Structural transformation Case Study India

Saon Ray

Bangkok

September 10, 2019

Overview

- I. What are the trends in structural transformation (ST)?

- II. What are the trends in income inequality, employment and inclusive growth?

- III. What policies have been put in place to shape ST, inequality and inclusive growth?

- IV. What is the political economy of ST, inequality and employment?

- V. What is the future trajectory of the ST–inequality–inclusive growth relationship?

# I. What are the trends in structural transformation in India?

- Agriculture – secular decline in both output and employment according to all data sources
- Share of employment much higher than output – low productivity in the sector
- Industry – increase in output till 1990s but stagnating after that

  Employment increasing and catching up with output – falling productivity – indicative of increasing informalization
- Services – increase in both output and employment but gap remains constant – traditional (retail) and modern (banking) are contributing equally
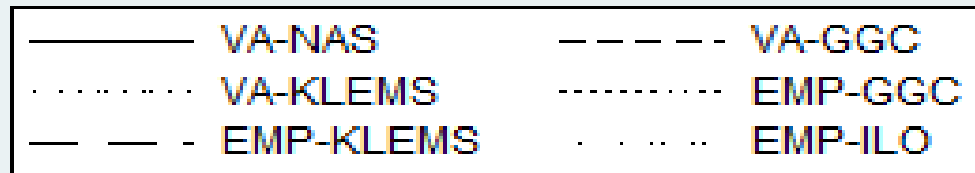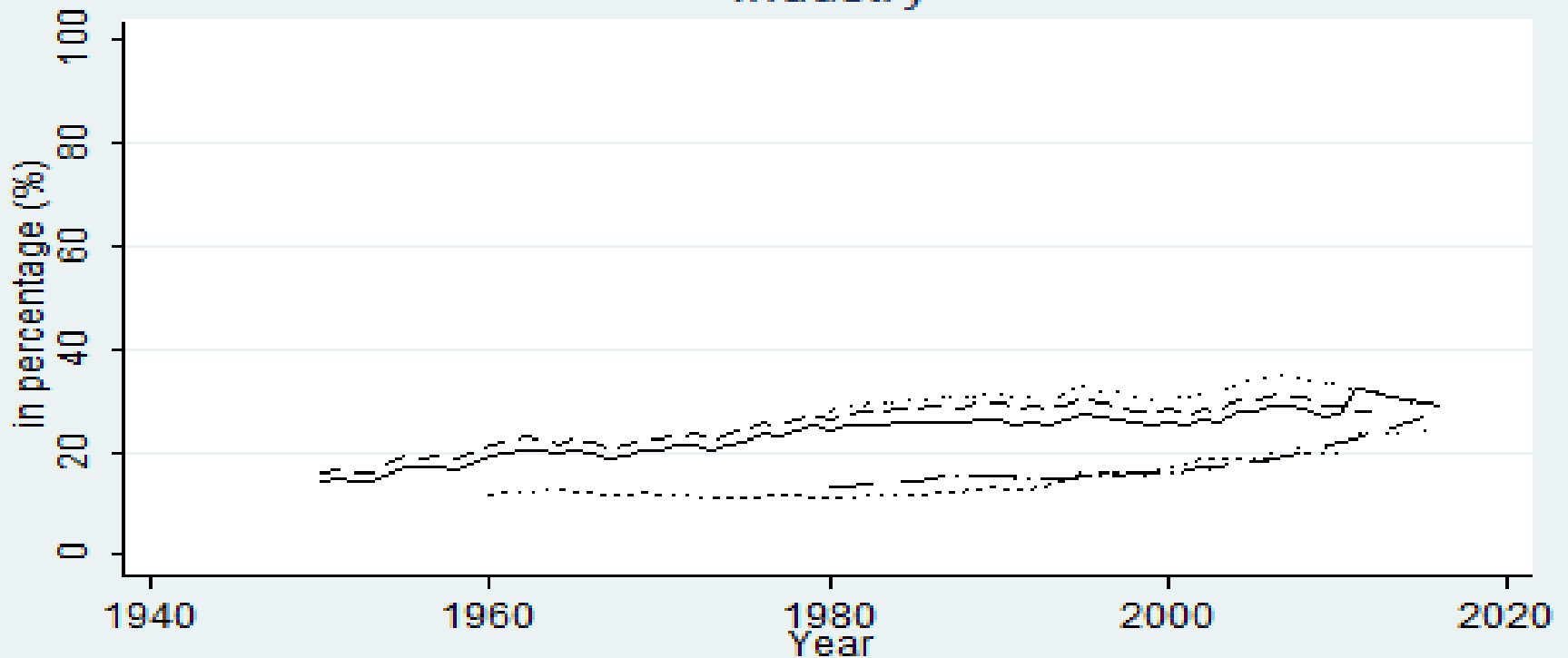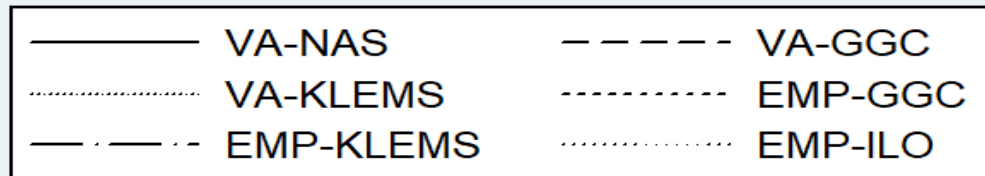
Agriculture
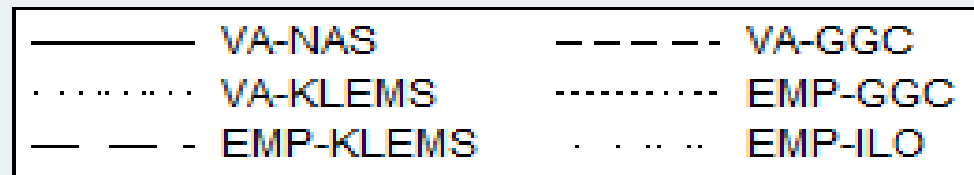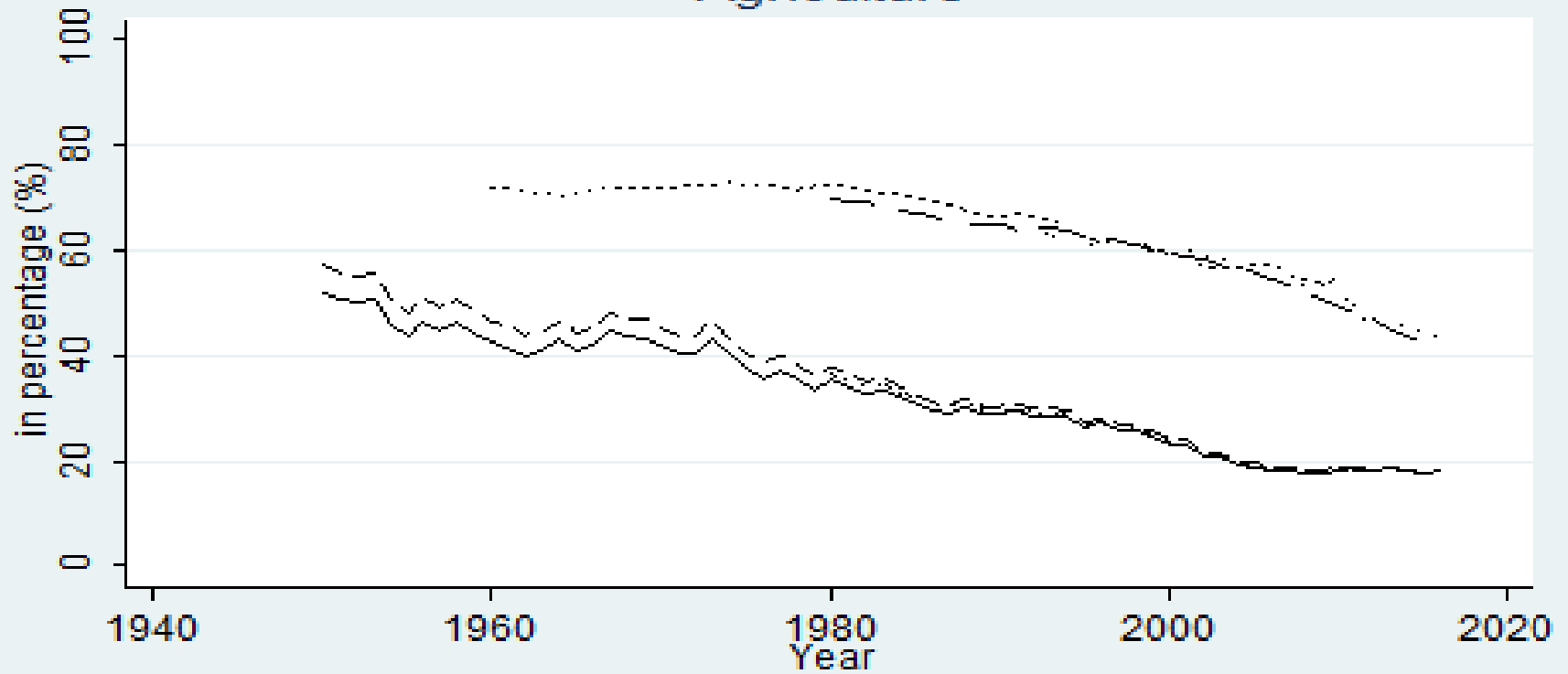
Industry

