"Research report on Indian Unemployment scenario and its analysis of causes , trends and solutions" A PROJECT STUDY SUBMITTED IN PARTIAL FULFILLMENT FOR THE REQUIREMENT OF THE TWO…

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"Research report on Indian Unemployment scenario and its analysis of causes , trends and solutions"

A PROJECT STUDY SUBMITTED IN PARTIAL FULFILLMENT

FOR THE REQUIREMENT OF THE

TWO YEAR (FULL-TIME)

POST-GRADUATE DIPLOMA IN MANAGEMENT

(2018 – 20)

BY

Prajjwal Kaushik

152/2018

UNDER THE GUIDANCE OF
Mr. Abhishek Jha

LAL BAHADUR SHASTRI INSTITUTE OF MANAGEMENT, DELHI

LAL BAHADUR SHASTRI INSTITUTE OF MANAGEMENT, DELHI

Date 12-02-2020

CERTIFICATE

This is to certify that the present study is based on my original research work and my indebtedness to others' works, publications, etc. wherever cited in this study has been duly acknowledged at appropriate places.

This work has not been submitted either in part or in full for the award of any diploma or degree in any university/ Institute and is now being submitted for evaluation in partial fulfillment for the requirement of the Two-year Full Time Post-Graduate Diploma in Management (General).

Prajjwal Kaushik

152/2018

The student consulted me while doing this Final Research Project.

Extent of Plagiarism: _____%

Prof. S.K. Dixit

Faculty Guide

DECLARATION

I hereby declare that the report titled **"Research report on Indian Unemployment scenario and its analysis of causes , trends and solutions"** is my original work and has not been submitted or published for any diploma, degree or similar titles somewhere else. This report has been undertaken for the partial fulfillment for the partial fulfillment of Post Graduate Diploma in Management at Lal Bahadur Shastri Institute of Management, Delhi.

Date: 12-02-2020

Prajjwal Kaushik

PGDM General

152/2018

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1. Introduction

Unemployment is characterized as a phenomenon where labourers who are equipped for working and ready to work, don't look for some kind of employment. It is communicated as a proportion of the complete number of jobless people to the all out work power. In India, the National Sample Survey Organization (NSSO) and the Labor Bureau compute work and joblessness.

India has the biggest extent of youth populace on the planet (Economic Times, 2014). The joblessness rate in the 18–29 age bunch in 2015 was 13.2%. A huge number of youth enter the activity advertise each year. Nevertheless, as indicated by the NSSO finance information, work creation eased back somewhere around 6–7% in January 2019 when contrasted with the earlier year. This has unfavorably affected the work possibilities of youth. The Unemployment rate is evaluated at 6.1% for 2017–18, the most noteworthy over the most recent 45 years. This mirrors a vocation emergency and a bungle of qualified ability and accessible business openings.

The issue of joblessness has been developing since Independence, and particularly so for the adolescent. In 2015, over 30% of India's childhood was neither utilized nor in instruction nor preparing, perhaps do the most noteworthy rate on the planet.

Several factors have contributed to the unemployment problem in India

- High population growth
- Slow rate of economic progress
- Joint family system,
- Onset of technology ,
- Caste system,
- Prevalence of agriculture
- Fall of cottage and small industries
- The slow growth of industrialization
- Shortage of electricity, coal and raw materials in India.

Unemployment is a serious problem. It indicates a situation where the total number of job vacancies is much less than the total number of job seekers in the country. It is a kind of situation where the unemployed persons do not find any meaningful or gainful job in-spite of having willingness and capacity to work. Thus, unemployment leads to a huge wastage of labour resources.

1.2. Types of Unemployment

1. Open Unemployment

It is the most legitimately perceptible joblessness situation by perception, it happens when the accessible no. of employments are not ready to take into account the populace. This sort of joblessness can be seen and included as far as the number of jobless people. The work power extends at a quicker rate than the development pace of the economy. Hence, not all individuals land positions.

2. Disguised Unemployment:

A larger number of individuals are doing work than really required in a circumstance. Regardless of whether some are pulled back, generation doesn't endure. At the end of the day, it alludes to a circumstance of work with surplus work power in which a few specialists have zero minor efficiencies.

3. Seasonal Unemployment:

The joblessness happens during specific periods of the year. In certain enterprises and occupations like agribusiness, occasion resorts, ice plants and so forth., generation exercises occur just in certain seasons. So they offer work for just a specific timeframe in a year. Individuals occupied with such kind of exercises may stay jobless during the off-season.

4. Cyclical Unemployment:

It is brought about by profession cycles at customary interims. For the most part entrepreneur economies are liable to exchange cycles. The downswing in business exercises brings about joblessness. Repetitive joblessness is regularly a shot-run wonder.

5. Educated Unemployment:

Among the informed individuals, aside from open joblessness, many are underemployed in light of the fact that their capability doesn't coordinate the activity. Flawed instruction framework, mass yield, an inclination for clerical occupations, absence of employable abilities and decreasing formal salaried occupations are predominantly answerable for joblessness among taught young people in India.

6. Structural Unemployment:

This kind of joblessness emerges because of radical changes in the monetary structure of a nation. These progressions may either influence the inventory of a factor or interest for a factor of generation. Basic business is a characteristic result of financial improvement and mechanical progression and advancement that are occurring quickly everywhere throughout the world in each circle.

7. Chronic Unemployment:

In the event that joblessness keeps on being a long haul highlight of a nation, it is called incessant joblessness. The fast development of populace and lacking degree of financial improvement on account of an endless loop of neediness are the primary drivers for constant joblessness.

8. Frictional Unemployment:

Frictional joblessness is caused because of inappropriate alteration between the supply of work and interest for work. This kind of joblessness is because of the fixed status of work, absence of right and convenient data, occasional nature of work.

Strategies for estimating Unemployment by Govt. Of India

1. Usual Status Approach

- The Usual Status way to deal with estimating joblessness utilizes a reference time of 365 days, for example, one year going before the date of the study of NSSO for estimating joblessness.

- The Usual Status approach of estimating joblessness likewise takes a gander at the vital movement and auxiliary action status of the labourer.

• Thus, the initial step to evaluate work numbers and joblessness rate through this methodology includes assurance of the Principal regular action status of the person.

2. Current Weekly Status

• The Current Weekly Status (CWS) way to deal with estimating joblessness utilizes seven days going before the date of study as the reference time frame.

• An individual is viewed as utilized on the off chance that the person seeks after any at least one of the productive exercises for in any event one-hour on any day of the reference week. Then again, if an individual doesn't seek after any beneficial movement, however, has been looking for or accessible for work, the individual is considered as jobless.

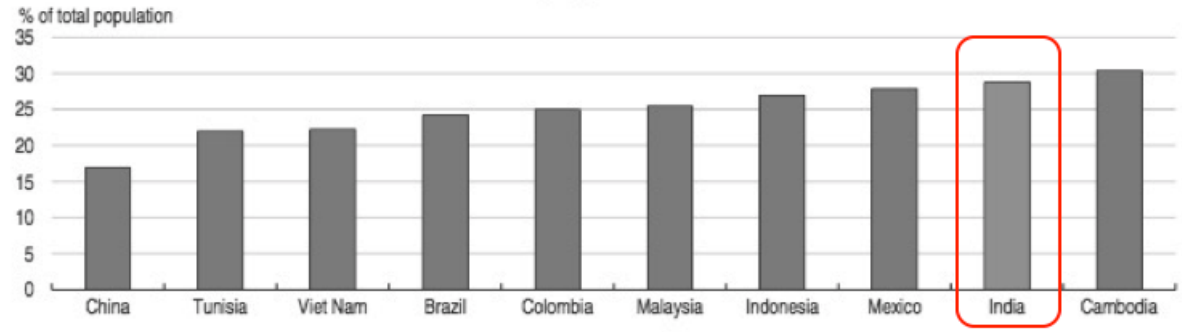
3. Current everyday Status

• The current everyday status way to deal with estimating joblessness looks to find out the movement status of a person for every day of the reference week. It reports the time attitude of a person on every day of the reference week. This implies notwithstanding recording the movement being sought after, time power is additionally recorded in quantitative terms for every day of the reference week.

