over the world.
Hackers and cybercriminals can hack the data and exploit the consumer.
More than 5000 data breach reports were observed in 2021, around 4000 in 2020, and 1473 in 2019. This is a major issue, as it makes

online shopping unfavorable for many consumers.
Therefore, it is quite risky to buy goods online from not so trusted websites.

Some other disadvantages of online shopping are that consumers can't touch and feel the product, and there is an issue when it comes to the computation of sales tax.

Factors affecting consumer behavior

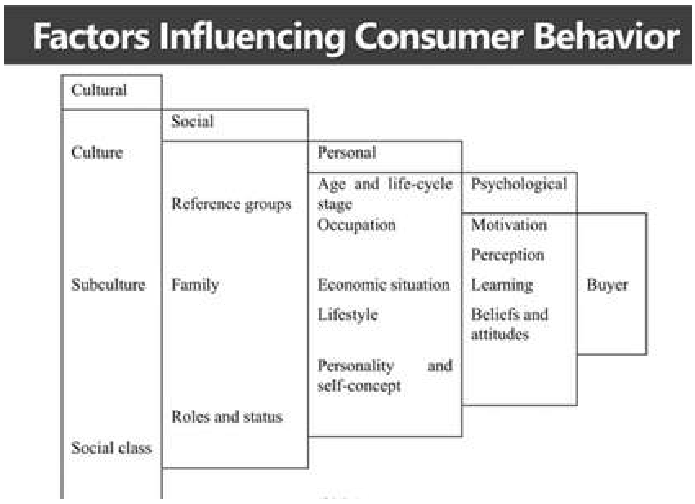
When it comes to shopping, there are various factors affecting consumer behavior.
The following results were obtained from various researches which were conducted before the pandemic.

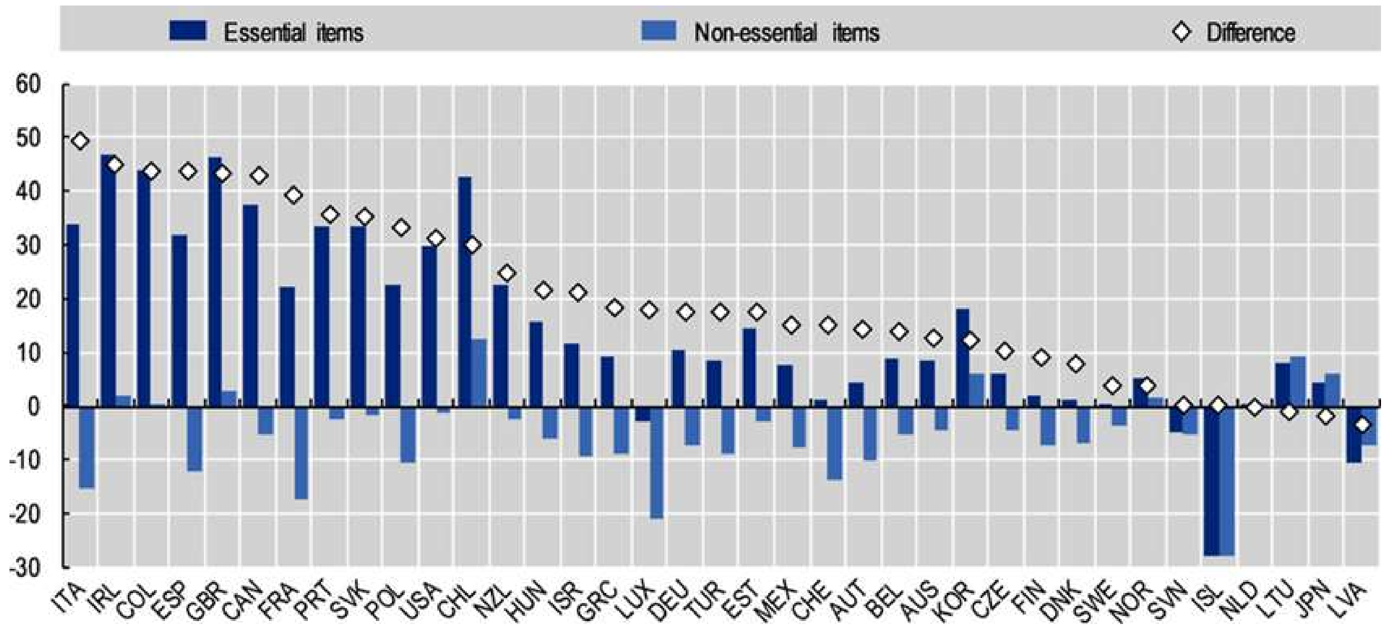
Demographic Factors
Gender, age, education, income and culture were some crucial factors.
It was observed that male consumers tend to make more purchases online and will prefer to do so even more in the future. However, the report suggests that female consumers are more inclined towards physical shopping. When it came to age groups, there were mixed findings in consumer preferences.
The results of the research also suggest that there is a positive relationship between income and online shopping. Therefore, consumers tend to do more online shopping with an increase in income.

Internet Experiences
Internet usage was a factor in consumers' opinion of online shopping. The more people used the internet, the lesser the perceived product risk.
Another factor involved is the comfort factor. As consumers become comfortable with the internet, they tend to prefer online shopping more.

Normative Beliefs
Consumers tend to believe what they hear from others. Therefore, there is bias when it comes to their opinion of online shopping as many people tend to avoid shopping online on the advice of their relatives, friends, etc.
Consumers also come under the influence of membership groups, reference groups, and opinion leaders. Membership groups are groups of which such consumers are directly a part of and they collectively believe in something.
Reference groups are groups of which consumers are not a part of but wish to be a part of that group. Thus, their lifestyle and choices depend on the beliefs of these reference groups.

Psychological Perception
Risk perception and benefit perception were two important factors.
While the former is negatively related to the consumer's preference to shop online, the latter is positively related to the same.
Some other factors include motivation, occupation, economic situation and social class.
The following diagram sums up the factors influencing consumer behaviour:





Change in Consumer Behaviour with respect to Essential and Non-Essential Goods

The above graph depicts the change in demand for essential and non-essential goods between April 2019 and April 2020 in OECD countries. The difference is also shown in the graph itself.

It can be observed that there is a huge difference in the percentage change in demands for the two types of goods with consumers preferring essential goods over non-essential goods.

The speculated reason is that there was a fall in income due to the pandemic. Consumers bought essential goods over non-essential goods as their income declined during this period.

Factors that will have an Impact on the Growth of E-Commerce Businesses

- The fact that the products were available online even when the same products weren’t available in physical stores will play a crucial role in determining the future of both e-commerce and in-store businesses.
- The growth of smartphones is increasing and the websites are getting developed in a way that it's easy for a consumer to shop. Therefore, with a growth in the usage of smartphones along with well-developed websites, e-commerce businesses might just have an advantage over in-store businesses.
- Consumer choices: The most important factor would be consumer choices as many consumers see some advantages of a particular method while others see the disadvantages. Therefore, not everyone will prefer online shopping and hence the study to analyse the consumer behaviour is important.

Shift and Impact on Businesses

During the pandemic, a shift from brick-and-mortar stores to e-commerce was observed in OECD countries. Also, the retail and food services were down in the United States by 7.7% between February 2020 and April 2020.

However, the share of e-commerce in retail saw a sudden rise of 16.1% between the first and second quarters of 2020.

Similarly, a spike in the share of e-commerce in retail was observed in the UK (31.3%) and in the People’s Republic of China (24.6%).

Many e-commerce businesses have benefitted from the pandemic.
Companies like Amazon, Walmart, and Target have made huge profits during the pandemic.
Amazon made a profit of 40% in 2020, while sales of Walmart increased by 97%.
As per a report by the U.S. Census Bureau, E-Commerce reached an amount of $211.5 billion in 2020 (up by 31.8% from the first quarter). The same report suggests that e-commerce had accounted for about 16.1% of the total retail sales in the second quarter of 2020 (up by 11.8% from the first quarter of 2020).

Consumers have also shifted to e-commerce websites because of safety reasons. COVID-19 is the most obvious reason as there's a risk of getting infected when shopping physically. With a decline in income during the pandemic, the consumers have opted to buy food and beverage items from some affordable online websites. As a result, the food and beverage industry saw an increase in online sales. The usage of digital gadgets had increased for many consumers from December 2020 to June 2021 and the frequency of online shopping through e-commerce websites had also doubled since 2018. Also, according to a survey by McKinsey, overall growth of 15-30% was observed in consumers who shopped online for a range of products.

Further, a report by Nielsen reported that the market share of e-commerce had risen from less than 6% in 2019 to about 10% in 2020. Also, the Office for National Statistics, UK had reported that the retail expenses spent online had risen from about 19% in 2019 to about 31% in 2020.

Therefore, e-commerce has gained popularity during the pandemic and a shift towards online shopping is observed.

Figure 1.a. Share of e-commerce in total retail sales, United Kingdom and United States (2018-2020)

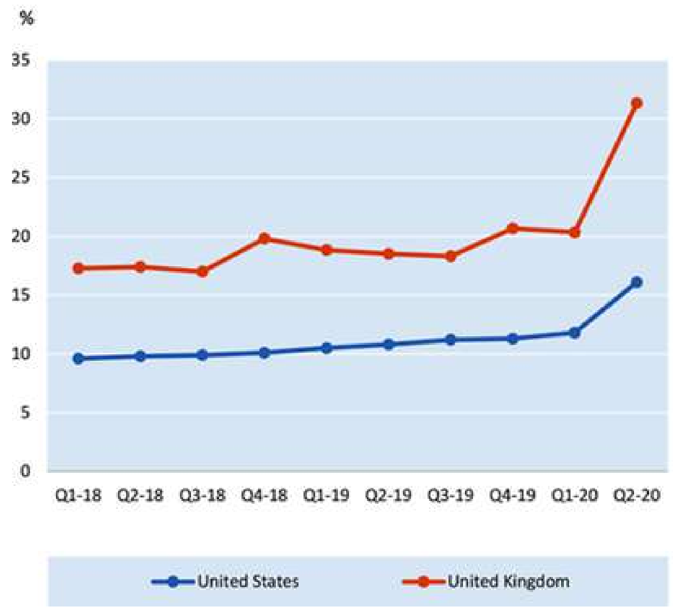
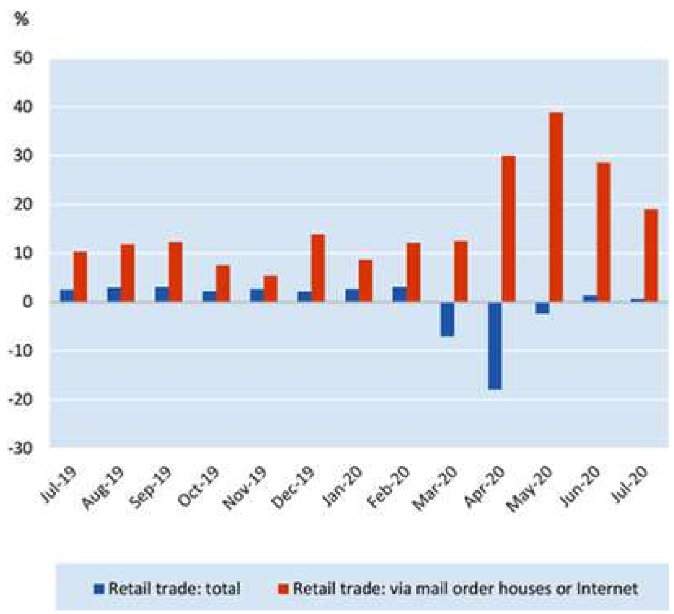


Figure 1.b. Retail turnover, year-on-year change, EU-27 (July 2019-20)

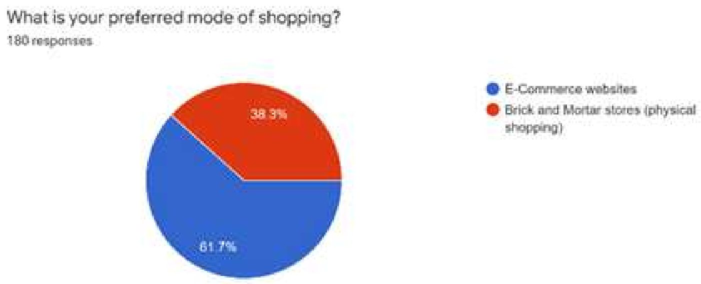


Research Methodology

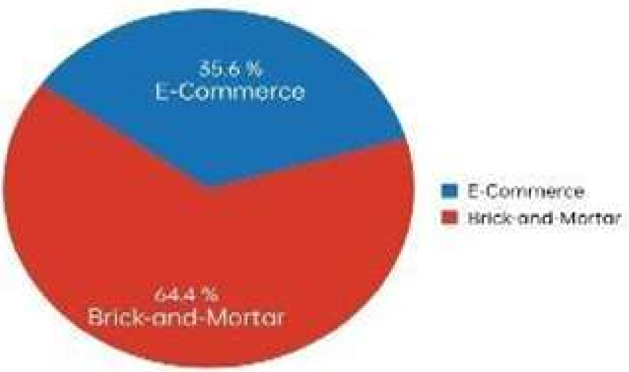
The information presented in this research paper is primarily sourced from First- hand data. The data has been collected through the medium of an online survey conducted through the platform Google Forms. It is a sample survey with a sample space of more than a hundred people of different age groups and genders. It is based on a qualitative as well as a quantitative analysis of all the responses aimed at arriving at a definite conclusion on the shift of consumers from

brick-and-mortar to E-Commerce during the Pandemic.
Apart from the Primary Data, Secondary Data has also been referred to. Sources like internet websites, documents, published reports, and works of research have been used to obtain data. Research in Google Scholar has also been reviewed for this purpose.

Results



1.1: Consumers' preferred mode of shopping during the pandemic



1.2: Consumers' preferred mode of shopping before the pandemic

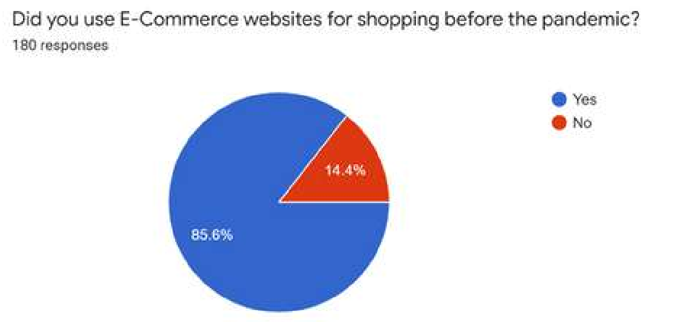
The results have been drawn after analysing the 180 responses from the online survey. The responses have been shown in the form of statistical data. From the responses, the following can be concluded.
This diagram (1.1) shows the number of consumers who prefer to shop online and those who prefer brick-and-mortar during the pandemic. About 61.7 per cent of the respondents have preferred E-Commerce, whereas the other 38.3 per cent still prefer brick-and-mortar. This clearly shows that E-Commerce has become highly popular over the years.

This diagram (1.2) shows the choice of consumers with regard to the mode of shopping before the Corona Virus Pandemic struck. As is evident here, about 64.4 per cent of the respondents have stated that they preferred the offline conventional method of purchasing goods before the pandemic while only 35.6 per cent were in favour of E-Commerce.
The results have been drawn after analysing the 180 responses from the online survey. The responses have been shown in the form of statistical data. From the responses, the following can be concluded.

By analysing the responses in diagram 1.1 and diagram 1.2 we can see the apparent change in popularity of both modes of transaction. Before the pandemic, more than 60% of the consumers preferred Brick-and-Mortar stores but this figure declined during the pandemic such that only about 38% are now preferring them. But at the same time E-Commerce has only risen in popularity. Its preference among consumers has shot up from nearly one-third of consumers before the pandemic to about 61% during the pandemic. Also, studies from other surveys (conducted by PwC, McKinsey, United Nations, etc.) have suggested that the number of consumers using e-commerce websites has increased.

This clearly shows the shift in the number of consumers from Brick-and-mortar to E-Commerce that has taken place during the pandemic.

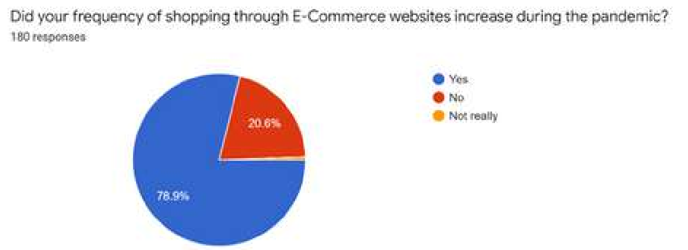
Usage of E-Commerce Websites Before the Pandemic



1.3: E-Commerce usage before the pandemic

Another evident aspect of E-Commerce is its usage before the pandemic. As can be seen in diagram 1.3, 85.6 per cent of respondents stated of having used E-Commerce websites before the pandemic, with only 14.4 per cent stating not having used them at all. This is attributed to the fact that online shopping networks were well in function even before the pandemic. However, a point to be noted is that even though the number of users of E-Commerce was high before the pandemic, its preference has increased among the consumers largely during the pandemic. This means that the same consumers must have increased their frequency of purchasing goods from E-Commerce websites. This brings us to the next result.

Frequency of Shopping Through E-Commerce Websites



1.4: Frequency of consumers' use of E-Commerce

Here in diagram 1.4, the responses of 78.9 per cent of the respondents state that the consumers are increasingly dependent on online methods of buying rather than going to a marketplace for the same. Therefore, by corroborating this data from that obtained in diagram 1.3, we see that a large number of people who used E-Commerce before the pandemic are using it more frequently. And along with that, more people are adopting these digital platforms due to increasing preference during the Pandemic.

Mode of Online Shopping: Phone or Laptop?

1.5: Device preferred for online shopping

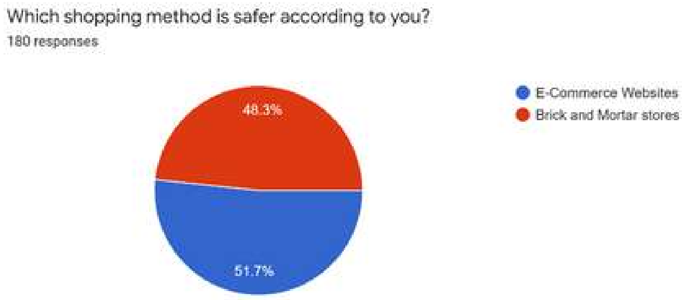
Another question that comes with regard to this is the accessibility of E-Commerce to the consumers. Online shopping has become more prevalent with the availability of computers and other devices. But smartphones have made it much easier to shop online, with consumers able to buy the desired goods anywhere at any time quite easily. Diagram 1.5 shows some data in this regard. About 70 per cent of the respondents have preferred using mobile phones for shopping, whereas 30 per cent have preferred laptops for that. Higher smartphone preference clearly indicates higher coverage and penetration of E-Commerce among people, which has allowed a lot of them to shift to it.

Advantages of Online Shopping over Physical Shopping

1.6: Advantages of online shopping

When it comes to the preference of consumers for E-Commerce, the obvious question that follows is why the consumers prefer that. For that, we see the consumers' behaviour- what advantages they think the online mode of commerce has that the physical model does not have. The predominant response is that E-Commerce helps eliminate travel and time costs, with 42.2 per cent stating so. The fact that online shopping can be done at the comfort of one's home without going anywhere is the most apparent reason. Apart from that, the respondents (19.4 per cent) also suggest that online shopping provides them with a greater variety than brick-and-mortar shopping while others have considered the safety of such transactions during the pandemic time, no geographical limitation given the fact that one can purchase goods from almost anywhere in the world through the online medium. Some respondents have highlighted the faster process of buying in the case of online shopping while a negligible number of respondents have talked in favour of E-Commerce being a market for niche products.

A Safer Method of Shopping



1.7: The safer method

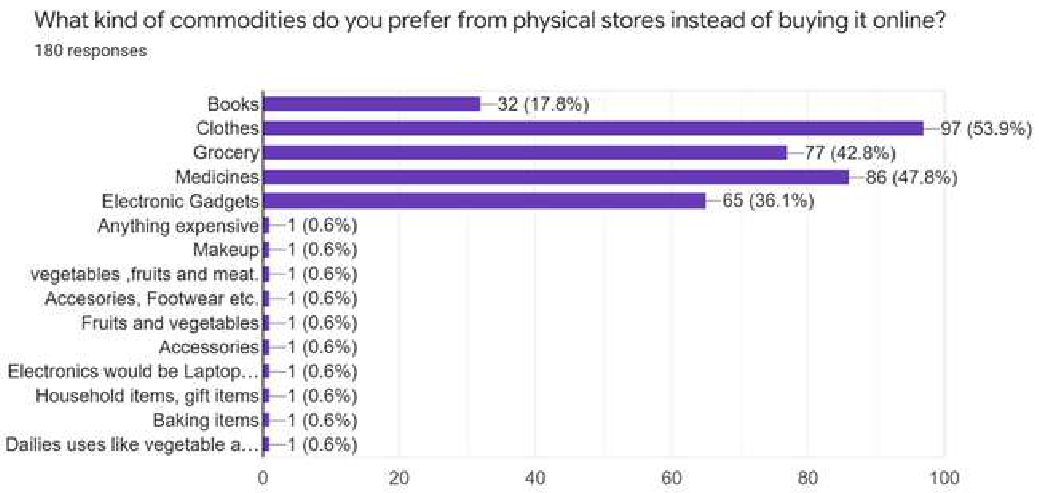
After the advantages, another crucial question that comes up is regarding the safety of the two modes of business according to the consumers. Through the survey, the responses generated regarding this subject are shown in diagram 1.7. The responses received have been mixed. E-Commerce has a very thin majority here, with Brick-and-Mortar receiving a significant number of responses. 51.7 per cent of the respondents feel that E-Commerce websites are better placed in terms of safety and security whereas 48.3 per cent are in favour of Brick-and-Mortar stores.

In the survey, another important question asked was about what mode of shopping the consumers would prefer after the pandemic gets over. About 43.34 per cent of the respondents named E-Commerce as their favoured mode in the near future (the reasons mentioned by them being time-saving, convenience, easy to work with etc.), while about 32.23 per cent of the respondents chose Brick-and-Mortar as their future preference (the reasons mentioned being better quality, better experience of shopping etc.). 21.12 per cent preferred both for their future transactions stating that both modes have their pros and cons and it depends on the product to be purchased. While 3.34 per cent were not sure.

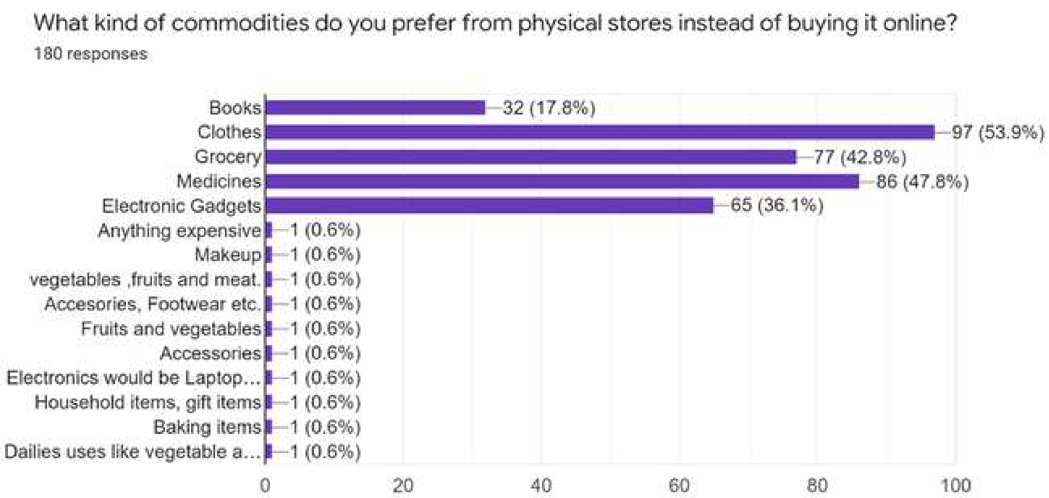
Through this, it can be said that in the near future, consumers will prefer both online and offline methods for shopping purposes. But still, the popularity of E-Commerce would be higher than Brick-and-Mortar.
The analysis of the survey also suggests that out of the total respondents of each age group, 67.74% of the consumers aged between 18 and 25, 57.94% of the consumers aged 26 and above, 63.64% of the consumers aged below 18 prefer to shop through e-commerce websites.

	Below 18	18-25	26 & above
E-Commerce	7	42	62
Brick-and-Mortar	4	20	45
Total	11	62	107

Commodities Bought Through Either only Physical Stores or only Online Shopping



1.8



1.9

The above question in the survey was asked to understand what commodities the consumers prefer to buy from e-commerce websites instead of buying from a brick-and-mortar store. The above data (diagram 1.8) indicates that 50% of the consumers prefer to buy books, 47.2% of consumers prefer to buy clothes, 54.4% consumers prefer to buy groceries, 52.8% consumers prefer to buy electronic gadgets, 27.8% of the consumers prefer to buy medicines and 7.2% of the consumers prefer to buy other commodities such as sneakers, cosmetics, home decor products, etc.

Therefore, consumers prefer to buy a variety of goods from e-commerce websites instead of buying them from brick-and-mortar stores.

Similarly, the survey also aims to answer a very important question, i.e., what products do consumers prefer to buy from brick-and-mortar stores instead of buying them from e-commerce websites. From the above data (diagram 1.9), 17.8% of the consumers prefer to buy books, 53.9% of the consumers prefer to buy clothes, 42.8% of the consumers prefer to buy groceries, 47.8% of the consumers prefer to buy medicines, 36.1% of the consumers prefer to buy electronic gadgets and 6% of the population prefers to buy other goods such as makeup, accessories and footwear, household and gift items.

Therefore, there are a number of goods for which consumers still prefer to shop physically instead of buying it from e-commerce websites.

The following results were obtained from another survey conducted by the United Nations of about 3700 people about the consumer behaviour during the pandemic (held across nine developing and developed economies). The above graph shows that online shopping has increased for various products.

Conclusion

1. Through the survey's analysis, it is observed that the percentage of consumers preferring to buy through e-commerce websites has increased by a big margin.

The data suggests that only 35.6% of the population preferred to shop online before the pandemic, whereas now, 64.4% of the population prefers e-commerce websites for shopping. The data also suggests a decline in the percentage of consumers who prefer to buy from brick-and-mortar stores. The 64.4% preferring to buy goods from brick-and-mortar stores before the pandemic reduced to 38.3% during the pandemic- a considerable fall. This suggests that consumers have preferred online shopping over buying goods physically during the pandemic.

Preferences are also varied among different age groups. During the pandemic, out of consumers aged between 18-25 years, about 67.74% preferred the online mode. The figures are 63.64% and 57.94% respectively, for age groups below 18 years and 26 and above. Those from the age groups of below 18 and 18-25 years form the younger generation. As was expected, they tended to incline toward E-Commerce. An important aspect is that the pandemic affected the choices of consumers aged 26 and above, with 57.94% preferring E-Commerce during the pandemic.

2. Out of the total population, 14.4% of the population had not used e-commerce websites before the pandemic, whereas 85.6% had used these websites prior to that as well. But this high share of users does not necessarily indicate preference. Only 35.6% preferred e-commerce websites over brick-and-mortar stores before the pandemic. But it is evident from the data that the frequency of shopping through e-commerce websites has increased dramatically. About 78.9% of the consumers have increased the frequency of using using e-commerce during the pandemic.
The transition from offline to online is clearly evident.

3. Another important conclusion from the survey is that people generally prefer smartphones instead of laptops for shopping through e-commerce websites.
This is a signal of greater convenience of shopping through a smartphone rather than a laptop and that people can shop even when they are not at home through a smartphone. It also suggests that most e-commerce websites used by consumers are compatible with smartphones.

4. From the total population, 42.2% of the consumers say that buying goods through E-Commerce eliminates the time and travel costs. 19.4% of consumers from the total respondents state a greater variety of shopping through an E-Commerce website rather than a brick-and-mortar store.
Thus, E-Commerce websites offer a greater variety of similar kinds of products than brick-and-mortar stores offer.
15% of the consumers say that buying goods online is safer during the pandemic. It eliminates the factor of coming in close contact with a number of people at a brick-and-mortar store, thus making online shopping a safer option than buying goods physically. This is supported by another question exclusively meant for consumers' opinion on the safer shopping mode. Responses were mixed. But a little morbusiness). This provides not only more variety of products but also a chance to explore similar goods at reasonable rates as different sellers may sell the same goods at different prices.e than half of the respondents considered E-Commerce safer.
10.8% of consumers say that buying goods from an e-commerce website is better because it eliminates the barrier of geographical location. Consumers can buy goods from any part of the country, even from the rest of the

world (depending on the availability of shipping facilities for that particular business). This provides not only more variety of products but also a chance to explore similar goods at reasonable rates as different sellers may sell the same goods at different prices.

Also, 10.6% of the consumers have stressed on the greater speed of purchases online.
Buying goods online means that they can filter the search as per their needs-a facility available on many e-commerce websites. Thus, they can save time and buy goods quicker than they would have bought from a brick-and-mortar store where they would have had to search through the store to find the required product.

Apart from this, only a meagre 1.1% of consumers say that e-commerce websites create a market for niche products.

5. According to the survey, 50% of people prefer to buy books from e-commerce websites, whereas 17.8% of people prefer to buy them from brick-and-mortar stores. There were some common answers for clothes as 47.2% of consumers prefer to buy clothes from e-commerce while 53.9% (respondents could be common for both modes) prefer to buy clothes from brick-and-mortar.
Similar data is observed for shopping for groceries as well with 54.4% of consumers preferring to buy groceries from e-commerce websites and 42.8% of consumers preferring to buy groceries from brick-and-mortar stores.
52.8% of consumers prefer to buy electronic gadgets from e-commerce websites and 36.1% of consumers prefer to buy such goods from physical stores.

A United Nations report has also stated an increased frequency of buying such goods online during the pandemic. Therefore, for all the above-mentioned goods, consumers are comfortable with buying them from both online and offline.

The method of buying varies from person to person as each consumer has different opinions on the same.

Limitations and Scope

The study is limited to consumers living in India only, and the sample size used is 180.
The sample size is small, and hence the paper is limited to the response of those 180 people only. So, the data may vary from the actual shift as the population of India is more than 138 crores. This paper is based on consumer behaviour backed by certain external factors and hence the magnitude of the shift might not be true. However, some other surveys conducted with a larger sample space prove that there has been a shift from brick-and-mortar to e-commerce; the magnitude of the shift varies from this paper.

Also, most of the respondents were from India, barring some who belonged to the UK, USA, Malaysia, UAE, etc.

Therefore, the consumer behaviour is limited to consumers belonging to India mainly, and hence the magnitude of shift can not be completely relied upon.

Bibliography

Afridi, F. E. A., Jan, S., Ayaz, B., & Irfan, M. (2021). The impact of Covid-19 on E-business practices and consumer buying behavior in a developing country. Amazonia Investiga, 10(38), 97–112. https://doi.org/10.34069/AI/2021.38.02.9

Bhatti, A., Akram, H., Basit, M., & Khan, A. U. (n.d.). E-commerce trends during COVID-19 Pandemic. Retrieved from https://www.researchgate.net/publication/342736799

In-Text Citations: The Basics // Purdue Writing Lab. (n.d.). Retrieved April 5, 2022, from https://owl.purdue.edu/owl/research_and_citation/apa6_style/apa_formatting_and_style_guide/in_text_citations_the_basics.html

Shahzad, A., Hassan, R., Abdullah, I., Hussain, A., Fareed, M., Yeop, O., … Business, S. (2020). COVID-19 IMPACT ON E-COMMERCE USAGE: AN EMPIRICAL EVIDENCE FROM MALAYSIAN HEALTHCARE INDUSTRY. Humanities & Social Sciences Reviews, 8(3), 599–609. https://doi.org/10.18510/hssr.2020.8364

Shahzad, A., Hassan, R., Abdullah, N. I., Hussain, A., & Fareed, M. (2020). COVID-19 IMPACT ON E-COMMERCE USAGE: AN EMPIRICAL EVIDENCE FROM MALAYSIAN HEALTHCARE INDUSTRY. Humanities & Social Sciences Reviews, 8(3), 599–609. https://doi.org/10.18510/HSSR.2020.8364

Susmitha, ----Ms K. (n.d.). Impact of COVID 19 on E-Commerce. https://doi.org/10.13140/RG.2.2.20236.85127

The Impact of Coronavirus (COVID-19) on E-Business in Malaysia | Asian Journal of Multidisciplinary Studies. (n.d.). Retrieved April 3, 2022, from https://asianjournal.org/online/index.php/ajms/article/view/219

Annexure

The following questionnaire was used to conduct the survey.

Q1) Age group
- Below 18
- 18-25
- above 26-35

Q2) Gender
- Male
- Female
- Other
- Prefer not to say

Q3) What is your preferred mode of shopping?
- E-Commerce websites
- Brick and Mortar stores (physical shopping)

Q4) What was your preferred mode of shopping before the pandemic?
- Brick and Mortar stores
- E-Commerce websites

Q5) According to you, what are the advantages of online shopping over physical shopping?
- Eliminates Travel and Time Cost
- Gives more variety
- Creates market for Niche products
- Safer to buy online in the pandemic
- No geographical limitation
- Faster buying process

Q6) Did you use E-Commerce websites for shopping before the pandemic?
- Yes
- No

Q7) How do you prefer to shop online?
- Mobile
- Laptop

Q8) Did your frequency of shopping through E-Commerce websites increase during the pandemic?
- Yes
- No

Q9) What kind of commodities do you prefer to buy online instead of buying it physically from shops?

- Books
- Clothes
- Grocery
- Medicines
- Electronic Gadgets
- Other _____ (short answer type)

Q10) What kind of commodities do you prefer from physical stores instead of buying it online?

- Books
- Clothes
- Grocery
- Medicines
- Electronic Gadgets
- Other _____(short answer type)

Q11) Why did you choose the above commodities from physical stores rather than online? (long answer type question)

Q12) Which shopping method is safer according to you?
- E-Commerce Websites
- Brick and Mortar stores

Q13) What will be your preferred mode of shopping after the pandemic? Why so? (Long answer type question)

Q14) Where do you live?

COST OF NEGLECTING SEX EDUCATION

Chhavi Agrawal, Imnasangla Jamir, Suhani Jain
Shri Ram College of Commerce, University of Delhi

Abstract

What a person learns about sexual health and habits largely shapes their own behaviour and opinions on the same. While the importance of sex education has come to be increasingly recognised globally, India still falls behind in properly embracing the concept. Indian students still learn about sexual health only as part of their biology curriculum, as opposed to a life skill that needs to be destigmatised and looked at through the lens of not just health and safety, but also practicality. While a lot of the opposition regarding introduction of school students to the concept of sex education comes from parents and teachers who believe it to have a corrupting influence on children, it is imperative to recognise the costs associated with neglecting sex-ed in the long run. Socially, the increasing rate of unwanted pregnancies and abortion can largely be credited to curiosity and lack of gender knowledge. The roots of crucial problems such as increasing cases of sexually transmitted diseases, sexual violence and sexual abuse can be traced back to insufficient or inadequate sexual awareness. All of these social costs invariably lead to economic costs, in the form of massive healthcare expenditures incurred by families, as well as the cost of each individual unable to realise their true potential due to dearth of proper health conditions.

Recognising the above threats, this paper aims to establish that the costs of neglecting sexual education far exceed those of delivering it, with the objective to incentivise mandating a systematic introduction of the same in the education curriculum by the Government.

Hypothesis

The paper intends to incorporate primary as well as secondary data to prove the economic, social and legal costs of delivering sex education to be less than that of neglecting it, thus suggesting the viable choice for policymakers. The paper assumes that sex education varies directly with sexual wellbeing of individual, ranging from awareness of and curbing sexual harassment, to a comprehensive understanding of making conscious sexual decisions from psychological, biological and socio-cultural perspectives.

Research Methodology

1. The paper interrogates the economic, social and legal costs of neglecting sex education in formal curriculum being transacted, in relation to the multi-dimensional costs of delivering the same.
2. In the 2030 Agenda of Sustainable development, Goal 4 advocates the necessity of Quality Education, and the paper moves ahead to unravel the requisition of inculcating sexology into educational modules for transacting quality education holistically.

The paper utilises both primary and secondary data. For primary research, 126 college students have been surveyed on whether they received sex education in school, how it was delivered, what the components of it were, if there was gender differentiation when it was delivered and whether the same made them more conscious about their actions and wellbeing. The analysis of the aforesaid will substantiate the premise, that the state of sex education in India is inadequate and needs serious re-evaluation and re-formulation.

The secondary data has been used to determine the social, economic and legal costs of neglecting sex education in India. For this, various research papers and reports assessing the same have been used which highlight the heavy costs that individuals, organisations and the country as as a whole have borne due to the lack of a comprehensive sex education delivered in schools.

Literature Review

The Report on the Universal Periodic Review of India by the OHCHR describes the state of sex education in India. With many state governments banning sex education in schools, and private schools having the freedom to include sex education in their curriculum if they choose to, the situation regarding sex education in India is dire. Sex education is a must in curbing sexual harrassment in the workplace, teen pregancy, unplanned pregnancy, preventing serious STDs like HIV/AIDS. The lack of sex education has serious social, legal and economic implications for a country like India with a population of over a billion. The literature reviewed includes research papers and publications on the costs of neglecting sex education in countries other than India, the cost of child sexual abuse, workplace harrasment and violence against women. According to an article by UNESCO on why comprehensive sexuality education is important (2018), only 34% young people around the world have accurate and sufficient knowledge about preventing the transmission of HIV/AIDS and two out of three girls in some countries have no knowledge on menstruation. Sex education has many positive benefits on the individual and society as a whole, including improving young people's attitudes towards sexual and reproductive health and reducing rates of STDs transmitted and teen pregnancies. The absence of comprehensive sex education leads to young people, especially children, to be more vulnerable to sexual violence. According to the report on the economic and social cost of contact child sexual abuse (2021), the financial and non-financial costs incurred in relation to children who are victims of contact sexual abuse in

(2021), the financial and non-financial costs incurred in relation to children who are victims of contact sexual abuse in England and Wales is estimated to be £10.1 billion at the very least. While there has been literature and discourse about the different costs of neglecting sex education in Western countries and a few other Asian countries, there is minimal discussion on the same from a purely Indian context and what effect that has had on the country's economy, socio-cultural development of individuals and the legalities concerned with it.

Primary Data Analysis

UNESCO offered the following definition of comprehensive sex education:

"Comprehensive sexuality education is a curriculum-based process of teaching and learning about the cognitive, emotional, physical and social aspects of sexuality. It aims to equip children and young people with knowledge, skills, attitudes and values that will empower them to realize their health, well-being and dignity; develop respectful social and sexual relationships; consider how their choices affect their own well-being and that of others; and understand and ensure the protection of their rights throughout their lives."

Keeping this in consideration, a survey was conducted to assess the deliverables of sexual education in India, to offer a valid analysis of interdisciplinary externalities flowing out of the same.

The total sample space stands at 125 respondents.

Demographic highlights of the survey are:

1. Target respondents belonged to the age group of 18-21 years.
2. 70.4% of the respondents identify as "*female*".
3. 28.8% of the respondents identify as "*male*".

1. 28% of the respondents completed their education from Delhi.
2. 72% of the respondents went to school/s affiliated with CBSE.
3. 21.6% of the respondents went to school/s affiliated with ICSE.
4. 6.4% of the respondents went to school/s affiliated with other boards.

