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Why is Income inequality rising so much? A case study of India Economy

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Abstract: *The Indian economy is known as one of the largest and the fastest growing economies of the world. But little is known about the inside story. India, as diverse a country as it is in terms of cultural and religious differences, is also as diverse in the extent of division of wealth and income. Magnanimous differences exist within the nation between the rich and the poor and the rural urban divide in the nation is drastic. All this has been pulling the rich and the poor further away and leaving the nation in the hands of the affluent few. This paper has been written to elucidate the reasons as to why the nation experiences a constant rise in the income inequality.*

Key words: *income inequality, inflation, urban population, rural population, gini coefficient*

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I. Introduction

With a current population of 1.38 billion and counting, the Indian nation has always been divided into two sections- the urban and the rural sections where the rural sections still comprise of around 66% of the nation's total population. That section of the population is still engaged in agricultural activities which lays the foundation of India as an agrarian economy. Cutting short to the outcome- the nation runs on the incomes of the few but extremely powerful urban rich. The rich get richer over the years, and the poor become poorer. And this cycle seems never ending. A few reasons for this ever-rising income inequality can be:

1.1 Unemployment
1.2 Inflation rate
1.3 Number of workers employed in the Unorganized sector
1.4 Urban population in the nation
1.5 Indirect taxation

All these factors play a crucial role in determining how much income goes to whom and all of the factors very effectively point towards a single direction- the rich, the urbanized. With the current situation, where the entire world is in the clutches of the pandemic, these income gaps are bound to widen and would impact the already worse off sections of the country more than ever. There exists an almost non-existent trickle-down effect from the richer sections of the society to the poorer ones and hence, they remain oblivious of the economy

II. Methodology

All statistical data on income of different category comes from ministry of statistics and program implementation of government of India. Time period taken for the data used in project is 2000 to 2019. More specifically, income proportion of different groups are collected and also the factors likely to impact the inequality are considered; inflation, unemployment, population in urban area etc.

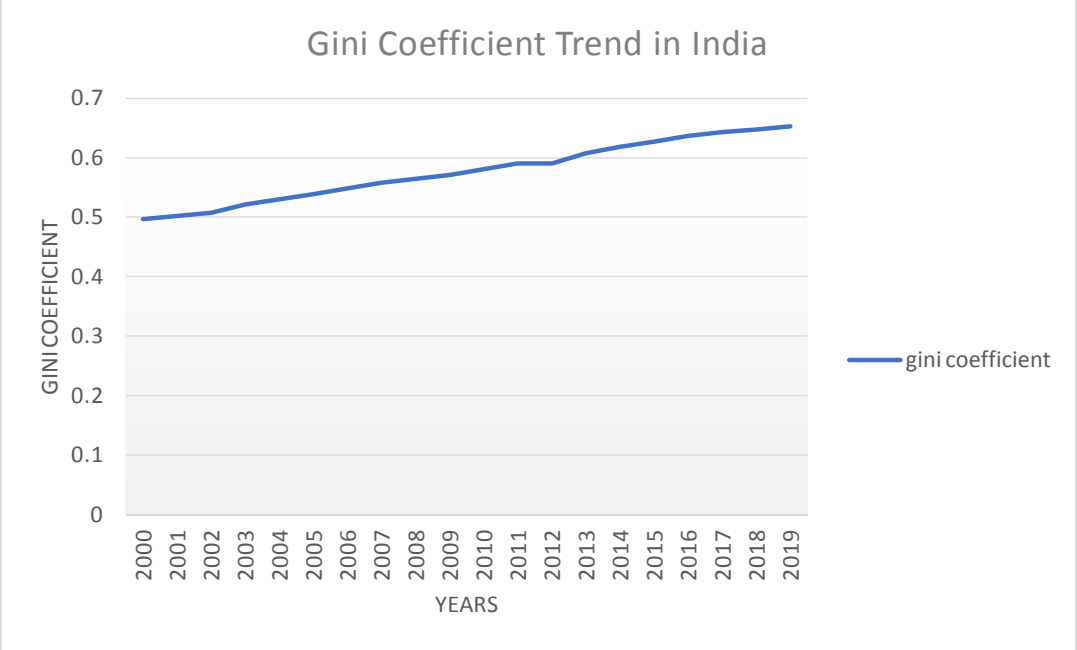
Total population of the country divided in groups according to their wealth holding in the country. Groups are divided as urban and rural. I believe that all data on unemployment, taxation and inflation are of reasonable quality. Nevertheless, it is natural that incomes fluctuate substantially across the population and over time. It is important to remember that our data on incomes pertain to a particular time period.