Industry

Services

Services
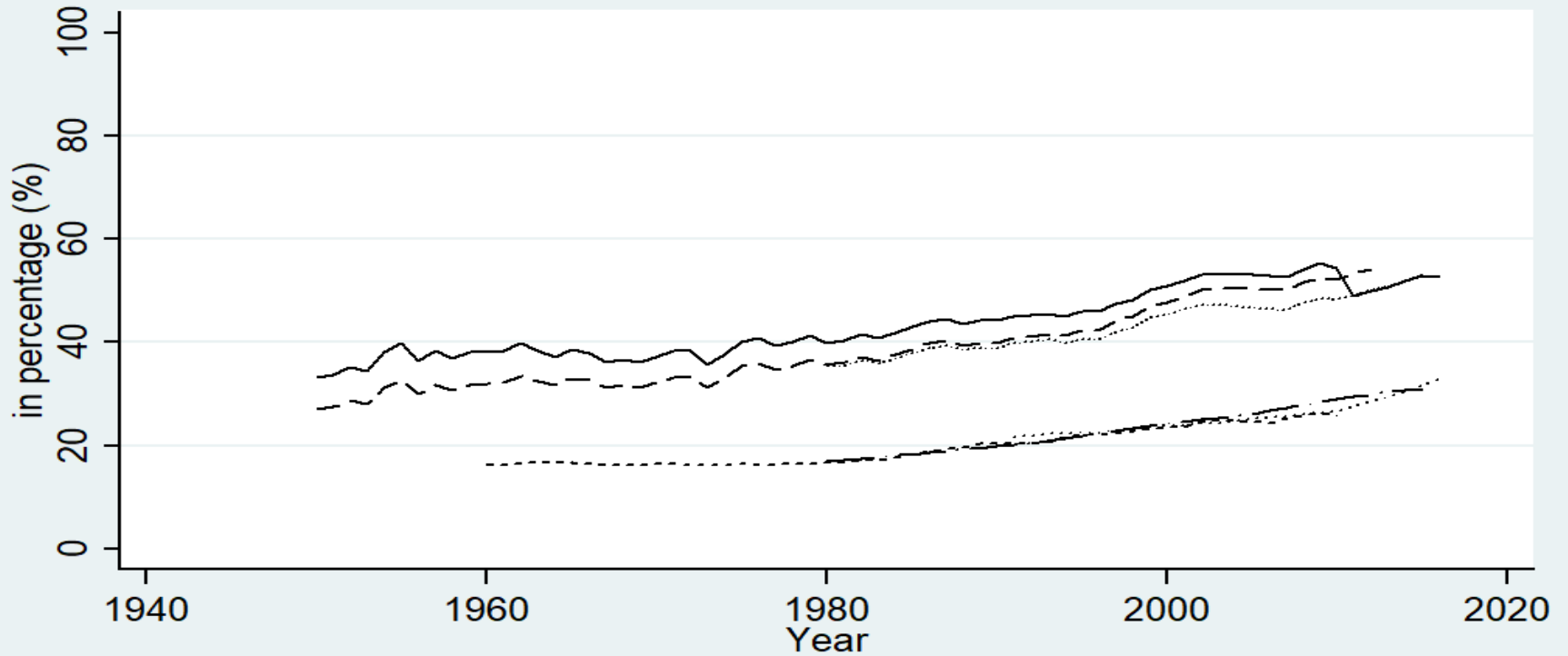
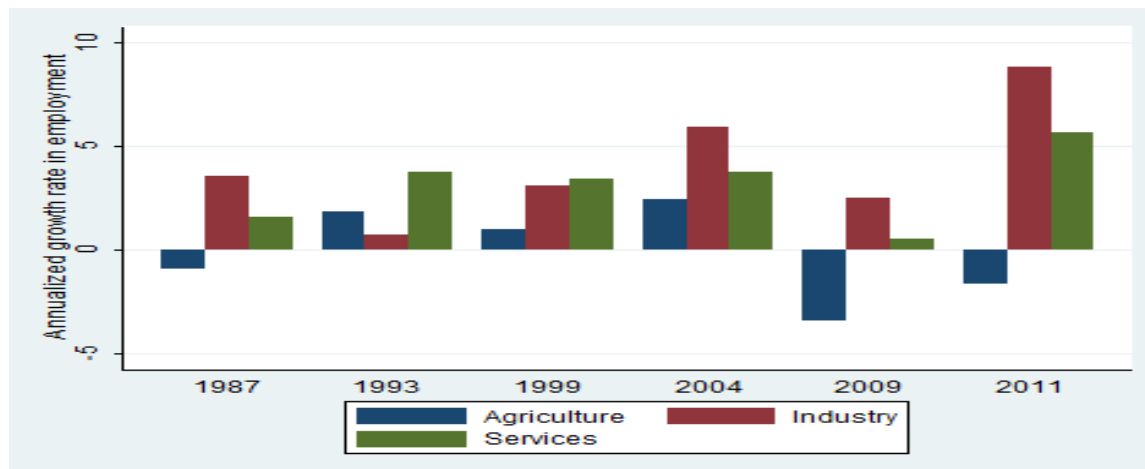# Structural transformation in India/1