Moving forward to the data trends and arguments:

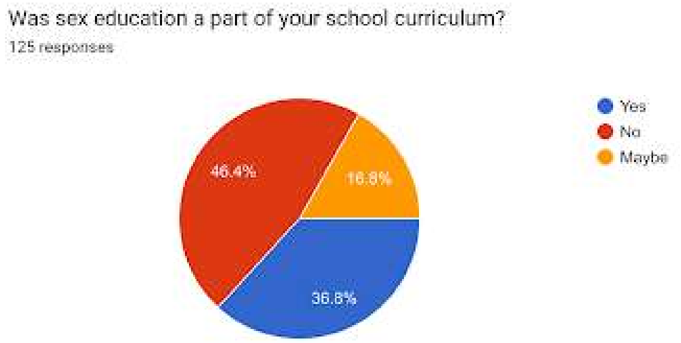


Figure 1- Sex Education as a part of school curriculum

Fig 1 reveals that only 36.8% respondents find themselves in a position to claim to have been imparted with sex education. However, it does not mean their receipt ensured comprehensive learning about the cognitive, emotional, physical and social aspects of sexuality. The same claim is being made because any individual adjudges their learning outcomes on the basis of the standards that prevail around them, regardless of the aspects which must be covered. The strata of respondents who did not receive sex education is indicative of the failure of national policies and international conventions to raise aware and empowered citizens for the future.
16.8% respondents reflect unsure attitude towards the same, due to the failure of the curriculum to discuss the sole meaning and purpose of "comprehensive sex education".

Out of 36.8% of respondents who received sex education, 52.9% (a major proportion of the recipients) were provided with the same from

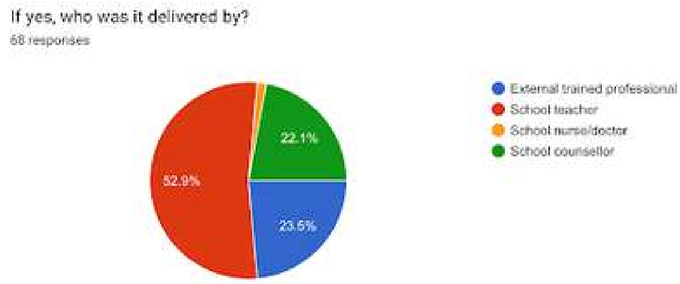


Figure 2- Transactor of Sex Education

Since teachers are trained professionals to cater to intellectual and cognitive needs of the students, the physical, social and emotional comprehension of sexuality continues to be weakly triggered in a student's interpretation of sexuality. Another 23.5% received it from an external trained professional, however that does not mean that the deliverables were as per the requisite standards defined by UNESCO. The skewed deliverable are discussed below in figure 4.

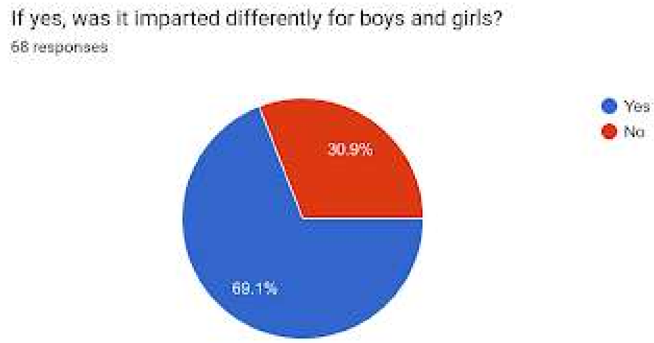


Figure 3- Was sex education imparted to girls and boys differently?

Over 65% of the recipients of sex education indicate that the classes/lectures were delivered differently for boys and girls. According to Elizabeth Jeglic and Cynthia Calkins in their book Protecting Your Child from Sexual Abuse (2022), though sexual needs of boys and girls are different, they must be given sex education together to ensure an understanding of the bodies of their counterparts as well. This further provides for creating an inclusive environment for all the differences that we as individuals have, ranging from emotional to sexual. Therefore, this 65% is reflective of the reasons behind the deep rooted gender differences, adding to the parity of equal rights and responsibilities in the society. This can lead to an increased chance of being subject to sexual abuse in the later years, due to lack of comfort in a diverse set up and poor understanding of the counterparts' bodies and intentions. The insinuation of a sense of respect for other genders gets hindered due to differential sex education.

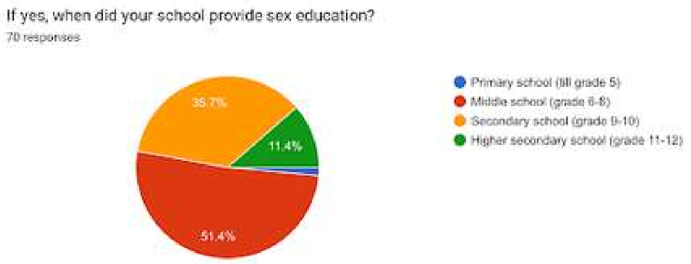


Figure 3- Years of schooling which involved sex education

Only 1.4% of the recipients of sex education receive it in their primary school, which is fundamentally questionable. Basics of sex education like the understanding of a good touch and a bad touch is pivotal to avoid any traumatic experience for a child, which can hinder their growth, development and contribution to the society in later years. According to an article by SickKids, toddlers (13-24 months) shall be able to name all their body parts including genitals; and that preschoolers should know about physical touches and the concept of 'consent'. Thus, the right time to start with addressing the topics under the umbrella of sex education is around toddler stage.

Less than 50% of the recipients receive sex education in secondary and higher secondary years of schooling, which indicates a poor curriculum design as these are the years in which sexual engagement is more likely and there existss a thorough need of know-how with regards to accessing help, if needed.Over 50% of the recipients were imparted with sex education in their middle school, but that does not ensure that the curriculum involved topics beyond reproduction and STDs (since they are a part of biology curriculum as well).

There further emphasizes on the need to formulate a comprehensive curriculum for delivering sex education across different age groups, after consulting academicians, psychologists as well as trained and distinguished sex educators.

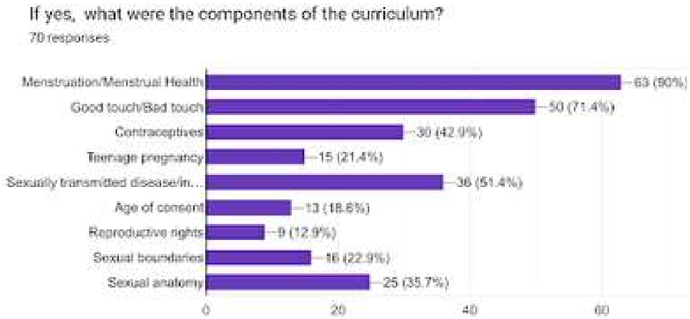


Figure 4- Topics covered in sex education

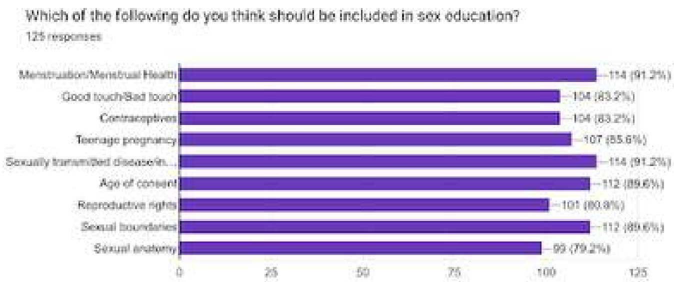


Figure 5- Topics which must be a part of the curriculum of sex education

Figure 4 clearly reflects the poor coverage of topics like sexual anatomy, sexual boundaries, reproductive rights, age of consent, teenage pregnancies and contraceptives in the curriculum. A major chunk of the discussion revolves around Sexually Transmitted Diseases, thus promoting non-engagement in sexual activities or celibacy. Young minds are curious, and promoting celibacy will not ensure a better sexual wellbeing of individuals. Awareness on menstrual hygiene and understanding of physical touch cannot ensure sexual consciousness among young adults. In order to gain thorough understanding of their actions as well of those around them, topics such as sexual anatomy and boundaries play a crucial role. To curb teenage pregnancies and impart a proper sense of family planning, the understanding of contraceptives, age of consent and reproductive rights hold prime importance.

Over 80% of the respondents feel that the aforesaid neglected topics must be included in sex education during school years. Since they belong to an age group of 18-21 years, they may have gone through certain experiences and situations where they might have felt the need for the same. A wrong perception, or even poor understanding of one's own body can have detrimental impacts on any individual's emotional as well as physical well being. The understanding of one's own body translates into well-established and clear physical and sexual boundaries, a better body-image and can help an individual avoid psychological costs arising out of body dysmorphia. While the body dysmorphic disorder has multiple unrelated causes, it most commonly occurs in teens and early adults. Imparting knowledge about how bodies transition during adolescence, and ways to accept and manage these changes in oneself can allow these people to better accept and appreciate their bodies. In a study conducted by the National Library of Medicine , physical activity was directly and indirectly related to body image, self esteem and perceived physical fitness. This proves that those who understand and appreciate their bodies also work harder towards maintaining optimum levels of physical fitness, leading to a healthier life overall. Thus, comprehensive sexual education, one that teaches students how to 'listen' to their bodies, acknowledge their comforts and boundaries, is not just about one's sexual health but also psychological and overall physical well-being. Even to provide for certain living standards, where people are physically fit and healthy, skills, attitudes and values pertaining to sexual know-how is indispensable.

Furthermore, respondents gave a qualitative feedback on their understanding and expectations of sex education. While most of the respondents had not received sex education at all, even the ones that had recieved it felt that it should have been more comprehensive and extensive. Only touching upon topics that come under sex education is not effective and instead thorough and complete information about consent, respect for other's boundaries, STDs and how to prevent them, pregnancy, etc needs to be communicated. Knowledge about pregnancy and reproductive rights should also be imparted to all genders. Even when sex education is delivered, it is talked about as a sensitive and taboo topic and normalisation of this is highly necessary for students to be able to have healthy discussions about it openly.

Legal Cost of Neglecting Sex Education

India is a densely populated country, housing people with a diverse set of beliefs. Such diversity poses plenty of challenges to the efficiency of the judiciary and legislature of the country. Sex education in India persists to be a senstive issue, subject to various socio-economic disprovals. There stands a dire need to understand the cost structure of neglecting Sex Education from legal point of view to understand its importance.

In 2005, the Adolescence Education Programme was implemented to enable teenagers to deal with gender prejudices, sexuality, and sexual wellness. The programme was brought out in collaboration with National AIDS Control Organization (NACO) and United Nations Children's Fund (UNICEF). However, there was no reception of "sex" in sex education. In 2007, the country even witnessed a wave of banning sex education in 12 states, including Madhya Pradesh, Uttar Pradesh, Chhattisgarh, Goa and Maharashtra due to threats of physical violence offered by civil organizations such as

Rashtriya Swayamsevak Sangh and Shiksha Bachao Andolan Samiti. There have been instances where the need for sex education in India has been countered as a promotion of vulgarity and crudity, as suggested by Dr. Harsh Vardhan, former Health Minister in an interview with the New York Times.

Taking into account the bureaucratic school of thought, the legal cost of providing sex education can be as under:

1. Corruption of young minds;
2. Policymaking to ensure standardisation across the country; and
3. Passifying civil resistance to the same.

In India, “sex” is a taboo. It is often believed that discussing the same is vulgar, and corrupts the moral values that the society should uphold. The same forms the basis for civil resistance by the people, in case the government mandatorily implements a comprehensive sexual education curriculum. Nextly, there will be expenses incurred in formulating the policy and structure regarding the curriculum which shall be followed across all the states. This further poses threats to the executive functions within the democracy.

The increased number of sexual assaults, particularly with adolescents, reflects poorly on sexual wellness within the society. The argument being suggested is how the lack of understanding of one’s own body can lead to an increased threat of exploitation from predators.This subsequently poses the additional costs of criminally charging the offenders, and providing relief/restitution to the victims.

There exists a direct relationship between sexual awareness and realisation of sexual abuse/assault. The only way forward with addressing the sexual abuse epidemic in India is strengthening the sex education curriculum. When the realisation of sexual assaults remains low, the costs to be incurred for identification and penalisation of the predators increases for the judicial system. Lack of awareness on what goes around one’s body leads to a higher risk of being sexually abused, thus the subsequent legal costs.

SHIFT (Sexual Health Initiative to Foster Transformation, a research project of Columbia University) suggests how women who are recipients of comprehensive sex education in schools are half as likely to be assaulted in college. Referring to data published by WHO, intimate partner violence continues to pose a pivotal setback to the public health system. Across the globe, around 27% women in the age group of 15-49 years who are/have been in any relationship have been subjected to some form of sexual violence. These core statistics bring out the reality behind such crimes, yet conceal the unreported cases.

Primarily, by imparting ‘sexual refusal’ skills and social and emotional learning interventions, teenagers are empowered to identify any inappropriate situation they are in and what is best for their bodies and well-being. This further reduces the potential for offenders to exploit the target, thus reducing the costs incurred in taking any legal action for maintenance of law and order, due to violation of human rights.

From a civil point of view, identification and penalisation of miscreant for any sexual assault can be attributed as the legal cost of neglecting sex education. From such assaults, there flows out various emotional and socioeconomic negative externalities, which haven’t been accounted for in legal costs.

Economic Cost of Neglecting Sex Education

Providing relevant and comprehensive sex education to school children is of paramount importance for a child’s holistic social development. Neglecting sex education in a country like India, with a population of over a billion has far-reaching economic consequences.

Child sexual abuse (CSA) is a crucial public health issue with numbers rising in India every year. A study conducted by UNICEF in India between 2005 and 2013 revealed that 10% of girls have experienced some form of sexual abuse before the age of 14 and 30% of them before the age of 19. Almost 42% of girls in India have undergone sexual violence even before their teenage years. Even with such alarming numbers, these do not reflect the true dire reality owing to unreported sexual abuse cases. In 94.8% of sexual abuse cases against children, the perpetrator of such violence is generally a family member or loved one which explains why cases are grossly under reported. Another reason for underreporting is the lack of awareness in children about sex education and their own bodies. Children often do not reveal that they have been abused after the event has occurred as they are not aware of what has happened to them. Due to the lack of proper sex education, children also do not have the vocabulary to express what has happened to them. This can lead to anxiety, depression, post-traumatic stress disorder, and suicide attempts if they are not given professional help and support at the right time to address what has happened to them. There are costs incurred as a consequence of the physical and psychological harm and the health and victim services required which includes long term healthcare costs in the form of mental health help. The lost economic output in the form of reduced earnings/future potential earnings due to an increased chance of unemployment of such children is also incredibly high. This can be in part due to the attendance and participation of victims in school being affected and also due to the mental trauma caused due to sexual assault. A study conducted in the UK calculates victims' lost output by comparing the unemployment rates of child sex abuse victims and those that are not victims. The unemployment rates of CSA victims was found to be 25% higher than the total population of the UK. The average annual earnings of a citizen multiplied by the average unemployment rate, the increase in unemployment rates for CSA victims and the length of their working life, calculates the lost output of such a person due to CSA over their lifetime which is estimated to be £11,550.

Sexual harrasment in the workplace is a pressing issue in India with only 20.3% of women aged 15 and above in the workforce compared to 76% of men. With the gender ratio already being skewed in the workplace, further problems arise as more than 97% of women are employed in the informal sector. Such women find it difficult to get access to legal remedies to report sexual harrasment and get justice. The PoSH act requires an internal complaints committee to be set up in any company with more than 10 employees. This however leaves women in the informal sector including domestic workers, street vendors, etc unprotected. The Ministry of Women and Child Development has set up an online complaint mechanism for all women workers called Sexual Harassment Electronic Box (SHeBox). However most of the Indian women workforce cannot access this easily as most of them do not have access to the internet. Companies with an unsafe environment and a culture that does nothing for the protection of women against sexual harassment have shown to have higher employee turnover, lower productivity, higher absenteeism. A study has found that the average damages per employee due to employee turnover and lower productivity caused by sexual harassment is $22,500. Thus, this is something that affects not only victims on an individual level but also the company overall. Many adults enter the workforce without having the right knowledge on how to talk to people of other genders which impedes a workplace's ability to function cohesively.

Providing sex education with an emphasis on consent and bodily autonomy is a step forward in the right direction as this will lead to a better understanding in employees about what type of behaviour is acceptable and what is considered harassment. This also builds a culture of respect in workplaces and a regard for the boundaries of one's co-workers.

Even with the country's GDP increasing, the Women's Labour Force Participation Rate in India has declined from 42.7% in 2004-2005 to 23.3% in 2017-2018, putting India among the bottom 10 countries when it comes to women's workforce participation. This decrease suggests a significant loss in the country's economic potential. Pushing for gender equality can raise the country's GDP significantly. More than 70% of the country's potential GDP growth comes from increasing women's participation in the workforce by 10%. One of the main challenges that India faces when furthering gender equality in the workplace is the cultural issue of the false and obsolete idea that women should stay at home to care for their families. Sex education can help prevent teen pregnancies and unsafe abortions, giving them a better chance at getting higher education. Comprehensive sexual education also conveys strong messages encouraging equality between genders to men from a very early age, breaking down gender stereotypes and endorsing mutual respect. This would help men leave behind their antiquated ideas that women are inferior and instead understand that they can have consequential roles to play even outside their home. With more gender-inclusive job opportunities and decreased gender discrimination at work there would be an increase in women's participation in the work.

Social Cost of Neglecting Sex Education

It is easy to assume that for a country like India, which reports some of the highest numbers of sexual assault cases, teenage pregnancies and sexually transmitted diseases, the importance of teaching sexual boundaries, consent and health would not be a matter of debate.

This, in fact, is at severe odds with reality. For eons, sex education has been stigmatised in the country and believed to have a corrupting effect on young minds, insighting promiscuity and risky sexual behaviour. The 'risky sexual behaviour' that the regressive Indian community wishes to prevent, is exactly what their reluctance against sex education is exacerbating.

Furthermore, as per the World Health Organisation, teenage pregnancies are recognised as a massive public health issue. It is considered to have social costs such as school dropout, abuse of children raised by adolescents and limited academic as well as job growth, all of which contribute to poverty on a macro scale. The prevalence of teenage pregnancies is inversely proportional to education levels of these childbearers – at least 20% of women who bore children in their teenage years had virtually no schooling. According to a UN report, India bears economic losses of $7.7 billion a year due to teenage pregnancies. An earlier estimate by the Health Ministry suggested economic losses of teenage pregnancies at 12% of the gross domestic product (GDP). The social costs associated with these teenage pregnancies further widen the problems of gender-based discrimination. They not only make young childbearers mentally and physically more vulnerable, it also puts their babies at risk. A large number of miscarriages, abortions and female foeticides are correlated with cases of teenage pregnancies. Poor sex education paves a path for an increased rate of teenage pregnancies, which adds to the parental concerns of providing secondary and senior secondary education to their daughters.

Another extreme social cost of neglecting sex education is the rate of sexual violence. Within sex education curriculum, students are taught about consent and sexual boundaries. It stresses the importance of asking permission before touching anyone, however 'harmless' our intentions may be. Neglecting this instils the opposite idea among children and adolescents, making them insensitive towards people's rights and choices about their own bodies. This insensitivity forms the bedrock of sexual abuse cases on a larger scale, a cost any society must eliminate. Sexual violence, historically, has been experienced by people of genders other than female as well. A well-rounded sexual education curriculum recognises this, and spreads sensitivity about sexual boundaries in a gender-neutral manner. Sexual education also encompasses topics surrounding body positivity and confidence, the lack of which has been shown to be the root cause of bullying or harrassment.

Lack of family planning and proper knowledge about contraceptives affects the socio-economic mobility of families. India also faces the challenge of misinformation spread and religious opposition when it comes to using contraceptives. Large families have more dependent members and are thus more likely to face financial struggles, have lesser savings and have difficulty providing their children with higher education. In such situations, families also often make the decision of providing their son with education and decide to keep girls at home. This overall leads to lesser chances of employment and lesser income thus affecting their and the country's economic productivity.

It has been observed that sex education can help prevent the risk of sexually transmitted diseases (STDs) by providing information to adolescents about reproductive issues and encouraging the consistent use of contraception or STD protection. Lack of crucial knowledge is a key reason for the low rates of family planning among adolescents. The evaluation of sex education among young adults further displays that formal sex education programs can increase the knowledge of reproductive health in India. The health and economic burden of sexually transmitted diseases is often underestimated.

The trends of risky sexual behaviour, multiple sexual partners, higher frequency of intercourse are typically observed in younger cohorts (the exact group sex education targets). It has been observed that properly imparted sexual education has the potential to delay sexual initiation, reduced frequency of sexual intercourse, number of sexual partners and appropriate adoption of contraceptive methods. The implementation of sex education programmes has been associated with improved knowledge in sexual and reproductive health and fewer risky practices that result in pregnancy and sexually transmitted infections.

Cross Country Analysis

Country being compared: Denmark

Denmark is one of the few countries in the world that has discussed sexual health for almost 5 decades, with sex education becoming mandatory in 1970. The curriculum mandated by the Danish government allows a large degree of freedom to the school teachers, banning only extremely vulgar jargon, pupil counselling, discussions on completion of sexual acts and explicit images. The curriculum was faced with some resistance, a few Danish parents even took to court against making sex education compulsory. However, the court ruled in favour of the Danish government and schools were allowed to carry on imparting sex education. Three new principles were introduced in the Danish curriculum in 1991, sexual health education could now be integrated into any subject of learning, students could ask sexual health related questions during any of their courses, and teachers could integrate a discussion on sexual health in any of their
classes. Moreover, sex workers and people living with HIV/AIDS were now allowed to be invited as guest speakers in classrooms. The sexual health curriculum in Denmark is extremely comprehensive, covering pertinent topics such as contraception, STIs, abortion,

puberty, sexual rights and freedoms, gender, sexuality, diversity, as well as acceptance.

Statistically, Denmark has a the teen birth rate that is extremely low at 4.4 per 1000 girls aged 15 to 19 (compared to 7 births for every 1000 girls in 2000). The percentage of people living with HIV/AIDS (between the ages of 15 and 49) is between 0.1 and 0.2 percent. Comparatively, 7.9% of women aged 15-19 years in India, were already mothers or pregnant by that age, with the prevalence higher in rural areas (9.2%) compared to urban areas (5%). 0.31% of people in India live with HIV/AIDS. These numbers are comparatively larger than those in Denmark. These statistics suggest that comprehensive sexual health education does not increase sexual activity, teen pregnancy, or abortion rates, contrary to the arguments of abstinence. Studies show a direct correlation between the type of sexual health education and regularity of sexual risk behaviour.

The impact of the different approaches to sexual health education between the two countries is reflected in the higher frequency of unwanted pregnancies, STIs, and rates of HIV among Indian teens compared to Danish teens. The statistical evidence suggests that a comprehensive sex education curriculum gives students far more actionable skills that they can use to protect themselves mentally and physically from the consequences of unsafe and uneducated sex. In order for sexual health curricula to achieve maximum benefits, they must be comprehensive and include a rigorous and extensive focus on consent, which targets all students, not simply those most likely to be victims. Only then will students be equipped with the knowledge needed to make healthy and informed decisions about their bodies and fully comprehend their right to bodily agency.

Conclusion

While our primary data reveals that a very small percentage of Indian students receive sex education, it is important to note that even in situations where the same was imparted, it was rarely comprehensive and all-encompassing. To worsen the situation, girls and boys were taught separately, widening the stigma, and crucial topics such as age of consent and sexual boundaries were neglected – in most cases it was provided by a school teacher (as opposed to a trained sex educationist). While all of these inferences substantiate the need of introducing comprehensive and adequate sex education, our secondary research proves that the cost of neglecting sex education is far higher than that of delivering it. The social costs include the exacerbation of gender disparities and pressing issues such as increased rates of teenage pregnancies, sexually transmitted diseases, cases of sexual abuse – all of which gravely disrupt the social fabric of a country. Lack of sex education further leads to loss of economic output in the form of a physically unhealthy workforce, heavy amounts spent on healthcare and therapy (for those dealing with mental illnesses caused due to sexual trauma), high employee turnovers due to workplace harassment, and overall economic losses. Furthermore, the legal cost of delivering sex education is curbing the civil resistance against mandatory sex education. However, the legal cost of neglecting sex education arises with every additional sexual abuse case, which can attribute to a considerable amount of legal spending in a country where over 80 cases take place in a day, as per Times of India.. Taken together, the social, economic and legal costs of neglecting sex education are so high, that the logical choice for the Government is to introduce the curriculum.

Limitations

The respondents of the survey mostly identified as female and were from Delhi University itself. It was not possible to accurately quantify the costs of neglecting sex education in India due to lack of resources and information on the same.

Bibliography

Landry, D. J., Darroch, J. E., Singh, S., & Higgins, J. (2003). Factors Associated with the Content of Sex Education In U.S. Public Secondary Schools. Perspectives on Sexual and Reproductive Health, 35(6), 261–262. https://doi.org/10.1111/j.1931-2393.2003.tb00179.x

Why comprehensive sexuality education is important. (2018, June 19). UNESCO. https://en.unesco.org/news/why-comprehensive-sexuality-education-important

Adolescence Education Programme~ Teacher's Workbook. (2020). CBSE. https://www.cbse.gov.in/cbsenew/documents//TEACHERS%20BOOK%201-50.pdf

World Health Organization. (2021b, March 9). Violence against women. Fact Sheet. Retrieved March 25, 2022, from https://www.who.int/news-room/fact-sheets/detail/violence-against-women

The Sexual Health Initiative to Foster Transformation. (n.d.). PUBLICHEALTH.COLUMBIA.EDU. https://www.publichealth.columbia.edu/research/sexual-health-initiative-foster-transformation

Singh, M., Parsekar, S., & Nair, S. (2014). An epidemiological overview of child sexual abuse. Journal of Family Medicine and Primary Care, 3(4), 430. https://doi.org/10.4103/2249-4863.148139

Crime Against Children (States/UTs)-2020 | National Crime Records Bureau. (n.d.). NRCB.GOV.IN. https://ncrb.gov.in/en/node/341

Chandran, S., Bhargava, S., & M, K. (2020). Under reporting of child sexual abuse- The barriers guarding the silence. Telangana Journal of Psychiatry, 4(2), 57–60. https://doi.org/10.18231/2455-8559.2018.000

Chen, L. P., Murad, M. H., Paras, M. L., Colbenson, K. M., Sattler, A. L., Goranson, E. N., Elamin, M. B., Seime, R. J., Shinozaki, G., Prokop, L. J., & Zirakzadeh, A. (2010). Sexual Abuse and Lifetime Diagnosis of Psychiatric Disorders: Systematic Review and Meta-analysis. Mayo Clinic Proceedings, 85(7), 618–629. https://doi.org/10.4065/mcp.2009.0583

Fang, X., Brown, D. S., Florence, C. S., & Mercy, J. A. (2012). The economic burden of child maltreatment in the United States and implications for prevention. Child Abuse & Neglect, 36(2), 156–165. https://doi.org/10.1016/j.chiabu.2011.10.006

The economic and social cost of contact child sexual abuse. (2021, December 6). GOV.UK. https://www.gov.uk/government/publications/the-economic-and-social-cost-of-contact-child-sexual-abuse/the-economic-and-social-cost-of-contact-child-sexual-abuse#fnref:2

Ramírez-Villalobos, D., Monterubio-Flores, E. A., Gonzalez-Vazquez, T. T., Molina-Rodríguez, J. F., Ruelas-González, M. G., & Alcalde-Rabanal, J. E. (2021). Delaying sexual onset: outcome of a comprehensive sexuality education initiative for adolescents in public schools. BMC Public Health, 21(1). https://doi.org/10.1186/s12889-021-11388-2

Leibee, H. C. (1985). A Sex Education Program. *Health Education*, *16*(2), 18–20. https://doi.org/10.1080/00970050.1985.10615828

Suri, S. (2020, January 14). *There's a need to end teenage pregnancies in India, it's harming the national economy*. ORF. https://www.orfonline.org/research/theres-a-need-to-end-teenage-pregnancies-in-india-its-harming-the-national-economy-60307/

Chesson, H. W., Mayaud, P., & Aral, S. O. (2017). Sexually Transmitted Infections: Impact and Cost-Effectiveness of Prevention. *Disease Control Priorities, Third Edition (Volume 6): Major Infectious Diseases*, 203–232. https://doi.org/10.1596/978-1-4648-0524-0_ch10

Stout, J. W., & Kirby, D. (1993). The Effects of Sexuality Education on Adolescent Sexual Activity. *Pediatric Annals*, *22*(2), 120–126. https://doi.org/10.3928/0090-4481-19930201-09

Goldstein, R. (n.d.). *Sexual Health Education: A Comparison Between Denmark and the United States*. Western University. https://ir.lib.uwo.ca/cgi/viewcontent.cgi?article=1004&context=undergradawards_2017

Ph.D, J. E., & Ph.D, C. C. (2022). *Protecting Your Child from Sexual Abuse--3rd Edition: What You Need to Know to Keep Your Kids Safe* (3rd ed.). Skyhorse.

EARNED WAGE ACCESS: AN INDIAN PERSPECTIVE

Krishiv Agrawal; Anjali Agarwal, Param Paresh Taparia

Shri Ram College of Commerce; Narsee Monjee College of Commerce and Economics

Abstract

Personal Credit has existed since times immemorial. The first recorded event of personal credit dates back to 3500 BC (Sumer Civilization). Unlike today, credit started out as an ideology. However, as we reached the industrial era, the production of goods and services expanded, and so did the aspirations of the people. As a result, we transitioned from credit as an ideology to an infrastructure. Modern banks were born. Their basic function was taking deposits and giving out loans. Over the years, the banking function has remained the same. Credit hasn't evolved to suit the special needs of people, especially the working class. Despite salaried workers comprising a significant percentage of the total working population, loan terms and procedures for them are similar to those for any other individual. They need to have a good credit score, bear huge processing fees, late fees, foreclosure fees, stamp duty and whatnot. They become susceptible to taking payday loans at a high cost or they risk losing out on their daily bread. The informal lenders may end up charging a high rate of interest (as high as 670% APR in US markets) along with unfair conditions for repayment. The predatory short term lending and the credit scheme systems continue to swallow the vulnerable.

To counter these pitfalls, the concept of 'Earned Wage Access' was evolved, which replaces the need for lending by providing employees with their accrued wages upfront. The EWA theory explores the idea that employees (generally blue-collar jobs) can redeem their accrued income prior to their payroll cycle. It harnesses the combined power of daily compensation, accrued income and instant pay withdrawal for workers. This is contrary to the locked-pay system that evolved over the course of The Industrial Revolution. This concept was built in the US after the infamous 2008 crisis in which the entire US economy stumbled on the heavy debt market the US relied on. Blue-collar workers in The States generally live a 'paycheck-to-paycheck' livelihood style and this model wanted to break the perils of the payday lenders in the US whose high-interest rates are a financial predicament. Preliminary findings suggest that this model lowers the employee turnover ratio and reduces financial stress among employees while they are at work. It also creates a substantial positive impact when it comes to employee absenteeism, productivity, engagement and wellness, thus creating a win-win situation for both the employee as well as the employer. It is also quicker and easier to validate compared to any loan app or payday lending service without needing any paperwork. In this paper, we have explored the theory, examined the pre-theory conditions that led to this model, evaluated some of the key players and pioneering companies of this model by discussing some information about the private players and their revenue models. We have then performed a SWOT analysis on the model and provided a balanced report on its functioning. Once the data has been set to the standards and measures of the US model, we have looked towards the threats and opportunities of the EWA model in India and its commercial and marketable plausibility for the Indian market. Some employers themselves offer employees access to their earned wages without help from third parties. The focus of this research, however, is third party companies that offer wage advances by partnering with employers. Besides the business case, we have also explored the socio-economic, legal and cultural aspects that are special to India that have an implication on EWA as a concept. Also, contrary to what previous research on EWA has to say, we have tried to *explore the potential pitfalls of this model with regards to its negative impact on employee behaviour and spending patterns to come up with a fair and balanced view with respect to its adoption. The commercial plausibility of this theory in India has been tested bearing in mind the 'Savings' culture that is intact in India for generations. As a result, fewer people live paycheck to paycheck vis-a-vis the U.S. Keeping this in mind, EWA may not have strong acceptability among employees and employers alike, in case the third-party platform charges high processing fees or relies on greater technological capabilities.*

In order to aptly determine the market feasibility in India, we have performed a survey on some blue-collar workers in India and tried to then analyse the data. We have considered the Indian blue-collar industry to get a comprehensive outlook of the overall viability of this model. It included questions that aimed to gauge the socio-economic dimension of the lives of Indian workers across sectors to assess the potential viability and relevance of this model in India. Drawing from advanced company statistics and existing empirical data from the market, the paper analyzes the potential EWA has in a dynamic and developing market like India and helps to predict the future of this relatively alien concept in the Indian Economy and provides a background for financial upliftment and empowerment of this stratum of society.

Introduction

Personal Credit is not new. In fact, many millennia before the credit score became ubiquitous, there is historical evidence suggesting that civilisations around the world were borrowing for various reasons. Its first use case can be dated back to over 5000 years ago, around the same time when Sumer Civilisation thrived(3500 BC), primarily for agricultural loans. The Credit landscape further evolved with The Code of Hammurabi written in 1800 BC. The landscape remained more or less the same over 3 millennia until the 1500's when the need for credit for trade expanded. This trend was further accentuated as the Industrial Revolution kicked off in Britain in the early 1800s. As the production of goods and services increased, so did the real income of the masses. Consequently, they aspired to enjoy the best standard of living and began consuming more. The credit needs to be increased. To cater to these enlarged needs, modern banks, as we know them, were born. Over the years, the way of working credit infrastructure has remained the same. The need to have a good credit score, sufficient security, proof of a stable income and the capacity to service loans at regular intervals may not be possible for a considerable chunk of the population belonging to the 'working class'. As a result, they are virtually ignored by the organised banking industry. They have to approach short-term/payday lenders to lend them money at an extremely high rate (going as high as 670% APR in some states and countries) and unfair terms and conditions. And since the working class comprise the largest group among the working population, we have a serious problem at our hands. There was a need to evolve a separate paradigm to adapt the system as per the specialised needs of the salaried classes. It was only at the time that these issues became more vocal and the media and governments world over began to talk about this, that the infamous 2008 US subprime mortgage crisis broke out that took the finance world by a storm. Wages were depleted, people lost jobs and savings and many couldn't afford a day's meal. No one was willing to lend to these people. Every crisis presents an opportunity to innovate and become more efficient. The US mortgage crisis offered the exact opportunity for a new paradigm named the 'EWA' Model. The EWA theory solves for 'the time of pay'. It aims to eliminate the predatory payday loans that blue-collar workers often resort to in case of paucity of funds to manage their household and living expenses. It empowers workers with the right to access their accrued wages on demand instead of getting paid weekly, bi-weekly or monthly without disrupting the cash flow cycle of the employer. It does so by leveraging the combined benefit of stable and recurring income that salaried people have. They are usually provided by third-party platforms that usually integrate their software with the payroll processing software of the partner employer to get real-time insights about the wages accrued to workers. Since workers can have their accrued wages upfront rather than waiting for them to be due, the need for taking payday loans gets eliminated. Consequently, workers are saved from the wrath of huge interest costs and processing charges, hefty late fees and foreclosure charges and grossly unfair terms of borrowing. The facility to access the earned wages upfront has been proved to cause greater financial well-being for the employee as well as increased productivity and employee retention for the organisation, thus creating a win-win situation for both the stakeholders. This idea has been there for quite some time in the US, being pioneered by Mr Safwan Shah (CEO of PayActiv, founded in 2013), who himself was the brainchild behind this theory. Over the years leading up to late 2015, a plethora of third-party providers, particularly in North America, have joined the ranks of PayActiv to exploit this opportunity such as Edge, Earnin, CloudPay, Branch and Daily Pay, providing EWA to the employees of partner employers. They have also raised substantial capital and have inked key partnerships, signifying the roaring success of this model. Payday loans are a real problem. They are potential debt traps. They exploit a consumer's cognitive biases and pave the path to future bankruptcy of a large number of households every year. These companies combined have the potential to save U.S. workers around $200 Billion which they lose every year to high-interest charges, overdraft fees and late fees in payday lending. Around 20 million blue-collar workers are already the beneficiaries of this concept in the U.S. Moreover, one thing that is particularly distinctive about this model is that all the employees can access their earned wages, irrespective of their credit score or history, thus correcting the age-long limitation of requiring a good credit score to access funds. Taking cues from the commercial plausibility, technological viability and societal acceptability of this model in the U.S., third-party EWA providers have sprung up in several countries across Asia. Some renowned names are 'Wagely' in Indonesia and 'Refyne' in India. Though the number of companies currently offering EWA is low in Asia in general and India in particular, this market is exploding and has tremendous growth potential. EWA companies have already partnered with major Indian and foreign MNCs. With a large share of the working population employed as blue-collar labour in these countries, the provision of EWA here looks promising in a societal well-being context. However, there are as many headwinds as there are tailwinds when it comes to its adoption in India. Conservative mindset of the population, low trust, unwillingness to change, lack of technological infrastructure etc. are some of the potential roadblocks that might hinder the commercial success of this model.

Third-party fintech companies that work with employers to advance earned wages have adopted a variety of business models and fee structures. The landscape is quite dynamic with a large number of companies battling for market share. There are various models through which EWA solution can be extended to the employees:-

1. Employer-provided EWA:- In some cases, the employer itself may be willing to offer this privilege to employees. This is particularly true in high-cash-flow

businesses as the provision of EWA does not disrupt the cash flow cycle of such businesses greatly. For example, Uber offers its employees the option to get their wages on demand for a meagre fee which gets deposited directly into their Uber Card. In other informal setups, the employer may offer an interest-free advance to the employee on request. However, this is not scalable and there may be a limit on the salary advanced.

2. Third-party sponsored EWA:- In this case, a third party is brought in to extend this service to the employees by learning information about the accrued wages to the workers to date. It can be of two types:-

- Direct-to-Business Model:- Under the first model, the employer enters into a commercial contract with the third-party provider to facilitate such a solution. As per the contract, the third-party provider funds the accrued wages on behalf of the employer and receives the amount directly from the employer when it becomes due. Thus, in this case, the cash flow cycle of the employer is not disturbed unlike '*Employer-provided EWA*'. Only a certain percentage of accrued wages are paid upfront (as agreed under the terms of the agreement) to ensure a margin of safety. Also, there is zero risk to the provider since the wages have already been accrued to the workers and consequently, there is no risk of repayment. The employee too is relieved from the burden of repayment. Some players in this space are PayActiv, Edge, InstantWage and DailyPay.
- Direct-to-Consumer Model:- Under this model, the third party provides access to accrued wages directly to workers. It advances the accrued wages to the employees as and when they require them and deducts the amount advanced from the employee's bank account on payday. These platforms rely on the employees to provide them with adequate, accurate information about their bank account as well as employment status. They track the number of hours for which the employee has worked to calculate the amount of advance for which a particular employee is eligible. However, since this model relies on greater decentralisation, the risk is marginally higher as compared to Direct-to-Business Model. Companies like Earnin and Dave are primary adopters of this model. Some companies like Branch operate under both these models.

The fintech players in the EWA space have adopted a variety of pricing mechanisms to ensure their survival and profitability. Some of the most widely adopted models are as follows:-

1. Membership/Subscription fee-based Pricing model: Some companies may require their users to subscribe to their platforms to get access to their earned wages. Usually, there is a limit on the number of withdrawals that an employee is eligible to make within a particular month. Companies like PayActiv and Edge generally charge using this model.

2. Flat-Rate Pricing: Some platforms charge a flat fee to the employee, every time he/she accesses his/her earned wages. For example, a flat fee of, say $1, maybe levied as a transaction fee/processing fee each time when the employee withdraws funds. In some cases, it shall be employer-sponsored i.e. the employer may bear upon himself the aforementioned cost. The argument in favour of this model is that the employee pays only when he uses the facility of EWA. Consequently, there is no limit on the number of withdrawals an employee can make. Instant Financial and WageNow are some platforms that charge through this model.

3. Tipping-based Revenue Model: This model requires no compulsory payments to the company for the use of the 'EWA' service, but rather encourages the users/members to make voluntary contributions to the company in the form of tips. Fintech player Earnin uses this model to generate revenue. However, in recent years, this model has attracted

criticism because in some cases, these platforms put restrictions on the number of withdrawals in case one has not tipped the platform. Also, such platforms have been alleged to play with the cognitive biases of the users and to encourage them to tip higher. For example- a tip of $5 may not look higher if we look at it in isolation. However, if we consider that this tip was paid on a wage withdrawal of say $100, this translates to a 5% fee paid on the transaction. This is a pretty hefty amount relative to the industry standards.