Table 12.1. Magnitude of Unemployment in the Indian Economy (% of Labour Force)

Approach	1972-73	1977-78	1983	1987-88	1993-94	1999-2000	2004-05	2009-10	2011-12
Usual Principal Status	1.61	4.23	2.77	3.77	2.58	2.8	3.1	2.5	2.7
Current Weekly Status	4.32	4.48	4.51	4.80	3.6	4.4	4.4	3.6	–
Current Daily Status	8.35	8.18	8.28	6.09	6.0	7.3	8.3	6.6	5.6

India is one of the underdeveloped countries which is suffering from a huge unemployment problem. However, the unemployment problem in India is not the result of deficiency of



D. Percentage of youth aged 15-29 who are neither employed nor in education or training
2015 or latest year available

effective demand in Keynesian term but a product of shortage of capital equipment's and other complementary resources accompanied by high rate of growth of population.

2. Literature Review

1. **Youth employment and unemployment in India, S. Mahendra Dev and M. Venkatanarayana, 2011, Research gate**

- This research article is a part of an ongoing project which aims at collecting the unemployment rates and related macroeconomic variables to observe trends and effects of such variables on the unemployment rate
- Presently the data is of past 35 years until 2011 which has been derived from various sources like the NSSO and the MoE&L
- Various attributes have been studied such as literacy rate, employability, distribution among various sectors etc.

- The project is aiming at collating all the internal factors that add up to eventually lead to unemployment
- The paper examines the employment and unemployment situation of the youth in India during the last two-and-half decades. It analyses the trends in labour force and workforce participation rates, unemployment, joblessness, working poor, growth and employment elasticities etc. The paper also offers policy recommendations for increasing productive employment and reduction in unemployment for the youth. The poor employability of the workforce would hamper the advantages due to demographic dividend if measures were not taken to improve the educational attainment and skill development of the youth.

2. **The Cause of Unemployment in Current Market Scenario, Rubee Singh, Vivechan International Journal of Research, Vol. 9, Issue 1, 2018, ISSN No. 0976-8211**

- This paper examines the cause of unemployment in India in current market scenario. Government is rightly concerned about creating jobs for youth and rising levels of youth unemployment because of not only direct economic costs but also social issues related problems like as poverty, acid attacks, violence against women on her working place, drugs, labour force, inadequate education planning, inappropriate education system, new-liberal economic policy, various causes of poor placements. This paper also suggests some measure to overcome of these burning problems of unemployment.

- According to ILO & UN Report, the present unemployment rate is 3.5 percent in 2018. The paper also suggests and recommends some points to overcome of this current situation of unemployment prevailing in India.

3. **Unemployment and Levels of Socio-Economic Deprivation in India: A Regional Perspective (Dr. Jabir Hasan Khan , Shamshad , Tarique Hassan , British Journal of Humanities and Social Sciences January 2012, Vol. 3 (2))**

- This paper is an attempt to analyze the spatial patterns of unemployment and levels of socio-economic deprivation in India, and to find out the relationship between unemployment (dependent variable) and selected variables of socio-economic deprivation (independent variables) among the states and union territories (UTs) of India.

- The study is based on secondary sources of data obtained from Census of India publications (2001), New Delhi. The boundary of the state/union territory has been taken as the unit of study. The analysis of the present study discloses that the level of unemployment is relatively high in the northern parts and few north-eastern states (Sikkim, Arunachal Pradesh, Manipur and Mizoram) as compared to southern states in

the country. The level of socio-economic deprivation is high in the north-central states, and it decreases towards the north, south, east and north-eastern parts of the country.

- The t-test explicates that spatial variations in the level of unemployment might have been mainly due to rural unemployment rate, household size and population density.

4. **Trade liberalization and unemployment: Theory and evidence from India , Rana Hasan, Devashish Mitra, Priya Ranjan, Reshad N. Ahsan , Journal of Development Economics 97 (2012) 269–280.**

    - The Journal deals with the perception that trade liberalization leads to increase in unemployment
    - It studies the national and state level data to study the relation between such polices and trends
    - The paper finds out no direct relation between liberalization and unemployment
    - Further , it is observed that state which have more flexible labour laws are likely to benefit from trade liberalization in terms of employment
    - Similar positive outcomes come for states with high export ratio

- The results can be explained within a theoretical framework incorporating trade and search-generated unemployment and some institutional features of the Indian economy.

3. Objectives

- To Study the historical trends of Unemployment rate and related macro – economic variables and factors
- To relate these trends to the current scenario and find point of similarities and differences
- To find the reasons and coming up with feasible solution to improve the present situation

4. Methodology

- The research follows the following processes

1. Exploratory Research
    - Reading research papers and other published materials
    - Reading various reports from PIB and ministry of I&B
    - Analysing historical data form various databases including
        1. NSSO
        2. ILO
        3. FRED
        4. IndiaStat
        5. Statista
        6. RBI data
        7. Data.gov.in
        8. MoL&S

2. Conclusive research
    - Using the data to create descriptives, trends, graphs and study them
    - Using statistical tools and software to find associations and variances
    - Plotting interactive descriptives using tableau and analyzing trends
    - Coming up with reasons for the problem and possible solutions

5. Data Analysis

11.1. Exploratory Research

Historical Trends

Table 2.1: Labour force Participation Rates (LFPRs) in India

Year	Rural and Urban			Rural			Urban		
	P	M	F	P	M	F	P	M	F
1	*2*	*3*	*4*	*5*	*6*	*7*	*8*	*9*	*10*
1972-73	42.0	54.5	28.6	43.9	55.1	32.1	34.5	52.1	14.2
1977-78	43.9	56.0	31.0	45.8	56.5	34.5	37.5	54.3	18.3
1983	43.0	55.1	30.0	45.2	55.5	34.2	36.2	54.0	15.9
1987-88	42.2	54.5	29.0	44.3	54.9	33.1	35.6	53.4	16.2
1993-94	42.7	55.6	28.7	44.9	56.1	33.0	36.3	54.3	16.5
1999-2000	40.6	54.0	26.3	-	54.0	30.2	-	54.2	14.7
2004-05	43.0	55.9	29.4	44.6	55.5	33.3	38.2	57.0	17.8
2007-08	41.3	56.3	25.4	42.9	55.9	29.2	36.9	57.6	14.6

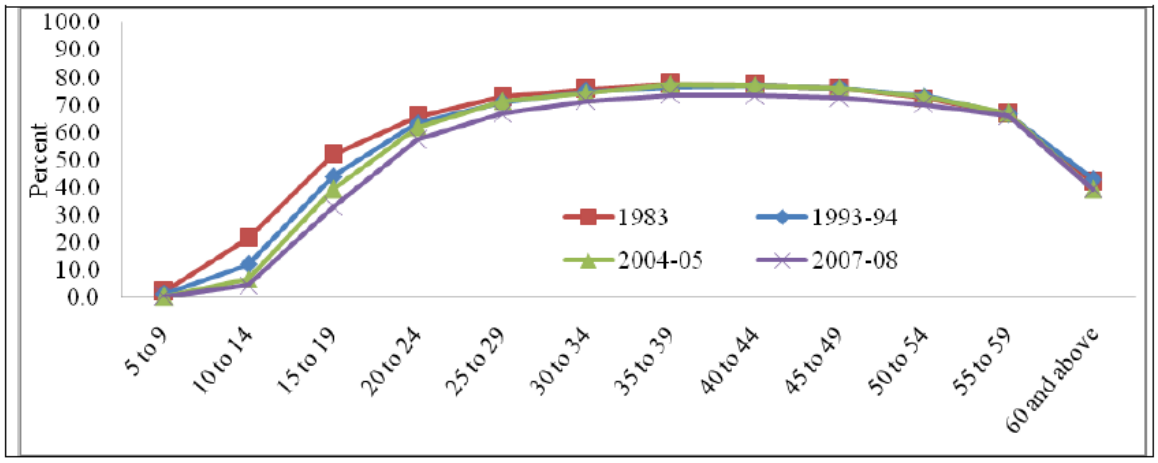
Note: Usual status including principal and subsidiary status.