- Shifted workers out of agriculture and employed them in services and industry in 1950-2017.
- Recent trend of stagnation of employment growth in industry
- Agriculture still the largest employer
- The period of India's high GDP growth (2004 to 2010), coincided with low employment growth in all the sectors.
- Temporal disaggregation
- Sectoral disaggregation

Structural transformation in India/2

- The growth in employment share has been uneven in the three sectors.

- Growth in the services sector employment has been steadier whereas industrial sector employment has outperformed services employment growth in the last two decades.

Sectors

- Within sectors, employment growth has been driven by Construction in the industrial sector
- In services Real Estate Renting Business services has had the highest growth.
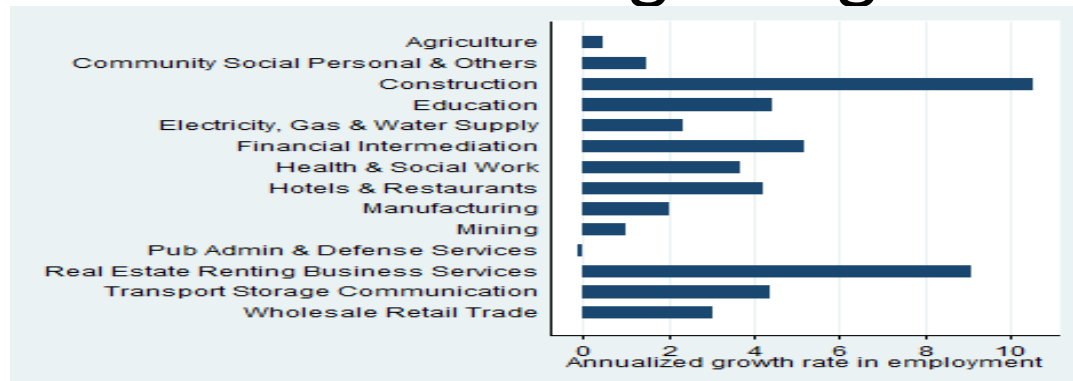
States

- Structural transformation in the Indian states reveal decline in output and employment share in agriculture
- Increase in output and employment share of services in all the states
- Industrial sector – most states show structural transformation
- Gujarat and Maharashtra, two of the major industrial states of India are showing no structural transformation to industry.
- Bihar, Karnataka, Tamil Nadu and West Bengal show structural transformation to industry, but mostly on account of informalization.

Summary of structural transformation in industries

		Share of Industrial Employment to GDP	
		Increase	Stagnant/ Decrease
Share of Industrial Output to GDP	Increase	AP, AS, HR, HP, KR, MP, OR, PN, RJ, UP	GJ
	Stagnant/ Decrease	BH, KA, TN, WB	MH