Thus, we can see there are fundamental differences in how 'EWA' products are structured as compared to the traditional payday lending model.

SWOT Analysis (Strength, Weakness, Opportunity and Threats Analysis) is a powerful framework to gain conceptual clarity of any model. Given below is the SWOT Analysis of the 'EWA' Model:-

1. Strengths and Opportunities: Strength refers to the core capability of the theory which makes it unique as compared to its counterparts. Opportunities are elements in the external environment of the model that facilitate its working. Some strengths and opportunities of EWA are:-

→ ***Superiority over payday lending in terms of efficiency***:- Purely taking cost considerations into account, there is a huge margin of efficiency that EWA enjoys relative to payday lending. A $5 flat transaction fee over a withdrawal of $100 under EWA is 9 times more efficient than paying interest at 50% APR on a loan of $100.

→ ***Lower risk of repayment due to an efficient collection mechanism***: Due to the advantage of stable, recurring income that salaried employees have, there is zero to minimal level of risk involved in 'EWA'. The third-party platform is given the authority to receive the withdrawn funds directly from the employer or through deduction from the employee's bank account. The risk of non-repayment arises only in the situation of an administrative error, employer becoming bankrupt, employee being retrenched etc. However, this is a substantial improvement from payday lending which suffers from the risk of huge loan losses, which also justifies their high-interest rates to a certain extent.

→ ***Superior edge in terms of data and information***: Due to the integration of third-party software in the payroll processing system of the organisation, the provider gains access to information relating to the hours of work, accrued wages, taxes, deductions, allowances, government schemes and subsidies and most importantly, an employee's spending behaviour. On the other hand, payday lenders, in most cases, do not have any such information. As a result, they have to incur greater processing charges for data collection and documentation.

→ ***Minimal legal intervention***: Payday lending is an old concept and several laws have been framed by the legislature that spells limits on payday lending so that it is not over- exploitative. There is a need for excessive documentation, restrictions on lending, red-tapism and bureaucracy. On the other hand, EWA providers often function in an independent manner without any restrictions, whatsoever. This feature of EWA allows it to be more decentralised and therefore a more scalable approach.

→ ***Irreversibility to an inefficient behaviour***: As discussed, the efficiency gains in this shift are huge and unprecedented. The delta of efficiency under the two systems is manifold. Therefore, the users of such a system may display reluctance in shifting to the old behaviour. This indicates a strong point for the adoption of EWA among the masses. Also, the EWA model has a massive potential to generate strong Network Effects since greater employees adopting this solution would induce their peers and acquaintances to shift as well.

2. Weaknesses and Threats: Weakness refers to the core characteristics of a model that

place it in a position of relative disadvantage. Threats are elements in the external environment that may be detrimental to its working. Some weaknesses and threats of EWA are as follows:

→ ***Lack of mobile and internet penetration***: While most advanced economies (primarily, North American and European) have greater penetration of mobile devices and stable internet, this is not true for developing and frontier economies of the world. Thus, adoption of EWA may face a roadblock in such nations due to its excessive reliance on digital infrastructure.

→ ***Unwillingness to share data***: EWA platforms rely on data generated through payroll processing systems to provide such a facility. However, there may be an unwillingness on the part of employers to share such data with an external party due to concerns of safety and privacy.

→ ***Limit on the total amount of wage accesses***: EWA platforms provide only a percentage of the total wages accrued to date, say 60% or 80%, as is agreed in the contract. In case an employee is in need of a greater amount of money upfront, he/she has no other option except resorting to payday lending to fulfil such needs.

→ ***Conservative mindset in certain economies***: Certain developing economies have a conservative mindset owing to which, the '*Savings Culture*' is deeply rooted in the way they conduct their lives. They may not necessarily live paycheck to paycheck. Thus, the provision of EWA may not have a widespread impact on these economies.

→ ***Unintended Consequences:*** Giving employees access to earned wages on demand may hurt their ability to save for the future. Since they are not accustomed to such a behaviour, they may end up spending more than they usually do and prioritise improving lifestyles over saving.

→ ***Increasing regulatory attention:*** Some practices of certain EWA providers have attracted criticism from the government and media alike. Many argue that EWA companies are acting as Payday lenders themselves, but have labelled and structured their products differently to manoeuvre laws. These arguments do not bode well for the scope of EWA.

Case Study: Drawing Insights from US-based- 'PayActiv' and Indian Origin - 'Refyne'

PayActiv

PayActiv, a company incubated in Silicon Valley is the initiator of the revolutionary model of 'EWA' and markets it to employers in the US. Founded in 2013 by Safwan Shah (CEO) and co-founded by Ijaz Anwar (COO) and Sohail Aslam (CTO), PayActiv emerged as a solution provider to the 'cash-droughts' and 'paycheck-to-paycheck' lifestyle in the States by dispensing earned yet unpaid wages to employees on-demand.

Backed by Venture Capitalists, Seed Round and Series A fundings (via the contribution of SoftBank Capital and Founders), the company has raised a capital of $133.7M to date. Its clients include Walmart, Ibex Global, Wayfair, Nazareth Home and others.

How does PayActiv work?

1. Employers sign up a contract with PayActiv which gives PayActiv access to employees time-attendance data, a fair view of their overtime/partial hours, amount of tips earned (if any) and also the status of if they are exempt or salaried.

2. On the other hand, employees who have signed up for this benefit have access to the regularly updated company application which shows their accrued earnings, hours worked and an amount worked out by the algorithm that is '*safe to access*' (for the purpose of facilitating rational decision making for the employees).

3. Whenever an employee opts for accessing his earned wages before the actual payroll is processed, the amount is reimbursed to

PayActiv at the end of his payroll cycle. PayActiv charges a fixed membership fee of $5 every time earned yet unpaid wages are accessed. This helps employees avoid numerous wasteful transactions by eliminating its lookout to be that of a clickbait.

4. With the objective to keep the employees away from being drawn to multiple costly transactions, the company has set a limit of $500 for each pay period. This is the maximum amount that can be accessed in one cycle.

5. Another feature the PayActiv app offers is the allocation of time toward savings. This means that when an employee accesses their earned wage in advance, the application shows how many hours of work is that wage worth. The company believes that this approach gives employees a conservative yet judicious perspective when managing savings.

The second company studied was Refyne, India's first and largest 'EWA' providing startup. It was co-founded in 2020 in Bengaluru by Chitresh Sharma (CEO), a serial entrepreneur and Apoorv Kumar (CTO), a former associate at Goldman Sachs.
It has raised $20.1M to date via Series A funding ($16M- DST Global and RTP Global) and Seed Round ($4.1M from Jigsaw VC, QED investors and XYZ Capital). Refyne partners with employees in India to offer employees real-time access to their earned wages to improve their financial wellbeing. The company describes its objective as "Establishing the link between reward and work".
With over 100 clients and managing more than 3,00,000 employees in the country, by the end of the current financial year the company aims to serve over 1M employees. Applicable for Small, Medium and Large Enterprises; Among others, its clients who have successfully implemented this model in their organisations are well-known names in the country- BMW, P&G, Rebel Foods, Chai Point, Hira Group and Cafe Coffee Day.

How does Refyne work?

1. Following the lines of PayActiv, Refyne follows a '*plug and play model*'. Refyne's platform gets easily deployed with Employer's 'Enterprise Resource Planning' (ERP), attendance sheet, payroll systems and Human Resource Management (HRM) which facilitates data and allowance management in the application meant for Employees.

2. Refyne's Application connects Employer's data with their respective employment particulars, allowing employees to check their attendance, amount withdrawn, current salary and outstanding salary on an updated basis regularly.

3. With a view to ensure financial wellness of employees, Refyne sets an upper limit for the amount of early wage that can be accessed at 30-40% of the salary of the employee.

4. The company charges a processing fee on every transaction that varies with the slab of withdrawal.
- ₹9 + GST on every withdrawal of ₹100-₹300,
- ₹19+GST on every withdrawal of ₹300-₹1000,
- ₹49+GST on every withdrawal of ₹1000-₹3000,
- ₹99+GST on every withdrawal of ₹3000-₹10,000)

(B.,Y. (2021).Customer Support Team , Refyne. Personal communication.) Once an employee requests access to '*early salary*', details are checked and the real-time transaction is initiated.

5. Its employee dashboard is a powerful tool to analyse employees' job satisfaction, understand trends of staff productivity and navigate how it affects the development and efficiency of the organization as a whole.

6. At the end of the month (when usual payroll cycles end in India), the amount

advanced by Refyne to the employees is compensated by the Employers after deduction from the respective employees' salaries.

Benefit to Employees

While understanding the working of both these companies our first goal was to determine if these two companies were as cost-effective as they claim to be by comparing the cost of finance acquisition from them to Payday loans as they are proximate analogues and fulfil the same need as an advance wage.

PayActiv: For example, $100 is the amount accessed as advance salary and payday loan by an employee in the US. The cost of PayActiv would be only 5% of the total amount ($5 per transaction) whereas the cost of a payday loan would amount to an average of 15% of the amount (taking $15 per $100 for a two-week loan)

Refyne: Using ₹10,000 as the amount of earned wage to be accessed and payday loan to be acquired by an employee in India; the cost of obtaining advance wage via Refyne would amount to ₹99+ GST (i.e 2-3% interest on personal loan results in approximately ₹3 in this case. Total processing fee equals ₹102.) The rate of acquisition thus comes down to a minuscule 1.02%. On the other hand, a payday loan on average has a rate of interest of 1-1.5% per day, on an annual basis, this accounts for as exorbitant as 365 - 540% in India.

Both PayActiv and Refyne promote financial inclusion among employees by providing finance at minimal cost in lieu of high-cost traditional loans, payday loans or microfinance options. These services improve employees' financial standing by improving their credit profile facilitating their rejoining of traditional financing systems with relative ease.

Survey Analysis

Statistical limitations:

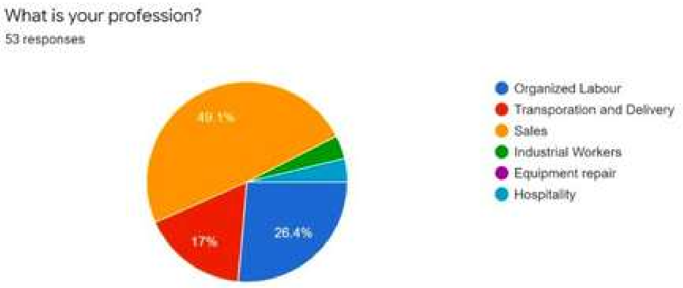
1. Small sample size: Such projects do require a large sample size, but we did our best in order to get maximum spread across this stratum.

2. Tier 1 and Tier 2 bias: The surveyors of this sheet were spread in a major metropolitan city and bullish tier 2 city. Hence, the geographical limitations may provide some bias very relative to migratory rural workers seeking jobs in these urban towns. It does not include a major debt-ridden sector of blue-collar workers (The farmers and contractual agricultural labourers), who could be the highest benefitted sector from this early payment system.

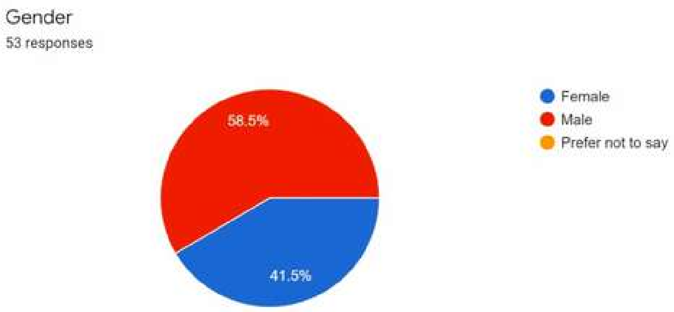
3. Similarity of responses: In some cases where we took responses of a cumulative group, we could notice a very similar nature of responses. This is generally because many of them didn't wish to differ from their peers. Some had their employer in a close range, hence were sceptical of giving any answers that could potentially threaten the relations.

4. Does not include wage workers: "*Blue-collar worker*" definition does include unorganised labourers (eg. Construction workers) with a daily wage payment system. This is done in order to align with the sample size and market of the US. EWA in the US is mainly targeted towards organised blue-collar sector workers. The broad definition of blue-collar in a developing economy like India has been limited to this survey.

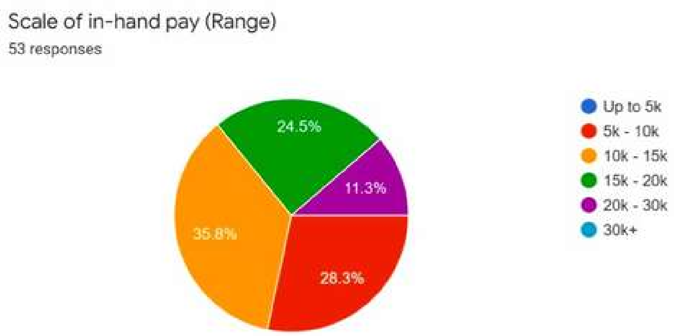
5. Employer/employee reluctance: Sectors/ workplaces with higher formal organisational structures were more unwilling to let such data out. Some employees were hesitant to answer some personal finance questions. This could result in losing some key data from more formal workplaces or may create subconscious errors in data collection.



Profession: This helps us to determine the sub-strata of the blue-collar job. This has been divided into a few main categories which constitute a major part of urban organised blue-collar jobs. Sales workers dominated the survey, who were generally workers of retail shops. Organised labour included people whose work involves use of physical strength. Transportation and delivery were dominated by delivery executives. Hospitality includes salon workers.

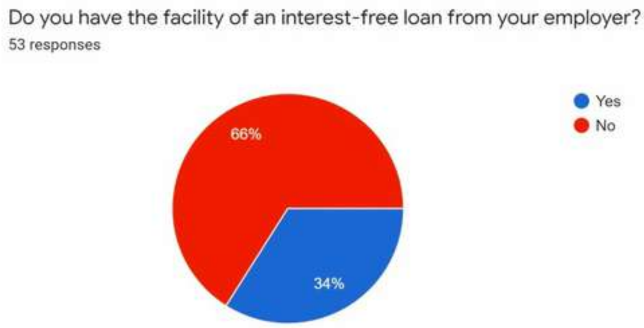


Gender: Asking this would give us a perspective towards gender bias and how gender roles and duties are affected. Generally, women workers were from sales, organised/contracted labour, and hospitality. Men dominated the physical work and delivery.

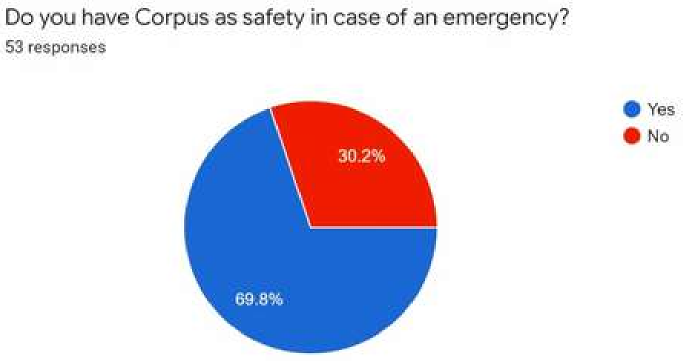


Payscale: The range of pay helps us to determine the expenditure patterns and the cash in hand of the respondee. This is fundamental to spending and saving behaviour. It gives a relative idea of income as suitable to urban lifestyles. Generally, income groups (as in the given data) lie proportionally spread equally across all income groups.

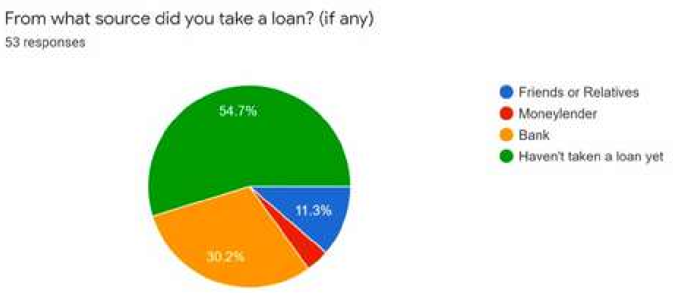
Payment frequency: Time of payment does impact spending patterns of the sample. It also helped to determine the availability of a base market of on-demand wages. Some workers had friendly relations with their employers, and received on-demand wages while most worked on a monthly basis.



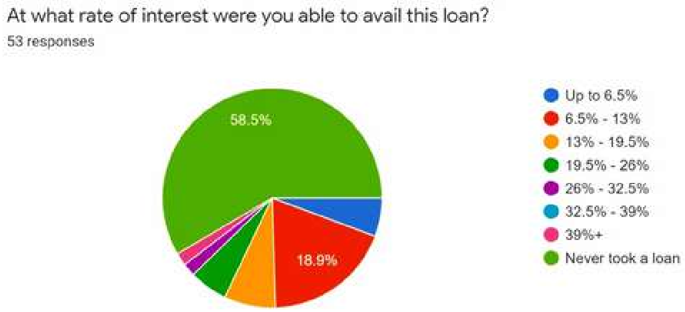
Interest-free loan: Such advances indicate the financial conditions and constraints an employee works in. Availability of a loan from the employee financially empowers the employee and further motivates the employee to work without subconscious pecuniary worries. Most workers did not have a loan facility from their employer, while those with friendlier relations had not encountered this problem.



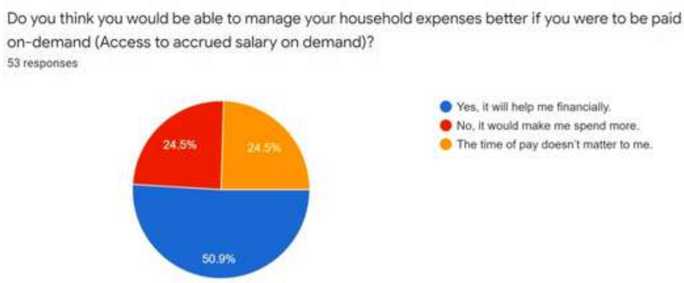
Emergency Corpus: Instantaneous crises can cause mental havoc and affect productivity. Such a facility of emergency funds keeps the employee morale high and does not add to the mental pressure. Availability of corpus determines how well a household can withstand a crisis.



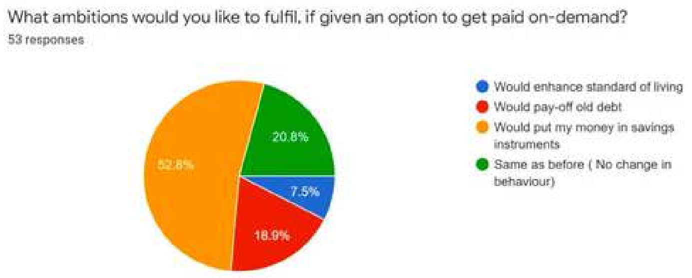
Credit vulnerability: Taking loan for household expenditure indicates money management incapabilities. It also indicates the socio-economic constraint that the breadwinners face in South East Asian economies like India. Elderly dependence, expenditures in social functions, household expenses and childcare push them to spend beyond their pocket's capabilities. Source of funds can indicate the credit rating and formal/informal sources of the debtor. Loans from friends or relatives indicate the subservience towards close relations and friendly credit conditions. Loan from a moneylender indicates inefficiency of formal banking. Taking loans at high interest reflects the desperateness to access funds. Procuring credit from the bank indicates the financial literacy of the sample. Having no debt at all indicates security and strict personal finance rules. In this survey, many people were in a sound financial situation and proudly proclaimed that they never took a loan or any credit. While those who did, mostly took one from formal sources.



Rates of Interest: Interest rates indicate the cost of debt the respondent has to pay. A higher rate indicates a desperate need for funds and vulnerability to debt trap.. A general trend noticed was that higher interest rates compounded between 1.5-2.5% per month were common in the informal sector. Rates between 12-15% were generally associated with NBFC lending specialising in consumer durable lending (prominent eg. being Bajaj Finserv). Rates between 9-14% were common with personal loan rates and variation ranged depending on the asset class. As mentioned in the prior question, many did not take any loans and managed their low expenses well. In case the need arose, the formal sector credit like banks and financial service companies provided them at prevailing rates. Only a few respondents took it from informal sources with high rates of interest.

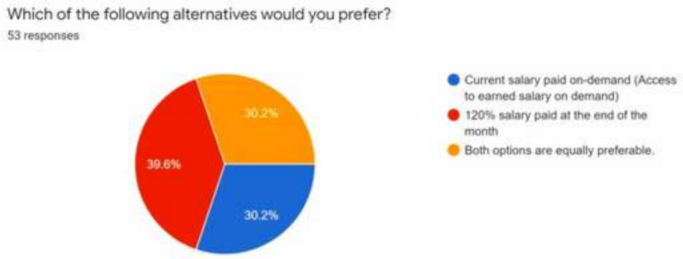


Time and finance management relation: This question helps to determine a relation between time of payment with regard to spending propensity. It can also determine the general fear of people with regards to instant income schemes like EWA. It can also mean otherwise; where people can manage financials better with higher payment frequency. Some might be unfazed with the time of pay. As noticed during survey taking, people lying in this category are more stable with their financials. Many respondents looked at the idea openly and felt that it would definitely help them manage expenses. Interestingly noted, the women were more inclined towards having EWA due to the repetitive income that would help them manage cyclic household expenses. The older male members were more conservative and feared that they would spend more instead of managing better.

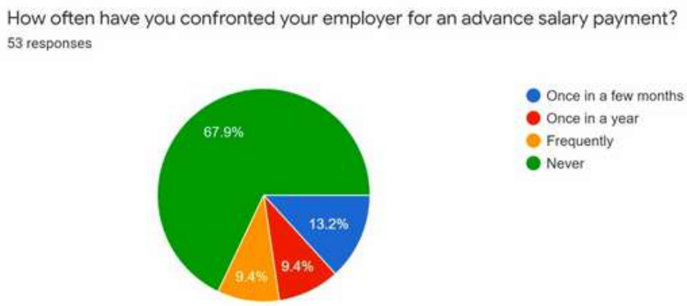


Utilisation of funds: Instant income schemes are a double-sided sword. It can help manage payments, while also making the person prone to spend higher. In such a situation, how would someone manage funds becomes vital to track consumer spending patterns in the blue collars. Payment of old debt means that fund utilisation has not been strong and debt has been piling up.

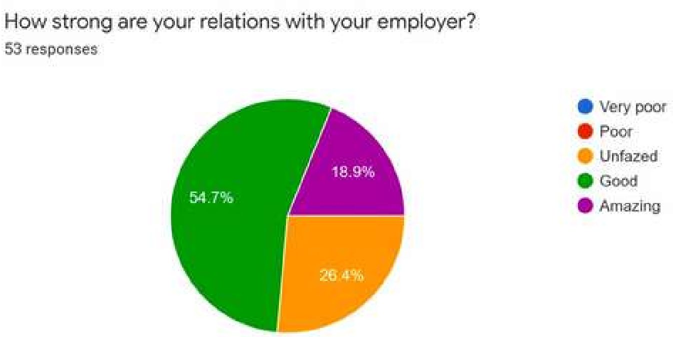
This could also be because of the abnormal credit terms prevalent in rural areas. Enhancing standard of living refers to improving quality of life. People generally enhance standards after realising all previous debts and focus on improving the current situation. Saving instruments is the last stage, which comes when there is internal satisfaction with current lifestyle. This is done to create a contingency fund for emergencies or a save for future indulgences. As noted previously, the savings culture does dominate the Indian market and many respondents wanted to save money for any future misfortune. People with prevailing debt were keener on clearing the credit, but a significant portion did not feel that this system would help them in any significant way.



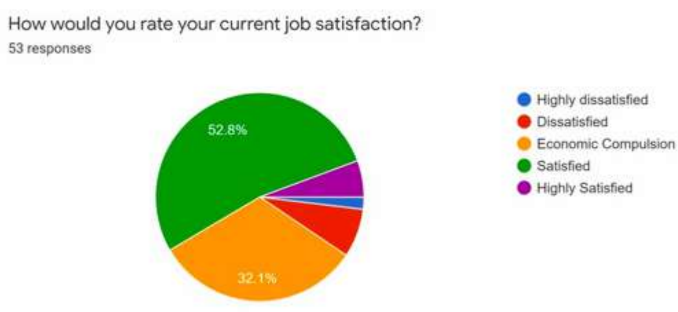
Income increment with conditions: It's a human tendency to prefer better pay, but in order to check the EWA theory in place, we focus on the timing of remuneration. This brings us to a question: "*Would you prefer better pay with timing restrictions or the same old pay with no constraints on time?*" This would help to more appropriately determine the "*timing of pay*" factor which is a key driver in the EWA theory. This question is faced with roughly similar responses. While some were very more inclined to higher wages at the end of the month and did remark how they would save and utilise their funds better in case such a scheme comes, some felt that freedom to withdraw the accrued income would be a safer option. Others did not mind both the options and remarked that their employer relations were good enough that such issues would not bother them.



Frequency of asking for advance payments: Employees who generally ask for repetitive advances are more prone to fall into a debt trap in the future. It could either be mismanagement of funds, or a cumulative pressure of various social traditions (grand weddings) or socio-cultural norms (being the sole breadwinner for 3 generations). Many respondents proudly proclaimed that they never confronted the employer for an advance payment, and even remarked that it would showcase their inability to manage finances well, hence one should not bite more than they can chew. Those who did confront usually did once in a blue moon, and only when a serious calamity struck them. Generally, those with a spendthrift nature were there in the remaining 22.6% (Once in a few months and frequently) of the data.



Employee-Employer relations: The strength of the relations helps to determine whether respectful treatment of employees precedes monetary compensation. This would help us determine that employees would trust their employer more in comparison to any kind of payment. We can see that people generally have a good-to-amazing level of relationship with people. Only a fourth don't bother, an have an inclination towards the salary.



Job Satisfaction: Happiness and passion towards work are key to the overall happiness of a person. They develop and help in promoting the growth of a better society with more propensity to economically develop. Most workers were satisfied with their job and showed strong relations with the employer. Those who had unfazed relations were more prone to doing it as an economic compulsion.

Conclusion

From the above survey, we could conclude that EWA does not hold the market potential in India the way it does in the USA. The Indian savings culture and employee-employer were certain factors that were repeatedly getting noted as hindrances to the commercial plausibility of EWA in India. While some preferred the idea, others with good relations with their employer had unofficial access to their wages. This does not make a strong case for the existence of private players in this space due to the prospect of earning meagre profits. Instead, one strong player (preferably a government-controlled company backed by law) would be the best fit for the provision of EWA in India. Similarly, expansion of the formal banking infrastructure on a massive scale can do greater good to the nation in terms of handling finances. Furthermore, strong and honest relations with the employer would further dilute the impact that 'Earned Wage Access' as a concept has on the masses. Thus, we conclude that though the idea of EWA holds great socio-economic merit for the Indian population, it would have difficulty in achieving a marketable status in the eyes of the masses due to ignorance about the same, high switching costs in terms of time and effort and relatively lesser addressable population for which such solution can be effectively implemented.

Bibliography

Desjardins, J. (2017).The History of Consumer Credit in One Giant Infographic. Retrieved from www.visualcapitalist.com

Leonhardt, M. (2021). Payday loans can have interest rates over 600%- Here's the typical rate in every US State. Retrieved from https://www.cnbc.com

Masselin, M. (2021).EWA (EWA) — Everything you need to know about wage advance services. Retrieved from https://www.zetl.com

Marquis, C. (2021). How EWA Can Upend Predatory Lending And Build Employee Financial Wellness. Retrieved from https://www.forbes.com

R., P. (2020). 5 leading U.S. based companies democratizing EWA. Retrieved from https://ibsintelligence.com

Shu, C. (2021).Wagely, an Indonesian EWA and financial services platform, raises $5.6M. Retrieved from https://techcrunch.com/

Sharma, C. (2021) Why it's time for India to embrace EWA solutions. Retrieved from https://timesofindia.indiatimes.com/

Pimental, B. (2021).Is EWA predatory payday lending? States will soon decide. Retrieved from https://www.protocol.com/

Baker, T. Kumar, S. (2018). The Power of the Salary Link: Assessing the Benefits of Employer-Sponsored FinTech Liquidity and Credit Solutions for Low-Wage Working Americans and their Employers. Retrieved from https://www.hks.harvard.edu/.

Singh, M. (2021). Refyne raises $20.1 million to help workers in India get faster access to wages. Retrieved from https://techcrunch.com/.

Lohchab, H. (2019). Bad credit history? You can opt for a payday loan but read this first. Retrieved from https://economictimes.indiatimes.com/

Payactiv

About Us PayActiv.

PayActiv secures $100 million in funding (2020)

India's first EWA platform Refyne.

CultureHandbook Refyne.

What are the costs and fees for a payday loan? (2017)

GST on Personal Loans – Info on Processing Fee, EMI & More

New Study: EWA Puts Consumers in Control of Finances, and Life

EWA and Does Your Business Need It?

The surprising link between payroll systems & financial stress | Safwan Shah | TEDxWilsonPark (Video)

Refyne Sales Kit

It's About TIME - A film presented by PayActiv

Early Wage Access Can Be Dangerous As A Stand-Alone Benefit

New study reveals strong opportunity for EWA

Earned Wage Access: An Indian Perspective 40

Infographics PayActiv.

How Payday Loans Work

New Study: EWA Puts Consumers in Control of Finances, and Life

Form used for survey analysis: https://forms.gle/vATP91pvwcPv98Tg7

THE GENERATION Z OPTIMA

Pratul Malthumkar
Shri Ram College of Commerce, University of Delhi

Abstract:

Gen Z consumers are driven by the best in products. Is it justified for them to be driven towards absolute efficiency? They prefer "value for money" and the growing technological competencies make product development in parallel with absolute efficiency. It becomes rational, therefore, that they aim for the absolute pinnacle or the best in products. However, this research paper aims to demonstrate how the above principle only perpetuates suffering, either in terms of information asymmetry or in terms of mismatched expectations from a product when it comes to decision-making, and why Gen Z consumers should remain content with choosing the "good enough". While Barry Schwartz has deftly proved that it is important to prefer security over efficiency in the long run, he did not show particular interest in analysing the framework of the "paradox of choice" through the lens of age group as a factor. This paper attempts to prove that settling for products that are "good enough" is backed by the rationale of choice theory and reveals insights into how consumer preferences in a restrictive framework led to greater satisfaction.

Introduction

The focal point of this research rests on analysing the pre-existing idea of monotonicity (more is better) and the positive correlation between efficiency and satisfaction. The relevance of this paper is defined for consumers, with an emphasis to understand consumer behaviour and predict trends to understand choice autonomy. Should there be a unique focus on a particular consumer generation? Is restricting choice justified in a world where freedom and autonomy continue to remain a core value? As a broader question, what insights can a generation give, which might reveal a bigger picture about how demand operates to fulfil satisfaction?

Gen-Z (population born 2000 or later) is the first generation closest to achieving "perfect information" [knowledge about the utilities, price and the complete economic environment] about products. Colloquially referred to as a pariah in realistic economic theory,

Gen-Z has the greatest access to product information through easier access to the internet on the demand side of the information graph, and greater marketing budgets on the supply side of this information graph. However, a paradoxical situation arises when consumers feel overburdened by the excess availability of knowledge. In a simple bid to optimize their choice to best suit their needs, consumers drain their energies in finding the best alternatives. The longer this process continues, the worse it becomes for the independent consumer who ultimately settles for a product that may not be the best choice, but is good enough to provide simple satisfaction across all alternatives.

This brings forth the possibility that perfect information may not be an alternative which every consumer actively seeks. Consumerism augmented by big budgets for marketing endeavours forces people to do extensive research about any product they may want to buy.

As a societal heuristic, all consumers may not have the ability or agency to do this extensive research. Therefore, in some cases, simplicity of choice may prove much more beneficial to a consumer whereby choosing a “good enough” product is preferred over the “best product”.

The aim of this paper is not to challenge Schumpeter's “gale of creative destruction” [many fluctuating market dynamics and long-standing market assumptions are reshaped by innovation and creativity]. To elaborate, this paper does not deny the merits of “disruptive innovation” [innovation which consists of affordable, accessible and available solutions, say the arrival of Netflix v Blockbuster] in a bid for greater efficiency. Such merits, in the long run, tend to improve the standard of living of consumers by providing robust and qualitative services. Instead, it focuses on the causal effect of efficiency which by itself is not considered/accounted for by any consumer even when perfect information is made available to them.

According to a study by McKinsey & Company, Gen-Z views consumption in terms of “access” rather than possession. In other words, this study highlighted the generational ability to choose and explained the relevance of access to such choices for producers and suppliers. Further, the exercise of choice is paramount over the actualisation of the said choice. This accessibility runs three risks. Firstly, the general time frame of expected obsolescence has been considerably shortened. In a world where technological revolution takes only months to realise, it becomes very difficult to sustain a product to all consumers at all points of time. The shortening of the timeframe of expected obsolescence would probably propel consumers to employ a “hit and trial” which is only fueled to find the “best product”. In other words, the hit and trial do not cease after finding a good product, it only ends when out of the pool of “good enough” products, an assessment is made to possibly predict and find the “best product”. Therefore, the positive correlation between efficiency and satisfaction is not utilised to its fullest potential. Instead, the increase in the number of products bought and tried till obsolescence increases, thereby giving higher absolute utility but lower proportional utility to a consumer. Secondly, as consumers are already burdened to make a choice, accessibility leads to paralysis. The relative effort that consumers put in making a decision decreases as the number of choices increases, thus increasing the tension and stress factors of consumers. Thirdly, regret also plays a major role in this space because if a decision was made without perfect information, the consumer would essentially have a feeling of dissatisfaction associated with their choice.

Literature Review

According to Barry Schwartz and Andrew Ward, modernity comes with an “explosion” of choices. They argue that the “accessibility” of products makes consumers feel like they have unconstrained freedom which is problematic because it would lead to “paralysis”. This paralysis is caused by the expectation of a product to not just satisfy the consumer, but also be the “best” in terms of utility and associate closely with the identity of the consumer. Two situations arise that lead to paralysis. In one situation, if a catalogue of products can be made, the very fact of “limiting” options in a market where products claim the same results causes a sense of apprehension and inflexibility in the mind of the consumer. In case they later learn of a new product or witness the launch of new services, either because of accessibility or affordability, they can’t accommodate additional products in their structure. For example, if Quaker Oats introduced the “Dark raspberry syrup” flavour, then a consumer who already shortlisted 10 products will be “burdened” to make a change.

In the other situation, a catalogue of products is made, and the effort is taken to select a product and use it, but apprehensions arise if it is the "best product". In a similar example, if a consumer bought the "dark raspberry syrup flavour", but owing to hearsay, new entries in the market, or other conditions, it comes to the knowledge that there might be better products worth "experimenting" for. Thus, it's important to build boundaries when choosing a product.

Without firewalls, without boundaries, accessibility can be a "misery-inducing tyranny". By putting boundaries, firewalls and rules, the efficiency is reduced as the same task might require greater time to deliver or might be relatively slow in its functioning. Surely, some will also claim that such boundaries and rules in decision making will reduce the autonomy of an individual to make choices and the existence of rules will deprive the person of choosing things of personal value. However, such checks and balances are vital to achieving ideal functioning. It is plausible that increased choice and increased affluence have been accompanied by decreased well-being. The fact that choice impairs freedom and autonomy is a flawed assertion. Marriage and friendship are two factors that contribute to happiness amongst people. Each of them involves a certain degree of restraint, commitment and undertaking of responsibility which limits choices, autonomy and freedom. However, it is the very structure that keeps it intact.

People feel that "maximising" their options would increase their probability to find the best option. However, this would also mean mathematically, the probability to choose the wrong option similarly increases, due to the psychological and cognitive barriers in decision-making. According to Barry Schwartz, "risk is probabilistic, ambiguity is not". While the amount of risk associated with buying or possessing a product can be ascertained, there can always be expected, with 100% confidence, that things will not perfectly go as intended. In this post-pandemic world, information overload and scepticism and review of products are pervasive. So, the only way to be sure that an individual won't regret a decision is by asking, which options give good enough results under a wide set of future circumstances. The more options, the more likely it is that an individual will experience regret.

According to OECD, the COVID-19 pandemic has led to an increase in product innovation and an overabundance of choice amongst the people. This overabundance of choice is problematic because consumers are in a frenzy and cannot conclude their interests easily. On the other side, producers share a similar frenzy as they are unable to ascertain what consumers want and need.

The economic model used herein to prove the thesis of this paper is called Rational Choice and Decision Making.

The Smithian model described in the *Theory of Moral Sentiments (*TMS), employs decision-making to contextualise rationality under different circumstances but does not provide hard-bound boundaries as to what precludes making a rational choice. Moreover, an underlying assumption in his model is that given the set Ω of all conceivable first-order states of the universe, individuals are assumed to be skilled social actors insofar as they are assumed to be able to rank all these states. The Bertrand-Chamberlin-Diamond Model characterizes the consumers not as "skilled social actors" but as actors who are rational and would buy a product in the context of the consequent search cost incurred to buy a product. According to this model, the only motive a consumer has to search for a product is to find a "better price". Thus, a fundamental assumption in this framework is that products are homogenous, and individuals do not "like" a certain set of products, and are largely indifferent to its characteristics and added features. This also stems from the “value for money” that consumers seek when weighing one product against the other. However, this framework is challenged because of three reasons. Firstly, it has already been discovered, by various insights from top-consulting firms including McKinsey and Company, that Gen Z is “interested” to experiment with new products. So, there is an incentive to voluntarily incur search costs.

Secondly, Gen-Z is too curious to try out the new product and searches for the “best product” in all spheres of life. This behaviour occurs because it associates the product with personality, and so price becomes less relevant even in market equilibrium.

Thirdly, the number of product variations and the heterogeneity in products are hitherto unknown. So, even if two “close substitutes” of a product have similar features, the branding identity and marketing associated to make each product unique will never lead to homogeneity in products. For example, OnePlus and Oppo are officially from the same company and make phones with almost indistinguishable features-battery charging technology, high RAM and camera quality. However, even when perfect competition here loosely seems to be connected, the brand identity associated acts as a game-changer [An ambitious person may like the “Never Settle” tagline of OnePlus and associate with themselves whereas a balanced person may like “Designed for Life” tagline of Oppo].

They are unable to rank their preferences, despite the accessibility of products due to information overload caused by an overabundance of choice. The Choice Theory6 described by Stanford University also builds on similar assumptions, asserting that in an ideal situation, individuals won’t be confused and clueless while making choices and will be able to rank their preferences. However, when they are faced with a multitude of choices, in vast settings, they are unable to rank their preferences in a way that maximises their satisfaction. While newer technology breakthroughs assist in the ranking of preferences, the convenience with which the choice is made reduces [because they want to try a product, and remain curious to know about a product before making a decision] and the consequent convenience in terms of utilization of the product is arguably lower.

Economic Modeling

This paper asserts that age is a distinctive factor concerning the paradox of choice. As humans, we make choices. All age groups do. But does age play a factor in rational choice theory? Why did rational choice theory gain so much importance? Why is rational choice theory losing its significance today?

It is important to understand the scope of this paper. This paper prioritises Gen Z, or the “True Gen'' and outframes the elderly consumers for three reasons. Elderly consumers or Gen X (who were born between 1965 to 1980) are becoming less relevant to businesses. Firstly, research on consumer behaviour (Soloman et al., 2002) suggests that on similar information and adverts, different generations reflect different responses. Most elderly consumers do not believe in adverts and remain sceptical of marketing tools employed to generate trust. They do not identify with the ideals and core values of an organization but rather mostly consider value for money. Secondly, companies are investing less in targeted segments of older consumers. In huge economies, like France, companies anticipate the 60+ age group to have 20-30% less disposable income than the 40-50 age group, even though their proportion is growing two-three times faster. In regions like Asia, Gen X assumes'' the responsibility to take care of their family and continue to live frugal lifestyles, while investing heavily in their children. Thirdly, and perhaps the most important, this generation tends to avoid innovative products and services. Though this generation can dispose of higher amounts of income, and there exists a diverse range of products for their convenience, the adoption rates for these products are low. This does not connote, in any capacity, that the old aged are incompetent, lethargic or unattractive by themselves. The nexus between information asymmetry for producers who cannot assess their needs, and the hesitancy to experiment with new products lead to innovative challenges and consequently, low demand for experimental products. It is safe to assume that older consumers do not actively make new decisions and do not want to remain aware of newer products. If they are aware of such products, awareness about age-related changes and their perceived limitations will reduce the propensity to buy a new product. Lastly, a stereotype threat glooms this generation, as age-stigmatized individuals fail to try new things and do not want to explore.