Source: Visaria (1998) and NSS Employment and Unemployment Survey reports.

- The trend shows that during 1970s the LFPR had increased to its highest ever in 1977-78 and began to decline thereafter1.2
- Between 1987-88 and 1993-94, although there was marginal increase in LFPR, there was a sharp decline of 2 percentage points between 1993-94 and 1999-2000
- The sharp decline in LFPR during 1990s is partly due to increasing attendance rate in educational institutions

2. Historical Record of LFPR w.r.t. age

Figure 2.1: Labour Force Participation Rate (LFPR) in India by Age Group

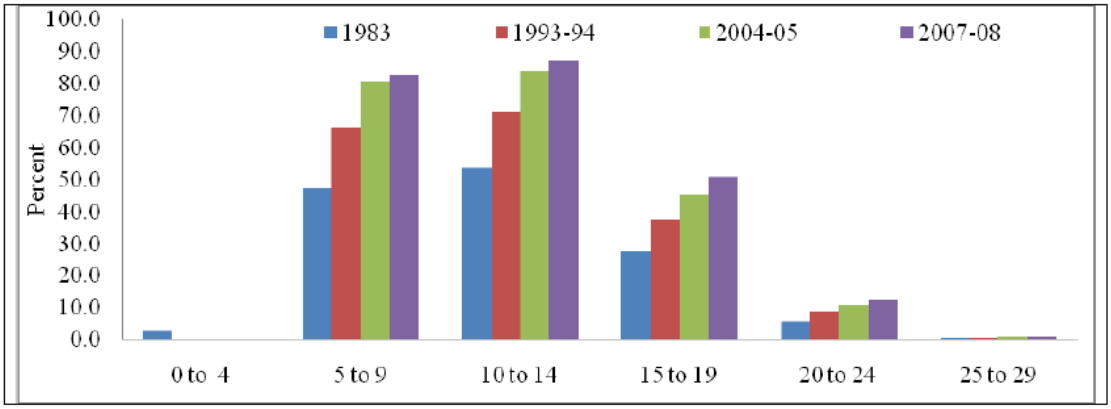


Note: Usual Status (principal and subsidiary).
Source: Using NSS Employment and Unemployment Survey unit record data.

- It indicates that it is declining among younger cohorts below 30 years of age over the period and a slight increase in the older cohorts

a. Historical School Participation rate

Figure 2.2: School Attendance Rate in India – Percentage of 5-29 age group Attending Educational Institutions (Usual Status)



Note: Usual Status.

Source: Using NSS Employment and Unemployment Survey unit record data.

b. Past Unemployment rates according to the three measuring methods

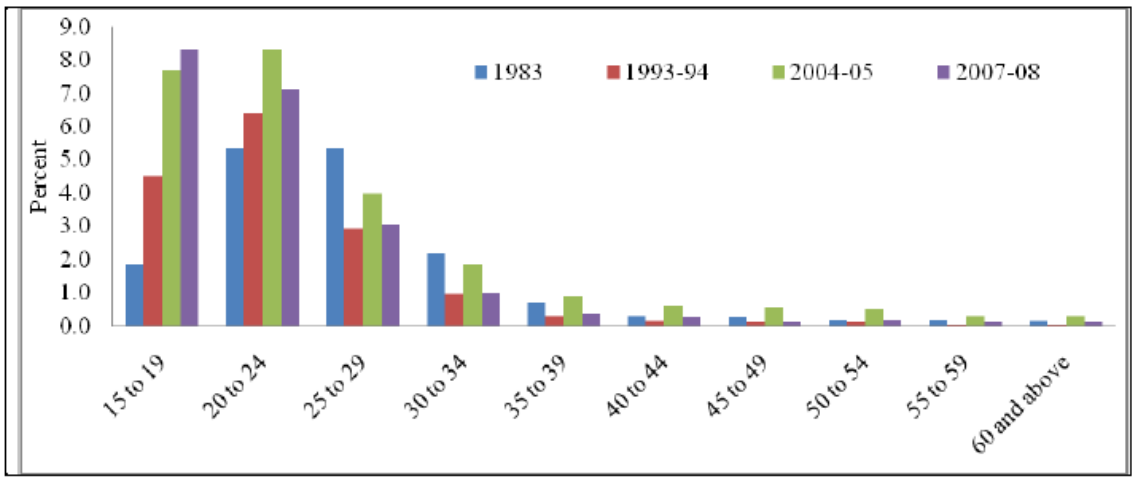
Table 2.3: Incidence of Unemployment in India by three Alternative Concepts

Year	Rural and Urban			Rural			Urban		
	P	M	F	P	M	F	P	M	F
1	*2*	*3*	*4*	*5*	*6*	*7*	*8*	*9*	*10*
Usual Status									
1972-73	1.6	1.9	1.0	0.9	1.2	0.5	5.1	4.8	6.0
1977-78	2.6	2.2	3.3	1.5	1.3	2.0	7.1	5.4	12.4
1983	1.9	2.3	1.2	1.1	1.4	0.7	5.0	5.1	4.9
1987-88	2.7	2.6	2.9	2.0	1.8	2.4	5.4	5.2	6.2
1993-94	1.9	2.2	1.4	1.1	1.4	0.8	4.4	4.0	6.2
1999-2000	-	-	-	-	2.1	1.5	-	4.8	7.1
2004-05	2.9	-	-	2.5	2.1	3.1	5.3	4.4	9.1
2007-08	2.2	2.4	1.7	1.6	1.9	1.1	4.1	3.8	5.2
Weekly Status									
1972-73	4.3	3.7	5.9	3.9	3.0	5.5	6.6	6.0	9.2
1977-78	4.5	4.4	5.0	3.7	3.6	4.0	7.8	7.1	10.9
1983	4.5	4.4	4.8	3.9	3.7	4.3	6.8	6.7	7.5
1987-88	4.8	4.8	5.0	4.2	4.2	4.3	7.0	6.6	9.2
1993-94	3.6	3.5	3.8	3.0	3.0	3.0	5.8	5.2	8.4
1999-2000	-	-	-	-	3.9	3.7	-	5.6	7.3
2004-05	4.4	4.2	5.0	3.9	3.8	4.2	6.0	5.2	9.0
Daily Status									
1972-73	8.3	7.0	11.5	8.2	6.8	11.2	9.0	8.0	13.7
1977-78	8.2	7.6	10.0	7.7	7.1	9.2	10.3	9.4	14.5
1983	8.3	8.0	9.3	7.9	7.5	9.0	9.6	9.2	11.0
1987-88	6.1	5.6	7.5	5.2	4.6	6.7	9.4	8.8	12.0
1993-94	6.0	5.9	6.3	5.6	5.6	5.6	7.4	6.7	10.5
1999-2000	-	-	-	-	7.2	7.0	-	7.3	9.4
2004-05	8.2	7.8	9.2	8.2	8.0	8.7	8.3	7.5	11.6

- It can be inferred from the data that the unemployment rate has been steadily increasing from the 1970s to 2000s
- It is not only due to decrease in jobs but several other factors like
    - More enrollment in colleges and higher education
    - The natural rate of unemployment
    - Increasing workforce population
- It is observed that the unemployment rate is higher among urban labour force when compared to the rural ones.

c. Historical Unemployment by age

Figure 2.4: Unemployment Rate in India by Age Group



Note: Usual Status.
Source: Using NSS unit record data.