- This study is completely based on the secondary data collected from the government of India database and only secondary study is involved.
- Utilized infographics- charts, line graphs to plot the data extracted to study the movement of the data
- Econometric modelling was also utilized to bring into light the strongest parameters which impact the income inequality in our nation. Correlation between the parameters and the outcome were also studied to interpret the strength of relationship between the potential significant variables.

III. Literature Review

3.1 Income Inequality

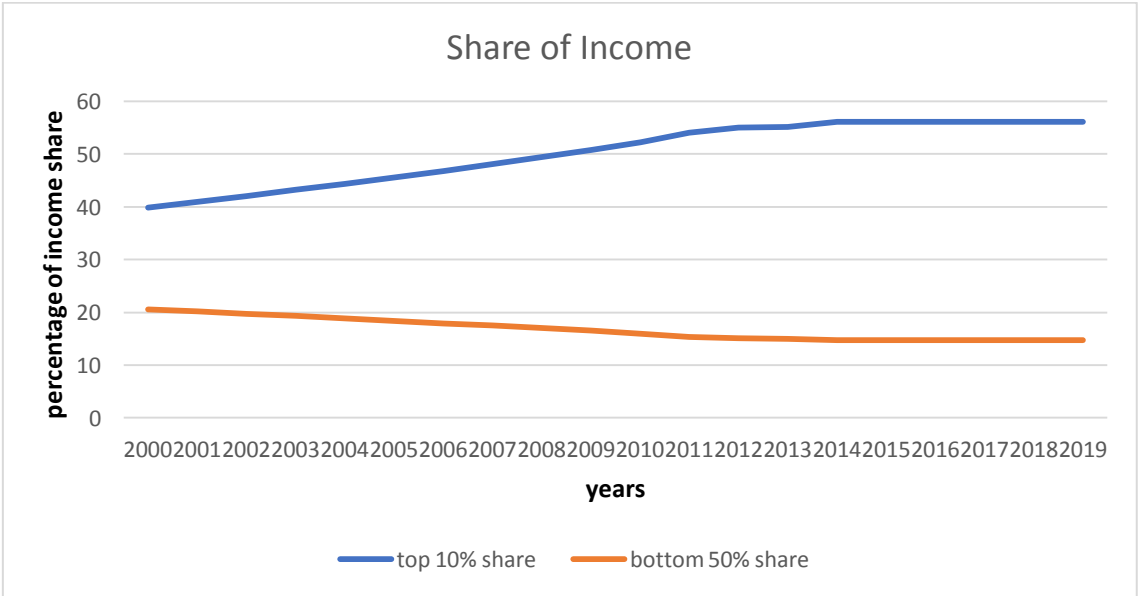
In layman terms, income inequality can be defined as how unequally the income is distributed throughout the population of a country. Inequality is usually measured by Gini coefficient of a nation. The value of Gini coefficient lies between 0 to 1, where 0 indicates perfect equality and 1 indicates perfect inequality.