The research methodology used herein is built on secondary data. Firstly, we employ the Generalised Axiom of Revealed Preference (GARP) to check the rationality of children and teenagers while making choices. In simple terms, the revealed preference theory asserts that under constant income and prices, consumer behaviour best reflects their preferences. The underlying assumption is that the consumers will consider a set of alternatives before making a decision.

However, in real life, the "set of alternatives'' are often non-exhaustive and incomparable since products are sophisticated and have diverse benefits [unique and exclusive features with added custom benefits, if any] which are undertaken to improve the efficiency of the product. Thus, in this search of "selecting" a product which maximises their satisfaction, the consumers feel any final choice of a product will have an opportunity cost. The missed satisfaction from the rest of the products is such a cost, as consumers cannot conclusively and absolutely determine if the product is, in their perspective, the best product. Teenagers are important stakeholders since their behaviour gives insights into that of Gen Z. Research by James Andreoni and John Miller (2002), Harbaugh and Krause (2000) and Reinhard Sippel (1997) all provide a common conclusion-adolescents tend to violate the GARP.

Table 1-Average Revealed Preference Violations, By Age

Group	Average number of GARP violations	Afriat's Index
Second graders	4.3	0.93
Sixth graders	2.1**	0.96
Undergraduates	2.0	0.94
Random (uniform)	8.91	0.648
Random (bootstrapping)	8.29	0.749

*Notes: The mean numbers of violations and the mean of Afriat's Index for all the age groups are less than for random choice at the 1-per cent significance level, using t-tests. For the age groups, ** indicates significantly different from the mean directly above at the 1-per cent level.*
Source: Harbaugh, W. T., Krause, K., & Berry, T. R. (2001).

A fundamental research gap herein is that a lot of practitioners and development experimenters employed reasoning tests rather than "choice theory" tests in their experiments. It is found that, within the Gen-Z, as age increases, violation of GARP tends to decrease. However, it is noteworthy to understand that a lot of undergraduates "sugar-coated" their responses to fixate on the most desirable option in light of GARP.

Such pre-existing knowledge about a policy can severely weaken the argument made by this research. This reaction is best explained by the Hawthorne effect, which states that individuals modify their behaviour when they're aware of being observed. In this case, undergraduates "dodged" the experiment, and couldn't be authentic as they were aware that they had to act mature and rational. Taking into account such a discrepancy, in this test, there is no real increase in rational choice from age 11 to 21. Furthermore, in the study conducted by Sippel, with a larger group to seek consistent results, it was found that over half of the participants violated the GARP.

Secondly, a thesis on rational choice theory by Gavin Kader suggests that a simpler decision-making process with fewer goods can lead to more rational choices11. In parallel to the GARP, he introduced the "GAV index". The Generalized Axioms Violation Index deftly reflects the scale on which rationality is measured. It attempts to measure the magnitude of rationality and shows how GARP is a reliable hypothesis for consumer rationality.

It is important to understand our underlying assumption that people measure rationality when they have experienced irrationality. To elucidate, if someone has come across a situation where they reacted in a manner which is uniquely different and logically unexplainable, then they can consequently "perceive" the degree of rationality. For example, only when a consumer buys a product because of instincts, can they understand the rationality of buying a product based on a framework. The question of "satiety" is only known after the satisfaction reaches saturation.

The idea of information asymmetry being connoted with weak quality decision-making is challenged herein.

While it is true that more information helps consumers to make meaningful choices, the consumer should be seen as an average intelligent buyer who has to "apply" the information being presented. More application requires more analysis and more analysis brings more scope for errors, which increases the scope for more dissatisfaction and wasted efforts.

Thirdly, a consolidation set is employed to explain the paradox of choice. The research as per Horowitz and Louviere (1995) states that a consolidation set is a set that consists of total possible goods amongst which the consumer makes a choice. Gavin's research also bolsters the theory of the paradox of choice - maximizers do not tend to categorically achieve success. In simpler terms, any consumer wishing to satisfy himself with the choice should not work in a "standardised rigid framework" but understand his behavioural and cognitive constraints to choose the product. Spiegler and Eliaz (2011) built on the idea that information asymmetry and lesser information about products are beneficial from both paradigms: consumers and producers. Consumers are restricted in their choices and do not have to suffer from choosing from a broad stratum of available sets of products. The producers can utilise this information asymmetry and manufacture the need for the consumer. It is important to understand that this situation does not lead to a case of "buyer beware", since information is accessible, yet it does not need to be processed or reviewed.

Finally, a preference set theory by Gavin shows that a given set of goods is rationalizable if the bundles are consistent in achieving satisfaction when it assumes the existence of constraints.

2.2.2 Revealed Preferences

This subsection familiarises the reader with the conventions of revealed preference.

Let $\mathbf{T}$ denote time periods such that $\mathbf{T} = \{1, 2, ..., T\}$

Let $\mathbf{p}_t \in \mathbb{R}^n_{++}$ denote prices in period $t \in \mathbf{T}$

Let $\mathbf{q}_t \in \mathbb{R}^n_{+}$ denote quantities in period $t \in \mathbf{T}$

where n denotes the *total* number of available goods.

Define a finite dataset, $\mathbf{D}$, as a collection of all prices and quantities i.e. $\mathbf{D} = \{\mathbf{p}_t, \mathbf{q}_t\}_{t \in \mathbf{T}}$. This dataset is a collection of observed consumption behaviour, $\mathbf{q}_t$, for a consumer facing prices, $\mathbf{p}_t$, at observation, t.

A dataset $\mathbf{D} = \{\mathbf{p}_t, \mathbf{q}_t\}_{t \in \mathbf{T}}$ is rationalisable if there exists a utility function $u : \mathbb{R}^n \rightarrow \mathbb{R}$ and for all observations $t \in \mathbf{T}$, there exists a weakly positive income level y_t such that:

$$\mathbf{q}_t \in \operatorname*{argmax}_{\mathbf{q}} u(\mathbf{q}) \text{ subject to } \mathbf{p}_t'\mathbf{q} \leq y_t$$

Thus, it can be clearly shown that when Gen-Z is faced with choosing from a range of products, they tend to associate the "product' with their "identity", and hence do not want to "settle for good enough", because it can translate to their identity being considered as "not of the highest standard". However, hunting for the "best one" in the store may not be possible for every range of product under normal circumstances. Thus, this leads to demotivation, as there is no reduction in tension and brings skepticism if the product is really the "best". Settling for the "good enough" product instead is entirely rational: constraints help to build sustenance.

<u>Unintended Consequences: Producers do not know what to produce?</u>

The divergence between greater knowledge of how to produce almost anything and lesser knowledge of the patterns in users' daily lives is called the innovation gap. The unintended consequence of the Gen-Z consumption trend is that producers find it difficult to prioritize the quality, nature, and features of a product due to difficulty in gauging consumers' expectations. To elaborate, because some consumers might want the "best" breakfast cereal because they associate the quality of excellence with themselves, they go through information overload, face problems in selecting some brands and always have the fear of missing out on the newest release of cereal. The producers, in tandem, want to ensure that their brand is not just "selected" amongst the preferences, but is perceived as non-negotiable or superior to any other product. Still, some might claim that the perceived autonomy that comes with consumer choice is empowering. This empowerment gives a sense of control towards possession of products which leads to greater utility and satisfaction (Bareham, J. R., 2004). The problem then comes in prioritization: more focus on taste, and variety and less on focus branding and innovation might signal different messages because consumers have a multitude of metrics for deciding the "best" product. Consumers wish to maximise the efficiency and satisfaction of a product, and producers, in a bid to anticipate such behaviours, understand how their needs can be fulfilled, not necessarily knowing which product would facilitate it.

<u>Learning from Crises</u>

The Great Financial Crisis of 2008 has but proved one thing - eroding firewalls by improving efficiency only leads to systemic failure. This crisis arguably is the strongest example to prove the claims made by the paper. To contextualize, there was growing "shadow" banking for securities, without government backing, but with accreditations, ratings and basic fallback mechanisms. Shadow banking is similar to the paradox of choice, because information asymmetry is large, and is confronted with larger demand for efficient instruments or resources. The demand for securities, however, was skyrocketing, and a need for "efficient" mechanisms was felt. This led to new instruments being issued in shadow banking, for example, the sub-prime mortgage instruments. This crisis has shown how the "hunt" for efficient mechanisms at the cost of the security of a system leads to unsustainability.

The COVID-19 pandemic highlighted the crisis of prioritizing efficiency over stability, and why markets ultimately crashed. One critical flaw in mitigating the crisis was the inability to stock up on critical supplies and equipment, increase hospital capacity and secure the reliability of global supply chains. The reason for this is that it would have been perceived as inefficient and profit-eroding. The opportunity cost of being self-reliant and having robust tools for precautionary health costs came with a looming sense of choosing stability over efficiency: if resources can be outsourced by relying on others to improve efficiency, then why waste build security? Similarly, employing more people than necessary under 'normal' circumstances or manufacturing things instead of relying on worldwide supply chains, would have been considered inefficient. As a result, living life with lesser efficiency is more sustainable.

<u>Plane Crash</u>

This incident is not related to choices, but the overall argument of the research: greater efficiency is unsustainable if it does not correspond with greater security. The reason for the crash of flight 737 Max was to prioritize “efficiency over-regulation”. In a bid to benefit from greater demand, efficient mechanisms were put in place which provided greater conveniences to consumers - less air time, and more luggage limits. The Boeing 737 Max Crash is a bitter reality that explains how a drive for efficiency erodes security. In a bid to improve aviation mechanisms by making them more efficient, there has been a denial of security checks, which though seemingly appear redundant, have a major role to play in situations of uncertainties and turbulent times. The hunt for “peak efficiency” in aircraft design ultimately led the plane to a nosedive in Indonesia.

The Psychological Battle

It has been proved in this research paper that Gen-Z faces a lot of problems while deciding on the best product, majorly because they view consumption as an expression of individual identity. They want to explore and try out new products until they can “find” the best product, and hence want to get the situation under their control whereby their intellectual and cognitive abilities rank the preferences of a product. But since a lot of products need to be chosen in everyday life, the notion of “having things under control” is similar to a mirage. Some might argue that having access to choice autonomy leads to more ownership of decisions, and thus better and informed decisions about products. However, this paper shows that such ownership of decisions and the autonomy of choices only increases the regret consumers later face.

What is needed, however, is to settle for “good enough”, and this invites challenges. Firstly, the ego of Gen-Z does not accept the fact that they are “settling” for products, in a period where products are only “evolving”. Secondly, by accepting “good enough” products, they appear to reflect their identities as individuals who do not “lookout for the best ''. Finally, settling for such good enough products appears to make the whole process of buying utterly disincentivizing in the first place.

Conclusion

The aforementioned research proved that restriction helps make better choices and successfully demonstrated age as a relevant factor in the paradox of choice. This paper examined the consumer behaviour of older generations and employed its model to understand the need to focus on the Gen Z. Moreover, the paper was an extension of the existing literature in that it tested its hypothesis across various contexts and exhibits why its underlying assumptions stand valid. It laid the importance of Gen-Z and thedisruptive power and uncertainty it could bring to markets. It was also a perfect group to test if age is a factor in the paradox of choice. It addressed the research gap of how Gen-Z operates when it comes to behavioural decision-making and made an impact on the business side by having anticipated their behaviours when confronted with huge sets. The opportunity cost of not being on the lookout for the “best” product is justified since consumers themselves find it difficult to understand what’s relevant to them yet have a strong desire to associate with it, particularly true for the Gen-Z. The finding of this research significantly challenged the status quo and called for readers to make informed decisions before buying a product while being governed by constraints. Because the population has rippling effects on the economy, informed choices can make considerable sets more rational and make the overall process of choosing less taxing. The mere existence of these factors challenges efficiency,

Bibliography

Arya, A. (2022, January 5). Why gen Z loves trying new products. Pinterest. Retrieved March 25, 2022, from https://business.pinterest.com/en-in/insights/why-gen-z-loves-new-products/

Francis, T., & Hoefel, F. (2018). True Gen': Generation Z and its implications for companies. McKinsey & Company, 12.

Schwartz, B., & Ward, A. (2004). Doing better but feeling worse: The paradox of choice. Positive psychology in practice, 86, 104

Ramalingam, B., & Prabhu, J. (2020). Innovation, development and COVID-19: Challenges, opportunities and ways forward. OECD Tackling Coronavirus (COVID-19): Contributing to a Global Effort, 1-14.

Scazzieri, R. (2006). A Smithian theory of choice. Adam Smith Review, 2, 21-47.

Anderson, S. P., & Renault, R. (1999). Pricing, product diversity, and search costs: A Bertrand-Chamberlin-Diamond model. The RAND Journal of Economics, 719-735.

Levin, J., & Milgrom, P. (2004). Introduction to choice theory. Available from the internet: http://web. Stanford. edu/~ jdlevin/Econ, 20202.

Bae, H., Jo, S. H., & Lee, E. (2020). Why do older consumers avoid innovative products and services?. Journal of services marketing.

Andreoni, James and Miller, John. "Giving According to GARP: An Experimental Test of the Consistency of Preferences for Altruism." Econometrica, 2002

Harbaugh, W. T., Krause, K., & Berry, T. R. (2001). GARP for kids: On the development of rational choice behavior. American Economic Review, 91(5), 1539-1545.

Sippel, Reinhard. "An Experiment on the Pure Theory of Consumer's Behaviour." Economic Journal, September 1997, 107(444), pp. 1431-44.

Kader, G. (2019). Essays in behavioural economics using revealed preference theory and decision theory (Doctoral dissertation, UCL (University College London)).

Horowitz, J. L., & Louviere, J. J. (1995). What is the role of consideration sets in choice modeling?. international Journal of Research in Marketing, 12(1), 39-54.

Eliaz, K., & Spiegler, R. (2011). Consideration sets and competitive marketing. The Review of Economic Studies, 78(1), 235-262.

Bareham, J. R. (2004). Can consumers be predicted or are they unmanageable?. International Journal of Contemporary Hospitality Management.

Wertenbroch, K., Schrift, R. Y., Alba, J. W., Barasch, A., Bhattacharjee, A., Giesler, M., ... & Zwebner, Y. (2020). Autonomy in consumer choice. Marketing letters, 31(4), 429-439.

A CLASSLESS IMAGINATION OF PUBLIC POLICY

Adit Seth

Narsee Monjee Institute of Management Studies

Abstract:

Public Policy in India has a problem of elite capture in spaces where it interacts with both the upper class and the rest of India. Through a review of basic literature around the concept of such an elite capture and a deeper look at the case of Delhi Metro - among others - as a public policy program, this article concludes that the elite capture and classless imagination in Indian policymaking serve as a determinant to policymaking for the public.

Introduction

Throughout discussions in national - largely English but often regional language - television channels to the break-room discussion of politics, there exists an image of public policy in the mind of the upper-class that is in explicit disconnect with the socio-economic realities of the society that surrounds them. Whether the upper-class of India is truly 'aristocratic' is debatable, but it is getting increasingly hard to deny that in spaces where Public Policy interacts with both the upper-class and the rest of India, there is an elite capture (typically at the cost of the objective of public policy; social welfare). The capture directly leads to policy, and the narratives surrounding policymaking are homogenous and unrepresentative. At best this leads to negligence of the needs of the poor, at worst it is directly harmful to their existence. That the aristocracy's ignorance of social realities is limited to sitcom tropes of relatively harmless classism of Maya Sarabhai (Sarabhai Vs Sarabhai) or Rachel's initial maladjustment to the average man's life in New York (F.R.I.E.N.D.S) is ideal, but when this ignorance veers into influence on how our societies are administered, it risks becoming harmful.

History

In 1978, Milton Friedman - the American Nobel Laureate in Economics, considered to be one of the intellectual figureheads of Free Market economics, and a frequent analyst of public policy - noted that the subsidisation of higher education by the US government effectively transferred income from lower-income groups to middle and high-income groups since students at higher education institutes were largely upper-class. His argument, in general, was that the nature of welfare through government intervention would not achieve so for low-income people.1 One may be less pessimistic about the use of public policy for welfare than the bastion of free markets was, but his pessimism is telling of a classless imagination. Shruti Rajagopalan and Alex Tabarrok refer to a similar phenomenon as imitation by the Indian policy elites (typically upper-caste and upper-class) of foreign policymaking. One case, among others, where the aforementioned classless outlook of this elite capture is apparent is the Indian housing regulations - where Mumbai's buildings aren't allowed to grow high in the sky since the vertical expansion of housing is limited (through ceilings on the Floor Space Index) out of misplaced concerns of density, and parking requirements that serve the tiny vehicle-owning elite are mandated. All in the face of an affordable housing crisis that is worsened by these regulations Rajagopalan, S., & Tabarrok, A. (2019).

In their introduction to the Indian Middle Class, Surinder S. Jodhka and Aseem Prakash highlight how “despite its apparent claim to individualisation, members of the contemporary middle classes often act collectively, preserve privileges, and construct boundaries that exclude” diving further into the history and current realities of how the privileged middle to the upper class of India kicks away the ladder that is used to rise up since the times of the Raj Jodhka, S. S., & Prakash, A. (2016).

Counter Arguments

One could easily argue that the central thesis here is flawed on the basis of the median voter theorem; if the median voter does not benefit from the policy then they would simply not vote for the politician advocating such a policy and the politician must shift. But it is important to reiterate here that the argument is of elite capture of policy in areas where a policy is of interest to both the upper and the lower class, these aren’t issues over which most single-issue voters base their voting decisions on, and neither do these policies carry significant enough electoral weight to change large-scale voting decisions – a politician losing an election due to a crackdown on street hawkers is unlikely, given the minimal political power street hawkers as a voting bloc hold.

Examples of this imagination that forgets the class structure of the country among elites run amok; According to Zérah, M. H. (2007), from the case of public spaces where entrepreneurial hawkers are seen as encroachers of the same road-sides by the same elites that park SUVs alongside footpaths, to heritage laws in South Bombay and the demonization of slum economies. However, the case of public transportation and the Delhi Metro is one of the most telling instances of this system.

Case Study: Delhi Metro

Gustavo Petro, a Columbian senator and a leading Presidential Candidate of Colombia for the 2022 elections, famously said, *"A developed country is not a place where the poor have cars. It's where the rich use public transportation."* When discussing the Delhi Metro, one would be pressed to find any serious opposition to the poster-boy of urban development in the popular imagination, especially in context to the just highlighted aim. I do not intend to 'prove' conclusively whether the Delhi Metro was a policy failure or success, but to only highlight how the elite either fail or disregard the class realities of the country.

Since the beginning of the construction of the Delhi Metro, there were concerns about the affordability of the system. In 2017 after a fee-hike of the Metros, Mohan, D. (2017, May 25) said, *"One could demand lower fares if the Delhi metro operated as a service for the public good. But, in truth, the Delhi Metro has never presented itself as a public service, but more as a prestige project."* Critiques of the fare system, ridership metrics, and other evaluations of Delhi Metro are strong in urbanist research and so are other corroborations of the idea that - despite public imagination of the metros as the saviour of Delhi's public transportation - it is a system that often skews towards higher-income riders. According to TIWARI, G. (2013), it is possibly a system that does not reflect the true needs of the average Delhi citizen, Census 2011 shows NCT Delhi modal average trip length is 2-5 km whereas 80% of Delhi Metro rides are more than 10 km with the modal average being 15-20.5 km.

Despite the prevalence of such critiques, the Metro rail of Delhi is seen as a flawless beacon of public transport, ignoring the occasional quip on hygiene. Not only are the concerns of the class not served ignored, policies that benefit the non-elite get treated unfairly. The Bus Rapid Transit System of Delhi (BRTS) which was piloted in 2008 had its share of problems - some do not consider it a serious enough commitment to the idea. Despite so, it reduced travel times by 35% in the dedicated route and 88% of the riders reported being happy with it, yet the system was shut down as "the voices of the minority road users in cars, stuck in traffic while the buses zipped past, reached the media regularly" and the benefits of the system were not vocalised.

Conclusion

The concerns of traffic were perplexing, a fast public transport moving people from personal vehicles is the exact aim the Mayor of Bogotá said a developed country must aim for, but seen through the classless elite imagination, it all makes sense. Tiwari, G. (2016) titled her paper on the Delhi BRTS, ‘Are We Ready for Public Transport?’ I augment that question to, Are we ready for a truly Public Policy?. Dr. Tiwari answered her question, writing, "The Indian experience shows that enhancement of public transport is only accepted if it does not inconvenience the private vehicle owner."

In his 2018 paper, Drèze, J. (2018) wrote, "In general, there is no escape from the fact that research is a scientific act, and policy advice a political act." If the politics surrounding elite policymaking, and the classless imagination adopted by us who benefit from it continue, the answer to my augmented question may be as depressing as is obvious.

Bibliography

Friedman, M., 2022. Milton Friedman- Middle Class Welfare. [video] https://www.youtube.com/watch?v=uwG-5xCTGyI [Accessed 31 January 2022].

Rajagopalan, S., & Tabarrok, A. (2019). Premature Imitation and India's Flailing State. The Independent Review, 24(2), 165–186. http://www.jstor.org/stable/45216631

Jodhka, S. S., & Prakash, A. (2016). The Indian middle class. Oxford University Press.

Zérah, M. H. (2007). Middle class neighbourhood associations as political players in Mumbai. Economic and Political Weekly, 61-68.

Mohan, D. (2017, May 25). Delhi Metro system and the Public Transport Conundrum. Business Standard. Retrieved January 21, 2022, from https://www.business-standard.com/article/economy-policy/delhi-metro-system-and-the-public-transport-conundrum-117052500314_1.html

TIWARI, G. (2013). Metro Rail and the City: Derailing Public Transport. Economic and Political Weekly, 48(48), 65–76. http://www.jstor.org/stable/23528925

Bhatt, A. (2017, January 12). Three things that Amritsar learnt from Delhi's failed bus rapid transit system. Scroll.in. Retrieved January 21, 2022, from https://scroll.in/article/826140/three-things-that-amritsar-learnt-from-delhis-failed-bus-rapid-transit-system

Tiwari, G. (2016). Are We Ready for Public Transport?. Economic and Political Weekly, 51-54.

Drèze, J. (2018). Evidence, policy and politics: A commentary on Deaton and Cartwright. Social Science & Medicine, 210, 45–47. https://doi.org/10.1016/j.socscimed.2018.04.025

*For the sake of clarity, the paper takes a strong view of a solution to this problem that I do not necessarily agree with. However, the central idea is still important.

TURKEY'S SPIRALLING ECONOMY

Ansh Malhotra
Shiv Nadar University

Abstract

Turkey or Türkiye, a vibrant and dynamic economy located in the Middle East in the neighbourhood of both Asia and Europe, has inherited a rich historical influence via the Ottoman Empire. It has been a tourist hotspot that has attracted over 51 million foreign visitors in 2019 alone, leading to a massive 4.6% contribution of the tourism industry to the GDP. Turkey, in 2017, was under the leadership of its 12th President, Recep Tayyip Erdoğan, who served as the Prime Minister of the same from 2003 to 2014. The country then made headlines as one of the fastest-growing economies with an annual GDP growth rate of 7.5%. Today, however, Turkey is on the brink of hyperinflation, reporting a 48.7% inflation rate in February 2021.

Figure-1

It is the highest inflation rate Turkey has recorded in the last twenty years as the escalating inflation and the depreciating currency continue to worsen its economic turmoil and raise concerns. The Covid-19 pandemic has left Turkey vulnerable as its tourism industry faces a substantial loss. After the Turkish Statistical Institute reported a 36.1% inflation rate in December 2021, President Recep Tayyip Erdogan replaced the Statistics Chief Sait Erdal Dincer in less than a year with Erhan Cetinkaya, former Vice-President of Turkey's banking regulatory agency. Abdulhamit Gul, Justice Minister, resigned, pointing toward widespread political instability and a controlling government. Many Economists have criticised Erdogan's policy of lowering interest rates towards the end of 2021 to stabilise the prices. Any introductory Economics textbook will warn against decreasing interest rates to curb inflation as it causes an increase in the demand for credit and increases the supply of money in an economy, which increases inflation. This research article unravels how extreme political instability and Erdogan's economically unsound policies are leading to spiralling inflation and free-falling currency in Turkey.

Introduction

This paper tries to uncover how the Turkish Economy, once with promising economic growth, is facing its worse economic crisis in the last 20 years. We explore how religious teachings intertwined with economic policy decisions are impacting the lives of the average Turkey citizen, drying streams of FDI and draining its forex reserves while the autonomy of the Central Bank hangs in balance.

A Short Analysis on Turkey's 2000-01 Banking Crisis

This isn't the first time Turkey has seen a sharp rise in inflation in the 21st Century. In 2000-2001, it experienced a disastrous banking crisis. Demirbank, a private Turkish bank, was unable to borrow in the interbank market and had to sell its securities in the open market leading to a fall in the value of government securities and a rise in the secondary market interest rates. A banking crisis followed as the interbank rate climbed to 873% and the SDIF soon took over Demirbank. The International Monetary Fund assisted Turkey with a $10.5 billion financial package which helped the Central Bank of the Republic of Turkey prevent the reserves from depleting further. A political crisis ensued soon after the banking crisis leading to a fall in the Stock Exchange by 14%, a rise in the interbank rates to 8000% and a catastrophic fall in the foreign exchange reserves. The Banking Regulation and Supervision Agency (BRSA) initiated several reforms to restructure the collapsing banking sector. Following the EU directives and international practices, banking laws were amended. Notably, the Justice and Development Party (AKP), led by Erdogan, won the elections in 2002 and took concrete measures, including privatisation of state enterprises, simplification of tax laws and a large cut in profit tax.

Post-crisis, the structural reforms slowly eliminated the macroeconomic imbalances and strengthened the banking sector, ensuring a healthy recovery of the Turkish economy. AKP received recognition at home and abroad for the same as the reforms and the tight fiscal policy pursued by the government improved the economic growth rate, reduced the public debt, kept inflation in check and increased foreign capital into Turkey (Ugur, M., 2009). Yet today, under the same government, the Turkish economy is reeling and facing a currency crisis. President Erdogan has pursued policies that have proved to be detrimental to Turkey's Economy in the last few months and have been criticised by economists. Arda Tunca, an economist at Turkish news PolitikYol, said, "As long as the government's trial continues, the sky is the limit for the Turkish lira." In 2017, the value of a US dollar was less than 4 Lira. Today, Turkey's depreciating currency has plunged from 7.43 Turkish Lira per USD in January 2021 to 13.32 per USD, losing its value by nearly 40% in a year. It has been labelled as the "worst-performing currency of all emerging market currencies'' for 2021 (Pitel, L., 2022). It is imperative to point out that the fall in the Turkish Lira relative to the US dollar was pre-pandemic. The supply-chain bottlenecks, political instability with frequent termination and resignation of people holding important positions, controversial policies pursued by Erdogan and the pandemic have intensified the downfall of the Turkish Lira and the economy. M1, a measure of the most liquid fragment of the money supply in circulation in the economy that includes currency, demand deposits and other liquid deposits, including saving deposits, has increased by approximately four times in the last four years on the supply side. On the contrary, the demand for the Turkish Lira has dipped as foreign investors have become reluctant to invest in Turkey. This negative investor sentiment is attributed to the unpredictable value of the Turkish Lira as a consequence of the erratic money supply. An increase in the supply and decrease in the demand for Turkish Lira has negatively affected the value of the Lira.

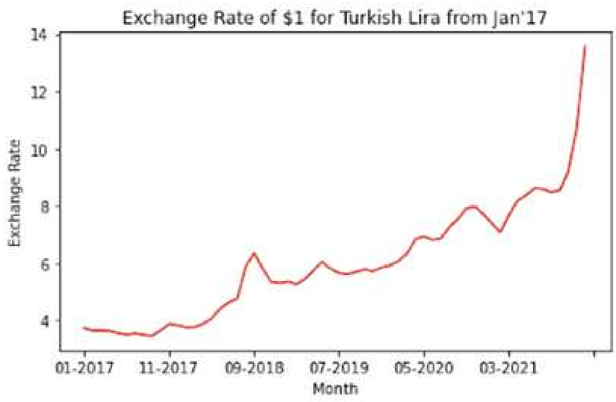


Figure 1-A

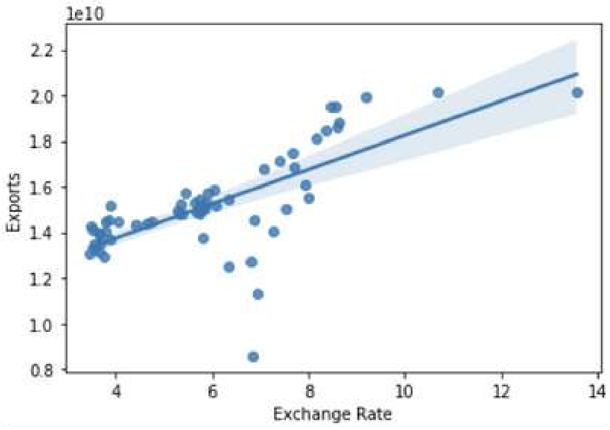


Figure-2

Depreciating Faith in the Turkish Economy

Turkey's depreciating currency has led to a rise in exports as it raises the demand for domestically produced goods abroad. Figure-2 shows the correlation between exports and exchange rates. The correlation coefficient of exports and exchange rates is 0.697986, indicating a strong positive relationship. Ideally, depreciation of currency leads to the inflow of foreign exchange into the domestic economy, which is also vital for imports from the rest of the world. The fall in the value of domestic currency induces foreign direct investment, which promotes GDP growth. However, Turkey has failed on both of these fronts. Its foreign reserves have been falling for the past three months after The Central Bank's intervention. The Central Bank's net international reserves on 24 December were reportedly close to $8.63 billion, the lowest since 2002. "In this context, I just cannot imagine any investor coming into the country in the short term until this changes", said Ozan Ozkural, managing partner at Tanto Capital Partners. Based on the current economic situation, even a long-term investment seems like a big gamble. The instability of the monetary and fiscal policy has motivated the rest of the world to reduce FDI in Turkey and pull out the money that was invested when the Turkish economy showed promising growth. Subsequently, the Central Bank has used the forex reserves to stabilise the exchange rate and prevent it from depreciating further. This is an attempt to equalise demand and supply (the supply of the Turkish Lira has risen in the open market macroeconomy). Turkey, however, has insufficient reserves to pump out enough dollars regularly to stop the free-falling Turkish Lira. The TCMB reported a NIIP (Net Investment International Position) of -220371 million USD dollars in November 2021, implying that Turkey is a debtor nation. However, NIIP was close to -384858 million USD dollars in 2020. The decrease in the NIIP is primarily due to a fall in direct investment and portfolio investment by the rest of the world in Turkey, as shown in figure-5.

Figure-4

Figure-5

Turkey also depends heavily on imports, especially for crude petroleum, vehicle parts, scrap iron, gold, etc., from Germany, Russia, the United States and Italy. Given the current situation in Russia and numerous economic sanctions against it, the pipeline of imports to Turkey is bound to be affected. Its oil and gas reserves are not enough to sustain its economy, which makes it a net importer of fossil fuels and heavily reliant on other countries (Burnand, M., 2022). On the other hand, the manufacturing industry in Turkey is fast growing and has risen to 18.83% of its GDP in the last decade. Its geographic proximity to Asia and Europe combined with its relatively cheap but highly skilled workforce puts it in an advantageous position to leverage its comparative advantage in manufacturing industries like automobiles. Cars were the largest export item for Turkey in 2020 with the value of exports close to $10 billion. However, this industry will experience a setback as the cost of imports rises in the backdrop of the falling currency. Many small businesses are hurt as well due to their inability to afford imported goods that are much more expensive than before. Turkey is known to run a negative trade balance and a current account trade deficit. Its trade deficit rose to $10.44 billion in January 2022, a 240.7% jump from January 2021. This can be attributed to the energy imports which quadrupled and rose to $9 billion in January 2022 year-on-year due to higher consumption and soaring global energy prices. Notably, Turkey's debt to GDP ratio has risen year-on-year since 2015, although it is still impressive and manageable as its lower than 50%. In order to finance its operations, the private sector has increased its borrowings, but repayments on these borrowings are expected to be very expensive as the Turkish Lira continues to depreciate as Turkey majorly faces a currency crisis rather than a debt crisis.

Ideology Governing Economic Policy Decisions

President Erdogan, a firm believer in Islam, has cited religious teachings for the unconventional motivation to lower interest rates to drive economic growth and stabilise inflation. "As a Muslim, I'll continue to do what is required by nas (Islamic teachings)," said Erdogan in televised comments. Riba, or interest, is forbidden in Islam as it goes against the core principles of social justice and ethics governing Islamic Finance (Ayub, M. 2021). Following these principles, Erdogan has exploited his position to pressurise Turkey's Central Bank, which cut its benchmark rate by 500 basis points in four consecutive meetings in 2021. Turkey's repo rate was slashed from 15% to 14% on 16 December 2021 and has not changed since. Slashing the repo rate, a key interest rate is a testimonial of Erdogan's ideology, who called interest rates "the mother of all evil" exhibiting blatant ignorance of economic principles. This raised questions about the independence of the Turkish Central Bank, which has seen four different Governors since 2016, a situation that is alarming for any economy. Notably, many investors sounded alarms about Erdogan controlling the Central Banks in 2018 when the Lira's value of a USD fell to 4. Based on a thirty-year-old academic research that emphasises the problem of time inconsistency, economists condemn the interference of the elected government in the operations of the Central Bank (Kydland & Prescott, 1977). This research proves that less independent policymakers tend to increase the money supply leading to "inflation surprise" in the economy.

The Cost of Rising Inflation

Moving over to inflation, we find weak empirical evidence to support that the Phillips curve establishes a causal relationship between inflation and unemployment in the context of the Turkish economy. In figure-6, we see a flat regression curve with multiple outliers, indicating a weak effect of rising inflation on unemployment. The correlation coefficient between inflation and unemployment is -0.064273, confirming that the correlation is negligible. Figure-7 shows that Turkey has experienced significant fluctuations in unemployment. Unemployment fell sharply below 11% in 2021 before rising again at the end of 2021 and is still on the higher side, as shown in figure-7. Hyperinflation looms over Turkey, as inflation continues to grow daily. Now, imagine you live in Turkey and wake up craving baklava, an iconic dessert of Ottoman cuisine. You head out to your nearest bakery and are in shock as you witness that the price of baklava has risen to 200 Turkish liras and find empty baklavas (without filling) being sold for 20 Turkish liras. Disappointed, you decide to buy some milk for morning cereal but find long queues at your nearest store with the shopkeeper increasing the prices to make people leave. This example captures the current economic turmoil of the average person living in Turkey. "I have never experienced such a deplorable life. I go to sleep, I wake up, and the prices have gone up", said a resident of Istanbul in an interview with Wall Street Journal in November when the inflation rate was 21%. It has more than doubled since and speaks volumes about the worsening economic condition of Turkey's residents who continue to protest against the government (Khalid, T., 2021). Shoe leather costs, menu costs, tax distortions and redistribution of wealth to debtors at the expense of the creditors are common costs of increasing and volatile inflation.

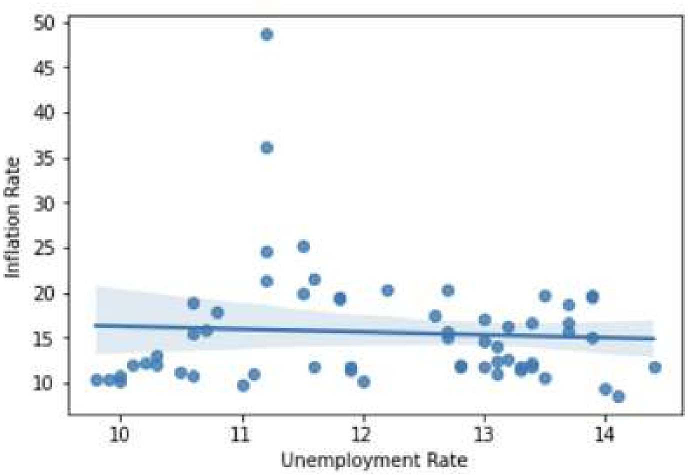


Figure-6

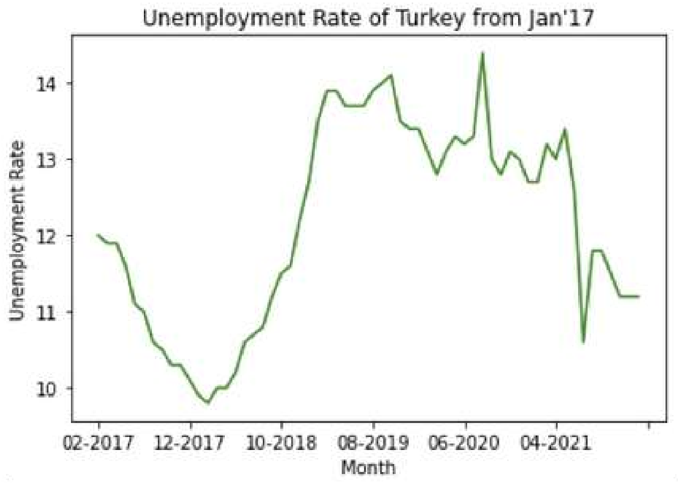


Figure-7

People in Turkey are now looking for jobs that pay in US dollars to hedge against inflation. This will erode the monetary autonomy of the Turkish Lira in the future and will severely impact its control over the currency, economic growth and interest rates. To combat this, The Government of Turkey has introduced a new savings account to hedge against inflation and encourage citizens to deposit Liras. The savings account offers a fixed interest rate, and any value lost during that period owing to inflation would be protected by the government so that the purchasing power remains the same relative to US dollars. However, if Turkish citizens take up this opportunity in masses, it could lead to a huge debt burden on the government pointing to a possibility of a default altogether. Further, to support six million workers who are heavily reliant on the minimum wage, Erdogan announced a 50% hike in the minimum wage and raised it to 4250 Turkish Liras. The government must keep this wage hike in check as it could lead to an increase in unemployment. Businesses might lay off workers as they will experience higher costs due to the mandated minimum wages. Small businesses that are already under pressure from the rising import prices might get pushed out of the market due to the wage hike. The Turkish Government must capitalise on its growing manufacturing industry to absorb the excess labour and reduce unemployment.

Conclusion

Turkey is a promising and upcoming economy that has demonstrated tremendous growth in the past. Poor policy decisions, political instability and Erdogan's unorthodox policies with the belief that "Interest rates make the rich richer, the poor poorer" has negatively impacted economic growth and caused a currency crisis. Islamic beliefs and religious sentiments which have motivated Erdogan's policy decisions must not interfere with underlying economic principles that govern an economy. Turkey needs to maintain its forex reserves as well as boost and exploit its comparative advantage in the tourism and manufacturing industries as the pandemic takes a backseat and operations resume worldwide. It is imperative to treat the Central Bank as an independent body so that it can make sound decisions to control the money supply and preserve the monetary autonomy of the Turkish Lira.

Even though Turkish leaders foresee a positive future for the Turkish economy, the future of Turkey remains uncertain with possibilities of hyperinflation and bank run looming over the economy.