- It is clearly observable fro the data that there is prevalent child labour in India
- The following graph suggests that the rate of unemployment historically reduced with advancement in age
- While the number of unemployed individual gradually increased across all age groups

d. Historical state wise Unemployement

Table 1: State/UT Wise Distribution of Unemployment and Levels of Socio-Economic Depriva in India, 2001

States	Unemployment Rate	Level of Socio-Economic Deprivation	Unemployment vis-à-vis Deprivation
Jammu & Kashmir	0.572	0.026	U_1SED_2
Himachal Pradesh	-1.485	-0.551	U_3SED_3
Punjab	0.487	-0.004	U_2SED_2
Uttrakhand	0.589	-0.053	U_1SED_2
Haryana	0.133	-0.048	U_2SED_2
Rajasthan	-0.288	0.554	U_2SED_1
Uttar Pradesh	1.330	0.847	U_1SED_1
Bihar	1.128	0.909	U_1SED_1
Sikkim	-1.384	-0.220	U_3SED_2
Arunachal Pradesh	-0.608	0.110	U_3SED_2
Nagaland	-0.372	0.369	U_2SED_2
Manipur	-0.541	-0.292	U_3SED_2
Mizoram	-2.058	-0.633	U_3SED_3
Tripura	0.707	-0.394	U_1SED_2
Meghalaya	-0.237	0.020	U_2SED_2
Assam	0.774	0.132	U_1SED_2
West Bengal	0.605	0.278	U_1SED_2
Jharkhand	0.487	0.169	U_2SED_2
Orissa	0.268	0.458	U_2SED_2
Chhattisgarh	-1.030	-0.033	U_3SED_2
Madhya Pradesh	-0.389	0.516	U_2SED_1
Gujarat	-0.254	-0.058	U_2SED_2
Maharashtra	-0.355	0.307	U_2SED_2
Andhra Pradesh	-0.912	0.263	U_3SED_2
Karnataka	-0.693	0.125	U_3SED_2
Goa	0.268	-0.364	U_2SED_2
Kerala	1.364	-0.646	U_1SED_3
Tamil Nadu	-0.726	-0.033	U_3SED_2
Union Territories			
Chandigarh	1.280	-0.328	U_1SED_2
Delhi	-0.945	-0.123	U_3SED_2
Daman & Diu	-1.923	-0.582	U_3SED_3
Dadra & Nagar Haveli	2.544	0.304	U_1SED_2
Lakshadweep	0.875	-0.233	U_1SED_2
Pondicherry	0.353	-0.320	U_2SED_2
Andaman & Nicobar Islands	0.572	-0.361	U_1SED_2

- This is a data from 2001 census
- This is a z score table of various states and UTs
- The z score of more than 0.4 means the unemployment is higher as compared to other states
- J&K, N-E & the islands are showing the highest unemployment along with Kerala and Dardra and Nagar Haveli
- It is also clearly visible that there is a close correlation between the values of Unemployment and socio – economic deprivation

11.2. Conclusive Research

Preliminary Testing

Linear Regression Test – 1991 - 2018

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.990[a]	.980	.976	.021992

a. Predictors: (Constant), POPn, Youth_Unemployemt, LFPR, Poverty, LDR

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	-.182	.072		-2.531	.019
	LDR	.805	1.331	.107	.605	.552
	Poverty	-.030	.012	-.088	-2.452	.023
	Youth_Unemployemt	.405	.018	.879	22.579	.000
	LFPR	.094	.035	.431	2.720	.013
	POPn	1.067E-8	.000	.123	2.097	.048

a. Dependent Variable: Unemploymennt

- The R squared Value is very high due to several reasons

a. The trends observed are macroeconomic in nature, which means they do not change overtime drastically

b. Most of the variables are linear in nature such as population and poverty

c. The other reason is that the change in the variable is usually very small and predictable

d. The Standard error is less than 0.05 because most of the variables show a similar trend as unemployement is affected by them

- Youth unemployement as obvious fits perfectly with the model while population mildly affects it.
- The Labour dependent ratio seems to have no significant effect on the scenario.

Confirmation Tests

1. **Test for Sphericity**

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.388
Bartlett's Test of Sphericity	Approx. Chi-Square	180.433
	df	15
	Sig.	.000

- The KMO test clearly disqualifies the variables for factor analysis
- This means that there is a clear correlation between the variable

Panel Regression

Dependent Variable: UNEMPLOYMENT
Method: Least Squares
Date: 02/12/20 Time: 13:35
Sample (adjusted): 1 29
Included observations: 29 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
REAL_GDP_AT_NATIONAL_PRICE	-3.46E-08	4.04E-08	-0.856560	0.3998
GROSS_INCOME_RATE	-5.95E-13	1.23E-13	-4.856005	0.0001
YOUTH_UNEMPLOYMENT	0.420304	0.033714	12.46661	0.0000
C	-0.230160	0.224530	-1.025074	0.3151

R-squared	0.878270	Mean dependent var	2.675103
Adjusted R-squared	0.863662	S.D. dependent var	0.227714
S.E. of regression	0.084081	Akaike info criterion	-1.986627
Sum squared resid	0.176741	Schwarz criterion	-1.798035
Log likelihood	32.80609	Hannan-Quinn criter.	-1.927562
F-statistic	60.12416	Durbin-Watson stat	0.605160
Prob(F-statistic)	0.000000		

Dependent Variable: UNEMPLOYMENT
Method: Least Squares
Date: 02/12/20 Time: 15:31
Sample: 1 29
Included observations: 29

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	11.48176	3.551774	3.232682	0.0037
AGE_DEPENDECY	0.528044	0.072208	7.312850	0.0000
AVERAGE_ANNUAL__WORKING_HOURS	-0.007340	0.001670	-4.394010	0.0002
GROSS_INCOME_RATE	-4.71E-13	5.95E-14	-7.913193	0.0000
REAL_GDP_AT_NATIONAL_PRICE	-2.17E-07	3.74E-08	-5.792108	0.0000
YOUTH_UNEMPLOYMENT	0.459480	0.017231	26.66555	0.0000

R-squared	0.976938	Mean dependent var	2.675103
Adjusted R-squared	0.971925	S.D. dependent var	0.227714
S.E. of regression	0.038155	Akaike info criterion	-3.512329
Sum squared resid	0.033483	Schwarz criterion	-3.229440
Log likelihood	56.92877	Hannan-Quinn criter.	-3.423732
F-statistic	194.8650	Durbin-Watson stat	1.305717
Prob(F-statistic)	0.000000		