Source: prepared from Table 1.* in annexure

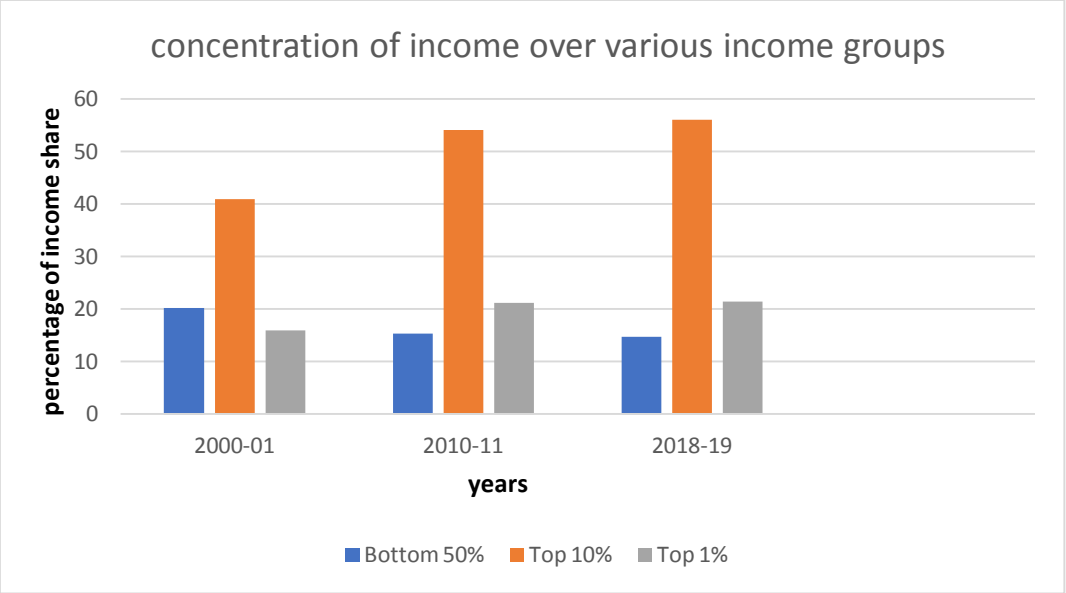
The table above shows the trend of Gini Coefficient in India over 2000-2019 and it is very evident that the level of inequality has constantly grown over the years.

The inequality can simply be attributed to the concentration of wealth and income in hands of a small yet rich population of the country who regardless of the scenario, see a rise in their incomes and accumulation of wealth every year. The poor either are at a stagnant or they see a decline in their meagre consumption income. The irony of the nation is such that out of a population of 1.3 billion, where about 84 million of the population is poor, even after being the major constituent, they form the worst of the lot. The social inequality keeps the inequality high even though the growth rate of the nation is impressive.



Source: prepared from Table 1.* in annexure

The pictorial above shows the amount if income held by the top 10% of the population and the bottom 50% of the population and it can be clearly observed that there has been a rise in the income held by the richer sections of the population while the incomes held by the poorest 50% of the population see their incomes go down every year.
India remains persistently poor.



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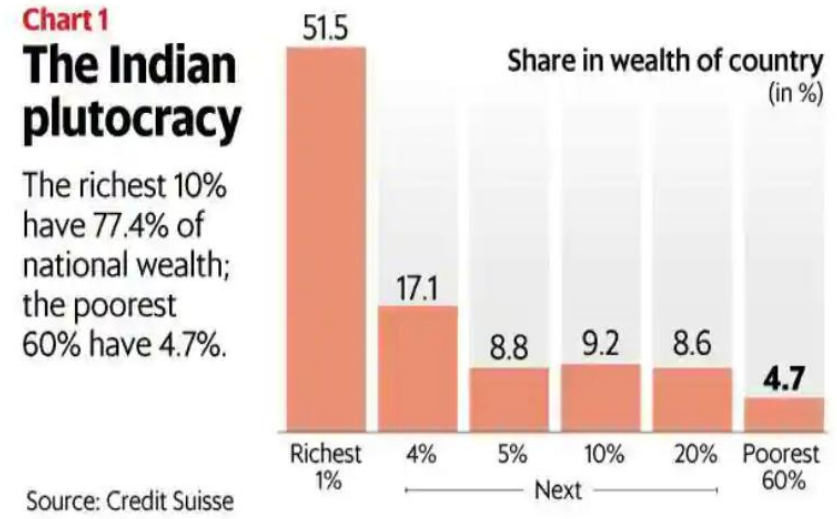


10% of the richest Indians have 77.4% of the wealth in India; the poorest 60% have 4.7%. Graphic: Mint

3.2 Analysis of causes of income inequality

Income inequality has been an outcome of various factors acting together in one single direction- against the already miserable.