Bibliography

Turkish leader names new statistics chief as inflation rises. (2022, January 29). Yahoo Finance. Retrieved January 29, 2022, from https://ca.finance.yahoo.com/news/turkeys-president-appoints-head-statistics-095415930.html

Ugur, M. (2009). Turkish economic policy under AKP government: an assessment for 2002-2007. MPRA. Retrieved April 4, 2022, from https://mpra.ub.uni-muenchen.de/18235/

Kydland & Prescott, Rules rather than Discretion: The Inconsistency of Optimal Plans, Journal of Political Economy, June 1977

Khalid, T. (2021, November 24). Protests in Istanbul, Ankara calling on Erdogan's govt. to resign after lira crash. Al Arabiya. Retrieved May 19, 2022, from https://english.alarabiya.net/News/world/2021/11/24/Protests-in-Istanbul-Ankara-calling-on-Erdogan-s-govt-to-resign-after-lira-crash

Pitel, L. (2022, January 29). Turkish president Sacks Statistics Chief as inflation tension escalates. Subscribe to read | Financial Times. Retrieved January 31, 2022, from https://www.ft.com/content/8ea4f3ea-cdbf-45ff-b4f1-d77451109453

Erkoyun, E., & Toksabay, E. (2021, December 30). Turkish cenbank's net FX reserves plunge to lowest since 2002. Reuters. Retrieved January 29, 2022, from https://www.reuters.com/world/middle-east/turkish-cenbanks-net-fx-reserves-plunge-lowest-since-2002-2021-12-30/

Ant, O., & Hacaoglu, S. (2021, December 1). Turkish Lira (TRY USD) Price: Central Bank Intervenes to Boost Currency. Bloomberg.com. Retrieved February 28, 2022, from https://www.bloomberg.com/news/articles/2021-12-01/turkey-central-bank-intervenes-in-fx-markets-to-stabilize-lira-kwnbq7gs

Butler, D., & Williams, A. (2022, February 2). Turkey's January trade deficit soars 240%, energy imports jump. Reuters. Retrieved February 28, 2022, from https://www.reuters.com/world/middle-east/turkish-trade-deficit-soars-240-year-on-year-january-ministry-2022-02-02/

Pines, L. (2021, September 22). Turkey's top commodity imports & exports. Commodity.com. Retrieved February 28, 2022, from https://commodity.com/data/turkey/

Turak, N. (2021, December 16). Turkish Central Bank cuts rates, sending lira to record low. CNBC. Retrieved February 28, 2022, from https://www.cnbc.com/2021/12/16/turkish-central-bank-cuts-rates-sending-lira-to-record-low.html

Mankiw, N. G. (2007). Principles of Macroeconomics: Mankiw (6th ed.). Academic Internet Publ.

Mathai, K. (2020, February 20). *Monetary Policy: Stabilizing Prices and Output*. International Monetary Fund. Retrieved February 28, 2022, from https://www.imf.org/external/pubs/ft/fandd/basics/monpol.htm

Smith, E. (2021, November 24). Turkey uncertainty leaves little appeal for investors, Strategist says. CNBC. Retrieved February 28, 2022, from https://www.cnbc.com/2021/11/24/turkey-uncertainty-leaves-little-appeal-for-investors-strategist-says.html

Kozok, F., & Ant, O. (2022, January 14). Turkey’s Finance Chief Says Doomsayers Are Wrong About Inflation. Bloomberg Quint. Retrieved February 28, 2022, from https://www.bloombergquint.com/business/turkey-has-a-message-for-wall-street-doomsayers-about-inflation

Tuysuz, G. (2022, January 3). Turkey's inflation soars to 36%, setting a new record for Erdogan Era. CNN. Retrieved February 28, 2022, from https://edition.cnn.com/2022/01/03/economy/turkey-inflation-soars/index.html

Sabga, P. (2021, December 2). Why is Turkey's lira crashing and will currency crisis worsen? Business and Economy News | Al Jazeera. Retrieved February 28, 2022, from https://www.aljazeera.com/economy/2021/12/1/turkey-lira-crashing-will-currency-crisis-worse

Ant, O., & Hacaoglu, S. (2018, March 30). Turkey beats China, India as higher spending pushes 2017 economic growths. Business Standard. Retrieved April 5, 2022, from https://www.business-standard.com/article/international/turkish-economy-outperforms-china-india-in-2017-on-higher-spending-118033000168_1.html

Dewdney, J. C. Turkey- Location, Geography, People, Economy, Culture, & History. Encyclopedia Britannica. Retrieved April 5, 2022, from https://www.britannica.com/place/Turkey

Ant, O., & Kozok, F. (2021, December 19). Lira Slides After Erdogan Says Islam Demands Lower Rates. Bloomberg.com. Retrieved April 5, 2022, from https://www.bloomberg.com/news/articles/2021-12-19/turkey-s-erdogan-says-islam-demands-lower-rates-and-so-does-he

Cohen, P. (2022, January 3). How did Turkey's economy go so wrong?. The New York Times. Retrieved February 28, 2022, from https://www.nytimes.com/2021/12/14/business/economy/turkey-inflation-economy-lira.html

Turkey national debt is low - so why are they in trouble? Commodity.com. (2020, December 7). Retrieved February 28, 2022, from https://commodity.com/data/turkey/debt-clock/

Brinke, K. (2013, September 4). The Turkish 2000-01 banking crisis - RaboResearch. RaboResearch - Economic Research. Retrieved February 28, 2022, from https://economics.rabobank.com/publications/2013/september/the-turkish-2000-01-banking-crisis/

Duguid, K., & Rovnick, N. (2021, November 16). Strongest dollar in 16 months hits emerging market currencies. Financial Times. Retrieved April 2, 2022, from https://www.ft.com/content/349f74f7-da7a-498a-a5d3-e06f2334011e

Ayub, M. (2021, September 16). What is Riba in Islam? Qardus. Retrieved April 2, 2022, from https://www.qardus.com/news/what-is-riba-in-islam

Kuşçuoğlu, V. (2022, April 2). Wraps without meat, baklava without nuts: Turkey's new street foods reflect deep poverty. Bianet. Retrieved April 4, 2022, from https://bianet.org/english/society/259953-empty-wraps-empty-sandwiches-empty-baklava-turkey-s-new-street-foods-reflect-deep-poverty

Pitel, L. (2021, December 16). Turkey raises minimum wage by 50% to help workers hit by soaring inflation. Financial Times. Retrieved April 4, 2022, from https://www.ft.com/content/e5b9e2f3-637e-455c-8f58-7b777775cb64

Akguner, P. (2021, December 7). Turkey - Advanced Manufacturing. International Trade Administration. Retrieved April 5, 2022, from https://www.trade.gov/country-commercial-guides/turkey-advanced-manufacturing

Burnand, M. [Economics Explained]. (2022, January 15). Why Turkey Is Not Fixing It's Hyperinflation Problem [Video]. Youtube. Retrieved April 3, 2022, from https://www.youtube.com/watch?v=O4stI2TVPIc

Khalid, T. (2021, November 24). Protests in Istanbul, Ankara calling on Erdogan's govt. to resign after lira crash. Al Arabiya. Retrieved May 19, 2022, from https://english.alarabiya.net/News/world/2021/11/24/Protests-in-Istanbul-Ankara-calling-on-Erdogan-s-govt-to-resign-after-lira-crash

Ayub, M. (2021, September 16). What is Riba in Islam? Qardus. Retrieved April 2, 2022, from https://www.qardus.com/news/what-is-riba-in-islam

Data Sources

https://data.worldbank.org/indicator/NY.GDS.TOTL.ZS

https://data.worldbank.org/indicator/ST.INT.RCPT.CD?locations=TR

https://data.worldbank.org/indicator/NY.GDP.MKTP.KD.ZG?locations=TR

https://in.investing.com/economic-calendar/turkish-one-week-repo-rate-409

https://www.tcmb.gov.tr/wps/wcm/connect/EN/TCMB+EN/Main+Menu/Statistics/Balance+of+Payments+and+Related+Statistics/International+Investment+Position/

https://tradingeconomics.com/turkey/

https://www.ktb.gov.tr/EN-249298/border-statistics.html

https://fred.stlouisfed.org/series/XTEXVA01TRM667S

https://fred.stlouisfed.org/series/LRHUTTTTTRM156S

https://tradingeconomics.com/turkey/balance-of-trade

https://tradingeconomics.com/turkey/imports

AN ECONOMIC ANALYSIS OF THE HONG KONG HOUSING CRISIS

Abhiram Lokanathan
Shri Ram College of Commerce, University of Delhi

Abstract:

Despite being a global financial hub and a city with high developmental indices, Hong Kong is also noted for its acute crisis in the housing sector. With property prices hitting sky-high prices each year, housing data from the Hong Kong Special Administrative Region (HKSAR) is simply disappointing. This paper ventures to analyse the housing sector of the city-state, which is marked by apartments as small as 50 sq. ft, called "coffin homes". A study on the reasons for this catastrophic crisis and potential solutions, from the perspective of the economic and public policies of the local government, has been carried out. It is observed that the SAR faces a severe shortage of land. But additionally, it is also seen that restrictive policies on land use and development imposed by the government, and vested interests of real-estate developers are contributing to this crisis. While the city requires targeted, short-term approaches, the policy solutions proposed by the HKSAR government are seen to be effective, only in the long run. It can be concluded that the city requires specific and targeted policies to revamp the housing market mechanism in the short run.

Keywords: Hong Kong Special Administrative Region (HKSAR), subdivided apartment, Coffin homes, government policy

Introduction

Hong Kong, the pearl of the Orient, is famed for its affluence and opulence. Any picture of Hong Kong is sure to feature its cloud-kissing skylines overlooking the sea, with the backdrop of lush green hillocks. The lushness and flamboyance of the city's rich life is known the world over. But many, often, overlook one fact: Hong Kong is also the world's most unequal city. While one in seven people in this city is a millionaire, another one in every five lives below the poverty line.1 Many reasons have boiled down to this social disparity, but most fingers point to one culprit-housing.

The Special Administrative Region of Hong Kong (formally referred to as the HKSAR) is a small area sandwiched between the South China Sea and mainland China. The peninsula of Kowloon, the islands of Hong Kong & Lantau, and a few hundred other islets form the HKSAR. Since its handover by the British to the Chinese on July 1, 1997, the territory has seen exponential growth, becoming a roaring "Asian Tiger Economy." Hong Kong has, since then, been a separate Special Administrative Region of the People's Republic of China with independent fiscal, economic, and governance systems. However, the housing data in a prosperous and developed society like Hong Kong is horrendous. According to Alexander, L. (2020, February 6), the average price of a property in the city is around USD 3,200 per square foot and an apartment costs over USD 1.28 million. This translates to the fact that an average Hong Kong resident must spend 19 years of his entire earnings to become a homeowner, as mentioned by Forrest, R., & Xian, S. (2017), or spend 50.3% of his monthly income on rent, as highlighted by Raisner, R., & Bracken, K. (2022b, March 24). With house prices reaching greater heights each year, Vox Media shows how hundreds of thousands of the city's residents are forced to squeeze themselves into dingy, tiny dwellings, often not larger than 75 square feet. It is to be noted that the size of a parking lot is 120 square feet. Often dubbed as "coffin homes", a space big enough to put a bed, a television, and a shelf is what many families call their homes. These dwellings are often crumbling apartments of about 1000 sq. ft. divided into living spaces for at least 25 individuals.

The following section describes the author's objectives for this paper. The subsequent sections discuss in depth the actual expanse of the housing crisis and also look at the possible reasons for the same. The way forward for the city in this regard will be discussed before the conclusion.

Need and Objective

Hong Kong has always been a point of interest for the international community, owing to its special status and relations within China. The state's special economic status and business environment have caused it to boom as a centre of international trade in the past three decades. And for a city-state smaller than the Delhi National Capital Territory (NCT) with a population of about 7.5 million, a housing crunch is bound to exist. But the case in Hong Kong is uniquely disastrous and hence, the discussion on the state's housing market is interesting. An understanding of the city's geographical barriers and certain historical mistakes in public policy are to be considered here. The paper is an attempt to explore the reasons behind the crisis. By analysing the crisis in Hong Kong's housing sector and its 'coffins', this paper tries to answer the following questions.

1. Is housing in Hong Kong too unaffordable?
2. Why is this crisis salient?
3. What are its causes and what is the way forward?

Methodology

This study has utilised a qualitative approach to analyse the paradigm of housing in the Hong Kong SAR. The observation and investigation for this paper chiefly depend on a qualitative analysis of the city's housing, with a special focus on the 'coffin homes'. Academic papers, media reports, government websites, and published expert observations have been referred to draw evaluations, thereby satisfying the requirements of the research questions. The qualitative approach was deemed adequate owing to the nature of the themes in question. Open data sources were referred to to validate the observations and make the analysis observable.

The Actual Crisis and Problems

According to the Census and Statistical Department, the per capita floor area of accommodation is only 161 square feet and the median floor area of accommodation for domestic households is about 430 sq. ft. The true extent of the crisis is visible in the evolution of coffin homes, and they bring serious repercussions to the city-state. Gonsalves, K. (2017, June 14) throws light on the fact that the apartments are often subdivided segments of buildings from colonial times, with a high propensity for fire and similar hazards.6 But at least 200,000 people are known to be living in the 93,000+ subdivided apartments.

These urban slums, unsurprisingly, pose a score of threats to this magnificent city. The dingy and crowded complexes are an absolute challenge to the city's sanitation department, as they are an easy breeding ground for pests and rats. Eighteen or so families sharing a common toilet and kitchen add even more oil to the fire. But the civil sanitation authorities have been trying to do it efficiently here. Even during the COVID pandemic, these coffin complexes were ticking time-bombs of community super-spread events in Hong Kong.

Life in such squalid spaces leads to massive physiological and psychological complications. After spending the lion's share of their income on rent or housing, the residents are left with nothing to lead a contented life. After living in bins as small as 5X6 feet, old people cannot stretch their legs anymore. Yung, B., & Lee, F. P. (2012) show how families and children live under the constant fear that someone might peep in through the sub-division and that conjugal privacy is a luxury. Moreover, the UN calls this situation "insulting to human dignity", it truly is an outright breach of safety and human rights. Research from Leung, C. K. Y., & Tang, E. C. H. (2014) shows that the only alternative that people have is to apply for government housing (whose demand is 46 times its supply) and then wait for at least six years.

The city also shows a change in the structure of households. For example, the percentage of 25 to 29-year-olds living in the parental home increased from 56% in 1991 to 70% in 2006. And 70% of youngsters in the city were found to be dependent on their parents for shelter.

Reasons behind the Housing Crisis

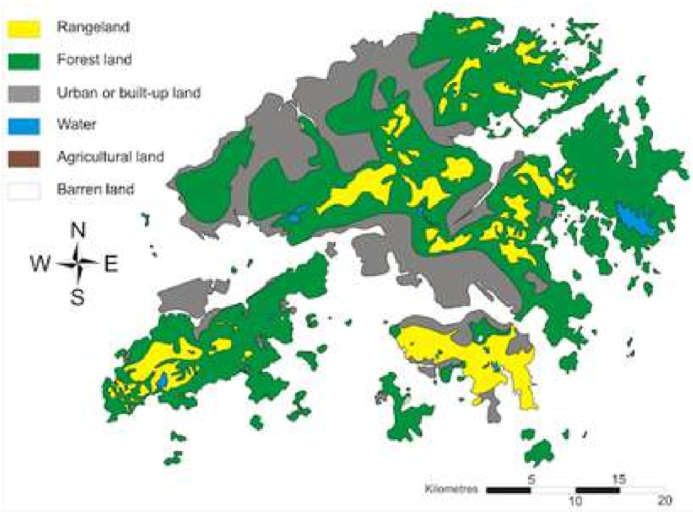
Non-Availability of Land

It is well known that all the urban spaces on this planet, from London to Ludhiana, have flourished and grown by absorbing nearby villages into their urbanscapes. All cities expand their boundaries and increase the total land area to accommodate their rising populations. Unfortunately, the same is not possible in Hong Kong. The South China Sea that borders the SAR on three sides acts as a strict bound on the city's quarters. Even the SAR's narrow land border with Mainland China is strictly demarcated under 'The Special Law' (the SAR's de-facto constitution). Additionally, the islands of Hong Kong are characterized by granite-rock hills and cliffs covered by lush forests. Most of these hilly areas are unsuitable for construction. Hence, all possible developmental activities are limited to the coastline. In short, the supply of land in the city is largely fixed with no scope for further expansion.

The SAR's land development has virtually come to a halt since 2005, with no additional land being used for urban development. Over the past decade, the area of built-up land has remained almost the same, leading to a shortage of usable land. As land is a major input in housing construction, a severe land availability crunch will instantly be translated as the reason for this crisis. Yet, geography contributes only a grain to the housing crisis in Hong Kong. It is evident from the fact that only about five per cent of the SAR's land is used for residential purposes. An estimate suggests that about 30% of the territory's usable lands are left largely unused without any interference.

Anomalous Role of the Government

All the land in Hong Kong is still owned by the State and the usage of each strip of land is strictly demarcated. This, however, is noted to be highly inefficient and obsolete. As noted by Patrik Schumacher, "a housing crisis is a failure of politics, not markets and is the result of restrictive planning laws ... In fact, we need to set the whole real estate market free and allow all urban development decisions to be determined by economic rather than political criteria." Schumacher's observation holds true in the Hong Kong case too, as for instance, 6% of HK's lands are compulsorily demarcated as farmlands (and left barren) despite agriculture contributing a meagre 0.1% to the SAR's GDP (See Fig 1).



Source: HK Magazine, SCMP

Post the handover, when the new non-colonial government assumed power in 1997, one of the prime projects it proposed was to ensure affordable housing for all the residents. The public housing projects of British Hong Kong were observed to be very effective in the 1970s and 1980s. Unfortunately, the new government was greeted by the 1997 Asian Financial Crisis in its infancy. The economy, which was under transition, faced various fiscal crises. This led the government to revamp its housing policies and implement new policies focusing on the re-regulation of the housing sector. Insufficiency of housing initially escalated house prices, rising by about 24.4% annually in 2004. Leung, C. K. Y., Ng, J. C. Y., & Tang, E. C. H. (2020) argue that the monopolist land supplier (i.e. the government) thus introduced more land for development, but this increase was still too moderate when compared with the changes in the city's population.

The Hong Kong government currently guides the land development process by leasing designated regions of the island through a system of auctions. Real-estate companies that win an auction, then develop the land as a residential project. The Hong Kong government, in this case, can be seen as an efficient monopolist with a limited supply. Kwan, S. (2021, March 23) portray that the government has been dynamically trading off the quantity of land and land sale revenue to reach an optimum.

While this might seem to be an economically efficient mechanism to ensure market efficiency, it is valid to note that this comes at the cost of the general public's interest.

Often, large construction companies from mainland China win the land auctions at astronomically high prices, and this ultimately gets reflected in house prices. Hui, E. C. M., Leung, B. Y. P., & Yu, K. H. (2014) show how unsurprisingly, Hong Kong has been ranked as the world's most unaffordable residential market for 11 years in a row, with almost a fifth of the population left outside the housing market.

Free Playing Land Developers

Given that the government is the sole owner and supplier of land, Yip, N. M. (2020, May 1) highlights it is natural to expect that Hong Kong is faced with a severe housing shortage because the government does not supply the required land. But estimated results show that the housing supplied by the developers is independent of the government's land supply. Land prices, as seen, have become so high that it makes developers less motivated to supply new, cheaper houses. While it is logical to assume a direct correspondence between land supply and housing supply, the same hasn't been true in Hong Kong's case (see fig 2(a) & fig 2(b)). Developers also hurried apartments, anticipating higher prices. Housing in districts with high land prices experiences longer holding periods than in districts with low land prices.

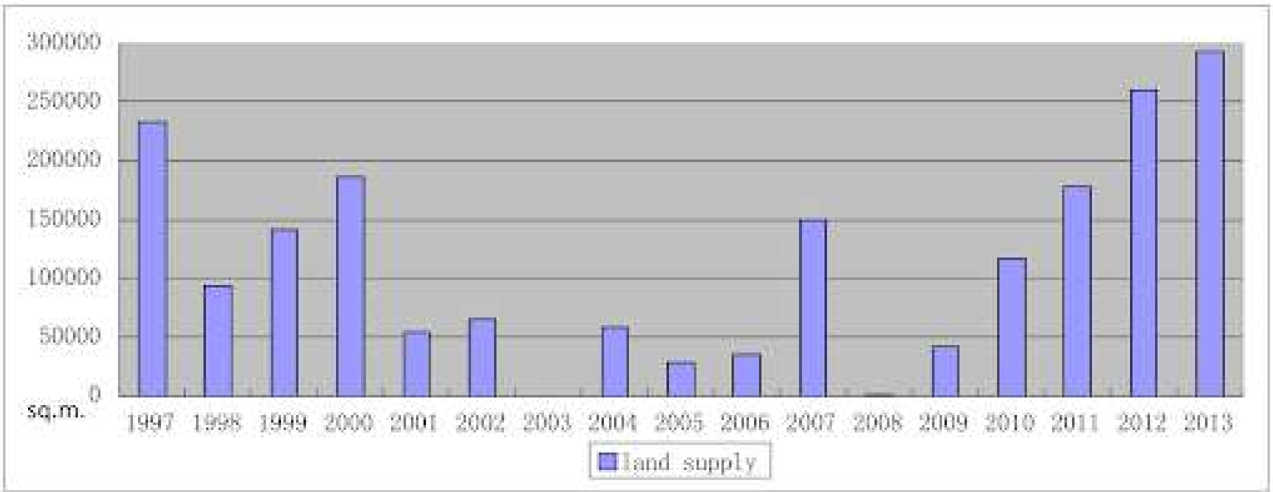


Figure 2(a): Land supply (in square meters) in Hong Kong over time.
Source: Huang et al. (2015)

It is also surprising to note that the development is concentrated only around the already urban Hong Kong Island and Kowloon. Similar to their colonial predecessors, the current government too is turning a blind eye to the rural territories inhabited by indigenous villagers (Fig 1).

The bureaucracy has grown even more lackadaisical over the years, with no incentive to plan a novel market intervention by letting the housing market follow a laisser-faire trajectory.

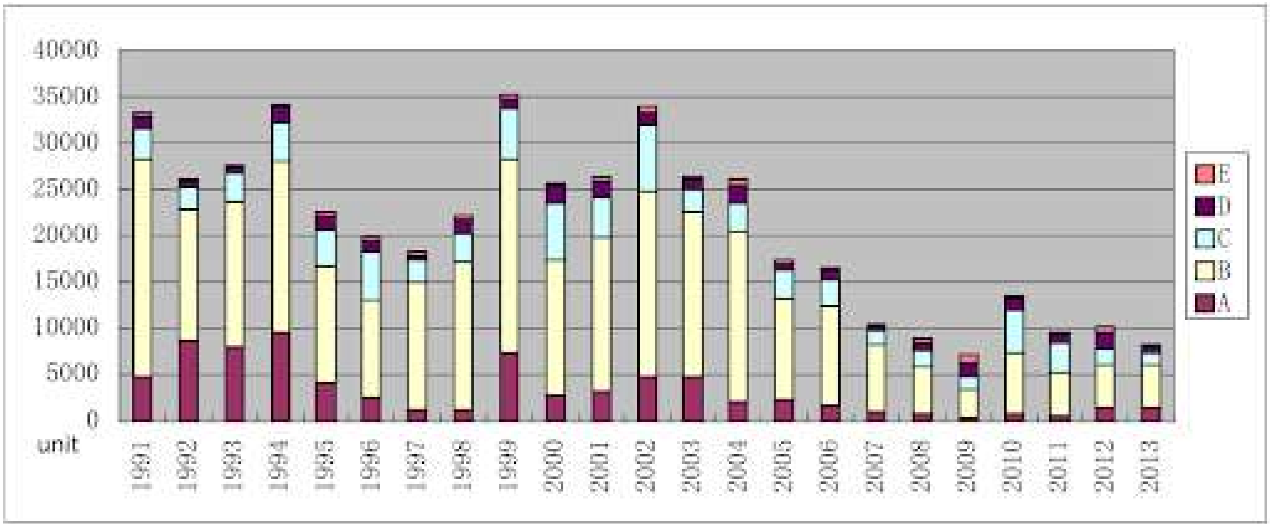


Figure 2(b): Housing supply (in unit of houses) in Hong Kong
Source: Huang et al. (2015)

The close association between big business houses and the Hong Kong Government has always been very visible and this is particularly evident as almost three-quarters of the residential property market is attributed to just three companies. This signals the high market power and influence in the government these companies could assume.

Hong Kong is one of the world’s most business and investor-friendly economies open to any international investor. To ensure a robust business environment, which even benefits the real-estate companies, the SAR has ‘eye-wateringly low’ tax rates. The corporate tax is just 15%and the government levies no indirect taxes such as GST and VAT. As a result, the government is hugely dependent on land revenue, with about 32% of the budgetary revenue in 2017 being proceeds from the auctioning of land.

This is the Gordian knot the Hong Kong Government has pushed itself into. Cumulative effects of a neglected housing sector, now forbid all ambitious remedial actions. If the land is privatised and housing is left to the free market, the government will face serious deficits. On the other hand, continuing this system will be at the cost of public welfare. Even when the government is getting increasingly dependent on land sales and other real estate-related revenue on the income side, its expenditure on housing, including the provision of safe public shelters, has decreased over time. The public is ultimately left to perish in their 'coffins'.

Influence of Growing China

The influence China has had on the affairs of Hong Kong is rising year by year. In the recent past, certain developments in mainland China were noted to be influencing some structural changes in Hong Kong's housing sector. Chinese Outward Foreign Direct Investments in Real Estate reached a record level of 15 billion US dollars in 2016, 60% of which was in Hong Kong15 (Fig 3). Shenzhen, the twin of Hong Kong fabricated by China, has grown exponentially over the years too. In 2018, the average housing price in Hong Kong was approximately USD 17,611 per square metre, while Shenzhen's housing price was USD 8,193 per square metre. The gap between housing prices in Shenzhen and Hong Kong has been narrowing over the years, especially because of the appreciation of the Yuan against the Hong Kong dollar in the past decade. As seen earlier, the profile of real-estate companies from the mainland has improved over the years, and their investments in the city are proving to be a reason for the price rise. The development of Shenzhen as a global hub competing with Hong Kong, changes in China's investment levels, and the increasing number of permanent residents coming from China all provide a different set of influences on the housing sector. The US-China trade war is also speculated to have put a constraint on Hong Kong's property boom, but the extent of the same is not apparent yet.

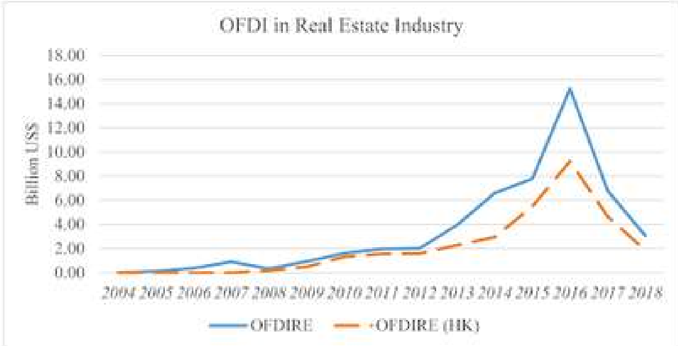


Figure 3: Chinese Outward Foreign Direct Investments in Real Estate (OFDIRE) over the years
Source: Li et al (2020)

The Way Forward

In response to the crisis, the government appointed a Task Force on Land Supply in April 2018 to analyse, ideate and develop strategies for housing projects. It has been observed that the construction of a housing project takes 11–14 years at the least and has predicted that the SAR will face a supply deficit of 1200 h.a in the long run, up to 2046. The task force has additionally identified 12 different regions in the SAR that can be alternative sites for land development and has suggested methods for the same. Li, X., Hui, E. C., & Shen, J. (2020) show that the Hong Kong government has also devised plans to add 460,000 homes by 2027 through an ambitious "Lantau Tomorrow Vision" (LTV) project. LTV aims to reclaim 4,200 acres of land out at sea to house up to 1.1 million people on artificial islands. But sea reclamation can take decades to be completed, along with causing serious ecological consequences. Many critics, like Keegan, M., hence, call the LTV a project to *"pour money into the sea."*

Still, there is a gap in targeted, short-term efforts to ensure rehabilitation of the poor who perish in these coffin homes. Also, blindly believing that increasing land supply will solve the problem is just not right. Our observations prove that even with more land, the new housing supply may not increase because building more housing units and making them more affordable are not consistent with the profit-maximising objective of the real estate developers who get the land at very high prices. Quoting utility theory, as employed by Huang, J., Shen, G. Q., & Zheng, H. W. (2015), tells us that one can show that consumers will not purchase houses if there is no improvement in their living environments, such as an improvement in transportation and infrastructure. Although the government gaining revenue from land sales is consistent with efficient utilisation of land resources, the government cannot depend on the real estate sector to solve the current severe housing shortage by building more houses on the land it supplies. Developers will simply hold the land and wait for further improvements in demand or other factors that can drive up the housing price. The costs companies incur in land acquisition are never covered at socially-desirable property prices, making their investments reach their required internal rate of return. Hence, actual reforms are required in the land use regulations. Land must not be designated for specific uses and must be privatised (or de-regularised, at the least) for effective development.

Conclusion

This paper examined the Hong Kong housing crisis from the perspectives of economics and policy, analyzing its extent, reasons, and solutions. The initial discussion on the crisis is very straight, with a realisation that the lower strata of society are affected the most. Though land availability is a major cause, the lassies-fairer paradigm, where the government remains ignorant of the housing market, is identified as the real reason for this catastrophic crisis. Any 'housing supply deficiency' should apparently be the responsibility of the landowner: namely the Hong Kong government. While there has been much discourse in this regard within the SAR, the city-state actually requires additional short-term policy interventions. Increased availability of lands must compound with market-efficient policies.

Thus, it is reasonable for the Hong Kong government to consider policy options to 'correct' problems in the housing market. The only way forward will be to free up land from laws that restrict usage and to increase the dissemination of public housing to the poor. Labour supply in the construction sector must increase if the official construction targets are to be met. The scheme of auctioning land to real-estate companies is identified to be the single biggest cause of sky-rocketing property prices.

The scheme must be revoked to ensure greater equity in the affordability of housing. There should also be laws to prevent construction companies from hoarding completed houses. All these interrelated issues in the housing market, if left unaddressed, will make the housing sector a badge of shame for the pompous city and can fertilise the seed of anti-government sentiments that already exist in the city.

Bibliography

Alexander, L. (2020, February 6). Understanding Hong Kong's housing crisis. The Borgen Project. https://borgenproject.org/hong-kongs-housing-crisis/

Forrest, R., & Xian, S. (2017). Accommodating discontent: youth, conflict and the housing question in Hong Kong. Housing Studies, 33(1), 1–17. https://doi.org/10.1080/02673037.2017.1342775

Raisner, R., & Bracken, K. (2022b, March 24). Here are five policies to solve the global housing crisis. World Economic Forum. https://www.weforum.org/agenda/2022/03/how-to-solve-the-global-housing-crisis/

VOX media [VOX]. (2018, August 15). Inside Hong Kong's cage homes [Video]. YouTube. https://www.youtube.com/watch?v=hLrFyjGZ9NU

GovHK - one-stop portal of the Hong Kong SAR Government / 香港政府一站通. (2021, June 7). Hong Kong Special Administrative Region Government. https://www.gov.hk/

Gonsalves, K. (2017, June 14). The unbelievable misery of Hong Kong's coffin homes. The Week. https://theweek.com/captured/705151/unbelievable-misery-hong-kongs-coffin-homes

Yung, B., & Lee, F. P. (2012). "Right to Housing" in Hong Kong: Perspectives from the Hong Kong Community. Housing, Theory and Society, 29(4), 401–419. https://doi.org/10.1080/14036096.2012.655382

Leung, C. K. Y., & Tang, E. C. H. (2014). Availability, Affordability and Volatility: The Case of Hong Kong Housing Market. SSRN Electronic Journal. https://doi.org/10.2139/ssrn.2524685

Schumacher, P. (2018, April 25). Only Capitalism Can Solve The Housing Crisis. Adam Smith Institute. https://www.adamsmith.org/capitalismcansolvethehousingcrisis/

Chong, T. T. L., & Li, X. (2019). The development of Hong Kong housing market: past, present and future. Economic and Political Studies, 8(1), 21–40. https://doi.org/10.1080/20954816.2019.1697535

Leung, C. K. Y., Ng, J. C. Y., & Tang, E. C. H. (2020). Why is the Hong Kong Housing Market Unaffordable? Some Stylized Facts and Estimations. Federal Reserve Bank of Dallas, Globalization Institute Working Papers, 2020(380). https://doi.org/10.24149/gwp380

Kwan, S. (2021, March 23). Hong Kong Homes Ranked Least Affordable for 11th Year. Bloomberg. https://www.bloomberg.com/tosv2.html?vid=&uuid=2fe7aaf4-b385-11ec-b5b8-4e616a48496e&url=L25ld3MvYXJ0aWNsZXMvMjAyMS0wMi0yMy9ob25nLWtvbmctaG9tZXMtcmFua2VkLXdvcmxkLXMtbGVhc3QtYWZmb3JkYWJsZS1mb3ItMTF0aC15ZWFy

Hui, E. C. M., Leung, B. Y. P., & Yu, K. H. (2014). The impact of different land-supplying channels on the supply of housing. Land Use Policy, 39, 244–253. https://doi.org/10.1016/j.landusepol.2014.02.011

Yip, N. M. (2020, May 1). Solving Hong Kong's housing affordability problem. East Asia Forum. https://www.eastasiaforum.org/2020/05/01/solving-hong-kongs-housing-affordability-problem/

Li, X., Hui, E. C., & Shen, J. (2020). The consequences of Chinese outward real estate investment: Evidence from Hong Kong land market. Habitat International, 98, 102151. https://doi.org/10.1016/j.habitatint.2020.102151

Keegan, M. (2020, February 3). Are artificial islands the answer to Hong Kong's housing crisis? The Guardian. https://www.theguardian.com/cities/2019/jul/12/are-artificial-islands-the-answer-to-hong-kongs-housing-crisis#:%7E:text=Hong%20Kong%E2%80%99s%20land%20shortage%20ha

Huang, J., Shen, G. Q., & Zheng, H. W. (2015). Is insufficient land supply the root cause of housing shortage? Empirical evidence from Hong Kong. Habitat International, 49, 538–546. https://doi.org/10.1016/j.habitatint.2015.07.006

Heslop, J., & Ormerod, E. (2019). The Politics of Crisis: Deconstructing the Dominant Narratives of the Housing Crisis. Antipode, 52(1), 145–163. https://doi.org/10.1111/anti.12585

INFLATION TARGETING - A MONETARY EXAMINATION

Keshav Khemka

Shri Ram College of Commerce, University of Delhi

Abstract

Inflation targeting has become one of the most common practices of central banks around the world in steering the monetary policy of countries. This practice has evolved over time from a rigid framework to a more flexible and accommodative one, allowing for smoother management of transitions and outlier events. Targeting a certain range of inflation, came under serious discussions and questions of remodeling when helpless central banks had to drive their countries' monetary policy in a state of non-compliance with the targeted ranges. To this end, an assessment of the root cause of the emergence of this practice, the basic tenet behind this, and the various benefits & losses which have accrued to the practitioners could help gain a more informed perspective into the workings and evolution of Inflation targeting.

Introduction

Inflation is one of the several macroeconomic indicators that has been monitored for quite some time, to understand the effect of price changes on the population. The IMF defines inflation to be "the persistent rate of increase of prices of goods & services in an economy over a given period of time" or in other words, how much an item becomes expensive or cheaper in a certain amount of time. The focus should be on the term 'persistent' in the definition, for a transitory increase in prices is not the outcome of the normal functioning of the economy, but results from the infrequent jolts to the economic machinery. From a microeconomic perspective, inflation can also be defined as the decline of purchasing power of a given currency over a period of time. Given the not-so-easily steerable nature and the negative outcomes from excessive inflation, it is necessary to keep the same in check for the welfare of all the economic constituents.

Inflation can be classified into demand-pull or cost-push types. The demand-pull inflation is an outcome of demand outgrowing the supply modalities, while the cost-push is an outcome of hiccups in supply, in the form of high wages or higher input costs.

This inflation can have both positive and negative impacts on the economy. However, too much of anything is never good and some things in moderation are not possible.
The most significant negative impact of inflation has been the fall in the growth of real income, because of the increased prices that come in. This decrease in real income means that relatively people are just marginally wealthier than they were in the past, positing that the real benefit of the growth is just a fraction of what the headline GDP growth rates by governments, depict.

The biggest positive outcome of inflation is that it encourages spending and investment by the population in the present so that they can shield themselves from the decrease in the purchasing power of the same amount of money in years to come. This can prove to be really beneficial for the general economy, for it increases present consumption (more demand), which in turn incentivises the businesses to invest further in increasing the productive capacity to meet the boom in demand. A virtuous cycle of economic growth is put into motion, which increases the average level of economic activities. Some other benefits of inflation include rising absolute incomes, reducing unemployment, lowering the cost of borrowing and many others.

To this end, governments and central banks around the world have been involved in inflation targeting in one form or the other, orchestrating it with the help of their fiscal and monetary powers, respectively.

Origins of Inflation Targeting

Inflation targeting first originated in the 1990s in New Zealand, when the country was going through a period of turbulent prices, where inflation ranged from 10-20%, thanks to the government's ultra-loose monetary policy and the currency-regulation system. There was no existent transparency in the monetary policy framing, which left the businesses and households in lurk about the possible future monetary actions by the government. To curb this unnecessary price instability (high & variable inflation), the government tasked the central bank to come up with a policy framework, which could ensure the growth of the economy in a painless and somewhat certain manner for all the sections of society.

Currency pegging was one of the measures that had been used in the past for anchoring the monetary policy, but with increasing complexity and the intertwined (outcome of globalisation) nature of the economies, this essentially meant the transmission of all the global tailwinds to the domestic economy, thus making the economy too fragile and the system extremely unsustainable. Inflation targeting seemed like a viable option in this atmosphere of uncertainty, where the monetary policy formulation could find the requisite direction for the exact action path of the monetary authority. What made inflation-targeting stand out amongst other anchors was that it had the option of not merely following a certain target, but having a flexible discretionary space for smooth steering in times of economic shocks. The "constrained discretion framework," as this is referred to, allowed the monetary authority to achieve the target in the medium term (2-3 years) while addressing other economic concerns in the short term. This maximised the ease of the monetary authority in giving the economy what it needed at the right time while keeping it under effective check for signs of surfeit.

After years of deliberation, the central bank proposed this transparent inflation targeting as the primary focus of its monetary policy (from the previous objectives of production, trade, full employment and price stability). All the future actions of the central banks (monetary) and the governments were to be directed toward the achievement of inflation targets, as far as possible.

Seeing the success of the newly adopted indicator for monetary policy in reining in inflation, countries like Canada, and the UK soon followed suit and became inflation targeters - using inflation as a guiding factor for their policy preparation. Inflation targeting evolved as an effective policy, on the back of the emulation effect. This effect is a core tenet in the field of psychology, where it is crudely defined as, "the ability to comprehend the goal of a model and engage in similar behaviour to achieve that goal, without necessarily replicating the specific actions of the model." Thus, this emulation effect is based on the premise that if a central bank can set a credible inflation target, all the decisions on production and wage growth will be taken keeping in mind the inflation implications, leading the economy participants to make reinforcing actions to keep themselves within the target range of inflation. All the activities in the economy would be undertaken with an aim of imitating the target, at all levels of the economy, set by the central bank. Thus, the inflation target announcement became the "carrot" measure of the central banks to restrain the economy from overheating (high inflation), with the stick being the ability to change the interest rates from time to time to ease up or tighten liquidity in the economy if the subtle push did not work.

Inflation Targeting - The Ideal Method?

Inflation targeting acts as an indicator for the actions of the monetary authority in the sense that theoretically, it dictates the central banks to adopt measures and direct policies in a direction and of the magnitude calculated on the basis of the difference between the expected inflation percentage and the inflation targets set by the authority. Thus, in theory, it is pretty simple, but adding to it the infinite array of endogenous and exogenous factors complicates its smooth execution.

The main aim of inflation targeting has evolved to make monetary policy more transparent and give the economy a chance to adjust itself at the signal of the central bank before the crossing arrives and the bank has to take "hand-twisting" measures to reorient the economy.

While being a harbinger of certainty for investors, inflation targeting also acts as an accountability partner for the central bank. Under an inflation-targeting regime, the central bank does not fall into a dynamic inconsistency trap, where its preferences change over time.

Often political pressure has been the reason behind the central banks being forced into the time-inconsistency trap, but with the establishment of a separate independent authority for the formulation of monetary policy that discloses its targets and discussions transparently, this has, to some extent been avoided.