Structural transformation in industry
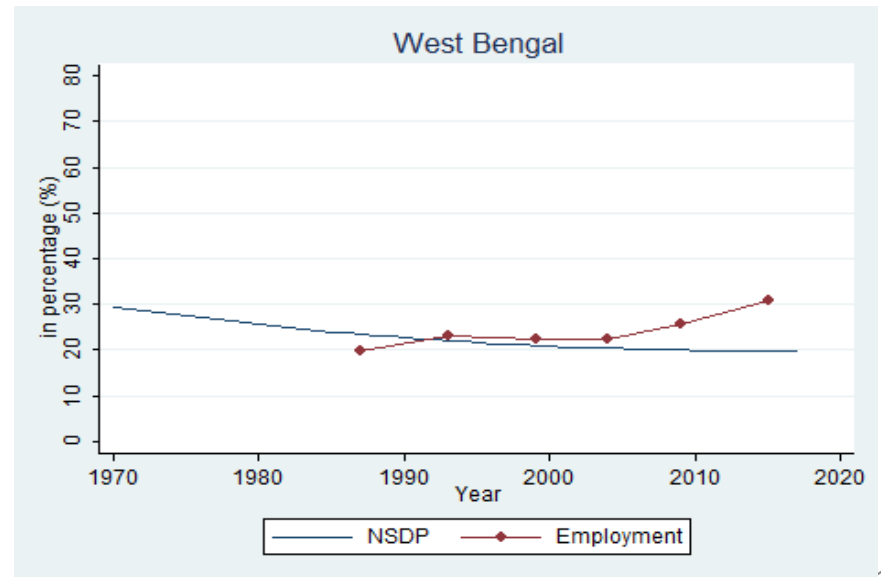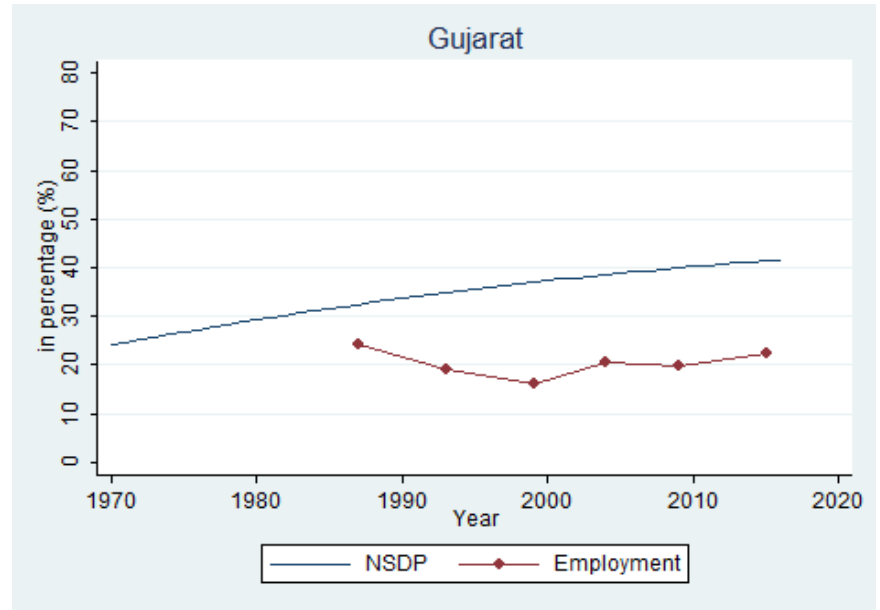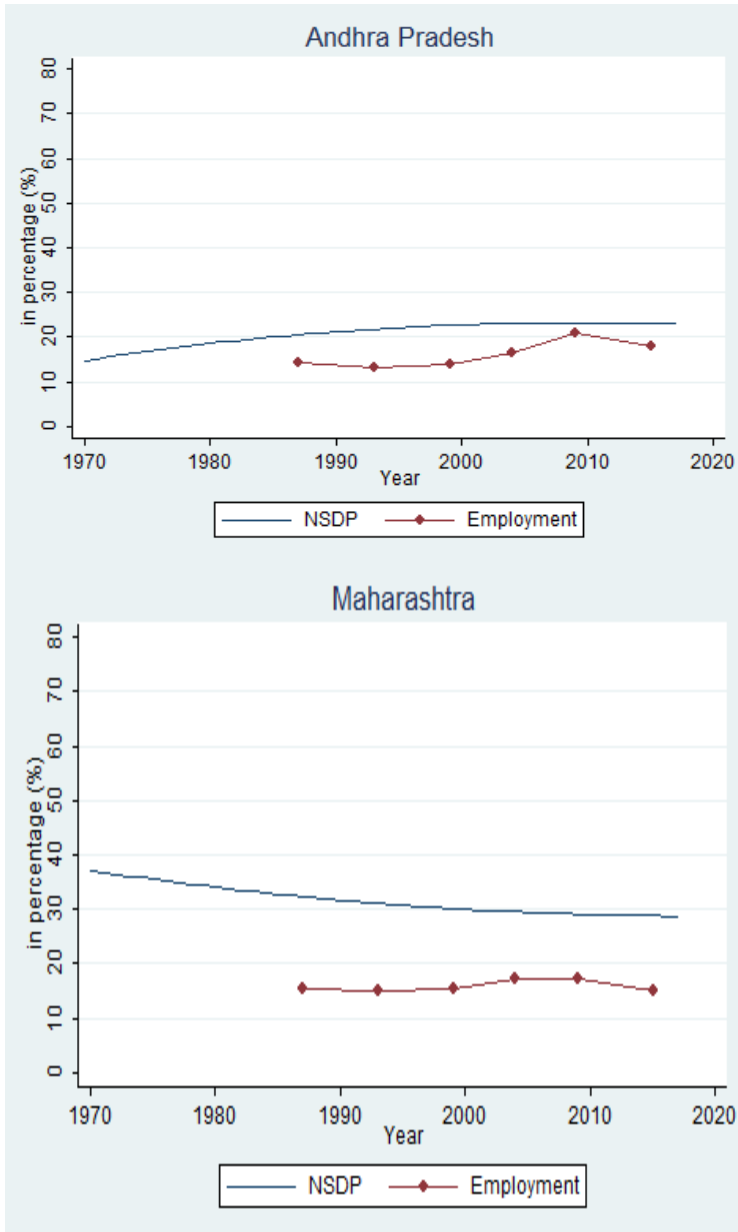
II. What are the trends in employment, (income) inequality, and inclusive growth?