1.2.1 The major reason of this lack of growth in the incomes of the poorer is a lack of reduction in this inequality gap. The poor are neglected, their employment conditions are miserable and often not even known about; ***the unorganized sector of the economy***

More than 82% of the population is employed in the unorganized sector, where all the activities are unaccounted for. *Lack of skillsets and lack of education* among this population forces them to move towards the unorganized sector where the wages are known to be lower than the lowest. They are forced to take up these jobs to meet their ends. These people also tend to work as contract workers and thus lose their jobs often due to the seasonal

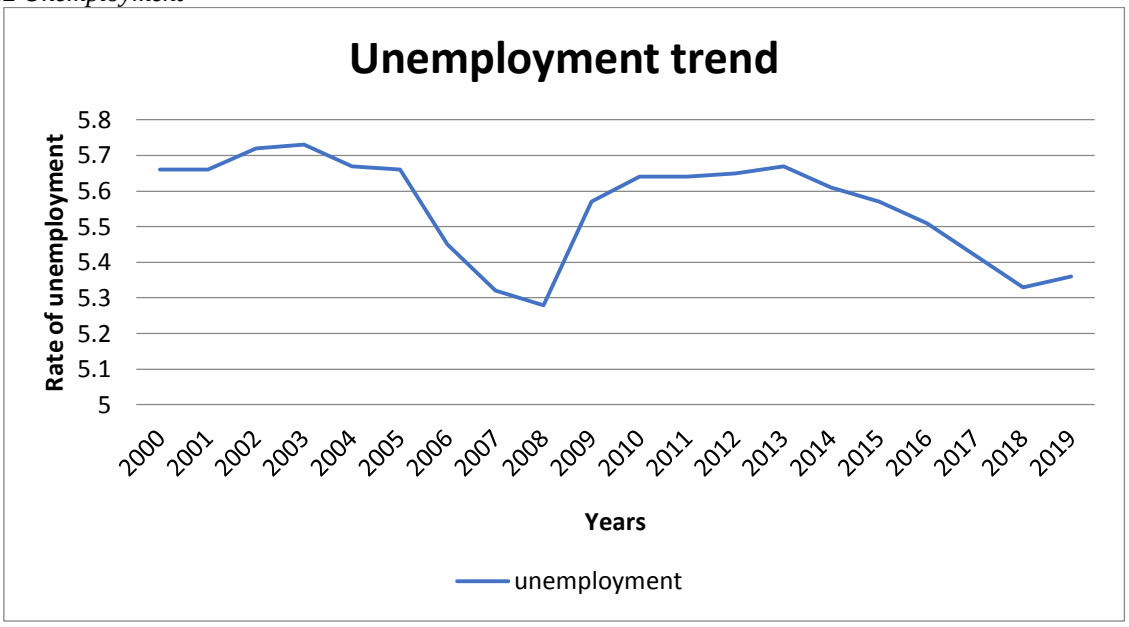
employment. This further leads the differences in the incomes of the populations to grow larger with every passing year.

Sector	People working for unorganised sector in India(in million)
Mining	1.79
Manufacturing	52.49
Electricity and water supply	1.21
Construction	48.92
Trade, Hotel and Restaurant	50.17
Education	6.31
Health	2,68

Source: https://geographyandyou.com/the-unorganised-workforce-of-india/

Also, upon looking at the difference between what the rural incomes and urban incomes are, it is estimated that the population of 84 million would require about 7 generations to reach the mean income of the nation.

1.2.2 *Unemployment*



Source: prepared from Table 1.* in annexure

For a country like India, with its rich heritage, culture and diversity, it is obvious that any change in unemployment levels at any given period of time will have snowball effects on the income of people. The higher the unemployment, more impact it has on the lower sections of the economy. Those populations, which are already on the worst side, are further hit. Loss of incomes in this group more than accounts for the rise in inequality in incomes. From the graph it is evident that the level of unemployment has not been lower over the years and hence is an important factor affecting income gap. This also includes the fact that people working in unorganised sector are not accounted for in the employment, thereby added to the ratio of unemployment and further increasing the income inequality.