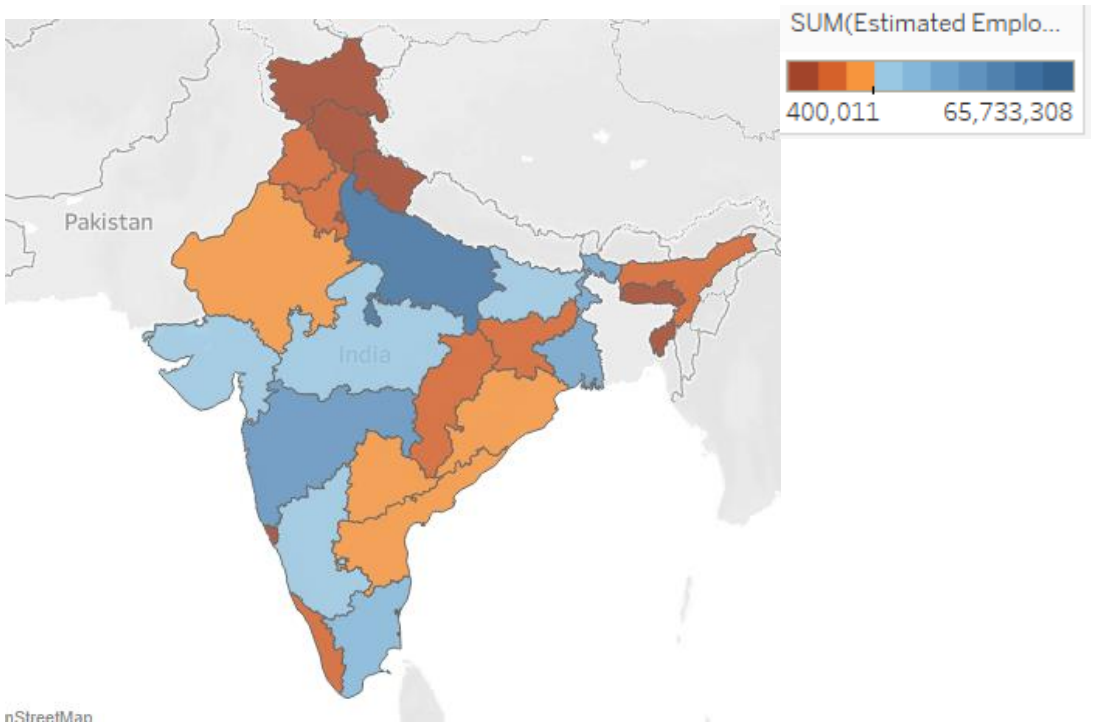
- This is a time oriented panel regression of data derived from ILO, FRED from 1991 to 2019
- The data includes unemployment as a dependent variable and following as independent variable
    1. Youth unemployment
    2. Average Annual working hours
    3. Gross national income rate
    4. Real GDP at national price
    5. Older dep vs. working age POPn ratio
- All the listed independent variables are significantly affecting the unemployement rate As seen by the significance values of each is less than 5%
    a. With every 0.45 increase in the youth employment increase the overall employment variable positively by 1 unit
    b. The real GDP affects the unemployement in a negative manner, 2 * 10^-7 increase in GDP affects the unemployment by 1 unit. This observation is further supported by the **Okuns Law of growth and Unemployment**
    c. The working hour ratio is negatively related to the increase in Unemployment by a ration of .007

d. Age dependency ratio is positively related to unemployement by the greatest margin of 0.5 units

- The AIC of -3.40 denotes that the variables are a good model fit
- The Durban Watson stat has a heathy value of 1.3 which indicates a moderately positive correlation

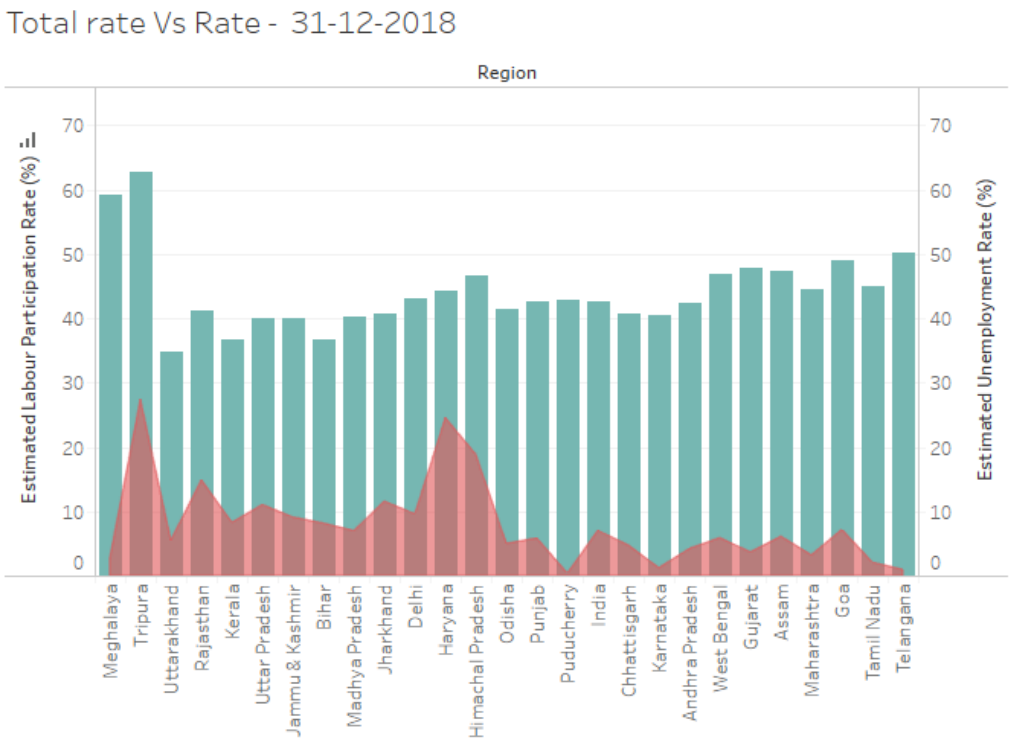
2.1. Analysis of the present situation

- Descriptives derived from real time data



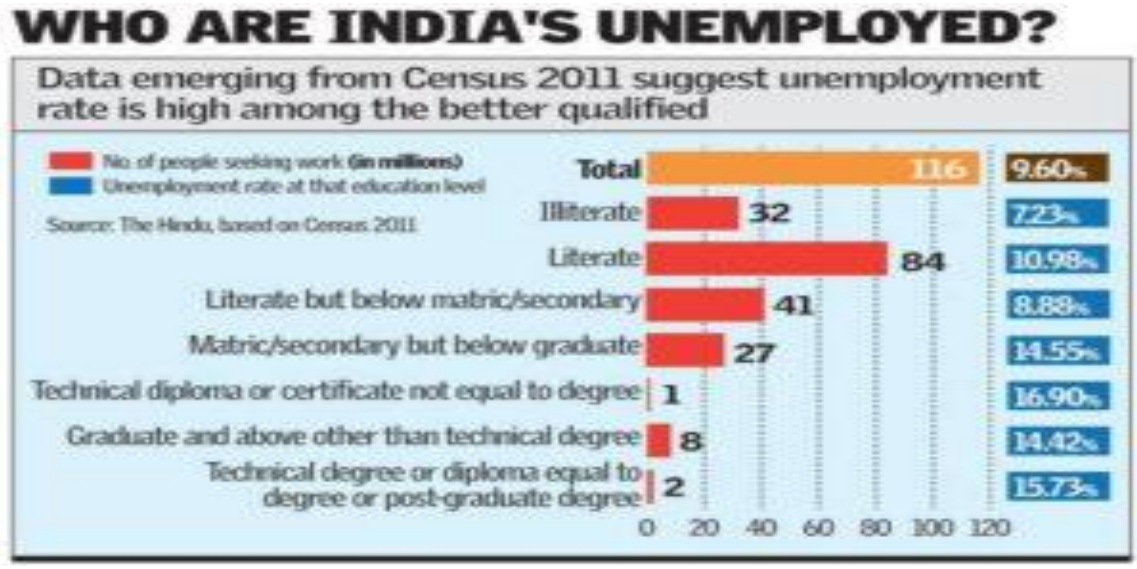
- This map shows the estimated amount of the people employed in various states of the country
- It can be observed that the labour and workforce proportion more or less remains unchanged from the previous years
- Kerala , J&K and NE still have a high Unemployment rate
- While the states with the high population and agriculture have relatively lesser unemployment