- Employment – upward trend in total employment growth from 1960s to 1970s, stabilizes till early 1990s, volatile after that
- Slowdown in employment in dynamic sectors from early 2000s
- Trends in (consumption) inequality and inclusive growth follow employment trends
- Inequality downward trend and inclusive growth upward trend from 1960s to 1980s
- Gini coefficient unambiguously rising from 1996 to 2010 and inclusive growth falling since 1990s

Employment, inequality and inclusive growth

(Employment growth, %, 5 year moving average)

(Gini, gross)

Agriculture   Manufacturing   Non-manu industry
Services   Total

Bottom 40%
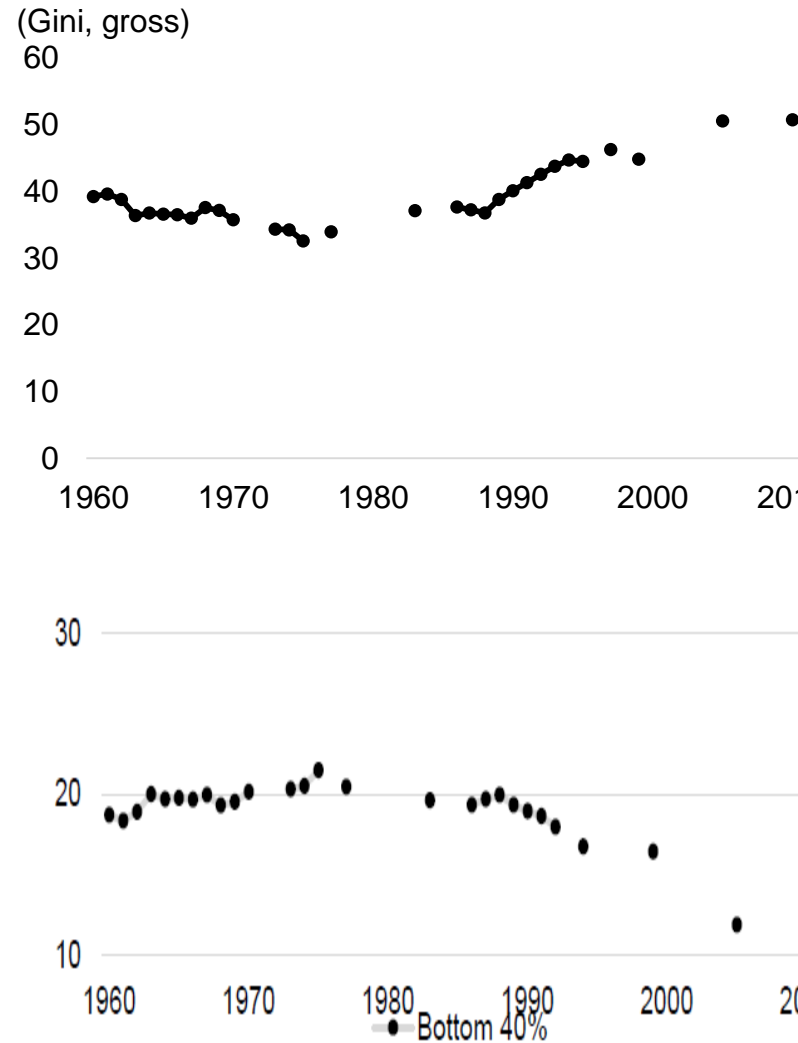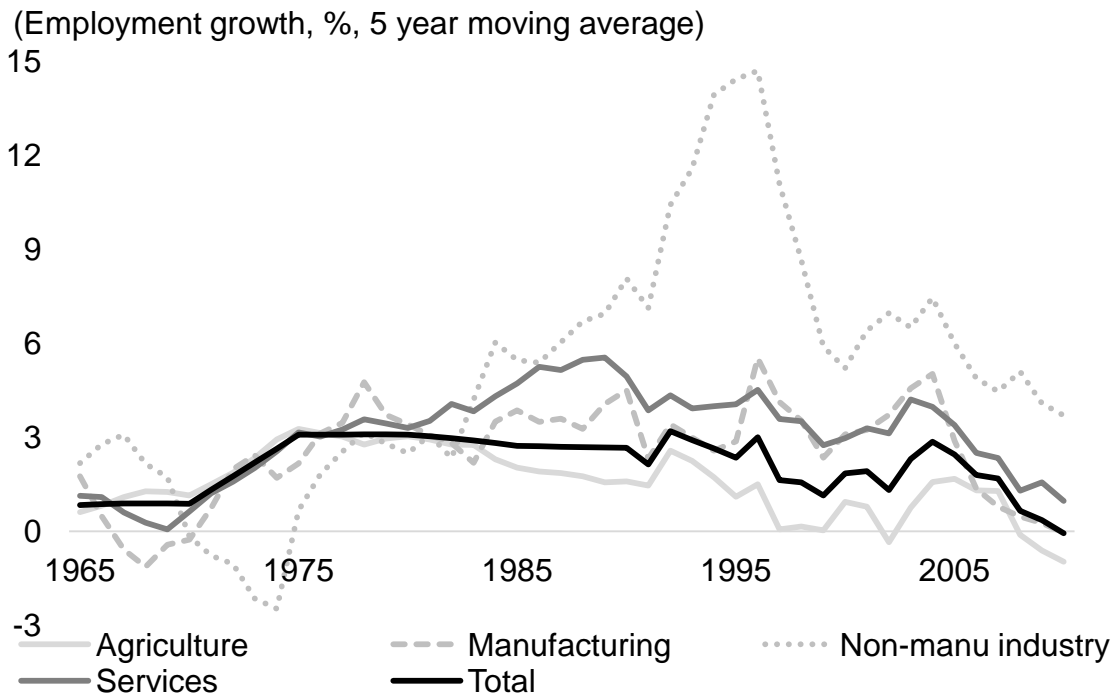
Impact of structural transformation on inequality

- India's experience confirms the Kuznets hypothesis – fall in agriculture's share of employment and rise in non-agricultural employment leads to higher level of inequality

- Non –linear relationship – higher level of structural transformation out of agriculture to services leads to sharper rise in inequality, but slower rise in inequality if labour moving out from agriculture to industry