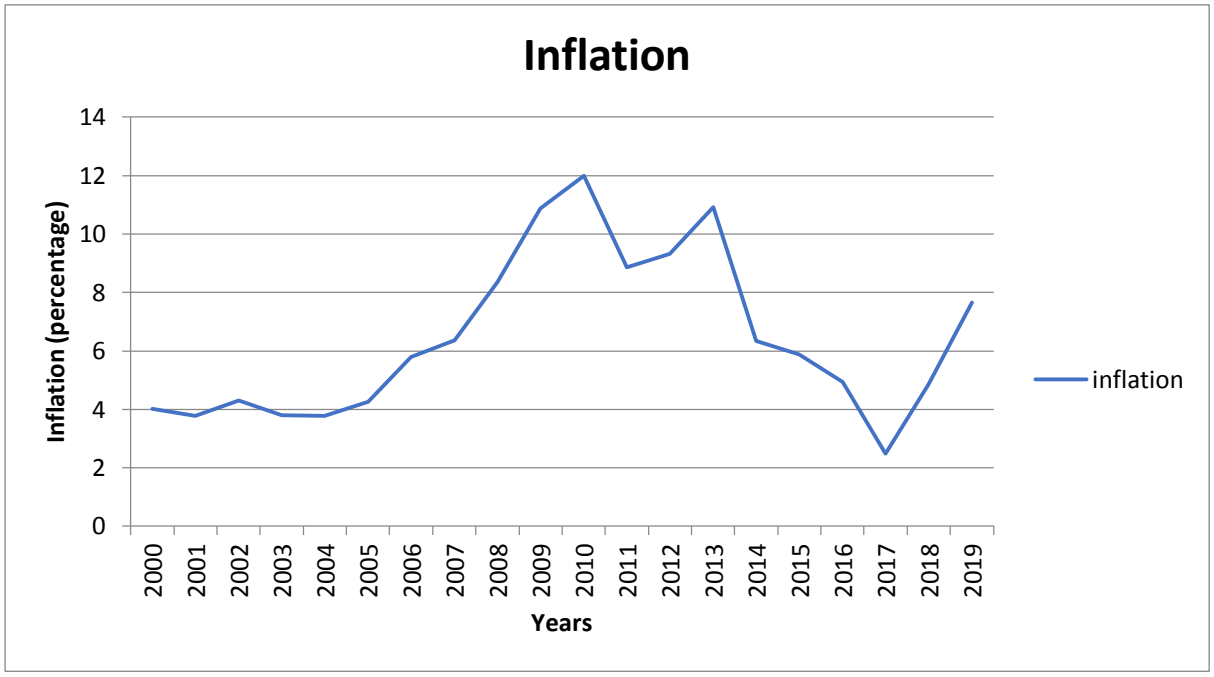
1.2.3 *Inflation*

Inflation can be defined as the decline of purchasing power of a given currency over time. The rise in the general level of prices, often expressed as a percentage, means that a unit of currency buys less than it did previously.

The graph depicts inflation trend from year 2000 to 2019

During early 2000s, the value was around 4 indicating low level of inflation and people used to buy more resulting in more consumption. Afterwards, the graph shows an upward trend after 2008 crisis, indicating

widened income gap between rich and poor, which was never bridged as much. The higher the level of inflation, lower the purchasing power and worse off are the lower sections of the society.