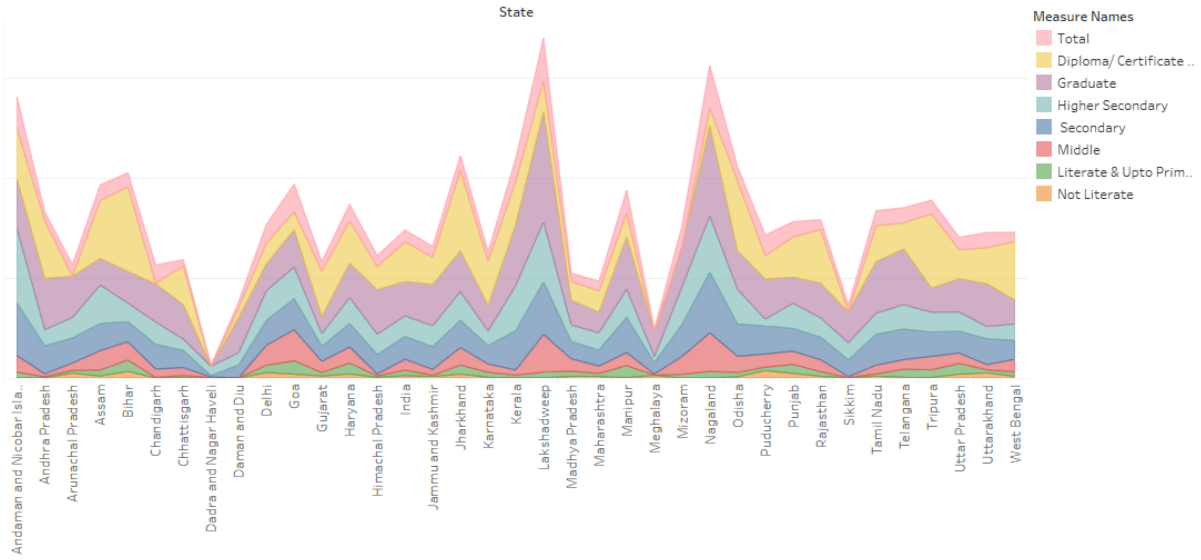
2.2. Total Labour participation rate vs Unemployment rate



- This graph shows the relative LFPR and the Unemployment rate of every state of India
- The states which show an irregular trend are Tripura and Haryana where both the LFPR and UR are high

- **Unemployment according to educational qualification**

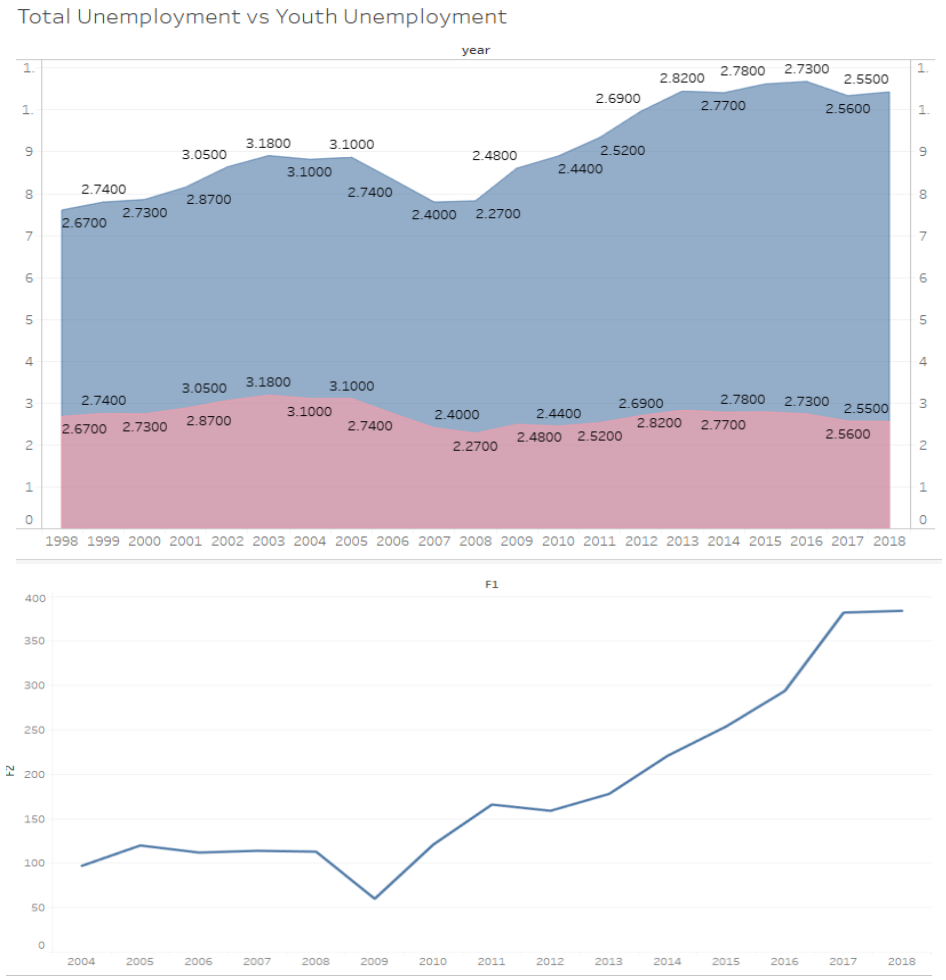




- This graph illustrates the distribution of the unemployed people with respect to their educational qualification (E.Q.)
- It is observed that those with the E.Q. of graduation level are the highest contributor of unemployment
- They are followed by those holding professional course certificates and diplomas
- Surprisingly those with minimal E Q are least unemployed

2.3. Total Unemployment Vs Youth Unemployment

- It can be observed that the youth unemployement remained a significant contributor to the overall unemployment
- The trend is almost proportionate up till 2010 and after that the overall unemployment gets high relative to the youth unemployment

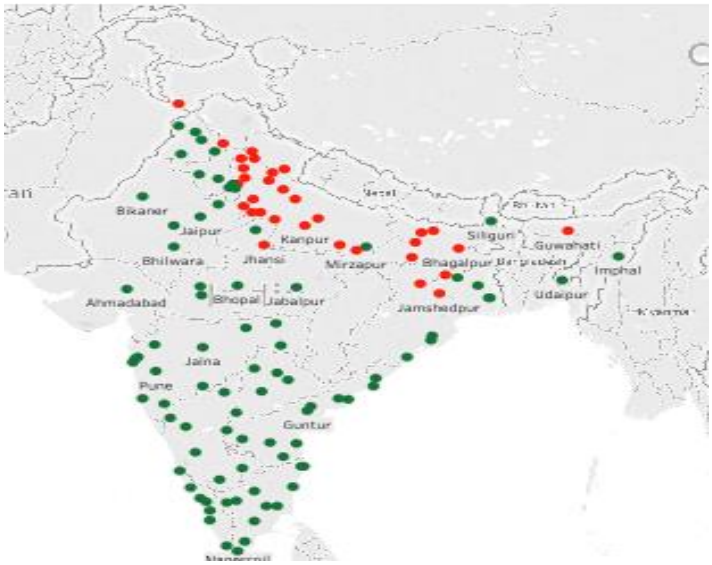


Sales of AI and Automation solutions worldwide

- The data illustrates a spike in the sales of automations and AI solutions worldwide
- India being a hub for IT and automobile industries is likely a major contributor in AI sales
- This spike in 2010 can be used to explain the differentiating trend in overall unemployment , i.e. structural unemployement