The Re-examination

However, in a world of differing opinions, inflation targeting does come under criticism as well. The prime argument levelled against the use of inflation targeting measures has been that it simplifies the trade-off, at least in the short run, to just prices and growth. The central banks are put into a difficult position when the inflation rates in the economy are high or they want inflation to be as low as possible, but the economy requires easing be it in terms of printing money, quantitative easing or the reduction in interest rates. In such a situation, any of these steps would fuel the inflation and take it to higher levels, while offering meaningless support to the real issue. Thus, the trade-off comes to life.

Something similar happened during the pandemic in India, the inflation rate touched 6.3% in May-June 2021. The Reserve bank of India targets a 4% rate with a tolerance range of 2%. So, the inflation was well above the target and it remained so persistently for 2-3 months.

The main reason for this sudden run-up of prices was the supply chain bottlenecks because of the restrictions on movement and the shortage of necessary labour (outcome of migrant labourers crisis) for harvesting, packaging and operating the necessary system. This was exacerbated by the hurtling price of oil as well in those months which caused prices of even the most basic items like food products to rise unabatedly.

To top this off, the environment of uncertainty and danger to health meant that no one would be forthcoming to invest in easing up the supply, nor would the consumers come forward to buy in large or even the pre-pandemic quantities. The pandemic also resulted in a fall in incomes and savings of the population that had been under a complete lockdown for two months straight, and unemployment increased. Businesses found it difficult to stay afloat with just a fraction of revenue or no revenue coming in and things remaining shrouded in mystery for the future. This accentuated the existing inequalities and pronounced that very few people had the requisite purchasing power to get the economy up and running again. The economy cried for help from the monetary policy so that it could receive the necessary incentive to kickstart the economy. The Reserve Bank of India did give heed to this call, in exceptional circumstances. This easing is what caused inflation to remain elevated for several months. But the central bank had chosen its priority, growth rather than focus on inflation.

Thus, the central bank had to disregard its inflation target to prioritise growth and this is where the inflation targeting regime fails to support the economy. With this paradoxical nature where inflation is high, the inflation-targeting framework requires the central bank to increase rates, but the ailing economy demands easing. Central banks are put in a tight spot and often come under a lot of criticism for deviating from the "so-called" target range. The practice of hard lining to these inflation targets has been the monetary authorities' own making, even when they have the freedom to adopt a flexible strategy.

The Way Forward

Inflation targeting works pretty well in the normal circumstances, acting as a trustworthy companion for the central bank, but as the tides turn like in a prolonged liquidity crunch (the 2008 Global financial Crisis, and Eurozone debt crisis), the time of need, this companion can prove to be of little use and the central banks would be left to fend for themselves.

To overcome these problems, there have been various propositions that involve the central banks using a different indicator for their monetary policy actions like the credit growth rate or opting for a multi-indicator approach. Central banks could opt for managing the core inflation rate (which excludes the transitory price changes) or the nominal GDP growth rate (real GDP growth rate plus inflation, thus keeping in mind both the growth and inflation concerns). A bold move could involve going for unconventional Fiscal-Monetary coordination. However, it is up to the central banks and the governments to decide on the basis of available data and their own experiences to decide which suits them the best. They should not ignore the heeding of key indicators like the unemployment level, the output gap, or the growth rate while trying to keep themselves in the targeted inflation lane, otherwise, harm to their car (read: economy) is imminent.

Bibliography

Bhalla, S. S. (2021, March 20). How did inflation targeting really impact India? *The Indian Express*. https://indianexpress.com/article/opinion/columns/inflation-rbi-monetary-policy-indian-economy-7236363/

Brookings. (2015, January 15). *Central banks must target growth, not inflation*. Brookings. https://www.brookings.edu/opinions/central-banks-must-target-growth-not-inflation/

CARE Ratings. (2020, October 6). *What Does the Future of RBI's Inflation Targeting Look Like?* The Wire. https://thewire.in/economy/rbi-monetary-policy-committee-inflation-targeting

International Monetary fund. (n.d.). *Inflation targeting: Holding the line*. https://www.imf.org/external/pubs/ft/fandd/basics/target.htm

National Institute of Public Finance and Policy. (2020, September 7). *An augmented flexible inflation targeting framework for India with an unconventional Fiscal-Monetary coordination strategy*. NIPFP. https://www.nipfp.org.in/blog/2020/09/07/augmented-flexible-inflation-targeting-framework-india-unconventional-fiscal-monetary-coordination-s/

Reserve Bank of India. (2021, February). *Flexible Inflation Targeting in India*. https://rbidocs.rbi.org.in/rdocs/Publications/PDFs/01CH_26022021D49CFEED70CF477EB7F16719E5EC5613.PDF

Sen, S. (2021, July 21). Inflation targeting and the Indian economy. *Hindustan Times*. https://www.hindustantimes.com/ht-insight/economy/inflation-targeting-and-the-indian-economy-101626850971101.html

Sethi & Dash. (2021, March 31). *Inflation targeting has been a success*. Business Line. https://www.thehindubusinessline.com/opinion/inflation-targeting-has-been-a-success/article34208320.ece

World Bank Group. (2021, January). *Inflation targeting in India- An Interim assessment*. World Bank. https://openknowledge.worldbank.org/bitstream/handle/10986/34593/Inflation-Targeting-in-India-An-Interim-Assessment.pdf?sequence=5&isAllowed=y

SYSTEMIC INEQUALITIES AND MENTAL HEALTH

Udyan Negi
Shri Ram College of Commerce, University of Delhi

Abstract

This research paper aims to understand why lower-caste individuals in India continue to perform poorly across all major socioeconomic parameters.In doing so, it critically looks at the policy of affirmative action in the form of reservations that are offered to lower caste individuals to ensure socio-economic mobility.

Many research papers have explored legislation loopholes, improper implementation and even a broader look at social discrimination as factors that prevent socio-economic mobility for minority groups in India but this research paper would specifically attempt to answer how social discrimination and its subsequent relation with Dalit or so-called lower caste individuals' mental health prevents them to make meaningful socioeconomic leaps in their life. It intends to lucidly discuss how feelings of fear, threat and stress do not necessarily give rise to increased economic productivity but rather exacerbate socio-economic downfall for certain social groups (in this case the so-called lower castes in India) who may already have much higher stressors and threats in their immediate environment. It would simultaneously look at how the sort of mental struggles that are born as a result of social discrimination may overwhelm the mind and lead to poor economic decisions along with waning creativity.

In its conclusion, it would aim to establish that reservations by themselves are unable to ensure socioeconomic mobility for lower-caste individuals and can even be seen as a lazy move on part of the administration to uplift the oppressed classes. An approach that would supplement affirmative action based policies with mental health-related policies is therefore strongly encouraged.

Hypothesis

India, despite its aims of becoming a classist society has largely failed to remove caste as an assigner of wealth and privilege among the larger population. The voids that have formed as a result of caste-based dimensions in achieving socioeconomic mobility are complex and varied. The government, being well aware of the same, has exclusively cited that performance on educational and employment-related indicators is the best way to resolve the issue of poor socioeconomic mobility for the lower castes.

The Indian constitution provides for affirmative action in the form of reservations for scheduled castes in government jobs and universities. It does so to remedy the sort of problems that arise as a result of being born into a lower caste background which may prevent the oppressed classes from attaining a higher status in life. Despite the system of reservations being in place for more than half a century, scheduled castes continue to perform poorly on maximum socioeconomic indicators when compared to other social groups in India. This seems to point in a direction of suspicion at the success of reservations in ensuring mobility in India's context. By no means does this paper suggest that a policy such as reservation is an objective failure, but simply reiterates that the policy alone may not be able to combat the problems that arise from the complex phenomenon that is 'caste'.

Through a comprehensive review of literature across the spheres of economic productivity and behavioural economics, the article aims to explore and establish performance on mental health based indicators for scheduled caste individuals as an equally important indicator vis-à-vis socioeconomic mobility.

Literature Review

Casteism is still very persistent in its control over life outcomes for people in India. In order to better answer the research question, it is therefore very important that we refer to all the previous research in this area to have a more informed answer for the same.

Despite many efforts by the government and by civic institutions, the caste system continues to have a firm hold on Indian society. Kaivan Munshi and Mark R. Rosenzweig in their research paper titled *Why is Mobility in India so Low? Social Insurance, Inequality, and Growth, offer* an economic explanation for this persistence and argue that economic development, rather than social engineering may be the most effective way to dismantle this system. Their conclusion follows that

"In rural India, mutual insurance arrangements have historically formed and continue to be formed around the jati. Households that receive a negative income shock receive support in cash and kind from relatives and other members of the jati. In the future, they reciprocate by providing the same support to other members of their community who receive negative income shocks. My research with Mark Rosenzweig indicates that the caste is the most important source of support, more important than banks or moneylenders, for major events such as illness and marriage, as well as for consumption smoothing in rural India"

Though the research done by Mushi looks at the persistence of caste through a lens of credit availability sources, it also talks and reiterates that for caste based immobility to seize, an approach beyond the kind of social engineering conducted by Indian policy makers is urgently needed.

Job discrimination, especially in the private sector continues to be cited as an important reason for lack of mobility for lower caste individuals in India *(Sukhadeo Thorat & Paul Attewell, 2007).* Similarly qualified individuals across different castes are treated differently due to favouritism and social exclusion.

It is also argued by some that caste has been considerably weakened in today's classist society but at the same time has also been revived and operates in novel ways. Such a body of research moves away from viewing caste as just a historical wrong that has led to negative consequences, but rather a continuing dynamic force that is actively operational and causing new effects in society as we live. The treatment of caste as an archaic ritual system is highlighted as wrong *(David Mosse, 2018).* It also reiterates that *"Caste identities and networks persist because of their advantages."* Most importantly the paper discusses that new policy approaches that are cognisant of the caste realities of today are urgently needed to address the issues of low socioeconomic development of the lower castes.

As this research paper aims to explore immobility in lower caste individuals through the lens of mental health indicators, an area which is not very heavily researched, it would make use of pre-existing research on the physical health outcomes of lower caste individuals as a precursor.

Too Much Stress?

Intuitive economic wisdom holds that people being insecure creatures are pushed to ensure their economic security by working as hard as

This fact is in tandem with the idea of eustress prevalent within psychology. Eustress or positive stress is what enables us to function on an everyday basis and carry out daily chores. For example, the simple positive pressure to live propels us to feed ourselves so we don't die. In an economic sense it could imply that the fear of becoming unemployed or going broke propels us to work hard at our job and make wise economic decisions for ourselves. In a sense, one may say that eustress helps ensure economic productivity. It's the motivating force that propels us to study for unbearably hard tests or work in exceedingly boring job environments.

Sometimes stressors and fears can increase dramatically. One such case is the fear induced by recessions that is often marked by heightened job insecurity and increasing economic uncertainty. Almost all recessions in history except the recent 2007-09 crisis have witnessed large falls in productivity as people are faced by a tsunami of recession related fears and worries. (*Edouard Schaal, 2012)*

Fear and Productivity

Research has revealed that as an instrument for motivating workers, fear and intimidation come with a lot of risk and have been largely discredited for a long time. A tyrannical management style can lead to low self-esteem and performance as it eats away at team cohesiveness, increases stress and helplessness, and creates a feeling of work alienation *(Ashforth,1994).*
Professor Sigal Barsade of Wharton University argues that

"All emotions have some type of function value. So fear does have a value. The value, though, usually is to signal that something has gone wrong, something needs to be fixed and it gives energy. And though those are positive outcomes, the problem with fear is it can also cause people to become rigid, less creative, unhappy, and it tends to be better in [small] doses."

This insight is also reflected in the famous research paper titled *'Petty Tyranny in Organizations'*, which talks about how an environment that boosts fears eventually leads to poor performance of workers in that organisation.

Based on this we can easily establish that stressors beyond a certain level can begin to negatively affect economic productivity for individuals and the economy as a whole.

Fear and Caste Mobility

In a research paper titled "Mental health disparities in India" by Diane Coffey,Ashish Gupta and Meghna Mungkiar, it is explicitly discovered that scheduled castes report the highest levels of depression and anxiety among all social groups in India. The implication that the lower castes constantly feel unsafe and threatened in their immediate environment is automatically inferred through the same research that explains how due to the nature of pre existing discrimination clubbed with other sociocultural factors, the mental health of lower caste individuals ends up taking a significant toll.

As the scheduled castes are constantly experiencing much bigger and increased stressors in life due to their precarious position within society, they are unable to ensure heightened economic productivity for themselves. To draw an analogy with the previous example of recessions, we can say that unlike a case of increasing stressors in a temporary situation of a financial crisis that leads to periods of falling economic productivity, scheduled castes experience stressors comparable to those experienced by the general population during a recession (or just simply a high fear inducing environment) on a much more frequent and permanent level. We should also bear in mind that mental health being as stigmatised in India as it is, indicates that the actual numbers of scheduled caste individuals experiencing and reporting mental health issues is actually much bigger (*Shivani Mathur Gaiha, Tatiana Taylor Salisbury, Mirja Koschorke, Usha Raman & Mark Petticrew,2020)*

"Creativity is essential in business because it's a differentiator," says Tucker Marion, an associate professor at Northeastern University. It is well established that entrepreneurship and business success is closely tied with the idea of creative destruction which would further suggest that the quality to come up with novel inventions and business approaches among other things are fundamental requisites to break into the world of business. As it turns out, scheduled castes continue to be the most underrepresented group in terms of ownership of private enterprise (*Iyer, Khanna, and Varshney,2013).* This fact corresponds perfectly with the psychological phenomenon of waning creativity when exposed to high levels of stress and anxiety, a set of conditions that this social group experiences on a much more haunting level (*Coffey, Gupta and Mungkiar, 2020)*

Conclusion and Policy Suggestions

This would suggest that simply focusing on education and employment turnovers is an important yet narrow focus on part of the government; along with provisions such as reservations the government should also take on campaigns that focus on community mental health especially for lower caste groups supplemented with campaigns that operate on social spheres and foster inclusivity in contemporary Indian culture. The very dismal turnover of scheduled caste expressions in the visual arts of cinema and filmmaking along with an equally poor show in terms of space in the literary arts such as novels and stories lucidly highlight that despite somehow finding a spot in the top government jobs and universities of India, scheduled castes continue to feel isolated and lost in this new India that promises a society which is economically organised but in reality diverges onto a very sinister route of its own.

If the government continues to ignore mental health dimensions as a viable reason behind poor mobility in the case of lower caste individuals, then the current problem would continue to persist. Inspite of the enforcement of crucial policies such as affirmative action or other systems of positive discrimination, the policies will continue to falter in terms of efficiency if they operate in isolation. A more holistic solution that accounts for multiple dimensions is needed.

Bibliography

David Mosse (2018) Caste and development: Contemporary perspectives on a structure of discrimination and advantage

Kaivan Munshi (2012) The persistence of caste in India: An economic explanation

Edouard Schaal (2012) Uncertainty, Productivity and Unemployment in the Great Recession

Tony Schwartz (2014) Why Fear Kills Productivity

Blake Ashforth (1994) Petty Tyranny in Organizations

Shivani Mathur Gaiha, Tatiana Taylor Salisbury, Mirja Koschorke, Usha Raman & Mark Petticrew (2020) Stigma associated with mental health problems among young people in India: a systematic review of magnitude, manifestations and recommendations

Lauren Landry (2017) The Importance of Creativity in Business

Iyer, Khanna, and Varshney,2013 Caste and entrepreneurship in India

Coffey, Gupta and Mungkiar, (2020)Mental health disparities in India

CC Milton (2018) Fear Shrinks Your Brain and Makes You Less Creative

CAPITALISM: PURPOSE AND PROFITS

Milind Gupta, Suhani Srivastava and Ashwin S Venkataraman
Kirori Mal College, Delhi University

Abstract

Capitalism and profits are often believed to be synonymous with each other. However, does this synonymy suffice the current world's needs? Capitalism has been a dynamic economic system that was established with a substructure goal of making everyone better off. However, are we better off than before? Does being better off only mean full pockets? These are some of the questions that we will try to analyze in our paper. Through our study, we aim to bring forth the need to revisualize capitalism in the environmental and socio-economic spheres of the society corresponding to the multitude of changes, both positive and negative, that the world has gone through, over the years.

The paper also focuses on the detrimental impact of capitalism on the social fabric of society and the flora that encompasses it. The capitalists to optimize their production process have been using certain techniques that are coercive to the environment. However, sabotaging the environment can have serious economic implications eventually.

Through our study, we have attempted to build a framework highlighting the balance between environment, society, and profit. The paper argues that even though capitalism has lifted several people out of poverty, in today's scenario, keeping the entire focus on profits will only lead to short term gains and people might eventually become worse off overall. In totality, it is not how big you grow but it is how you grow big!

The research conducted brings forth a point of view that sustaining the health of political and ethical institutions is an idealistic route to ensure the wellbeing of the society, both in the short and long run. No matter how unachievable it may seem to have inclusive societies, a conscious approach on the part of every economic entity can make us reimagine capitalism more broadly than ever.

Hypothesis

Capitalism has been a dynamic and a largely contested economic system. It is a system that revolves around the goal of making everyone better off. However, it’s the dimensions of better off that we are required to reimagine considering the present world. Through our paper we aim to highlight both sides of capitalism. Capitalism is often regarded as a force to maximize profits, What we shall be analyzing is that it is not the sole driving force. Non-economic aspects like natural and human capital are what highly influence the profit generation in businesses both in short and medium run.

We need to revisualize our actions that are detrimental to the wealth of the country, which includes income, skills, environment and every other factor that has a direct or an indirect impact on the production process and growth of the economy.

The paper highlights how capitalists in order to maximize their earnings have not been keeping up with the advancements in technology, especially with respect to methods of production. This not only tarnishes the global image, which can affect one’s trade, of a country but also have a serious impact on pollution levels, expenditure on various sectors and human capital affecting businesses in the long run.

Capitalism not only affects the environment, but also has an effect on the social structure of economies. In this paper, we highlight how democracies evolve as capitalism fosters economic growth and how concepts like freedom of speech and expression arise in countries. The peculiar example of Singapore is studied, where the People's Action Party has successfully kept away opposition to capitalistic growth through the principles of 'Asian Values' in the literature review section. The research proceeds with how family structures have been influenced by industrialisation and economic growth and the possible benefits of having a joint family structure. The effect of capitalism on education, an integral part of the society, is studied for progress and modifications which would improve the long term impacts of the drive for profits on society.

In light of the dynamic society today, the principles of 'Conscious Capitalism' are explained and proposed as a way to alter the way capitalism is evolving. Firms today rarely focus on non-economic objectives. Reinforcement of spiritual ideas in the society in order to bring about consciousness in businesspeople is the method proposed in the paper.

We conclude with the aspects of capitalism which may need to be modified and policy prescriptions for the same.

Literature Review

Milton Friedman's Theory

Milton Friedman and his colleagues were supporters of free markets. He believed that unregulated markets were efficient enough to drive growth in an economy. According to him, competitiveness in the market would act as a push for the entrepreneurs to innovate and prices would also be controlled. Also, without any government intervention, when everyone would have access to economic opportunities without any discrimination being done on any grounds, there would be development of economic and political power among the people. Lastly, they believed that it is highly improbable to have a government to keep a check on markets and decide who will produce, what is to be produced and how it has to be produced.

Conclusively, what they meant was that the principle of free markets is the best and the most efficient method to develop an economy, having no alternative. Adapting any other method would only make the society poorer with a loss of freedom.

Even though Friedman's theory holds true to a certain extent, which even history testifies, there are certain dimensions that have to be set too. It is very much true that competitive forces in the market force producers to innovate and adapt the best possible method of production in order to minimize their cost. It is this profit oriented approach that leads to 'Induced Innovation'. Induced Innovation implies that whenever there is a change in the factor prices, producers innovate to find an alternative that would be cheaper to use. This enhances the quality of human capital which ultimately leads to an increase in productivity. However, the theory has not imposed any restrictions on the nature of goods. For example, if there is a hike in the demand for cigarettes then under the capitalist system the producers will produce despite the fact that smoking is injurious to health. his might seem to be a profitable deal in the short run but in the long run it can have serious economic implications. Smoking leads to health hazards and shall add to the pollution levels, surging demand of cigarettes could become a massive contributor in taking the pollution levels to alarming levels.

This would increase the health expenditure of the people thereby decreasing their overall level of satisfaction. As we all know, passive smoking is worse than active smoking, no one is spared. Had there been a government intervention, they could have capped the production of cigarettes or ban them completely. What Friedman has suggested only focuses on the pros of capitalism but markets left unregulated and to be controlled only by the competitive forces of demand and supply can easily be twirled and twisted by the people in power for their benefit. The way that capitalism as a system needs to be reimagined is that the focus should not lie only around keeping the markets free but also fair.

Washington Consensus

It was in the 1970s and 1980s that economic development was based on Washington consensus. It revolved around free markets and free trade being the ultimate drivers of growth in an economy. Concurring with the consensus several international financial institutions like International Monetary Fund (IMF) convinced several developing economies to undergo the process of Liberalization, Privatization and Globalization. They believed that free trade will lead to specialization and free flow of foreign currency in an economy, thereby strengthening it. How much it might be true, the process becomes efficient when backed by good institutions. Complementing Friedman's theory, the consensus also didn't consider the need to address the health of local, social or political institutions.

Walking along the path of this thought, back in time countries in Asia, mainly China, Eastern Europe and South America experienced an increase in their economic and political freedom. However, in certain countries like the Soviet Union, free markets led to 'Crony Capitalism' and it is this when the strategy changed and the need to reimagine capitalism arose and has been existing ever since.

Capitalism and the Emergence of Self-Expression

Any human born in the mid 20th century must have seen the rise of capitalism and simultaneous changes in culture and their interpretation around them. It has been discovered that economic development by itself does not lead to a shift from an authoritarian culture to a democratic one. According to Social Psychologist Jonathan Haidt, as the economy of a nation grows, people of the nation tend to become more secure about survival. After they reach the stage when they no longer feel insecure about survival, the phase of transitioning to a democracy takes place. This is brought about by a change in behaviour of people who can no longer fit into traditional and religious routines which require time and efforts which are spent towards earning money working in factories and workplaces. After a few generations, the major portion of a country's workforce shifts to the service sector. People enjoy a higher standard of living along with safer, healthier lives. Focus now shifts to concepts such as freedom of expression, human rights, and other issues which did not harbour attention until then because of more pressing existential issues characteristic of a low-income country.

"Modernization also makes people economically more secure, and self-expression values become increasingly widespread when a large share of the population grows up taking survival for granted. The desire for freedom and autonomy are universal aspirations. They may be subordinated to the need for subsistence and order when survival is precarious, but they take increasingly high priority as survival becomes more secure. The basic motivation for democracy - the human desire for free choice - starts to play an increasingly important role. People begin to place a growing emphasis on free choice in politics and begin to demand civil and political liberties and democratic institutions."
(Inglehart, R., & Welzel, C., 2007)

The above section would then imply that given a few generations of economic growth; a nation is expected to be a democratic one with a liberal outlook towards the world. However, Singapore, despite being a nation with steady economic growth since the 1970s, leading to a rise the country's GDP (per capita) from a paltry 925.8 in 1970 to 59,797 as per 2020 estimates (Source: World Bank national accounts data, and OECD National Accounts data files) is not a democracy. A new perspective is presented in which reinforcement of "Asian Values" (Soek-Fang Sim, 2001) helps prevent uprisings for a democracy. Confucian principles encouraging competition and ensuring wellbeing of 'immediate' close ones were reinforced by the government. Socialist concepts like welfarism were made to be thought of as 'unthinkable' and undesirable to the citizens of the country. Although an exception, The Singapore example of how certain values of the society if retained and reinforced, can act as a catalyst for economic growth through capitalism.

"Welfarism would never become relevant insofar as it is deemed as an inferior system that generates crises they witnessed in media coverage of Thatcherite Britain. These images of welfarism are accompanied by very deep-seated misunderstandings about how welfarism works. Each time I return to Singapore, the extent to which citizens, even those politically aware social science graduates, could so easily dismiss welfarism never fail to surprise me, no matter how I try to prepare myself for it. A typical response from these graduates is: how can we afford health and education if we pay 50% tax? In the coffee shops, welfarism is not even thinkable. The coffee shop slogan, it's better to die than to go to the hospital (hospitalisation bills can kill), protests the costs of health care without demanding state assistance. The un-think-ability of welfarism is a testimony of the PAPs ideological success. Despite the PAP portraying itself as a loving father/guardian, the thought that the PAP should provide for its obedient and beloved children remains unthinkable."

Research Methodology

To write this paper a comparative study has been made studying literature from various sources. Several perspectives of different scholars that are related to the domain of our paper have been studied. The knowledge extracted has formed the basis of our arguments for negligence of capitalism towards the environmental and social fabric of our society, throughout the paper. Literature like, a research paper called "Reimagining Capitalism" by Rebecca Henderson, research papers from reputed journals, articles from International Socialist Review and World Economic Forum etc. have been used to form an understanding and direction of "Reimagining Capitalism - Purpose and Profits." The paper comprises analysis of existing literature and our school of thought in addition to it. Data on several aspects like global warming and family structures have been taken from sources like the United Nations website and US Census Bureau, respectively such data has been used to enhance the comprehension of our paper and strengthen our argument. Research papers written on topics such as cultural impact of capitalism, educational structures, and conscious capitalism have been read through based on which points are specified.

Observations and Interpretations

Generation of Profits: Not Profitable for the Environment

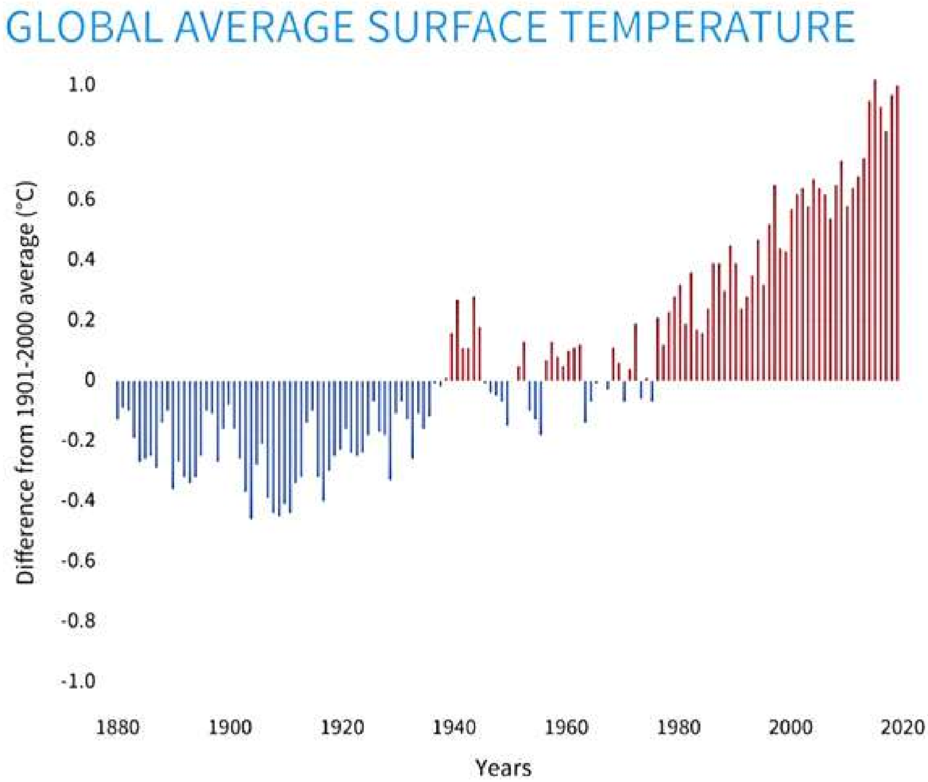
Under a capitalistic system everyone is believed to reach a higher level of satisfaction. Consumers are considered as the King of the economy as it is their preferences that decide what is supposed to be produced in the economy and in what quantity. Similarly, producers are the price setters with laissez faire attributes of the system that makes their lives easier.

One of the serious drawbacks associated with this scenario is that it eventually leads to extractive societies. A society where political and economic power is concentrated in few hands. Producers while producing their goods do not consider how much section of the society is going to be served with the type of goods they are producing. In case the demand for luxuries increases, the producers will increase its production as it would make them earn higher profits; not realising that it is only the upper middle class and the classes above that demand luxuries, who form a small proportion of the consumer force. This creates nothing but inequalities. There is an unequal distribution of wealth. Those in a good economic standing might try to influence the conditions in the market. For instance, if there is a comparative decrease in the imports of oil to a previous year, its prices are bound to rise. In retaliation, the demand for oil based products will decrease. Here people in power might enter into under the table deals with the sellers, giving them higher prices than the already shot up price. This would further decrease the quantity available for the rest of the consumers. People with economic power tend to possess significant political power too. It is here that the health of the institutions matter. If the goal of capitalism is reimagined in the direction of keeping markets free and fair, both by adequate regulations, income inequalities could be controlled. Else the profits might be increasing significantly but that would be at the expense of overall satisfaction of the masses.

Over the years the population has been increasing at a rapid rate. With the growing demand there has been industrialization and urbanisation which adds significantly to the pollution levels. With the rising global warming and limited resources it has become a necessity to shift to such methods of production that are eco-friendly and involve minimum wastage of resources.

Despite the advancement in science and technology coal and other fossil fuels are still widely used as a factor of production instead of its renewable alternatives. Producers to maximize profits try to minimize cost in every possible manner. It is a well known fact that use of renewable sources of energy is an expensive proposition. On the contrary, fossil fuels are available at a cheaper rate and are also subsidised in certain cases. Even though fossil fuels are like poison to the environment, they are being used to cut costs. This excessive release of greenhouse gases into the atmosphere deteriorates the health of not just our planet Earth but also the people. Though this cost saving might ameliorate the profit condition of the producers, it has a detrimental impact on humankind. Over the years, the number of people suffering from respiratory diseases like bronchitis and asthma has been increasing continuously. This deterioration in the health of the people has a direct effect on the productivity of the people and thereby on the production process in the country. More sick the people are, their capability to work for longer hours decreases. Any ailment doesn't have effect only on the target organ. However, there is always an indirect effect on the mental health of the person. The ability of a person to concentrate for longer hours and comprehend complexities involved in a task decreases. Also, poor health leads to absenteeism which does nothing but slows down the production process. In addition, even the government has to spend more on enhancing the health infrastructure of the economy considering the rising number of people with ailments. More funds have to be allocated to perform the necessary research and update in finding the cure. This reduces the investment being done in education and other sectors, which in turn affects the quality of human capital and productivity from there.

What needs to be comprehended is that generating profits at the cost of the environment might seem to be a trivial deal in the short run



However, when we look at the long run it is having a negative impact on our climate, health and other social-being. Usage of fossil fuels might keep the cost on the lower end but the social cost is increasing. People have to spend more now on their healthcare. Similarly, a decrease in the government spending on education or any other social sector will make their services costlier. Investment in renewable sources is a one time thing which gives large returns as it saves a lot of our energy consumption, which over the years has also increased. Ultimately it's our vision that has to be revisited.

Destabilization of the environment has not just had economic implications. The rise in global warming because of an increase in pollution over the years has led to an increase in natural calamities. "Earth's temperature has risen by 0.14° F (0.08° C) per decade since 1880, and the rate of warming over the past 40 years is more than twice that: 0.32° F (0.18° C) per decade since 1981". According to United Nations studies, even two degrees of warming would mean millions more refugees, double loss of food harvests and a rise in sea level by ten centimeters. It also leads to destruction of all coral reefs which means we have got twelve years to have a shot at keeping the temperature to a still-bad but manageably terrifying 1.5 degree celsius of warming. The rise in the Earth's temperature has led to an escalation in the melting of glaciers and icebergs.For example, "Greenland lost two billion tons of ice which is very unusual". This has increased the average sea level which becomes a dominant reason in the frequent flooding of coastal areas. In response, people living in the coastal areas start migrating to plains. This distorts the social fabric of the society. It leads to a breakup in the society as it's not the case that the entire community of people living at one place migrates to another place together. For people, especially those whose roots go long back in time, consider living together as a community as their social security scheme. They used to feel much more secure when living actively with their neighborhood and knowing them all. Along with this, the migration will also have an impact on the unemployment of the place where they are migrating.

The resources stay fixed and the labour force is increasing. This reduces the bargaining power of the workers and reduces the wage rate in the market.

Thus, this clearly shows that we have to imagine Capitalism beyond profits. Undertaking decisions keeping the superior goal of only earning profit and not being better off in every dimension might seem to be increasing our welfare in the short run. However, it's environmental repercussions will show up in time and might decrease our monetary as well as social welfare. We also must take adequate actions in curbing the rising pollution as it not only has an impact on nature but also on the social and economic realms of the society.

Government: An aid to a healthy environment

It has been evident that markets when left loose sell off the healthy environment at the expense of their profit generation. Certainly, laissez faire attribute of Capitalism is not helping and an administrative authority needs to intervene to ensure the well being of the people in the short run as well as the medium run. The rising pollution and further contribution to it by the use of fossil fuels can only be regulated by the government. Being a new advancement, many people and industrialists are not well informed of the renewable resources and their pros and cons. Government can launch awareness programmes in order to educate people on how fruitful the use of renewable sources of energy is. Our resources need to be invested in researching, developing and improving the technologies for renewable energy resources. Currently, the investment in renewable resources is low because of the insufficient information at both ends, the businesses and the government. The existing users of renewable energy sources should disclose more information about the success and failure of these resources. This will help in reducing financial risk and adequate knowledge will make businesses efficient to calculate risk and make adequate decisions towards investment.

There is belief that renewable sources of energy are expensive, which is true but only to a certain extent. The concept of Green GDP highlights that while producing some good, we are producing something good and something bad too, For example, with the production of cars there is production of smoke (pollution) too. This decreases the GDP and increases the cost of the product. The same explains why the above mentioned belief is actually a myth. While using fossil fuels as a factor of production, their original prices do not include the cost of bad that they create with them, that is, the environmental cost. This exclusion of the social cost makes fossil fuels appear cheaper in comparison to renewable energy sources. However, it is logical to include this social cost as it has to be borne by the businesses and the masses at some time, if not today then in the medium run. When the cost has been added, renewable sources do not become that costly, which should be our premise while making decisions on their use. Also, renewable sources of energy might be costly at this time but as the scale of operations would increase, the resources would become affordable.

In order to curb the use of fossil fuels, the government should stop subsidising them and on the contrary give that to renewable sources of energy. ”When externalities such as health, environmental, and climate factors are included, it is estimated the United States subsidizes fossil fuels to the tune of $649 billion per year. Eliminating fossil fuel subsidies would save taxpayer dollars while simultaneously reducing greenhouse gas emissions.” A carbon tax can also be imposed. Having a progressive carbon tax and charging the carbon consumption will induce every producer to innovate and shift to alternative techniques which would be eco-friendly.

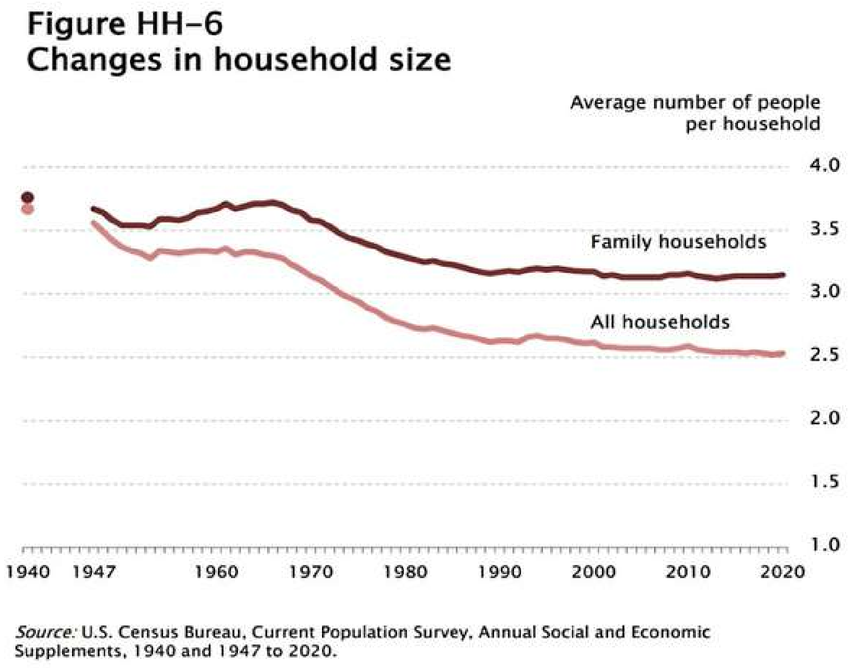
The World bank estimates that between now and 2030 there will be 23 trillion dollars in profitable climate friendly investment opportunities in the developing world alone. We are beginning to see this climate solutions marketplace become a reality today with twice as many American workers in the wind industry as in coal mining.The global clean energy industry today is worth about 1.5 trillion dollars which is roughly twice the size of the global airline industry.

Similarly, regulations could be imposed to ensure the welfare of the labour force. It might be the case that producers become exploitative towards their workers in order to generate higher profits. Government policies like minimum wages and unemployment allowance would provide a sense of security to the workers. It would motivate them to work harder without the fear of being exploited by their heads beyond a certain level. Although there is one limitation to this policy. In case there is excess supply of labour and demand for labour not increasing at the same rate or remains constant then the wages tend to fall. In case, wages fall down to a level where the workers become indifferent between being employed or unemployed because they would be getting a fixed unemployment allowance, the unemployment in the economy would increase. The environment of the workforce is a crucial aspect in retaining the labour force and affecting the production process. Having the approach of Capitalism equals maximum profits might make the producers create a toxic environment for their workers where they are forced to work overtime, have no work freedom and are disregarded. Such an environment drains the entire motivation from an employee to think of the company as its own and work to its highest potential. It is here that more than government policy, cooperation and coordination among the firms will help. It's required that firms undergo a process of self regulation. Through these efforts, the quality of human capital could be maintained.

By keeping their horizon widened and considering the environment and other social aspects too while making decisions, the firms would be able to sustain good profits for a long time. On the other hand, if otherwise is the case, profits might be good in the short run but eventually the costs outside the business that person has to incur will increase manifold. This will have an indirect impact on businesses and direct impact on an individual's wealth.

Family Structures

Since the advent of industrialisation in the late 1700s, there came into being an increasing demand for labourers who knew not to sow, plough and harvest crops; but to perform mechanical work at a factory as instructed by a superior in the setting. Until then, families lived in households with a lot more members than in today’s setting, immobile and practising agriculture. As people shifted to factories from fields, the need for splitting up work between families came into being.
As the need for specialisation arose and people started moving to industrial centres in search of jobs, the family structure transformed in such a way that women took over the household work because the men were occupied in the factory for long hours (men being preferred for factory work due to their increased physical strength and the patriarchal structure which was prevalent during those times). Increased mobility meant that it would be difficult for joint families to stay together because of which nuclear families became popular around the same time. The average household size in the USA has been decreasing since the 1960s (Source: U.S. Census Bureau, Current Population Survey, Annual Social and Economic Supplements, 1940 and 1947 to 2020.) which points to the fact that capitalism, which is a major determinant of the labour market and working conditions leads to changes at even the household level. An important consequence of smaller households is that children are less likely to be brought up in the presence of their grandparents.



In a country like India where culture and tradition passed on across generations consists of instilling values such as honesty, discipline, and justice, the fading of a mechanism contributing towards such value-transfer may not be in the best interest of the economy. As seen in the Singaporean example, making people stick on to these values can save a lot of expenditure on part of the government in upholding law and order. In a society where values and traditions are given importance, the government has a choice to make decisions which might benefit the economy as a whole in the long term while compromising on the interest of a section of a society in the short term.