Inequality and structural transformation in agriculture, industry and services
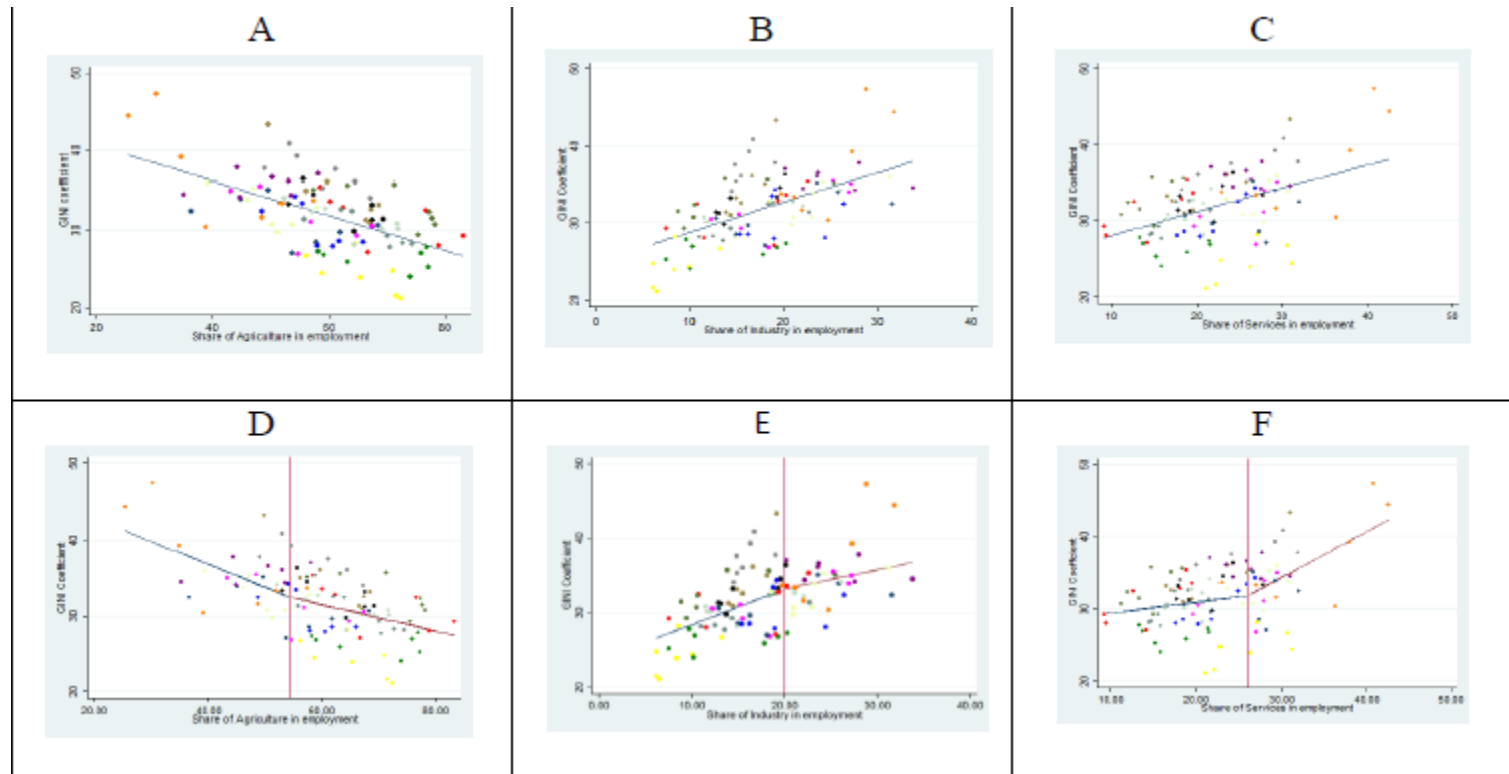
Impact of structural transformation on inclusive growth

- Despite positive relationship between structural transformation and inequality, inclusive growth rises with structural transformation

- Inclusive growth is higher with lower share of employment in agriculture and higher share of employment in non-agriculture

- Structural transformation gives rise to stronger growth effect compared to inequality effect

Inclusive growth and structural transformation in agriculture, industry and services
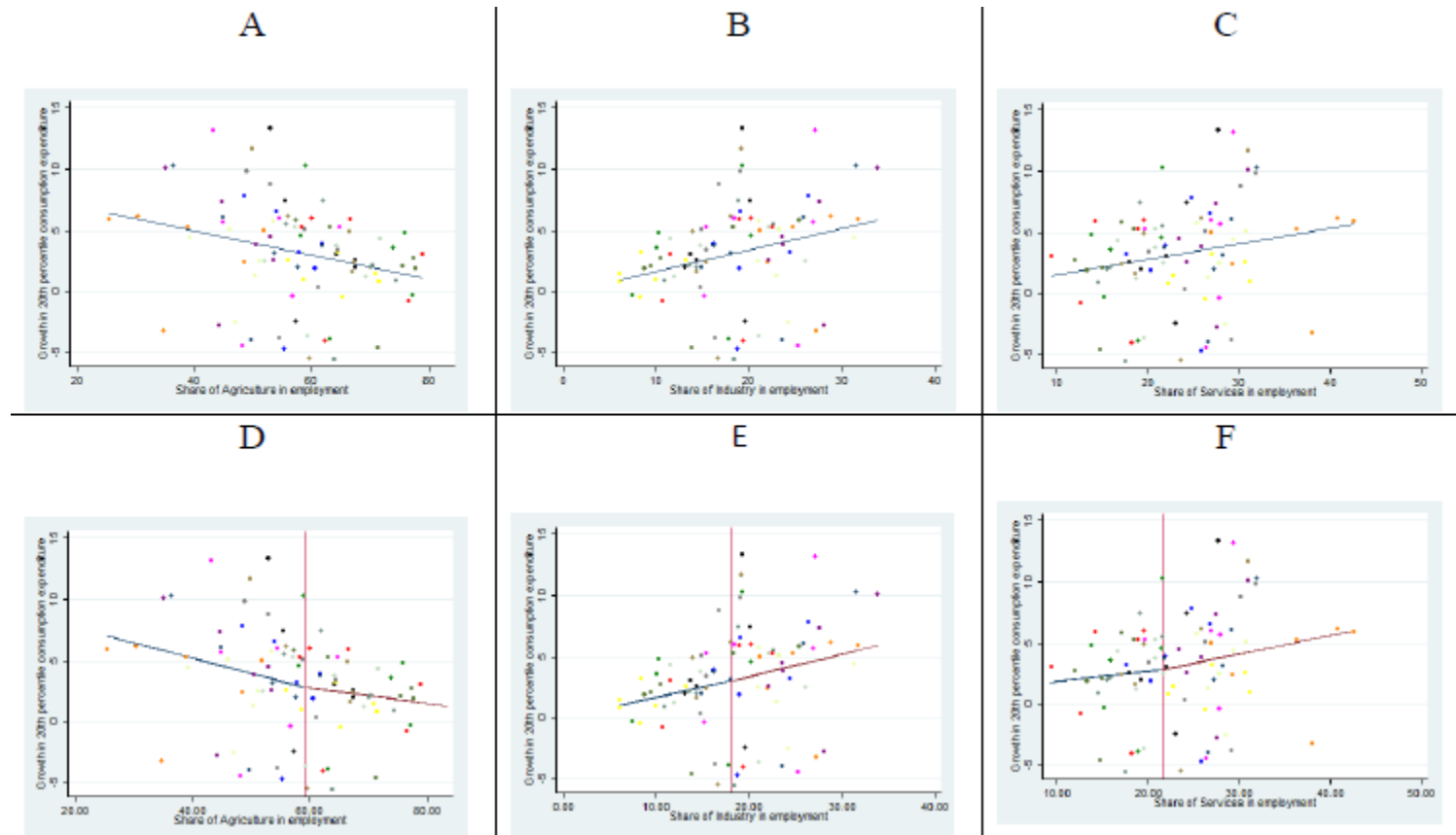
IV. What is the political economy of ST, inequality and employment?