Descriptives derived from Published Data – 2011 Census

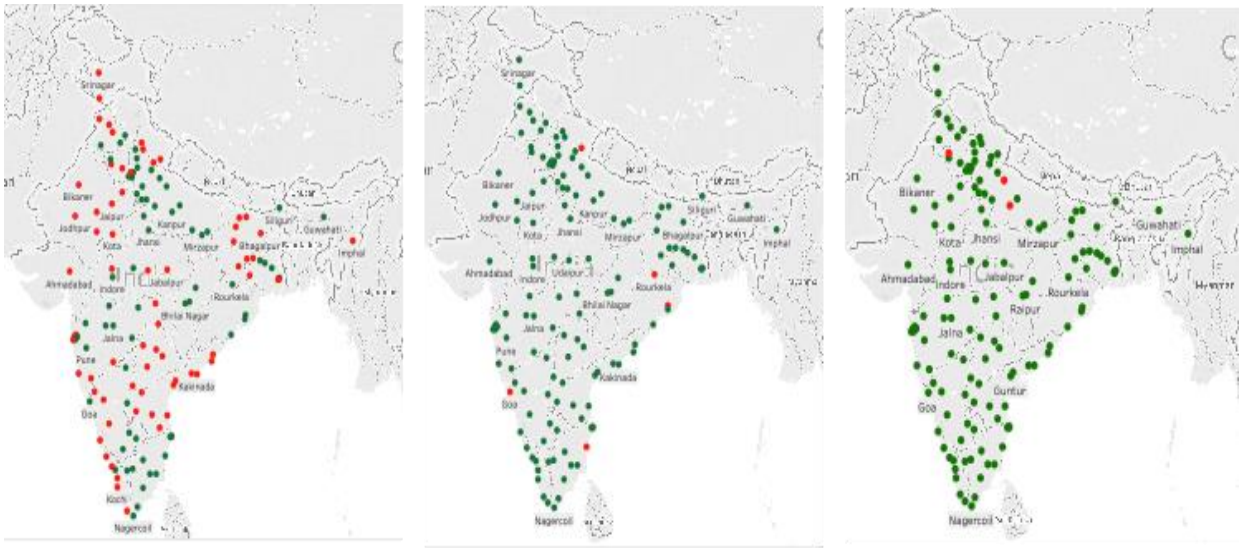
4.1 Labour force participation



- This visualization is depicting the relative labour force participation in 2011 vs 2015

- It can be seen that the LFPR has decreased in States like UP , Bihar and some NE states

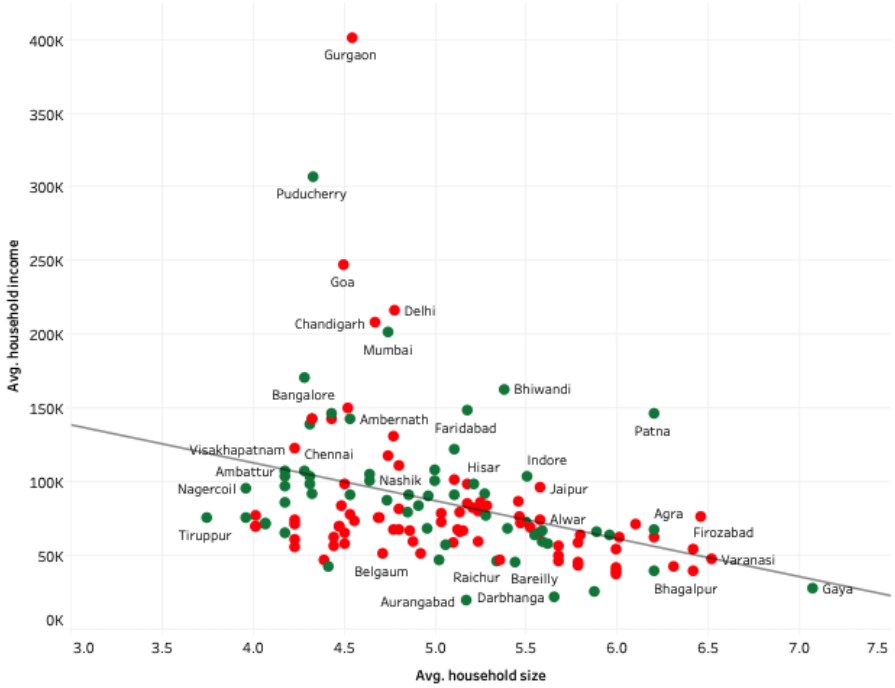
4.2. Growth according to Sectors (2011 – 2015)



Growth in sectors of Primary, Secondary and Tertiary Industries

- There is a sharp decrease in the employment in the Primary Sector
- While the secondary and tertiary sector seem to have gained employment numbers
- The Agro intensive states like UP , Maharashtra , MP have gained in the primary sector
- While almost all the states have progressed in the secondary and tertiary sector

4.3. Average Household Income Vs Size



- The Average household size is inversely related to the size of household
- According to research conducted , increasing the size of a family by unit decreases the mean income by 26000 per year
- The Red dots denote the rise in the rate of unemployment w.r.t the area or city

An Insight on various Plans by the government to facilitate increase in employment

a. Integrated Rural Development Programme (IRDP):

- Launched in 1978
- On 1st April, 1999, the IRDP and allied programmes were merged into a single programme known as Swarnajayanti Gram Swarozgar Yojana (SGSY)

b. Jawahar Rozgar Yojana/Jawahar Gram Samriddhi Yojana:

- The NREP and RLEGP were merged in April 1989 under Jawahar Rozgar Yojana (JRY). The JRY was meant to generate meaningful employment opportunities for the unemployed and underemployed in rural areas through the creation of economic infrastructure and community and social assets.

c. **Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA) 2005:**

- The Act provides 100 days assured employment every year to every rural household. One-third of the proposed jobs would be reserved for women. The central government will also establish National Employment Guarantee Funds.

d. **Pradhan Mantri Kaushal Vikas Yojna**

- The cabinet on March 21, 2015 cleared the scheme to provide skill training to 1.4 million youth with an overall outlay of Rs. 1120 crore. This plan is implemented with the help of Ministry of Skill Development and Entrepreneurship through the National Skill Development Corporation.

5.3. Exploring Other Exogenous Sources

e. Government policies and other factors adding to unemployement

- Global protectionist policies, rising price of crude oil, geopolitical tensions, unanticipated Supreme Court interventions, and unforeseen market- forces due to innovations have caused unprecedented disruptions that guzzled- up the most well run corporates with ferocity, eroding profitability and the potential to generate

  a. **Real Estate** - Real Estate division is a key driver of Employment and work, and spikes retail acknowledge offtake, as additionally has a multiplier factor because almost 200 sub-ventures feed off it.

     Manufacturers are largely to fault for oneself dispensed obligation emergency that has prompted stock develop and failure to finish ventures in light of the fact that deceitful manufacturers and designers abused homebuyer's assets and bank advances.

  b. **Aviation Industry** - The Aviation Industry directly gives work to more than 2.2 lakh individuals. In spite of sound traveler traffic developing at 21%, the industry cannot raise tolls because of extraordinary challenge and make an interpretation of the development to returns that are more significant.

Open area Air India has stayed in the red with an obligation of about Rs 52,000 crore without any takers for its deal, even the private division Jet Airways which is the second-biggest transporter has revealed an astounding loss of Rs 1040 crores.

c. **Telecom Industry** - Telecom part has additionally negatively affected more established players like Airtel, Vodafone and Idea Cellular because of Reliance Jio's ruthless valuing.