Education System

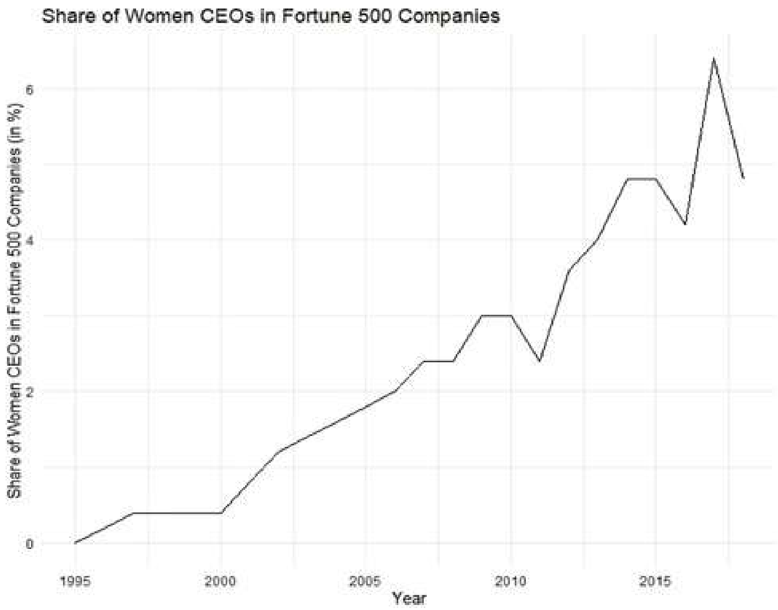
Since the advent of industrialisation in the late 18th century, schooling patterns were modified to suit the industrial age and to create human capital which can efficiently work as per requirements in the factory. Qualities like punctuality, discipline and obedience were given importance in this setup in order to ensure that labourers acted as was in the best interest of the firms. Rigorous timetables were framed and strictly followed, punishments were given in case instructions were violated, and uniforms were made mandatory for students. While such a system might have helped achieve industrial growth in the late 18th and 19th centuries, the idea of incentivising obedience over creativity and innovation in the majority would signify a lack of initiative to start businesses which could have contributed a lot more to economic growth than the contribution of an individual labourer by increasing competition in the market.

However, as per the World Bank reports, in India, youth unemployment as a percentage of youth population is 10 per cent for males and 11 per cent for females (2011).

Expansion of higher education institutions has taken place at a rapid pace in the last decade but issues of the curriculum content, course work done, lack of industry exposure through internship, inexperienced faculty are causes of concern, requiring immediate attention.

The training institutes need to educate as per industry's requirements so that demographic dividend can be tapped fruitfully. (S. Sanghi, A. Srija)

If the capitalists in the mid - 20th century, invested in education and the creation of human capital, building schools and



universities with experienced and skilled faculty members to train them, businesspeople today would enjoy a much wider and varied choice of labour. The focus of short-term profits meant that development of human capital was not one of the priorities of industrialists. While the government aimed to provide good quality education by regulating the curriculum, it paved the way for the private sector to monetise the flaws in the schooling system by offering tutoring services and preparation classes for entrance exams. Although teachers offering tuition services benefit from this, a schooling system driven by experienced and skilled faculty members would mean a higher productivity in teaching, thereby giving students more time to gain non-academic skills and hobbies (which can give a chance for creating a career). The forces of market demand and supply may have not been quick enough to recognise and test the potential of skilled faculty in improving the productivity of human capital. In such situations, capitalism can achieve its full potential if the government intervenes to incentivise better quality education and human capital development.

Conscious Capitalism

The world since industrialisation has undergone massive changes with respect to technology, society and norms. As an example, female leaders are flourishing in fields ranging across politics, business and entertainment, breaking gender stereotypes and barriers to success.

The concept of conscious capitalism encourages the need for a goal beyond profits.As we move towards a world where society and people change the way they look at things so rapidly, the idea of businesses altering their primary objective does not seem impossible.

The concept of conscious capitalism encourages the need for a goal beyond profits. The notion of capitalism is built on optimising individuals. While an optimising individual has been looked at from the perspective of profits, as long as the individual derives maximum satisfaction from their actions, the concept of profits with a mission fits the bill better and also with the culture and tradition of a country like India, whose values encourage egalitarianism, integrity and generosity.

In response to this radically different world, businesses today need to practice "conscious capitalism" in order to achieve sustainable success. This has three elements: (1) companies have a purpose that transcends profit maximization; (2) they are managed for the benefit of all stakeholders in their ecosystem, not just shareholders; and (3) they are led by spiritually evolved, self-effacing servant leaders. (Sisodia, R. S., 2009)

If firms follow the concept of conscious capitalism, the need for regulation by the government is reduced and thus, the benefits are two-fold: for the society which benefits from the mission pursued by businesses and for the government which can spend on more pressing issues instead of on regulatory bodies and action. However, the lack of initiative on part of the firms can mean that the government intervenes to implement regulations and policy changes which would be updated from time to time to capture the industry practices.

Conclusion and Policy Prescription

Conclusively, it is the conventional profit oriented approach of Capitalism that has to be reimagined. Maximization of profits is just one side of the coin and it should not be the whole picture. Throughout the paper, we have analysed the adverse effects of Capitalism on environmental and socio-economic spheres of the world. It is Capitalism that has contributed severely in increasing the pollution levels across the globe. The urge to earn higher profits and resistance to adapt better production techniques has done nothing but increased the social cost of the businesses. Capitalism, which was established as a system to make everyone better off, only considered the economic dimension of it. However, in reality the non economic dimensions are equally important. Profits might be increasing but the external costs- increased health expenditure for every individual, environmental costs, decrease in the quality of human capital are some that will have serious long term implications, on businesses as well as society as a whole. It is the healthy institutions that can free the world from such impending catastrophe. Certainly, it is a necessity to have some government intervention under a capitalistic system to ensure that the market stays free and fair. Free markets help in building economic and political freedom in the society as everyone's economic decisions are not regulated by any external force. However, in order to ensure that the power is used in the right direction, markets have to be fair backed by healthy government and institutions.

In order to overcome the challenge of capitalism's apathy for the environment, incentivising economic decisions which will be less damaging to the environment sounds like a practical idea.

One of the main assets using which green financing is implemented are green bonds. Green bonds are financial assets funding climate-related and environmentally sustainable projects. Although green financing faces challenges such as low rate of return, technological risks and lack of sufficient information to measure environmental impact of the government and businesses in today's scenario, sufficient incentivisation can pull more industries and individuals to shift towards green solutions towards problems. In order to overcome the difference in time period between bank lending and the maturity time period of green investments, instead of bank lending, it has been proposed that NBFCs and Public Financing Institutions be given a role in improving the financing sector in totality.

In the case of social structures, capitalism has brought about changes which have contributed to economic growth. However, the effect of the market on society can take on forms which might not end up being the best for the society in the long run. In order to make the best of capitalism, an attempt has to be made to alter market outcomes in order to ensure values which encourage capitalism are fostered and encouraged. While changes in the economy can affect various dimensions in the society, often, the effect on social structures is not considered while making policy decisions. If such changes are taken into consideration, capitalism can create a much better outcome for the economy as a whole.

Thus, it might appear to be an improbable task to have people keep their ethical values strong and consider the environment and the social fabric of the society too when participating in the market; however it's not. The need to reimagine capitalism beyond profits is not just a demand on the ethical grounds but we have analyzed through the paper that it is an economic necessity.

Bibliography

Dahlman, R. L. and L. A. (n.d.). *Climate change: Global temperature*. Climate Change: Global Temperature | NOAA Climate.gov. Retrieved November 18, 2021, from https://www.climate.gov/news-features/understanding-climate/climate-change-global-temperature.

Environmental and Energy Study Institute (EESI). (n.d.). *Fact sheet: Proposals to reduce fossil fuel subsidies (2021)*. EESI. Retrieved November 18, 2021, from https://www.eesi.org/papers/view/fact-sheet-proposals-to-reduce-fossil-fuel-subsidies-2021.

Haidt, J. (n.d.). *How capitalism changes conscience*. Center for Humans & Nature. Retrieved November 18, 2021, from https://www.humansandnature.org/culture-how-capitalism-changes-conscience.

Henderson, R. (2020). *Reimagining capitalism: How business can save the world*. Penguin Business.

Höhne, Khosla, Fekete, & Gilbert. (2011). Mapping of Green Finance Delivered by IDFC Members.

Inglehart, R., & Welzel, C. (2007). Modernization. *The Blackwell Encyclopedia of Sociology*. https://doi.org/10.1002/9781405165518.wbeosm118

Marglin, S. A. (2010). *The Dismal Science: How thinking like an Economist Undermines Community*. Harvard University Press.

Rogers, H. (2011, March 1). *The Greening of Capitalism?* The greening of capitalism? | International Socialist Review. Retrieved November 18, 2021, from https://isreview.org/issue/70/greening-capitalism/index.html.

Sanghi, S., & A, S. (n.d.). *Youth unemployment in India - IES*. Retrieved November 18, 2021, from https://ies.gov.in/pdfs/sunita-sanghi-and-a-srija.pdf.

Sim, S.-F. (2001). Asian values, authoritarianism and capitalism in Singapore. *Javnost - The Public*, *8*(2), 45–66. https://doi.org/10.1080/13183222.2001.11008771

Sisodia, R. S. (2009). Doing business in the age of conscious capitalism. *Journal of Indian Business Research*, *1*(2/3), 188–192. https://doi.org/10.1108/17554190911005354

Taghizadeh-Hesary, F., & Yoshino, N. (2020). Sustainable solutions for green financing and investment in renewable energy projects. *Energies*, *13*(4), 788. https://doi.org/10.3390/en13040788

Toffler, A. (1991). The Architecture of Civilization. In *The Third Wave*. story, Bantam Books.

Tolbert, C. M., Lyson, T. A., & Irwin, M. D. (1998). Local capitalism, civic engagement, and socioeconomic well-being. *Social Forces*, *77*(2), 401. https://doi.org/10.2307/3005533

United Nations. (n.d.). *The climate crisis – a race we can win*. United Nations. Retrieved November 18, 2021, from https://www.un.org/en/un75/climate-crisis-race-we-can-win.

Written by Sean Fleming, S. W. (n.d.). *What is Green Finance and why is it important?* World Economic Forum. Retrieved November 18, 2021, from https://www.weforum.org/agenda/2020/11/what-is-green-finance/.

CAPITALISM AND SOCIAL WELFARE IN THE INDIAN ECONOMY

Yash Tiwari, Shruti Sharma, Manan Mehta
University of Delhi

Abstract

An aggressive discourse upon Capitalism has ever existed and is populistically back during the global covid-19 pandemic in rivalry with Socialism. This paper presents contemplation of Capitalism at present, its doings, its compatibility with the society and possible future mainly with regards to India. It not only provides a thesis for the topic but also discusses various aspects such as development in the nature of Capitalism with its intentional or unintentional harm. The thesis examines the role of capitalism and social welfare in the Indian economy. It argues that despite an astonishing graph of development, resources under private control are deliberately depleted. The study also discusses favour for the complete implementation of capitalism in the country. It investigates thoroughly into cronyism and Corporate Social Responsibility and area around them leading to possible way-outs for this debate to inclusively end in or make the system last-long.

Keywords: Hong Kong Special Administrative Region (HKSAR), subdivided apartment, Coffin homes, government policy

Introduction

According to Legatum Institute's 'Prosperity for All' Report, people from a group of major countries around the world including India, USA, UK and others trust private entities over the government in improving living standards, delivering economic prosperity and evidently driving the population out from poverty. [1]Thus, if Capitalism is a roadmap to a booming economy and quintessential societal structure, then why is there an urge to reimagine it? When it comes to rethinking Capitalism, anti-capitalists have a solution to abolish it once and for all and enter the Utopia. Can this be even considered after a great evolution, heavy dependence, inclination towards possession of private property & wealth and ever-growing compatibility with private existence? Private businesses around the world undoubtedly already have a huge role in GDP contribution, manufacturing for rising needs, research & development, number of quality job creation and money multiplying opportunities that people are desperate for. The practitioners of capitalism are themselves bringing a change in the conduct by becoming more aware and responsible of the society, environment and market-approaches. Call it a time's call, innovative necessity or wilful shift but the newest sustainable inventions and ideas are exceedingly of the private sector. It becomes even more important to discuss Capitalism when in India, private participation is being encouraged with policies such as National Monetisation Pipeline (NMP) announced in the Union Budget of 2021-22.

Research Design

Methodology

This paper follows a descriptive mode of research methodology. Various facts, theories and case studies are included to make the reader understand the presently established capitalism as well as the anticipated form of it in the coming future. The paper includes both quantitative and qualitative data.

Objective

The objective of the paper focuses on in-depth analysis of modern capitalism and to help readers gain understanding of the brighter side as well as negative consequences of it.

Data Collection

- Criteria: The pattern or the criteria of data collection followed includes gathering data from reliable sources like public domains, government websites, internationally recognised institutions/media houses and journals.
- Type of data: The data accumulated falls under the ambit of secondary data.

Type of analysis: The paper includes both qualitative and quantitative mode of analysis. The former consists of statistics in the form of graphs, bar charts and tables and the latter include scrutinising various theories and case studies related to capitalism.

Origin and Basics

Origin

For the world, Capitalism formally emerged in Europe during the Industrial revolution and with Karl Marx's work upon class conflict, but India shares a different timeline in Liberal trade practises. Since the early 16th century, when the Mughal Empire emerged, there have been shards of capitalism in India. With pro-business and trade policies, it has been viewed as a crucial role in plyometric of the rising Indian economy. The establishment of the East India Company was another notable capitalist kickstart. Despite demonstrating high production efficiency, it resulted in major overexploitation of India's human resources. Because it was a corporation rather than a government, its main goal was to maximise profits.

Considering the gradual abolition of British control and the participation of Indian capitalists in the liberation movement, the nation witnessed a pure socialist period wherein prices, investments, import-exports were state-controlled and domestic industries were conserved until the emergence of capitalism after 45 years of independence, i.e., new economic reforms that welcomed Globalisation with open arms which expanded the economy, but eventually turned into diverse angles of financial disparities, leading to a sectioned, profit-driven, and environmentally hazardous society. In other terms, India went from individual to commercial to Industrial, meaning where in the period of the 1500s and around, trades were not institutionalised. They were carried by inclined merchants on their own to far-flung settlements such as Arab and Egypt. Later, the role of monarchic administration got a major significance followed by long industrial take-over under colonialism acting in accordance to their interest, which after a break has again reoccurred but with regulations.

Evolution

Free market is a much older concept than Capitalism which accepted trade without boundaries and was practised purely in ancient civilisations such as Mesopotamian and Indus. Capitalism has submerged free-market under cover of ‘ism’ making it less fluid, more institutional, shifting power to lesser holders and turning to individualism which is the core principle of its mantel: Liberalism, to ‘Meanism’, endangering equality in every aspect. It has unquestionably progressed to a better version as a consequence of historical events. Even though Capitalism proved to be the magic mantra in glorifying Indian markets and helped the economy come up with flying colours, in the later years, the returns reflected minimal growth and resulted in segregating the society in diverse financial pieces.

Licence Raj was another huge setback against evolution when the nation was following minimum import policy. Some specific companies had monopoly over specific productions. Private Entities have been holding big investments and monopolies all over the economic arena, but couldn’t escalate much due to a major share of public owned enterprises in the market. The high gap in financial identities resulted in a full-fledged imbalance in the structure of opportunities between small emerging firms and big companies, leading to the depletion of micro industries, the assisting base of creating employment and flourishing production. Gradually, the segregation of participation has been increasing due to some sustained efforts. There have been investments done in small and micro businesses by large companies themselves.

The National Monetisation Pipeline is an asset monetisation strategy that has the potential to be a catalyst for India's capitalist expansion. By the end of the 2025, the government hopes to have raised Rs. 6 lakh crores by leasing specific infrastructure to private entities. This will enable the government to use its own assets to construct new infrastructure, which will then be used to construct additional assets, creating a virtuous cycle. Capitalism's grip in India is tightening with the time, primarily due to the inefficiencies of the public sector. Moreover, the state's monopoly in the sector prevents lower prices for goods and services, whereas in an open economy with private participation, there is competition among producers to reduce production costs as much as possible in order to increase demand, which benefits consumers. The Telecom sector is an appropriate example. Since the 1991 economic reform, this industry has mostly flourished. Previously, the government, and the colonial administration held absolute control over the telecom. Since it was expensive, only the rich could afford it. The telecom licence auction in 1995 clearly demonstrated the sector's demand and profitability expectations. Several enterprises have emerged, stayed, and then left creating competition in the market. In just 10 years, the sector has increased more than twenty-two times, from less than 37 million subscribers in 2001 to over 846 million subscribers in 2011. The race to be the greatest in business is allowing the rural people to interact with the urban and semi-urban populations through speedy global connectivity. This cost-cutting and demand seeking competition causes businesses to dominate consumer distribution and expand their scope.

Capitalism vs. Socialism

Socialism is an esteemed ideology that aims for social welfare by recycling and redistributing economic resources evenly among people, contrary to Capitalism, which is its unrelenting opponent. The recurring sufferings of the underprivileged people serve as a poignant reminder. The state/public authority is in charge of ensuring that everyone has access to fundamental needs. Currently, the pandemic has pushed us to reassess socialism's place in countries, especially India. This, when mixed with capitalism, is undeniably found to be a widely accepted, although hybrid, method of prospering in countries all over the world, such as Scandinavian countries, which are now regarded as the ideal model to follow around the world.

It's worth noting that, while socialism and communism are often used frequently, they are not the same concept. Socialism permits capitalism to thrive while allowing for gradual evolution, whereas communism's ideals are openly antagonistic and rigid. As compared to Cuba's socialist revolution (1958), which assured people social justice, equitable income distribution, and equity for everyone. This may seem more like promises made by politicians today. Instead, things deteriorated; the authority was hostile to criticism, the economy was sinking, the citizenry was suffering, and totalitarianism persisted, with rising disaffection among the people. It is seen to in-hold more inequality than capitalist countries. capitalism comes in when people are desperate for liberty and to make their own fortune.

Loopholes in Capitalism

Corporate Social Responsibility (CSR)

According to section 135 of The Companies Act of India 2013, corporations that have a net worth of more than or equal to ₹500 crores or a turnover of more than or equal to ₹1000 crores or profit of more than or equal to ₹5 crores in a given financial year are bound to spend a minimum of 2% of their average net profit earned in the past three years on various social causes (Corporate Social Responsibility). According to CRISIL[1] (Formerly, Credit Rating Information Services of India Limited), as there has been an expenditure of ₹21,231 crore by the corporates in the fiscal 2020 in the name of CSR whereas the total expenditure after 7 years of commencement of this law has crossed ₹1 lakh crore mark. While the major spending in the year 2020 has been related to Covid-19, here are the top 5 companies who have spent the most:

Reliance Industries Ltd	Rs. 908.71 Crores
Tata Consultancy Services Ltd	Rs. 602.00 Crores
Infosys Ltd	Rs 359.94 Crores
ITC Ltd	Rs 326.89 Crores
J.P. Morgan Services India Pvt Ltd	Rs 204.93 Crores

Table (i)
Source: Ministry of Corporate Affairs, GoI

When CSR is used to make a difference, it draws not just customers, but also shareholders and workers who aspire to make a difference through investment or physical efforts. For example, the Tata group's early commitment to directing revenues toward social good, even before CSR was legally adopted in India is a significant reason for people's unshakable faith in the management and their products, which has kept the firm afloat despite several competitors. Furthermore, the engagement of huge corporations has a higher impact. Coca-Cola's 5by20-Women Economic Empowerment Initiative, which was initiated in 2010, sought to employ 5 million women in their workforce. Recently, on International Women's Day 2021,the corporation stated that it has surpassed its objective of hiring 6 million women across 318 programmes in 100 countries[1]. However, there have been certain flaws in the legislation and some businesses utilise such things to fulfil profit motivations and exploit them to the utmost.

● Many businesses perceive CSR as an opportunity to spend money on brand advertising. They merely focus on publicising their items rather than the campaign's motivation.
●Many companies install their own charitable foundations and then transfer the funds contributed to the trusts to their own companies after extracting a specific amount of commission for the trust to avoid CSR spending.
● Companies employ a variety of spurious arguments to avoid CSR. The difficulty to locate acceptable projects or execution agencies is the most common reason for insufficient investment on social issues.

Crony stain on competition

Crony capitalism emerges when the government intervenes forcefully in the economy through political tools such as tariffs, subsidies, import restrictions, and exclusive perks such as licences, among other things, to unjustly benefit huge corporations. It occurs as a result of political ties. Entities start inclining towards political backing instead of innovation and genius in management, giving big firms an advantage in obtaining support and conveniences, either voluntarily or unwillingly, out of fear of isolation or being targeted. When firms are offered such favours, they prefer to reciprocate by offering their resources to their helpers, converting the favoured items into 'waste resources' for the entire economy, which Jagdish Bhagwati explain as 'Directly Unproductive activity' in his Political Journal (1982).

India according to ‘Corruption in India’, 2012 (Global Citizens) practises a brazen variety of Crony capitalism. A variety of Crony capitalism is the force behind pro-aristocratic corruption providing privileges to politicians, businessmen, bureaucrats, criminals/mafia and other receivers. Though democracy is a mechanism to control the dominance of those in power, with every decision or tenure requiring public approval, this feature is eroding as the majority of people's rational participation in democracy fades, leaving only a few influential interest groups to deal with the government in accordance with their demands. Why is cronyism so prevalent in India? There exists a vertical hierarchy in India where achieving the top position in the hierarchy is the main motive. Following that, a collectivist behaviour which prioritises social norms, ethics, goals and obligations above individual's right and lastly particularistic nature wherein human relations are considered more important than rules. Also, the tradition allows prioritising kinship, caste, religion over public interest. A combination of Horizontal-Individualistic state, opposite to India's, is considered to be far less corrupt, for example Denmark. Growing oligarchic culture in India consists of manipulating policies with corrupt will of politicians leading to wealth concentration. For instance, looking at data from World Bank and Forbes billionaires list of 2018, USA's GDP despite being 9 times more than India's in 2018, billionaires' net worth relative to GDP in percentage was 16.63% whereas in India it was 17.85% giving a clear indication of wealth concentration. On the other hand, when small private firms seek to commence any sort of business, they have to wait for long to meet their needs and sanctions from official bodies. This leads to a want for acquiring of resources and faster official processes by means of bureaucratic and political favour by tweaking the schemes and their implementations. These are enough indications to consider India an economy where rules are overseen making cronyism and corruption obvious.

To animate their economies, the most prevalent welfare nations, such as Finland, France, etc. returned to pricing and markets. Due to constitutional limits and limited economic interference, the Scandinavian states have maintained a welfare state, with economic development and institutions free of cronyism. According to Corruption Perceptions Index 2020 by Transparency International, among 189 countries, India ranks 86, whereas, Scandinavian nations top the spots. However, a few aspects to avert cronyism are liberal economy, large educated population, mature democracy and finally, impactful press media.

Naomi Klein's Shock Doctrine

Renowned Canadian author and social activist Naomi Klein in her book[1] explains the unleashed capitalist approach used by the US administration in the city of New Orleans. The approach was derived from the op-ed articles written by American Economist Milton Friedman. After hurricane Katrina struck the city, a reconstruction of infrastructure was a crucial need. So, many public institutions were being converted to private ones. Not to mention, many of the government run schools were being converted into private schools in the name of development. Friedman advised on the government paying for the vouchers that were being provided to the families rather than rebuilding the public infrastructure. Some people saw it as a "capitalist boon" for the society, whereas others saw it as a plan for "educational land grab". Klein referred to this kind of approach as 'The Shock Doctrine' or 'Disaster Capitalism'. This policy was being implemented for over several years. Friedman perceived a notion that only a crisis could bring in the opportunity for the private players to reach the goal of attaining a free market, i.e., establishing more private entities and lowering the role of government in the economy.

According to Klein, both natural and human-made disasters "put the entire population into a state of collective shock". In order to cope with the adversities of the crisis, people tend to accept 'free-market radicalism' and dubious policies without analysing the whole causatum clinging to it. Over the years, precisely after the enactment of 1991 economic reforms, the economy has gradually witnessed the withdrawal of the state or the control of disciplining power, distorted structure of the public sector, expansion of large private entities with huge incentives, deregulation of labour and environment laws, depleting share of small-scale enterprises burdened with monopolistic arena and implementation of multiple regulations over them collectively. All of this sums up against the crucial objective of our political-economic-social structure i.e., social welfare. This was explained as a disaster by Klein as the crisis times gave a perfect opportunity for the profit-making organisations to exploit the market.

Impact on Environment

When it comes to development and civilization advancement, there is concern about the massive impact it has on the environment. As mentioned in the 'Shock Doctrine' – Opportunities of profit making under crisis, Klein describes how 'pollution shock' is used as an opportunity to build up the structures of big private entities. In addition, she describes the credo of Sustainable development held by private entities as "a deep denialism in the environmental movement among the Big Green groups." Here, she discusses how superficial is the functioning of Kyoto protocol which can be traced back from the UN reports of the European Union's emissions.

Around 55 million people have been displaced as a result of the climate crisis. According to the Institute for Economics and Peace's September 2020 study, by 2050, over 1 billion people and 3.5 billion people are predicted to be displaced as a result of extreme climate and food shortages throughout the world, respectively. According to the findings of this analysis, 5.4 billion people would reside in the 59 nations facing severe or extreme water stress by 2040, including India and China. The list of environmental calamities goes on and on. The impact of environmental degradation and economic turmoil at any moment is disproportionately felt by the poor, who have little to do with the industries. When it comes to fixing such damages and exploitation of such resources, a popular opinion that could be heard is to tax upon the harm caused. It may seem an effective solution but with no guarantee of obedience or firms' audacity may possibly lead to a crash on the middle-class and poor's affordability of consumer goods doing no benefit but loss to the economy.

Conduct in pandemic:

With the outbreak of Covid-19 Global pandemic, amidst the crisis, unemployment, allocation of resources, staggering economy, migration crisis, food shortage, collapse of personal incomes and pause in public operation were the gravest concerns. Corporate operations were halted abruptly, resulting in a low profit-making potential, putting pressure on enterprises to slash incomes in half or, at worst, terminate staff and workers despite the government's request not to. According to the Centre for Monitoring Indian Economy, unemployment rates increased from 8.75 % in March 2020 to 23.5% in April 2020, hitting small businesses and merchants the most: 91.3%. The primary reason why corporations were compelled to relinquish control of their employees could be observed in the –9.9 % net profit of all companies even after demoting employees to reduce operating costs. On the contrary, the public sector kept the numbers up by deducting the wages and benefits of high-paid employees providing them a sense of job security and introduced various food relief and monetary aid schemes bringing people's faith in public sector. States and central banks pumped in fiscal and monetary support, such as the US Congress's $1.5 trillion bailout package, wage subsidies, lower interest rates, the World Bank's $12 billion aid to states unable to raise funds, India's $260 billion covid relief package, and more.

Though a major portion of the private sector was at halt, several big firms were comfortable with their huge pile of money, exclusive Covid-19 opportunity and essential demand created by the situation for companies such as digital entertainment, digital payments, food & product delivering, pharmaceutical commodities, etcuntil the imposition of The Essential Commodities Act. Despite India being the 3rd largest pharmaceutical producer by volume and 14th by value, its out-of-pocket expenditure according to National Health Accounts (NHA) for 2018 was 62.4% of total health expenditure distancing the majority population of both urban and rural from regular medical access. The primary reasons could be excessively low government health investment: 30% of overall health expenditure in 2018 was spent on rural people, and pharmaceutical corporations' exorbitant rates of medications, which cost roughly 30-90 % more than generic medicines.

Furthermore, as Naomi Klein (2007) explained, in times of crisis, Pandemic was a "shock" that couldn't be anticipated in terms of a backup plan. The essential services that were supposed to be affordable were made inaccessible to the common people. In April 2020, around 120 million people in India were unemployed. Instead of providing these survival kits, the cost of goods and services offered skyrocketed due to market scarcity. Not only the available facilities remain handful among the rural and to underprivileged sections but the people residing under these unfortunate sections have no knowledge and awareness to avail them. This leads us to question again, how capitalism can be of any assistance in the healthcare sector? As mentioned in Niti Aayog twelfth five-year plan (2012-17) - “Since the total resources available to the Government is limited, and there are heavy demands on such resources from sectors such as health and education, there is an obvious need to leverage private resources to achieve public end.”

As per the covid-19 guidelines of social distancing and home quarantine, telemedicine came as a rescue to ease the burdened health centres. It bridges the gap between people, physicians, and health systems, allowing people to contact doctors via virtual channels. Healthcare facilities will become more accessible as technology advances and telemedicine is used in impoverished regions, raising the region's baseline standards. The private sector, which has benefitted from strong technological infrastructure and large expenditures, may play a big role in empowering the medical industry. In a nutshell, it can be perceived as a futuristic initiative that would propel the economic growth beyond.

Solutions to the Drawbacks

CSR-push in Pandemic

Undoubtedly, a change in the perception of CSR and in the attitude of corporations towards it has become a necessity. And the urge has become even more strong after the pandemic hit this world. In recent times we have observed companies stepping up to create awareness in the minds of people as well as contributing towards various philanthropic causes such as monetising the production of covid essentials, funding various governmental or non-governmental foundations or charitable trusts. These times have also taught the companies that there is a need to think over the management of finances as there has to be a balance between the resources that are needed to run the company smoothly and the moral/social responsibilities they owe to the world because when the crisis brings in the need for the firms to step out to prove that they are more than ‘profit making machines’, it also conveys that they also need to have a robust plan to get through the crisis as these times put up a lot of negative impact over economy, especially in the case of a country like India which was struggling a bit already before the pandemic had arrived.

Additionally, there is a necessity to broaden the scope of CSR. Micro, Small and Medium Enterprises (MSMEs), though being second largest employer contributing to around 90% of the industrial unit and 32.27% of GDP share as per MSME Annual Report of 2020-21[1], faces problems like fund shortage with a limit on it and restricted conventional methods of growing capital such as bank debts. Big firms can dedicate an amount of their revenue, under CSR or the other way, to strategically and financially aid MSMEs to widen their scope of market. This way firms among themselves could rigidify the base of the economy and create easy employment for the masses. This way, they can fulfil two purposes- firstly, since this is a form of investment, the corporations stand a fair chance to receive returns on such investments. Secondly, the tag of CSR on such investment will prevent them from bothering much over where to spend the CSR money.

Democratic Participation

Stakeholders must be aware enough to look beyond earnings and consider if the firm they are investing in has the ability to mould itself to meet the demands of the country. Initiatives similar to consumer awareness programmes must be taken to educate stakeholders about the minimal criteria for judging a company's performance in terms of sustainable development, ethical business practises, nation-first policies and so on. Consumers must also pressurise the management for right and fair conduct via various means like formation of trade and labour unions for specialising concern. Firms could exercise their knowledge to promote better governance, transparency, fair conduct and measures against corruption into the firm, rising as an ideal for smaller firms of the same or different sectors even possibly for the public sector too. Owners and eminent entities of business can openly incline towards relevant policies and can also suggest their better version.

Instrumental Prospects of Capitalism

Several environmentalists with communist outlook see the necessity to eliminate the entire system, but the major question is whether the end of capitalism means the end of all the problems that anti-capitalists feel exists. This question is arising, and the solution is very speculative. Apart from the fact that economically free nations do a better job of conserving the environment than regulated nations, there are a number of other common goals and Memorandums of Understanding (MoUs) that have a strong desire to bring about significant improvements. Green Capitalism is one notable example. This notion urges firms to utilise their resources to address the issue of environmental deterioration while also making a profit. Implementing this strategy accomplishes two key purposes: it reduces reliance on fossil fuels by depending on green energy, which in turn aids in huge cost savings as non-renewable fuel sources become more expensive by the day. This ultimately boosts revenues for the businesses while also saving the environment. Also, there has been a significant expenditure by corporations across the countries in the last few years in the form of Annual Corporate Expenditure.

When considering the positive aspects of the Capitalistic notion, it is false to claim that it

	Environment sustainability (Rs Crores)	Across all 3 sectors (Rs Crores)
2014-15	773.99	836.71
2015-16	796.69	904.4
2016-17	1076.46	1239
2017-18	1088.05	1309.44
2018-19	1292.36	1420.38
2019-20	504.71	518.12

Table (ii)
Source: Ministry of Corporate Affairs, GoI (2021)

limits societal progress. Not only India, but the whole world, has witnessed drowning economies rise to the skies by embracing capitalism. With the advancement of medical infrastructure, education, and, most crucially, the value of human freedom and individuality, life expectancy has risen from roughly 31-40 in 1900 to 70-80 in recent years[1]. The Heritage Foundation's Index of Economic Freedom provides a global picture of individual freedom and capitalism, demonstrating that 'free nations' rank high in terms of environmental performance, while the others with limited ideologies rank abysmally.

Conclusion

1. Why reinvent capitalism instead of socialism?
2. Will everyone be able to afford the opulent yet pricey facilities?

India is a multicultural country with a long history of poverty and unemployment. The country's economy has a mixed structure, which has contributed to its stable growth, but using GDP as a growth metric hasn't been a game changer, and the key concern that brings capitalism up continuously is rising disparity among people. The nation's growth is centred on the economy rather than fundamentals essential for human development. According to the UNDP's 2020 HDI, India is ranked 131 out of 189 countries. The policies and regulations implemented in the last few decades have had an impact on India's economic development. Small capital enterprises, agricultural, manufacturing, rural-urban, and semi-urban organisations are extensively controlled, whereas large corporations are massively subsidised. In Socialism, the people are the sole administrator of resource allocation. The critical concern is equitable allocation and utilisation of available resources among the responsible population. When power is concentrated in ignorant hands, it can lead to injustice and corruption, leading irregularity and volatility. Capitalism, when overly entwined with politics, is prone to cronyism, but socialist societies have historically faced significantly greater corruption due to totalitarian rule, making full state involvement unavoidable.[1] Considering the Nordic model, it is the ideal blend of free-market capitalism and social welfare, embracing the concept of developing the economy on the basis of human growth. It is based on the 'Tripartite Collaboration' premise of responsible government economic control, public welfare through tax revenues from the workforce, and organised working of corporate entities and the workforce linked with them. The model focuses on providing free education and healthcare benefits, imposing significant regulations on entities (which is why the Nordic countries' low corruption index), active labour market policies and a flexicurity system to provide job security and improve human capital, and monitoring and resolving youth unemployment. In contrast, India, as the world's second most populous country with a high rate of illiteracy and little resources, faces uncertainties in improving economic efficiency. In order to achieve the desired goal, the government requires the assistance of enterprises. The National Monetisation Pipeline provides private firms with an opportunity and a responsibility to demonstrate that they can satisfy the nation's demands. The primary concept of capitalism is to generate and expand profits from private possessions at any cost, even disaster, while ordinary people struggle to live. In terms of welfare and environmental protection, the private sector has always been seen in a bad light. Various social activists and authors like Naomi Klein have expressed strong opposition to the nations' pro-capitalist approaches. Furthermore, even if shown to be wrong, abandoning capitalism is not only difficult, but a hindrance to progress. Over time, the implementation of incentives, the implementation of job security measures, and the creation of jobs have helped to strengthen the roots of the private sector, which is still striving to develop a welfare surface for the nation's purpose. Capitalism has evolved from a rigid to a malleable economic framework. To help the country's fortunes to flourish, the public and private sectors must work together for the economy and social welfare's sake.

Bibliography

What do people really think about capitalism? World Economic Forum. (2021). from https://www.weforum.org/agenda/2015/11/what-do-people-really-think-about-capitalism/.

CSR spends in FY21 jump 3.62% to Rs 22,000 cr: CRISIL. Business Today. (2021) from https://www.businesstoday.in/latest/economy/story/csr-spends-in-fy21-jump-362-to-rs-22000-cr-crisil-305118-2021-08-25.

Us, C., India, C., Overview, C., Recognition, A., India, C., & Footprint, O. et al. (2021). 5by20 - Women Economic Empowerment Initiative. The Coca-Cola Company. From https://www.coca-colaindia.com/about-us/5by20.

Directly Unproductive, Profit-Seeking (DUP) Activities on JSTOR. Jstor.org. (2021), from https://www.jstor.org/stable/1837129.

Corruption in India: crony capitalism has usurped natural resources. Global Citizen. (2021), from https://www.globalcitizen.org/en/content/corruption-in-india-crony-capitalism-has-usurped-n/.

Independent.org. (2021). Retrieved 18 November 2021, from https://www.independent.org/pdf/tir/tir_17_04_04_holcombe.pdf

Transparency.org. 2021. 2020 - CPI. [online] Available at: <https://www.transparency.org/en/cpi/2020>

The Shock Doctrine: The Rise of Disaster Capitalism by Naomi Klein

https://revisesociology.com/2016/10/24/the-shock-doctrine-by-naomi-klein-a-summary/

Nhm.gov.in. (2021), from https://nhm.gov.in/New_Updates_2018/Presentation/NHM_Orientation_workshop_2019/Health_Care_Financing.pptx.

Niti.gov.in. 2021. [online] Available at: <https://niti.gov.in/planningcommission.gov.in/docs/plans/planrel/fiveyr/12th/pdf/12fyp_vol1.pdf> .

Markets, R., 2021. India Telemedicine Market Report 2021. [online] Prnewswire.com. Available at: <https://www.prnewswire.com/news-releases/india-telemedicine-market-report-2021-301396123.html>.

https://msme.gov.in/sites/default/files/MSME-ANNUAL-REPORT-ENGLISH%202020-21.pdf

Roser, M., Ortiz-Ospina, E., & Ritchie, H. (2022). Life Expectancy. Our World in Data, from https://ourworldindata.org/life-expectancy#:~:text=The%20United%20Nations%20estimate%20a,life%20expectancy%20of%2072.3%20years.

Jayanti Ghosh on The Failure of Political Economy [online] Available at: <https://youtu.be/IvG3vl30Ows>

Scandinavian Labour and Social Policy Sven Jochem. [online] Library.fes.de. Available at: <https://library.fes.de/pdf-files/id/ipa/07785.pdf>

INDIA'S NEW FREE TRADE AGREEMENTS: OPPORTUNITIES FOR BOOSTING INDIA'S MANUFACTURING COMPETITIVENESS

Sunitha Raju

Professor, Indian Institute of Foreign Trade

Introduction

Over the last two years, India's aggressive foray into Free trade Agreements (FTAs) with the UK, Australia, EU and the UAE were looked upon with optimism for accelerating India's exports and GDP growth. Underlying this optimism, the fundamental question that needs focus is how can these FTAs be aligned to India's growth and development agenda. The tempered reactions in the past, by and large, have been backed by the 'not so impressive' experience of the FTAs with ASEAN (Association of Southeast Asian Nations), Japan and S Korea implemented in 2010.

The primary concern was the rising trade deficit with these countries post the implementation of the FTAs/CECA (Comprehensive Economic Cooperation Agreement), suggesting India's limited gains in accessing the markets of these countries. A comparison of trade flows before and after the implementation of the FTAs shows an observed deterioration in India's net trade position with these countries. Between 2005 and 2010 (prior to FTAs), the average import/export ratio with ASEAN was 1.34, 2.00 for Japan and 2.18 for S Korea. By 2017, the import/export ratio was 1.45 for ASEAN, 2.33 for Japan and 3.68 for S Korea, which resulted in widening the trade deficit (Rekha Misra and Sonam Choudhry, 2019). However, a closer look at the import trends (post-2010) indicates the following: (i) Industrial supplies increased significantly from Japan and ASEAN, accounting for over 45% of the total imports from ASEAN, Japan and S Korea; (ii) the share of capital goods imports remained same but high at 41% for Japan, 31% for S Korea and 17.6% for ASEAN in 2017; and (iii) the rise in the share of consumer goods imports was primarily from S Korea and ASEAN accounting for 11 and 6% respectively (Rekha Misra and Sonam Choudhry, 2019). Taken together, these trends imply that the surge in imports is largely to support domestic manufacturing, which has supported a much higher trade engagement with the world. Estimates show that India's trade engagement with the world, which was less than US$500 billion in 2010, increased to US$1000 billion in 2018, implying greater trade engagement with both FTA partners and Non-FTA countries (Rekha Misra and Sonam Choudhry, 2019). From these trends, it is clear that a higher trade deficit with partner countries cannot be pronounced as an unfavourable outcome of FTAs. What is more important is the propelling Indian manufacturing sector on the path of higher growth and export trajectory.

In this broader context of understanding the significance of FTAs in promoting the competitiveness of the manufacturing sector, region-specific issues also need to be factored in. Trade Agreements with developed countries entail reinforcing the differences in factor endowment structure, i.e., capital vs labour endowments, thereby differences in production structures. More often, this is captured by the complementarity index, which compares the export structure with the import structure of partner countries.