- Main determinants of political settlement – nature of deals between business and politicians, and cognitive map of elites

- Construction sector – suitable for rent creation, dependent on land, witnessed a boom in last two decades

- Rent thick sector – common interest in the growth of the sector so that rent can be siphoned off

IV. What is the political economy of ST, inequality and employment?/2

- IT sector – cognitive map of political elites and their bureaucratic counterparts
- Exogenous factors led to the potential of the sector – large pool of highly skilled and English educated graduates from high quality engineering institutions and lower wage than in US
- Dynamic engine of growth
- From the public sector led to new computer policy in 1984, software as an industry, sunrise sector, rent not extracted, development of globally recognized firms like TCS, Infosys, and Wipro

Effect of political economy of structural transformation on inequality

Panel 1 — Share of Construction in employment vs GINI coefficient1

Panel 2 — Share of Real Estate Renting Business Services in employment vs GINI coefficient1
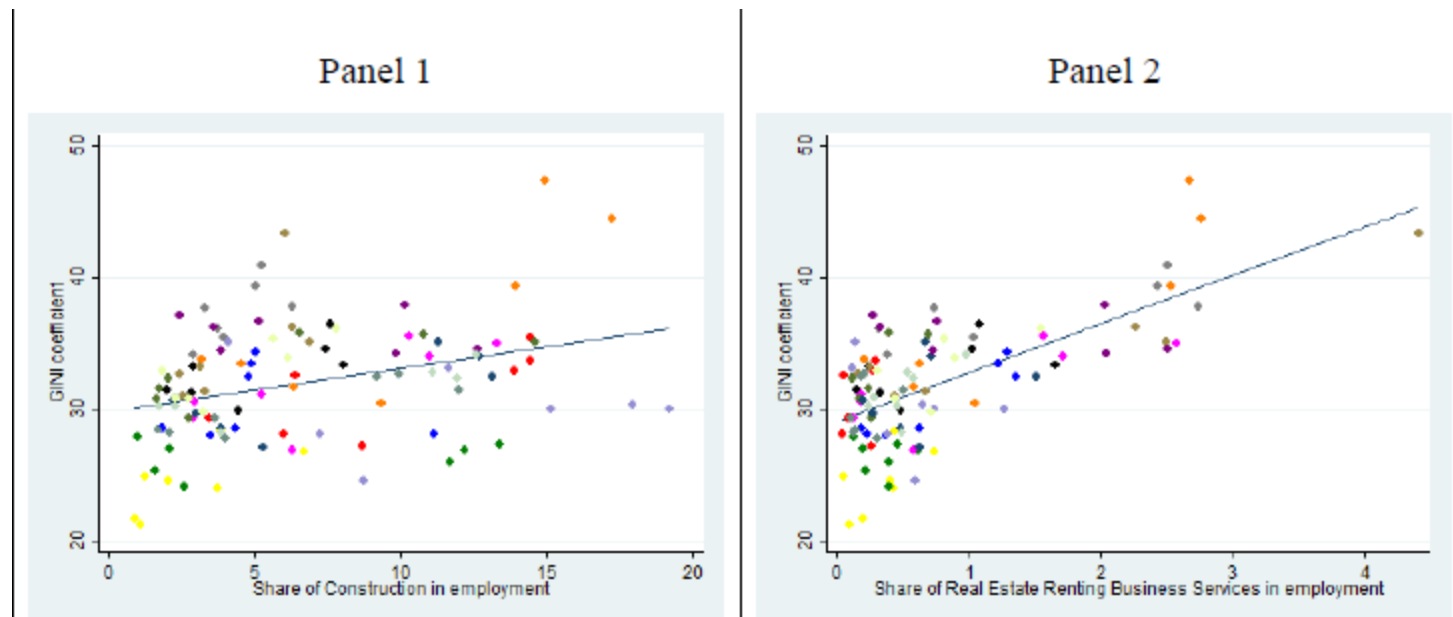
Table 2: Regression of Gini Coefficient on Employment Share

Construction	Variables	Coef.	Std. Err.	t	P>|t|
	Share	0.331216	0.088007	3.76	0.000
	_cons	29.73327	0.694196	42.83	0.000
Real Estate, Renting & Business Services	**Variables**	**Coef.**	**Std. Err.**	**t**	**P>|t|**
	Share	3.675329	0.396182	9.28	0.000
	_cons	29.08425	0.435266	66.82	0.000

Effect of political economy of structural transformation on inequality

- Data – NSS survey for employment and consumption data and 7 quinquennial rounds for each state

- Positive relationship between inequality and structural transformation in both construction and business services

- Lack of any relationship between structural transformation and inclusive growth in construction but positive relationship in real estate and business services