   Telecom segment, which contributes 7per penny to the nation's GDP, and gives work to 4,000,000 individuals has seen net incomes stressed because of proceeded with descending modification

d. **Banking Sector** - Nationalized banks are among the greatest activity makers, however have been assailed by inheritance issues from most recent 15 years, as gross NPA's of 19 nationalized banks have expanded by 33 percent over the past financial, with the biggest bank, SBI, having revealed its hugest ever quarterly loss of Rs 7,718 crore. 63.3 % of the defaulters are of agro and SMMEs birthplace

e. Supreme Court's decisions on telecom wireless transmissions, mining and coal assignment cases through which licenses were dropped all at once because of lawless acts, as additionally the zenith courts restriction on alcohol distributes on national interstates which has affected employments.

6. Conclusion

- The rate of unemployment has reached at 7.7 in the last month , with youth unemployment at 10.41 percent
- The reasons for this drastically high rate is a combination of poorly executed government policies and the international economic environment
- Also added to these are the lack of in- demand skills , proper education facilities and poor efficiency of workers
- The negative sentiments of consumers regarding major markets like automobile and real estate is also a major concern for reducing the jobs in private sectors
- Also , the people are choosing to save rather than invest or expend which is resulting in the reduction in consumption pattern
- The reliance of industries on AI and automation is another factor for layoffs and lesser job vacancies
- Also there is a severe shortage of government professionals including 5 lakh teachers, 2 lakh police personnel , 4000 Judges and over 2.2 Lakhs Doctors

7. Recommendations

1. **Change in industrial technique**:

- Production technique should suit the needs and means of the country. It is Important that labour intensive technology should be encouraged in place of capital-intensive technology.

2. **To reduce Seasonal Unemployment in Agriculture**

- Agriculture should have multiple cropping
- Mixture of plantations, horticulture, dairying and animal husbandry should be encouraged

3. **Change in education system:**

- Educational pattern should be changed. Students who have liking for higher studies should be admitted in colleges and universities.
- Emphasis should be given on vocational education. Qualified engineers should start their own small units.

4. **Proper assistance to SMMEs should be reinforced**

- They are engaged in agriculture, trade, cottage and small scale industries etc.
- These persons should be helped financially, providing raw materials and technical training.

5. **More regulations on sectors like banking and real estate**

- These sectors form the core of the economy and need proper vigilance and governance

8. Tools Used

1. **SPSS**
2. **Tableau Public**
3. **RStudio**
4. **E Views Statistics**
5. **MS Excel**
6. **Prowess IQ**

9. Limitations

- Repeated in accuracies in published data due to nulls and blanks
- Access restricted to advanced databases due to lack of subscription
- Survey data is not the most reliable source for performing statistical analysis
- Lack of proper equipment for processing large amounts of data
- Not all variable available at the databases

10. Bibliography

- Anant, T.C.A., Hasan, R., Mohapatra, P., Nagaraj, R., Sasikumar, S.K., 2006. Labor markets in India: issues and perspectives. In: Felipe, Jesus, Hasan, Rana (Eds.), Labor Markets in Asia: Issues and Perspectives Palgrave Macmillan.
- Devarajan, S., Rodrik, D., 1991. Pro-competitive effects of trade reforms: results from a CGE model of Cameroon. European Economic Review 35 (5), 1157–1184.
- Dutt, P., Mitra, D., Ranjan, P., 2009. International trade and unemployment: theory and cross-national evidence. Journal of International Economics 78 (1), 32–44.
- Dyson, T., Cassen, R., Visaria, L., 2004. Twenty-first Century India: Population, Economy, Human Development, and the Environment. Oxford University Press, Delhi.
- Felbermayr, G., Prat, J., Schmerer, H., 2008. Globalization and Labor Market Outcomes:
- Wage Bargaining, Search Frictions, and Firm Heterogeneity. IZA Discussion Papers 3363. Institute for the Study of Labor (IZA).
- Freund, C. and Pierola, M.D. (2009). "Export Entrepreneurs: Evidence from Peru."
- Mimeo, The World Bank, Washington DC. Goldberg, P., Pavcnik, N., 2005. Trade, wages, and the political economy of trade
  protection: evidence from the Colombian trade reforms. Journal of International Economics 66 (1), 75–105.
- ADB (2008) **Asian Development Outlook 2008: Asian Workers**, Asian Development Bank, Hongkong.
- Chambers, R. and A. Lake (2002) "Youth Business International: Bridging the gap between Unemployment and Self-employment for Disadvantaged Youth", *ILO Skills Working Paper 3*, Geneva: International Labour Organisation.
- Chandrasekhar, C.P., Jayati Ghosh and A.Roychowdhury (2006), "The „Demographic Dividend" and Young India"s Economic Future", *Economic and Political Weekly*, No.49, Vol.41.
- Godfrey M. (2003) "Youth Employment Policy in Developing and Transition Countries – Prevention as Well as Cure", *World Bank Social Protection Discussion Paper*, 320, Washington, DC: The World Bank.
- GOI (2010), „Mid-Term Appraisal of Eleventh Five Year Plan", Planning Commission, Yojana Bhavan, Government of India
- ILO (2004) **Global Employment Trends for Youth**, Geneva: International Labour Office.
- ILO (2005a) **Youth: Pathways to Decent Work: Promoting Younth Employment-Tackling the Challenge**, Geneva: International Labour Organisation. ILO (2005b) "Youth Employment: From a National Challenge

a. Fred database

- **https://fred.stlouisfed.org/series/SPPOPDPNDOLIND**
- **https://fred.stlouisfed.org/series/AVHWPEINA065NRUG**
- **https://fred.stlouisfed.org/series/DEBTTLINA188A**
- **https://fred.stlouisfed.org/series/SPPOPGROWIND**
- **https://fred.stlouisfed.org/series/MKTGNIINA646NWDB**

b. **ILO Database**

- https://www.ilo.org/shinyapps/bulkexplorer8/?lang=en&segment=ref_area&id=IND_A
- https://ilostat.ilo.org/data/

c. **Data.gov.in**

- http://microdata.gov.in/nada43/index.php/catalog/146
- https://data.gov.in/resources/financial-and-physical-performance-under-poverty-alleviation-programmes-irdp-sgsy-jry-jg-0

d. **World Bank**

- https://datacatalog.worldbank.org/dataset/world-development-indicators
- https://datacatalog.worldbank.org/dataset/world-development-indicators
- https://data.worldbank.org/indicator/NY.GDP.MKTP.CD?end=2018&locations=IN&start=1991
- https://data.worldbank.org/indicator/SL.UEM.TOTL.ZS
- https://data.worldbank.org/indicator/SL.UEM.ADVN.ZS?locations=IN&view=chart
- https://data.worldbank.org/indicator/SL.UEM.TOTL.FE.NE.ZS?locations=IN&view=chart

e. **Statista**

- https://www.statista.com/statistics/947017/industrial-robots-global-operational-stock/
- https://www.statista.com/statistics/943113/spending-on-robotics-worldwide-by-category/
- https://www.statista.com/statistics/441963/forecast-for-industrial-robotics-spending-worldwide/

f. **IndiaStat**

- https://www.indiastat.com/table/labour-and-workforce-data/380987/employment/85/1145948/data.aspx
- https://www.indiastat.com/table/economy-data/8/month-wise-index-number-of-industrial-production-1988-2018/449333/564183/data.aspx
- https://www.indiastat.com/table/economy-data/8/index-number-of-industrial-production-use-based-classification-1981-2019/449336/1238715/data.aspx

- **https://www.indiastat.com/industries-data/18/industrial-production/136/stats.aspx**