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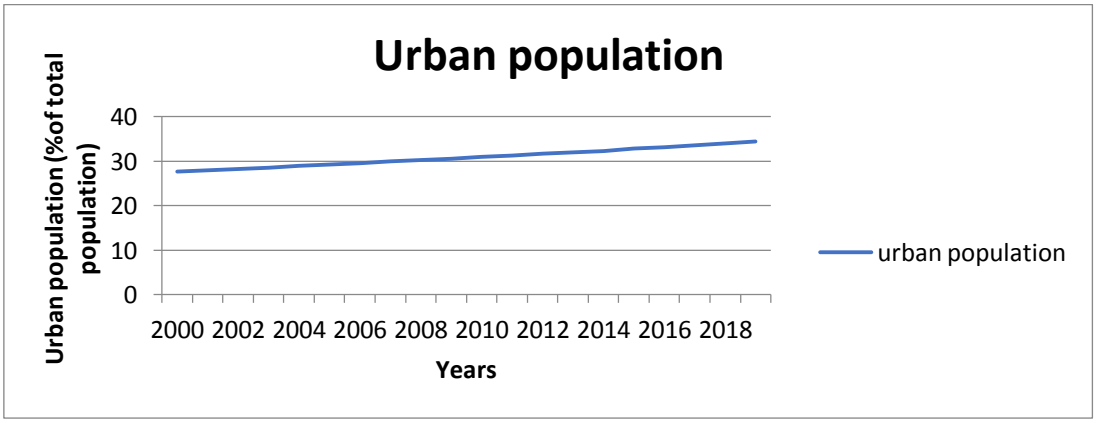
1.2.4 *Proportion of Urban population*

The urban population means population in the metropolitan cities has increased over the years resulting in a more educated population than rural. This further attributes to the fact that more the educated, more people will be employed which will increase the income earned by them as compared to the rural population thus widening the gap.



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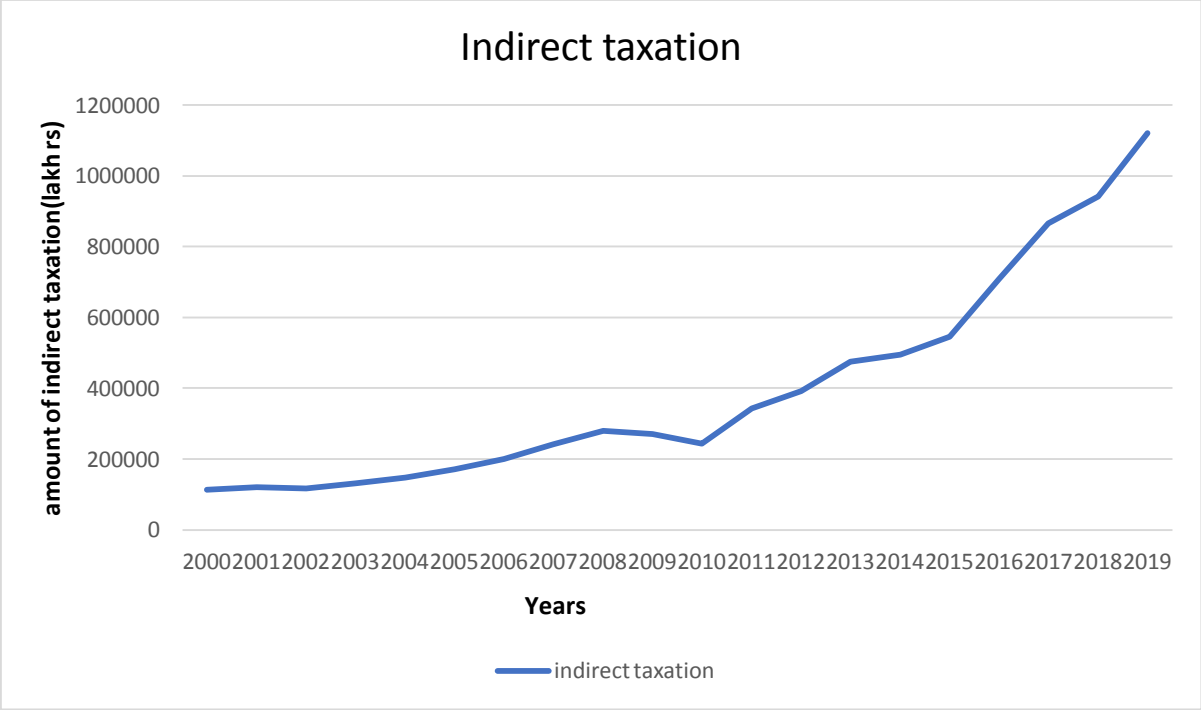
1.2.5 *Indirect taxation*

Since indirect taxes are levied upon consumption, and everyone everywhere needs to consume for survival, an excess of indirect taxation, especially on food items may further lead to a loss of purchasing power of the poor and leave them even worse off with lesser and lesser in their hands.