Effect of political economy of structural transformation on inclusive growth
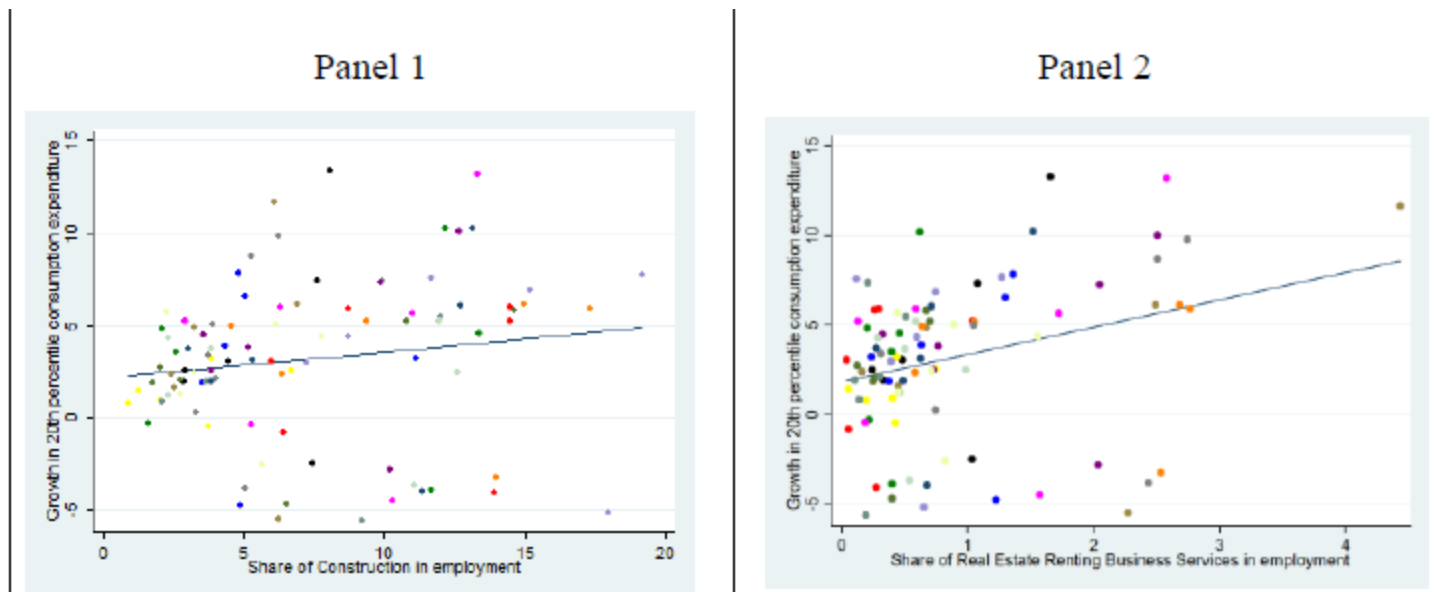
Table 3: Regression of real growth in 20th percentile consumption expenditure on employment share

Construction	Variables	Coef.	Std. Err.	t	P>|t|
	Share	0.141858	0.094924	1.49	0.138
	_cons	2.144097	0.803033	2.67	0.009
Real Estate, Renting & Business Services	Variables	Coef.	Std. Err.	t	P>|t|
	Share	1.529084	0.499799	3.060	0.003
	_cons	1.855185	0.591515	3.140	0.002

V. What is the future trajectory of the ST–inequality–inclusive growth relationship?

- Developments in the two sectors i.e. construction and business services
- Construction is ideal for drawing out unskilled workers from agriculture to industry
- Slowdown
- Business services become important – however more unequalizing
- Future policies to recognize linkage between industry and services

III. What policies have been put in place to shape ST, inequality and inclusive growth?

- Agriculture – policies that emphasized agriculture and rural development, with enhanced programmes for infrastructure, irrigation, research and extension

- Doubling of farmers income by 2022

- National Mission on Agricultural Extension and Technology (NMAET) to improve productivity

- Industry – New Industrial Policy on improving productivity in 1980, Industrial Policy resolution 1991

What policies have been put in place to shape inequality and inclusive growth?/2

- MGNREGA – 100 days of unskilled manual work to all rural households

- Launched in 2006, 13 crore job cards, 26 crore workers, 691 districts in 2019

- Promotes inclusive growth, and provides opportunities for women and marginalised

Data sources

Sr No.	Variable	Time Period	Data Source	Calculation (if any)
1	NDP (disaggregated)	1950-2010	EPWRF India Time Series (*Original Source: National Accounts Statistics2004-05 series*)	Data at current prices was used for calculating yearwise sectoral shares.
		2011-2017	EPWRF India Time Series (*Original Source: National Accounts Statistics 2011-12 series*)	
2	Inflation rate	1983,1987,1993,1999,2004,2009,2011	WPI data from eaindia.nic.in (*Official website: Office of the Economic Advisor*)	Annualized growth rates calculated from WPI numbers
3	Employment	1983,1987,1993,1999,2004,2009,2011	NSS Employment Unemployment Survey data for respective years (thick rounds)	Sectoral shares calculated by including both primary as well as subsidiary status workers of an economic activity
4	NSDP (disaggregated)	1980-1992	EPWRF India Time Series (*Original Source: National Accounts Statistics 1980 State series*)	Deflators were calculated for overlapping years in all series (at constant prices) and these were used as multipliers to make the entire data comparable across time.
		1993-1998	EPWRF India Time Series (*Original Source: National Accounts Statistics 1993 State series*)	
5	Gini Coefficient	1983,1987,1993,1999,2004,2009,2011	NSS Household Consumer Expenditure data for respective years (thick rounds)	The Gini coefficient was calculated using MPCE in Stata (ineqdeco). The algorithm used was: $G = 1 + (1 / N) - [2/(m . N^2)] [SUM (N - i + 1) y\_i]$ Where y_i are incomes in ascending order, N is the sum of survey weights, m is the mean income
6	20th percentile income growth	1983,1987,1993,1999,2004,2009,2011	NSS Household Consumer Expenditure data for respective years (thick rounds)	Calculated annualized growth rates between two consecutive thick rounds
7	Labour productivity	1983,1987,1993,1999,2004,2009,2011		NDP (or NSDP)/Employment