Higher complementarity implies greater matching of exports with imports of partner countries which points to higher trade opportunities. While this complementarity is pronounced between developed and developing countries, the same may not be so significant for trade between developing countries, where dynamic gains are more significant. In the current context of proposed FTAs with the UK, Australia, and the EU, all developed countries, trade engagement will also be influenced by region specific issues. UK's exit from the EU and the aggressive promotion of trade agreements between UK and other countries like EU, USA, Australia, New Zealand, Japan, Norway and the concessions therein will have to be considered while looking at the opportunities for India. This is because many of India's export competitive products are currently being exported by these countries. In the case of EU, India had trade negotiations between 2007 and 2013 that didn't take off. The disagreement between EU and India covered market access in agriculture, services particularly retail, automobiles, TRIPS-Plus issues, Anti-Counterfeiting Trade provisions (Pharmaceutical products), technical standards (automobile), labour & environmental standards as also agricultural subsidies. Resumption of negotiations will imply that there would be give and take on these issues from both the sides. So, essentially it will not be a new starter as in the case of UK and Australia. The dynamics for UAE would be different as India exports mainly agriculture products. In this regard, UAE presents opportunities for enhancing India's value added agri exports, but Australia would emerge as a potential competitor for these products in accessing the markets of UAE and UK.

Challenges For Indian Manufacture Sector

Niti Aayog's 'Strategy For New India @75' (2018) has envisaged increasing the share of manufacturing to 25% of GDP and exports to increase from US$478 billion in 2017-18 to US$800 billion by 2022-23. These targets were a follow up of the National Manufacturing Policy of 2011, which visualised to push manufacturing share in GDP to 25% by introducing policies for creating National Investment and Manufacturing Zones (NIMZs), development of SMEs, Skill Upgradation, Promotion of Green Manufacturing and rationalizing and simplifying business regulations. The policy also emphasised development of core infrastructure creation of financial & institutional mechanisms for technology development. However, the implementation issues of these policies did not lead to the desired outcomes. Subsequent policies of 'Make in India', 'Skill India' with the broader objective of attracting FDI into manufacturing also did not achieve the targets.

Considering that the current share of manufacture in GDP is at 16%, pushing the same to 25% would require a significant increase in the global competitiveness of Indian manufactures. As per UNIDO Industrial Statistics, 2018, India's share in world manufacture exports is less than 2%. Further, in comparison to other developing countries, India's per capita MVA (Manufacturing Value added) is low at US$302 while it is US$1660 for Thailand, US$857 for Indonesia, US$620 for Philippines and US$2520 for Malaysia.

UNIDO's Competitiveness of Industrial Production (CIP) index assesses and benchmarks industrial production across countries by taking various dimensions like capacity to produce and export, technological upgrading and deepening and world impact. India's overall global rank in CIP is 39 in 2018. With low relative competitiveness, it is not surprising that India's manufacture imports increased while exports remained subdued thereby resulting in trade deficit. Further, even as the share of manufacturing exports has increased, they were mainly in low technology oriented intermediate products.

Opportunities For Manufactures in FTAs: An Assessment

For increasing global competitiveness of Indian manufactures, scaling up of investment and technology orientation becomes imperative. Towards this end, FTAs with UK and EU can provide the necessary impetus which are discussed below.

(i). India-UK FTA: Between 2000-01 and 2019-20, manufacture exports accounted for 90% of India's exports to UK. The high growth (value) exports are machinery, electricals, textiles, precious stones and leather items which are largely low technology oriented. India's competing countries in UK are EU countries, USA, China, Bangladesh. Therefore, the possibility of India's exports expanding in UK would depend on the tariff concessions provided to these countries relative to India. So, given the potential competition from other countries, it is necessary for India to develop new competitive products. Simulation studies on the potential trade between India and UK have identified investment opportunities in chemicals, fertilisers, pharmaceuticals, food processing, telecom and petroleum[1]. As such, one of the focus areas for negotiations is to accelerate UK's investment into these sectors with the objective of technological upgradation and implementing Good Manufacturing Practices (GMP). Second, the focus of investments from UK should be on enhancing R&D capacity of Indian manufacturing. For this, the UK industries may be encouraged to engage in the PLI Scheme with a focus on Electronics and Textiles. Third, as India exports mainly manufacturing intermediates while UK exports final goods, the give and take in the FTA may necessitate reducing the tariffs for automobiles and spirits. In this regard, pointed industry consultations may provide the feasibility of tariff reduction in exchange for technological partnerships.

(ii). *India-EU FTA:* From India's perspective, the negotiating agenda will have to focus on TRIPS Plus concerns, Level Playing Field Concerns and Investment issues. The TRIPS Plus concerns, which cover the extension of patent term and data exclusivity, can have adverse implications for Indian manufacturers. Considering India's Data Protection Bill, 2018, Public Procurement Order for cyber security products, 2018, Data Governance framework, India should push for recognition by the EU as a "Data Secure" country. Second, the recent EU proposal on CBAM (Carbon Border Adjustment Mechanism) that mandates compulsory registration of exporters to the EU to be effective from 2023 will have high financial implications for India. While EU firms have subsidies to meet this carbon tax, the same is not available in India. The waiver for a limited period for Indian exporters can be included in the FTA negotiations. Third, the EU's investment agenda should focus on the automotive sector, electronics, Machine tools, Power equipment and equipment for developing renewable energies like wind and solar. The negotiations can cover joint ventures, technology collaborations and R&D support. The existing PLI scheme can be used as a mechanism for stepping up this trend.

While the issues raised above are indicative, the broader context of India's need for FTAs cannot be undermined, particularly with the regional blocs commanding higher production and trade flows. While the EU and UK provide opportunities for India to reinforce its position so as to integrate into European value chains, this also has become a necessity for going forward on the development and growth targets.

[1]Although the analysis is based on EU's trade policy measures, the new trade policy of UK announced in January 2021 can bring about some variations in the estimates. However, the sectors identified for trade and investment will still hold true. For details see, Rashmi Banga (2016), "Brexit : Opportunities For India", Briefing Paper, The Commonwealth Secretariat.

Bibliography

Misra, Rekha and Choudhry, Sonam (2019), “ Foreign Trade Agreements: An Analysis”, RBI Bulletin, September 2019.

Banga, Rashmi (2016), “Brexit: The Opportunities for India” Briefing Paper, The Commonwealth Secreatariat.

.Niti Ayog (2018), Strategy For New India @75, November.

Department For International Trade (2021), “An Information Note For The Consultation Relating To Free Trade Agreement Between United Kingdom and India”, Government of UK.

Khorana, Sangeeta and Perdikis, Nicholas (2010), “EU-India Free Trade Agreement: Deal or No Deal?” South Asia Economic Journal, September 2010

AN ALTERNATE FISCAL POLICY FOR ABRAHAM LINCOLN

Gurbachan Singh
Visiting Faculty, Indian Statistical Institute, Delhi Centre

President Abraham Lincoln was the key figure in abolishing slavery in the United States (US) in the 1860s. It was, of course, the right thing to do. However, did he do it the right way? Could he have used some principles of Economics to carry out the reform in a far better way?

The history of abolition of slavery is complex. It is spread over a long period across many countries. It was also not always a case of smooth irreversible change. What follows here is a simplified and stylised view of the essential story in one phase of the US history, and an important way in which it, broadly speaking, differs from abolition of slavery elsewhere and in other periods.

The abolition of slavery was the main cause, if not the only cause, for the civil war in the US from 1861 to 1865. That led to deaths of about a million people. Yes, a million deaths! And, remember that the population size then was not what it is today. It also led to destruction of considerable amount of property. There could have been another cost but it was luck that this cost was not actually incurred. But that is ex-post. Ex-ante, the situation was different.

The civil war could have led to a partition of the country into two parts - one that supported slavery and another that opposed it. It so happened that eventually the country stayed united but there was always a possibility of an outcome in which two separate nations would emerge. If so, the two nations may have remained at loggerheads for a long time. This could have imposed another recurring cost in various ways.

The story does not end here. There was yet another cost. In 1865, President Lincoln was assassinated. Could all this have been avoided?

It is interesting, even if it is less well-known, that Abraham Lincoln was not the first to abolish slavery. There were several other leaders who abolished or reduced slavery in one way or another earlier. Within the US, some Northern states had abolished slavery in the late eighteenth century. Outside the US, some European powers carried out emancipation programs in their colonies in early nineteenth century. Britain changed its policy in 1833 - well before President Lincoln was to abolish slavery in the US. France and Denmark followed the UK in 1848. Some changes happened in Latin America as well. In most of these cases of emancipation of slaves, there was compensation given to slave owners. This may seem odd but there was a[1] reason.

In all these other cases, there was hardly any civil war, uprising, or even significant loss of lives or property in the process of abolishing slavery. Perhaps that is why the changes elsewhere and by other leaders are less well known! Textbooks of history seem to devote more space to cases of violence and destruction. This gives the impression that violence is necessary and inevitable in achieving a great cause but this is not always true. In the US in the 1860s, the abolition was announced without any compensation to the slave owners. Had there been a policy of adequate and timely compensation, the results may have been very different.

It is true that after the civil war had broken out already, the President did try to work out a compensation scheme for the slave owners in 1862 but it was a case of too late, if not too little as well. In any case, that remained a proposal; it never became a law.

There is a lesson from the experience of 1860s in the US. The reform should have been carried out by offering suitable compensation in advance to the slave owners. It may sound immoral to compensate the slave owners. In fact, some may argue that the slave owners should have been instead punished for what they had been doing for so many years. Well, we may make arguments in hindsight today. However, the ideas of morality were very different then. These ideas change over time. Today slavery is obviously wrong. However, surprising as it may seem, the thinking in the past was quite different. The zeitgeist prevailing at any time cannot be brushed aside. This is not to say that the reform should not have been brought in, even with the then prevailing ideology and the resistance to the change. The change should indeed have been - but in a more pragmatic manner that could have avoided a million deaths.

It is interesting that financial compensation can make a peaceful change very likely, if not very definite. It is, in my view, better to incur a financial cost than to incur a cost in terms of loss of a huge number of lives. This is particularly true in an age and in a country where economic progress increasingly makes financial compensation affordable. This is, a fortiori, true when the government can use a scheme to finance the compensation by issuing long-term bonds which can be redeemed over a long stretch of time by imposing small (additional) taxes on the rich every year.

Observe that the tax burden under the proposed policy would have fallen on all the rich - including the erstwhile slave owners. So, it is not that the slave owners would have been, under the proposal here, exempted from contributing to the cause of abolition of slavery.

Under the policy that was in fact used, the financial burden of reform fell on slave owners alone, as they were the ones whose "property" was liberated, or confiscated from a n economic point of view. And, of course, the burden of loss of life fell on the people who participated in the war. As far as the rest of the American people were concerned, there was hardly any contribution from them for the cause. The alternative policy suggested here includes a contribution from all the rich people in the US. It is a more equitable scheme under the proposal made here.

One may ask - why should the others who did not own slaves have to make a financial contribution? This too has a rationale. After all, one needs to put one's money where one's mouth is. The others were very vocal about the national cause of abolishing slavery. It is only appropriate that they make some contribution to the cause that was apparently dear to them.

So, the overall policy proposal here in the context of dealing with slavery in the US in the 1860s is as follows:
1. Abolish slavery
2. Substantially reduce, if not completely avoid, loss of life, and destruction of property
3. Compensate the slaveowners
4. Finance the compensation by issuing long-term bonds, and not by large current taxes 5. Redeem the bonds by taxing the very rich (including the erstwhile slaveowners) gradually over time

The point here is more general; it goes beyond the case of the abolition of slavery, and the Civil War in the US. There is a general tendency to justify implicitly, if not explicitly, violence, destruction, loss of lives if there is an important cause. This has happened time and again in History. We can change that – more so when we can use some Economics for the purpose.

To conclude, Abraham Lincoln did the right thing but the wrong way. A suitable application of Public Finance could have avoided a million deaths!

Bibliography

Essah, Patience, 1997, Compensated Emancipation, in The Historical Encyclopedia of World Slavery, edited by Junius P. Rodriguez, Volume I, p. 180-182.

Slemrod, Joel, and Bakija, Jon, 2017, Taxing Ourselves - A Citizen's Guide to the Debate over Taxes, fifth edition, MIT Press: Cambridge, Massachusetts.

Weber, Jennifer L., American Civil War: United States history, Britannica https://www.britannica.com/event/American-Civil-War/The-military-background-of-the-war

MONITORING PEACE AND SECURITY MANDATES FOR HUMAN RIGHTS

Deepa Kansra
Jawaharlal Nehru University

Abstract

The jurisprudence under international human rights treaties, has had considerable impact across countries. Known for addressing complex agendas, the work of expert bodies under the treaties, has been credited and relied upon for filling the gaps in the realization of several objectives, including the peace and security agenda.

In 1982, the Human Rights Committee (ICCPR), in a General Comment observed that "states have the supreme duty to prevent wars, acts of genocide and other acts of mass violence ... Every effort ... to avert the danger of war, especially thermonuclear war, and to strengthen international peace and security would constitute the most important condition and guarantee for the safeguarding of the right to life." Over the years, all treaty bodies have contributed in this direction, endorsing peace and security so as "to protect people against direct and structural violence ... as systemic problems and not merely as isolated incidents ...". A closer look at the jurisprudence on peace and security, emanating from treaty monitoring mechanisms including state periodic reports, interpretive statements, the individual communications procedure, and others, reveals its distinctive nature.

Monitoring States

Treaty bodies, in furtherance of their mandate to monitor States, have sought appropriate response and action to the "recruitment of children in armed conflict" and "push-backs of refugees including children", clashes between security forces and armed separatist groups, and inter-ethnic conflict", "statelessness", "disappearances involving armed groups", "forced disappearances in the context of conflict", "redressal to victims of war crimes including sexual violence", etc.

The process of monitoring for peace and security has been an ever-expanding field of interaction contributing to the creation of system-specific, violence/harm-specific, and governance-specific knowledge. Greece, for instance, informed the Committee on the Rights of the Child that the area of child rights "was highly horizontal" and "a cross-cutting concern". Under the International Convention on the Protection of All Persons from Enforced Disappearance, the Minister of Justice of Niger, conveyed to the Committee on Enforced Disappearances that the countries of the Sahel, "were facing a serious security crisis" due to almost daily attacks by "numerous non-State armed groups", which "led to human rights violations and worsened the humanitarian situation".

Violence and System Specific Approaches

A violence/harm-specific approach adopted by the Committee against Torture, Committee on Persons with Disabilities, and Committee on Enforced Disappearances, makes their work an important source on harm-based interpretations of the peace and security agenda. *Mrs. A* v. *Bosnia and Herzegovina* (2019), decided by the Committee against Torture, is noteworthy in this regard. The

Committee held that rape and other acts of sexual violence constitute torture under the Convention against Torture, and states are under an obligation to develop a legal framework clearly defining criteria for the status of victims of war crimes, including sexual violence. The State was held responsible to pay fair and adequate compensation and provide free medical and psychological care to Mrs A.

Towards the objective of preventing conflict, treaty bodies have issued directions to member-states to strengthen state machinery. For instance, the CERD recommended that Kazakhstan train local authorities and law enforcement officials to identify and resolve ethnic tensions. It also called for strengthening the legal and political power of the Assembly of People of Kazakhstan to enhance effectiveness in promoting peaceful coexistence of ethnic groups and preventing ethnic tensions and conflicts. In the case of Columbia, the Committee on Enforced Disappearances sought clarification on the databases on persons allegedly subjected to forced disappearance in the country, within and outside the context of the conflict. The system-specific approach has enabled the pursuit of reforms reflective of and in sync with the level of development of countries.

Distinctive Jurisprudence

RTreaty body jurisprudence has been seen to provide stronger protection than other international frameworks. The jurisprudence under the International Convention on Rights of Persons with Disabilities (CRPD), as against international humanitarian law, was found to be open to an understanding of the impact and interaction between an individual's inherent characteristics—sex, age, ethnicity, disability, etc.—and their access to and enjoyment of human rights in conflict settings. According to Priddy, taking into account inherent characteristics, the CRPD "responds to the the lived experience of persons with disabilities" in conflict settings. Further, refugee advocates have increasingly turned to monitoring procedures under international conventions, particularly the Convention against Torture.

Treaty mechanisms are frequently relied upon to strongly enforce the peace and security mandates of states. In 2011, the World YWCA and the Women's International League for Peace and Freedom discussed recommendations for a stronger link between the CEDAW reporting process, human rights, and the peace and security agenda, with the CEDAW Committee. They emphasized sexual and reproductive health rights of women in conflict situations and monitoring the allocation of budgets to these issues. More recently, Human Rights Watch (2021), in its Submission to the Committee on the Rights of the Child, encouraged the Committee to ask the government of South Sudan, what specific measures it had taken for children adversely affected by armed conflict, and toward implementing the accountability mechanisms in its peace deals? Many such endeavours have shown that it is practical to pursue human rights jurisprudence as a dynamic, comprehensive, and influential field of study in the context of peace and security. However, many practical questions remain. Of these, the quasi-judicial nature of treaty bodies and the impact of their directives have received the greatest attention.

Future Research

The 'peace and security' jurisprudence of treaty bodies highlights various conceptual frames that require elaboration and refinement, namely:

- Peace and security as a universal mandate across institutional settings.
- The application of the peace and security mandate at all times.

- The importance of the human rights and state machinery/governance praxis, as the basis for monitoring legislative, judicial, and administrative mechanisms.
- Treaty body mechanisms for the redressal of violations in conflict situations.
- Human Rights Treaty jurisprudence as a reliable source of disaggregated data on the causes and impacts of armed conflicts.
- The pursuit of knowledge on violence/harm-specific mandates under all human rights treaties.
- The pursuit of knowledge for a comprehensive determination of country-specific responses on matters of peace and security.
- An assessment of the direct and indirect impact of treaty bodies guidance on domestic responses to peace and security.
- A study of the diversity of approaches to peace and security, including the search for harmony in the creation and application of mandates across treaty bodies, and other institutional forums.

Bibliography

Çalı, B., Costello, C. & Cunningham, S. (2020). Hard Protection through Soft Courts? Non-Refoulement before the United Nations Treaty Bodies, 21 German Law Journal 355–384.

Committee on the Elimination of All Forms of Discrimination against Women(CEDAW, 2011). https://www.peacewomen.org/UN/cedaw-session/CEDAW201.1

Committee against Torture (2017). Concluding Observations on 6th Periodic Report of Bosnia and Herzegovina. https://www.refworld.org/docid/5a29192c4.html.

Committee against Torture (2019). Mrs. A v. Bosnia and Herzegovina. https://trialinternational.org/wp-content/uploads/2019/08/Decision-CAT-A-BIH-2August2019.pdf.

Hayden, P. (2004). Constraining War: Human Security and the Human Right to Peace, Human Rights Review.

Human Rights Watch (2021). https://www.hrw.org/news/2020/11/30/submission-committee-rights-childs-review-south-sudan

ICCPR, General Comment No. 6 on Article 6 (Right to Life). https://www.refworld.org/docid/45388400a.html

Krommendijk, J., (2015). The Domestic Effectiveness of International Human Rights Monitoring in Established Democracies: The Case of the Human Rights Treaty Bodies.

Office of the United Nations High Commissioner for Human Rights (OHCHR), “In Dialogue with Colombia, Committee on Enforced Disappearances Asks about the Number of Victims and Missing Persons and About the Definition of Enforced Disappearance”, https://www.ohchr.org/en/press-releases/2021/04/dialogue-colombia-committee-enforced-disappearances-asks-about-number

OHCHR (2022, April). UN Committee on the Elimination of Racial Discrimination Issues Findings on Cameroon, Estonia, Kazakhstan and Luxembourg. https://www.ohchr.org/en/press-releases/2022/04/un-committee-elimination-racial-discrimination-issues-findings-cameroon;

OHCHR (2022, March). In Dialogue with Niger, Experts of the Committee on Enforced Disappearances Ask About Cases Involving Armed Groups, and Cases Overseen by Military Courts. https://www.ohchr.org/en/news/2022/03/dialogue-niger-experts-committee-enforced-disappearances-ask-about-cases-involving

OHCHR (2022, May). Experts of the Committee on the Rights of the Child Ask Greece About Roma Children and Push Back of Refugees at the Border. https://www.ohchr.org/en/press-releases/2022/05/experts-committee-rights-child-ask-greece-about-roma-children-and-push-backs.

Priddy, A., (2019). Disability and Armed Conflict, The Geneva Academy of International Humanitarian Law and Human Rights.

OHCHR, The Core International Instruments and Their Monitoring Bodies. https://www.ohchr.org/EN/ProfessionalInterest/Pages/CoreInstruments.aspx.

Principi, K. F., (2020). Implementation of UN Treaty Body Decisions: A Brief Insight for Practitioners, Journal of Human Rights Practice 1–8.

Takahashi, S., (2022). Recourse to Human Rights Treaty Bodies for Monitoring of the Refugee Convention, 20(1) Netherlands Quarterly of Human Rights 53–74.

THE PARADOX IN HUMAN BEHAVIOUR

Subrato Banerjee

Indian Institute of Technology – Bombay; Centre for Behavioural Economics, Society and Technology (BEST), Queensland University of Technology

Some of the most recent developments in economic theory have found their way into the current student curricula in institutions of economics and management. The area of behavioral economics (BE hereafter), for instance, builds largely around the empirical evidence against the axioms and algorithms of game theory, and the idea of rationality in economics. Simply put, the content of BE is largely about how individuals frequently fail to fully exploit the benefits of sound reasoning. In other words, people do reason, but not well enough. It is also argued that this aspect of individuals must be taken into account in the understanding of policy implications. As a simple example, the mere announcement of price hikes in the near future is enough to generate some immediate economic (spending) activity by the consumers, one doesn't have to actually raise prices in the future – the consumer frequently fails to question the actual viability/rationale of such hikes.

Most of the current literature in BE draws from the results of social (field and laboratory) experiments aimed at testing the predictions of microeconomics and game theory. As it turns out, the general consensus is that neither is a good enough predictor of human behavior (for further details I recommend Smith's 'Rationality in Economics'). So experiments in economics and psychology take pride in (often) refuting the predictions of microeconomics and game theory (that's right! you get published for refuting existing theories).

There is, however, an interesting point that is being missed out here. If, for instance, game theory was indeed a good predictor of human behavior, then (as paradoxical as it will sound), game theorists would soon enough run out of their jobs. Let me explain: if you and I (or any economic agent) really behaved as per the predictions of game theory, then the need to explicitly study game theory wouldn't arise at the first place. If British Telecom knew exactly how to design their auctions, then they wouldn't have hired Prof. Ken Binmore (a big name in game theory). Paradoxically enough, therefore, both of those refuted, and those who refute, are happy with the existing experimental results.

So when you read statements like "agent A plays strategy X," in standard texts of game theory, what is actually meant is "agent A, who is actually a game theorist himself plays strategy X." Clearly, A isn't just anybody and to be fair, game theory, at least in the more advanced levels, requires deep thought – deep enough to prevent just anybody from acquiring the necessary skills. The same arguments hold for formal microeconomic theory.

In my opinion, we overestimate the ability of the human mind to be endlessly rational, and underestimate its ability to endlessly rationalize human action hence the excessive academic interest in (and, sometimes even heavy reliance on) the former. The latter, on the other hand, is so important, that it has the potential to explain almost all human evil (let alone 'selfishness' – the common academic axiom).

In a nutshell, humans are not (infinitely) rational, but (again infinitely) rationalizing agents. We'd jump the traffic signal, when we know that no one's around even if it is broad daylight. There is a direct satisfaction – we have saved time. The indirect satisfaction comes from our ability to rationalize our action (we didn't cause an accident and therefore didn't hurt anybody so we're good souls) and consequently hold a good opinion of ourselves (although the subconscious self may still suggest otherwise). If you still have a different opinion, I will take the liberty to leave you with a rather disturbing thought that even terrorists can rationalize all their action and they often do. You're free to dismiss the opinion presented here (and terrorists are free to reject yours!).

We handpick our company, principles, teachings, and opinions, to comfort ourselves, whenever our actions are in conflict with our subconscious morality. On a lighter note, any economist, who, on occasion, is found to be stingy, can conveniently blame it on his conditioning in game theory and microeconomics that often assume intrinsic human selfishness.

Development economists frequently need to know how economic agents would react to policy nudges. Marketing professionals need to capitalize on advertisement strategies that trigger impulsive buying.

Both economics and business studies aim at understanding human behavior with varied approaches such as microeconomics, game theory, psychology and behavioral studies. While the former areas witness the advantages of mathematical rigor (math is a neutral language, devoid of strong emotion, and involves precise and logical thinking), the latter focus on the role of emotions in the shaping of human behavior which are exceedingly complex for any axiomatic mathematical formalization (although, some of the recent developments in economics and game theory accounts for such emotions through what are called as models of bounded rationality). It is, therefore, difficult to conclusively reject the merits of any single approach in favor of another. One can't write any subject off from graduate school coursework. I will only maintain that all the approaches are necessary for a fuller understanding of human action.

To add a final note, the limits of game theory in making predictions about human action has been well acknowledged in the newer approach called bounded rationality … there is a bound to how rational one can be, but (as I have argued before) there is no limit to how much one can rationalize. The behavioral economist often says to the game theorist "humans don't act according to the dictates of game theory," to which, the game theorist politely responds "which is why you need us!"

Bibliography

Bardsley, N., Cubitt, R., Loomes, G., Moffatt, P., Starmer, C., & Sugden, R. (2009). Experiments in economics: Rethinking the rules. Princeton: Princeton University Press.

Binmore, K. (2007). Playing for real. Madison Ave: Oxford University Press.

Camerer, C. (2003). Behavioral game theory: Experiments in strategic interaction. Princeton: Princeton University Press.

Henrich, N., & Henrich, J. (2007). Why humans cooperate: A cultural and evolutionary explanation. Madison Avenue: Oxford University Press.

Moulin, H. (1988). Axioms of cooperative decision making. Cambridge: Cambridge University Press.

Moulin, H. (2003). Fair division and collective welfare. Massachusetts: MIT Press.

Roth, A. (1979). Axiomatic models of bargaining. Lecture notes in economics and mathematical systems. Berlin: Springer.

Smith, V. (2007). Rationality in Economics: Constructivist and Ecological Forms. Cambridge: Cambridge University Press.

THE EVOLUTION OF ECONOMIC INEQUALITY IN INDIA

Gayathri Ajayan, Syed Salman Ashraf
National Institute of Bank Management

Abstract

While development theory has historically been concerned with measuring inequality in terms of studying income and wealth distributions, the focus has gradually shifted to a broad-based approach of access to a basic minimum standard of living, defined not only in terms of income and wealth, but also in terms of other fundamentally important economic variables: education, health, and nutrition. When it comes to measuring economic inequality within a country, economists frequently focus on the distribution of income across families. However, development economists are increasingly interested in the distribution of household expenditure, since consumption is regarded as a more accurate predictor of welfare than income.

The reliability of the government's inequality statistics has deteriorated dramatically over the previous three years, making it especially difficult to analyse the present difference. Throughout history, financial and economic crises have disproportionately impacted emerging and undeveloped nations, especially the weakest social strata within them. The pandemic, which began as a health issue and spread to a financial and economic crisis, created an economic collapse that left the poor to fend for themselves amidst the lockdown-induced travel limitations, job losses, and an already stretched healthcare system. Despite the fact that the wealth of Indian billionaires increased by Rs 30 lakh crore during the epidemic, over 4.6 crore people slipped into abject poverty, according to Oxfam's "Inequality Kills" study.

Governments may reduce inequality by rejecting market fundamentalism fighting the special interests of influential elites and changing the norms and practices that led us to the current situation of inequality. Even if households now earn enough to meet their basic food needs at pre-pandemic levels, the provision of expanded rations will allow them to devote some resources to other ends, such as debt repayment or increased consumption of other items, and will go a long way toward improving living standards.

Introduction

The scholarly interpretation perhaps of what an equal society should ideally look like:
“A society can be said to provide equal opportunities when circumstances do not determine the differences in life outcomes.” (Ferreira et al., 2009). However, such a paradigm is realistically unachievable, and the status quo is riddled with problems.

To elaborate, Mumbai, the financial capital of India, the so-called city of dreamers, is also the city of maximum contrasts. Behind the allure of sea-facing skyscrapers, glass facades and some of the most expensive housing projects in the world like Antilia, the city also houses one of Asia’s largest slum regions (Dharavi), where a sizeable population lives in uninhabitable dwellings and goes to bed hungry. This is not the truth of one city, but that of an entire nation.

There is a growing consensus in India and the world over that the benefits of increasing economic growth are shared inadequately, with poorer countries and communities getting a disproportionately smaller share of the benefits (Economic Growth: The Impact on Poverty Reduction, Inequality, Human Development and Jobs, n.d.). Such widely skewed income distributions are a serious threat to social and political stability which jeopardizes the achievement of the overarching economic goals envisioned by the United Nations Sustainable Development Goals (SDGs). The latest World Inequality Report 2022 found that the richest 10% of the global population currently takes 52% of global income, leaving a mere 8.5% to the poorest half of the population. The report also flagged India as a poor country, with the top 10% holding 57% of national income in 2021 and the bottom 50% holding just 13%. This begs the question -is this the outcome of the natural order of things, or is the system rigged? French economist Thomas Piketty gives us a noteworthy argument in this regard - he observed that inequality, far from being an outcome solely of fate/chance, can be reversed through targeted policies and reforms.

Grasping Economic Inequality

A 2015 definition of economic inequality by the Department of Economic and Social Affairs of the United Nations gives a holistic view of framing inequality. It defines economic inequality as “the distribution of key economic variables among individuals in a group, among groups in a population, or among countries.” While historically, development theory has largely been concerned with measurements of inequality in terms of studying the distributions of income and wealth, the focus slowly shifted to a more broad-based approach of access to a basic minimum standard of living, defined not only in terms of income and wealth but also in terms of other fundamentally important economic variables such as education, health and nutrition (Cingano, F. (2014), Trends in Income Inequality and Its Impact on Economic Growth, n.d. OECD Social, Employment and Migration Working Papers, No. 163, OECD Publishing.

Much of this discussion has been boiled down to two important perspectives: inequality of opportunities and inequality of outcomes. While equality of opportunity argues that gender, ethnicity, family background, etc. should not determine outcomes (ensuring a common starting place for everyone), the equality of outcome describes a state in which people have similar economic conditions.
When it comes to the measurement of economic inequality, economists are often interested in the distribution of income among households within a nation. Increasingly, developmental economists often look at the distribution of household expenditure, as consumption is seen as a more reliable indicator of welfare than income.

The most commonly applied tool for inequality quantification is the Gini coefficient (derived from the Lorenz Curve). A simple graphical representation of inequality, the Lorenz Curve represents the percentage of income owned by x per cent of the population by plotting the cumulative number of income recipients (ranked from the poorest to richest) on the x-axis and the cumulative percentage of total income on the y-axis. Interpretations of inequality are observed in comparison to a 45-degree line of perfect equality. The farther the Lorenz curve is in relation to the 45-degree line, the more unequal the distribution of income (Inequality Measurement, 2015). Furthermore, the Gini coefficient allows for the comparison of income distributions of different sizes and is, therefore, a very powerful tool at the disposal of economists.

History of Economic Inequality in India

Under British colonial control (1858-1947), Indian income disparity was extremely severe with the top 10% earning about 50% of the total income (“India 'Very Unequal', Top 10% Hold 57% of National Income: Inequality Report,” 2021). Following independence, socialist-inspired five-year plans helped to reduce this to 35-40%. Since the mid-1980s, policy deregulation and liberalisation have resulted in one of the world's most dramatic rises in income and wealth disparity. While economic changes have mostly benefited the top 1%, development among low and medium-income groups has been relatively moderate at best. The quality of inequality statistics given by the government has significantly degraded over the last three years, making it particularly difficult to analyse the current disparity. Between 1961 and 1981, the percentage of total income spent on the lowest half stayed relatively stable, ranging between 21% and 23%t, but it thereafter began to plummet, decreasing to 14.7% in 2019 from 22.2% in 1991. The percentage of the middle 40% follows a similar pattern, declining from 42.6% in 1961 to 29.7% in 2019.

What the Pandemic left in its Wake

Throughout history, financial and economic shocks have disproportionately affected the developing and underdeveloped economies and within them the poorest sections of social strata. The same is true of the novel coronavirus pandemic that has been spreading around the world since early 2020. Primarily a health crisis that manifested into a financial and economy-wide crisis, the pandemic triggered an economic downturn that left the poor to fend for themselves amidst lockdown-induced mobility restrictions, consequent job losses and compounded further by an already strained healthcare infrastructure (*The Impact of the COVID-19 Pandemic on Jobs and Incomes in G20 Economies*, n.d.). In many ways, the pandemic revealed how easily the financial security of working-class individuals could be destabilized by factors beyond personal control.

According to Oxfam's "Inequality Kills" report, even though the wealth of Indian billionaires surged by Rs 30 lakh crore during the pandemic, over 4.6 crore people fell into abject poverty. The collective wealth of India’s 100 richest people hit a record high during the pandemic months. However, the income of 84% of Indian households declined during the same period.

The fallouts of the pandemic were apparent from quite early on when in the months of April-May 2020, India witnessed its worst domestic migration crisis since the partition of the subcontinent in 1947. Triggered by government-induced lockdowns and job losses, millions of unemployed wage labourers have left crowded cities to travel back to their villages. Good health and well-being is one of the seventeen UN Sustainable Development Goals (SDGs) and is a fundamental human right. According to a study conducted by The Lancet, India ranks poorly in measurements of healthcare access and quality (Fullman, 2018). The fractures in India’s healthcare infrastructure were evident during the peak of infections in the country when a deficiency in the supply of oxygen-supported beds, ICU beds, vaccines and drugs spelt out death for the less privileged. Many families that have lost their sole earning member of the household have been pushed to the edge of poverty. Children from poorer families have suffered gravely with falling nutrition levels and loss of primary years of schooling due to the inability to shift to an online mode of education.

Another often overlooked parameter of inequality is gender-based inequality. As is the case with most economic shocks the impact of which is far from gender-neutral, women in India bore the brunt of the economic and social fallout of COVID-19. Women in India accounted for just 24% of the workforce before the pandemic, yet accounted for 28% of all job losses as the pandemic took hold. Women from poor and marginalized communities faced an even higher risk of COVID-19 transmission and fatalities, loss of livelihood and increased violence. According to a study conducted by The Lancet, India ranks poorly in measurements of healthcare access and quality (Fullman, 2018). The fractures in India’s healthcare infrastructure were evident during the peak of infections in the country when a deficiency in the supply of oxygen-supported beds, ICU beds, vaccines and drugs spelt out death for the less privileged. Many families that have lost their sole earning member of the household have been pushed to the edge of poverty. Children from poorer families have suffered gravely

with falling nutrition levels and loss of primary years of schooling due to the inability to shift to an online mode of education.

Another often overlooked parameter of inequality is gender-based inequality. As is the case with most economic shocks the impact of which is far from gender-neutral, women in India bore the brunt of the economic and social fallout of COVID-19. Women in India accounted for just 24% of the workforce before the pandemic, yet accounted for 28% of all job losses as the pandemic took hold. Women from poor and marginalized communities faced an even higher risk of COVID-19 transmission and fatalities, loss of livelihood and increased violence. According to data compiled by UN Women, incidents of domestic abuse, child marriage, cyber violence and trafficking of women and children surged during the first few months of the epidemic.

India was a highly unequal economy even before the advent of the pandemic. The advent of the pandemic added fuel to the girl by inflicting collateral damage. Although we are one of the fastest-growing economies in the world, we continue to rank poorly in various global indices that reflect the quality of human life such as the Human Development Index (rank 131 out of 189 countries) and the Global Hunger Index (rank 101 out of 116 countries). It is also generally recognized that India's economic recovery is K-shaped, which means that the earnings of the lower sectors of society are declining while those of the affluent sections are growing.

This brings us to ask a very fundamental question. How should the government intervene to reverse the discrepancies in the pandemic?

What can the Government do to address economic inequalities?

The continuous increase in economic disparity in India – and throughout the world – is not unavoidable. It is the product of policy decisions (Action, 2015).

Governments may start reducing inequality by rejecting market fundamentalism, opposing the special interests of powerful elites and altering the norms and procedures that have got us here. They may reduce inequality by enacting measures such as tax cuts and income assistance or transfers (government programs such as welfare, free health care, and food stamps), among others. They must enact measures that redistribute money, and power and level the playing field.

So far, the weight of the crisis has been unequally distributed with the poor bearing the brunt of it. A greater direct cash transfer to the poorest, the continuance of PDS rations (which ended in November), the extension of MGNREGA in rural regions, the implementation of a new urban employment guarantee programme and increased expenditures on education should all be included in the recovery package. These steps would assist households in regaining their footing, partially compensating for previous losses and mitigating long-term consequences.

A case in point here is the inadequacy of direct provisions in the recently unveiled Budget 2022 to address the inequality and insecurity of the poorest. While there are some welcoming decisions such as increased allocation to urban planning to make urban spaces more equitable and inclusive, the allocations towards big-ticket social expenditure items such as MGNREGA and PDS are not enough to meet reality on the ground.
The amount budgeted for food grains delivered via PDS has now been reduced. Ideally, even if households were now earning enough to meet their basic food needs at the pre-pandemic levels, provisioning of expanded rations would enable them to devote some resources to other ends, such as paying down debt or increasing consumption on other items and will go a long way in improving living standards. Similarly, given the prior pending wage payments and current demand patterns, the allocation for employment support under MGNREGA is nowhere close to sufficient.

Experts propose restoring the wealth tax, which was repealed in 2016 or imposing a one-time tax on the affluent to fund the post-pandemic economic recovery. According to a Business Standard editorial, low-skilled job development, which may provide employment for the low-skilled workforce, is critical (“What Should the Government Do to Address Deepening Inequality” 2022).

Given the government's limited fiscal space, organisations like the National Investment and Infrastructure Fund (NIIF) and the Development Financing Institution (DFI) must be used for this purpose. Decisive actions must be taken to create more employment. The government will be unable to address the issue of poverty unless the labour force participation rate rises.

Concluding Notes

Extreme inequality is a form of economic violence. As long as a rising tide fails to lift all boats, for every family that can afford three meals a day, there will be many more that get by on one and for every child that has the privilege of accessing a decent education, there will be many more who are forced to drop out of school.

In the Indian context, this fragility of social construct is rooted in years and years of sharp inequality. Time and time again, a sizable chunk of the population has been denied access to a basic minimum standard of living, killing the hopes and dreams of millions.
If India is to achieve its target of transforming into a global superpower, then it must ensure that the benefits of burgeoning growth are shared more equitably among all sections of society.

Bibliography

World Inequality Report
https://wir2022.wid.world/executive-summary/#:~:text=The%20World%20Inequality%20Report%202022,%25%20today%20(Figure%201

Concepts of Inequality
https://www.un.org/en/development/desa/policy/wess/wess_dev_issues/dsp_policy_01.pdf

Women and Covid-19 in India
https://www.unwomen.org/en/news/stories/2021/7/faq-women-and-covid-19-in-india#:~:text=In%20India%2C%20reports%20of%20domestic,between%20February%20and%20May%202020.

Inequality Measurment
https://www.un.org/en/development/desa/policy/wess/wess_dev_issues/dsp_policy_02.pdf

JUNIOR EDITORIAL BOARD 2021-2022

Aditi Singla

Arshita Jain

Ayush Poddar

Chhavi Agrawal

Keshav Khemka

Pakhi Vats

Pratul Mathumkar

Priyanshu

Raghav Kant

Risha Saini

Roshni Kumari

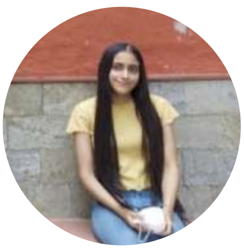
Ruchi Gupta

Seher Bhat

Suhani Jain

Udyan Negi

DESIGN TEAM



Afrah Mundewadi

Sanya Tiwari

Satakshi Gupta

THE ECONOMICS SOCIETY

SHRI RAM COLLEGE OF COMMERCE

ecosocsrcc.com

contact@ecosocsrcc.com