Source: prepared from Table 1.* in annexure

Since from above it can be seen that the trend in indirect taxation has risen over the years, leaving behind very less in the hands of the poor, indirect taxation may have left the unfortunate worse off.

1.2.6 Relationship between the factors causing Income inequality

Year	Gini coefficient	Inflation(%)	Unemployment(%)	urban population(%)
2000	0.497	4.01	5.66	27.67
2001	0.502	3.78	5.66	94.34
2002	0.508	4.3	5.72	94.28
2003	0.521	3.81	5.73	94.27
2004	0.53	3.77	5.67	94.33
2005	0.539	4.25	5.66	94.34
2006	0.548	5.8	5.45	94.55
2007	0.558	6.37	5.32	94.68
2008	0.565	8.35	5.28	94.72
2009	0.571	10.88	5.57	94.43
2010	0.581	11.99	5.64	94.36
2011	0.59	8.86	5.64	94.36
2012	0.59	9.31	5.65	94.35
2013	0.607	10.91	5.67	94.33
2014	0.618	6.35	5.61	94.39
2015	0.627	5.87	5.57	94.43
2016	0.637	4.94	5.51	94.49
2017	0.643	2.49	5.42	94.58
2018	0.647	4.86	5.33	94.67
2019	0.653	7.66	5.36	94.64

Data was collected over 2000-2019 where an econometric model was formulated with the variables- unemployment, inflation and the proportion of urban population and their impact on the Gini coefficient was analysed.

$Y_i = \beta_0 + \beta_1 X_1 + \beta_2 X2 + \beta_3 X_3 + E_i$
Where β_0 is the intercept term, β_1 is the coefficient for inflation, β_2 is the coefficient for unemployment and β_3 is the coefficient for urban population
For this, the hypothesis was formulated
H_0- inflation, unemployment and urban population do not have a significant impact on the amount of income inequality
H_1- inflation, unemployment and urban population significantly impact the amount of income inequality

```
Model 1: OLS, using observations 2000-2019 (T = 20)
Dependent variable: ofinequality

                   coefficient   std. error   t-ratio     p-value
  ---------------------------------------------------------------
  const            -16.4801      6.11400     -2.695     0.0159    **
  inflation          0.0290869   0.0410636    0.7083    0.4889
  unemployment       0.0125335   0.888357     0.01411   0.9889
  urbanpopulation    2.39481     0.0627421   38.17      3.83e-017 ***

Mean dependent var   57.66000   S.D. dependent var   5.079411
Sum squared resid    3.672089   S.E. of regression   0.479067
R-squared            0.992509   Adjusted R-squared   0.991105
F(3, 16)             706.6436   P-value(F)           3.30e-17
Log-likelihood      -11.42906   Akaike criterion     30.85811
Schwarz criterion    34.84104   Hannan-Quinn         31.63562
rho                  0.591889   Durbin-Watson        0.852219

Excluding the constant, p-value was highest for variable 2 (unemployment)
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The model can then be estimated as; **$Y_i = -16.4801 + 0.0290869X_1 + 0.0125335X2 + 2.39481X_3 + E_i$**
The interpretation of the model can be as; When inflation rises by one unit, the inequality rises by 0.0290869 units, unemployment rises by one unit, the inequality increases by 0.0125335 units and, urban population rises by one unit, inequality rises by a humungous 2.39481 units. It can be said that these parameters have an impact on the income inequality.
Upon running the model and comparing the values of each of the t-values with the tabulated t-value, the significance and impact of each of the parameters was evaluated. The level of significance was taken to be 0.05. The tabulated value for 16 degrees of freedom and 0.05 level of significance is 2.120
Inflation (β_1)- the t-value for the parameter stands at 0.7083 with a p-value of 0.4889. Since the t-value lies within bounds of the tabulated t-value, the parameter is significant. Also, the p-value is greater than 0.05, it is statistically significant.
Unemployment (β_2)- Similarly, the p-value is greater than 0.05, it is statistically significant
Urban population (β_3)- Since the t-value for this lies outside bounds of the tabulated t-value, the parameter is not significant statistically.
The **null hypothesis gets rejected** and it can be said that these parameters do impact the level of inequality in the Indian economy significantly.
The value of R squared comes out to be 0.9925 or 99.25% significance level indicating the strength of the model. This parameter further strengthens the fact that the parameters chosen to analyse the impact on gini coefficient are almost exhaustive and that the model is close to perfect.

IV. Discussion, Recommendation And Conclusion

On a general note of discussion, experts blame the increased penetration of technology and industrialization for the enhanced income inequality. Those who can use technology experience an increase in productivity and wages compared to their less-skilled counterparts. Ironically though, this is what leads to the growth of the nation and hence cannot be declared as the sole reason for this outcome. Then what explains economic inequality in India? A significant fraction of inequality is likely because 70% of labour force work in sectors with low productivity and in turn low incomes.
Below are a few suggestive mechanisms that I could think of with respect to the debilitation of the problem.

- Universal basic income (UBI) is a government scheme wherein every adult citizen receives a fixed amount a regular basis. The goals of a basic income system are to alleviate poverty and replace other need-based social programs that potentially require greater bureaucratic involvement.
- At the same time, price ceilings prevent a price from rising above a certain level.

- A progressive tax policy can also be implemented or improvised upon.

A few of these recommendations may bridge the gap in years to come and leave a larger proportion of population better off.

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Acknowledgments

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I am thankful to them for their support and precious time.

Annexure I

Year	gini coefficient	% of inequality	inflation	unemployment	indirect taxation	top 10% share	top 1% share	bottom 50% share	rural population	urban population
2000	0.497	49.7	4.01	5.66	113794	39.9	15.1	20.6	72.33	27.67
2001	0.502	50.2	3.78	5.66	120040	40.9	15.9	20.2	72.08	27.92
2002	0.508	50.8	4.3	5.72	117177	42.1	16.7	19.7	71.76	28.24
2003	0.521	52.1	3.81	5.73	131581	43.2	17.5	19.3	71.43	28.57
2004	0.53	53	3.77	5.67	147658	44.3	18.4	18.8	71.1	28.9
2005	0.539	53.9	4.25	5.66	170546	45.5	19.3	18.4	70.77	29.23
2006	0.548	54.8	5.8	5.45	199398	46.8	19.7	17.9	70.43	29.57
2007	0.558	55.8	6.37	5.32	241263	48.1	20.1	17.5	70.09	29.91
2008	0.565	56.5	8.35	5.28	279104	49.4	20.4	17	69.75	30.25
2009	0.571	57.1	10.88	5.57	269645	50.8	20.8	16.5	69.41	30.59
2010	0.581	58.1	11.99	5.64	243881	52.2	21.2	16	69.07	30.93
2011	0.59	59	8.86	5.64	343178	54.1	21.1	15.3	68.72	31.28
2012	0.59	59	9.31	5.65	391232	55	21.3	15.1	68.37	31.63
2013	0.607	60.7	10.91	5.67	474767	55.2	21.6	15	68	32
2014	0.618	61.8	6.35	5.61	495541	56.1	21.3	14.7	67.72	32.28
2015	0.627	62.7	5.87	5.57	545680	56.1	21.3	14.7	67.22	32.78
2016	0.637	63.7	4.94	5.51	708013	56.1	21.4	14.7	66.82	33.18
2017	0.643	64.3	2.49	5.42	866109	56.1	21.4	14.7	66.4	33.6
2018	0.647	64.7	4.86	5.33	941119	56.1	21.4	14.7	65.97	34.03
2019	0.653	65.3	7.66	5.36	1121242	56.1	21.4	14.7	65.53	34.47

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