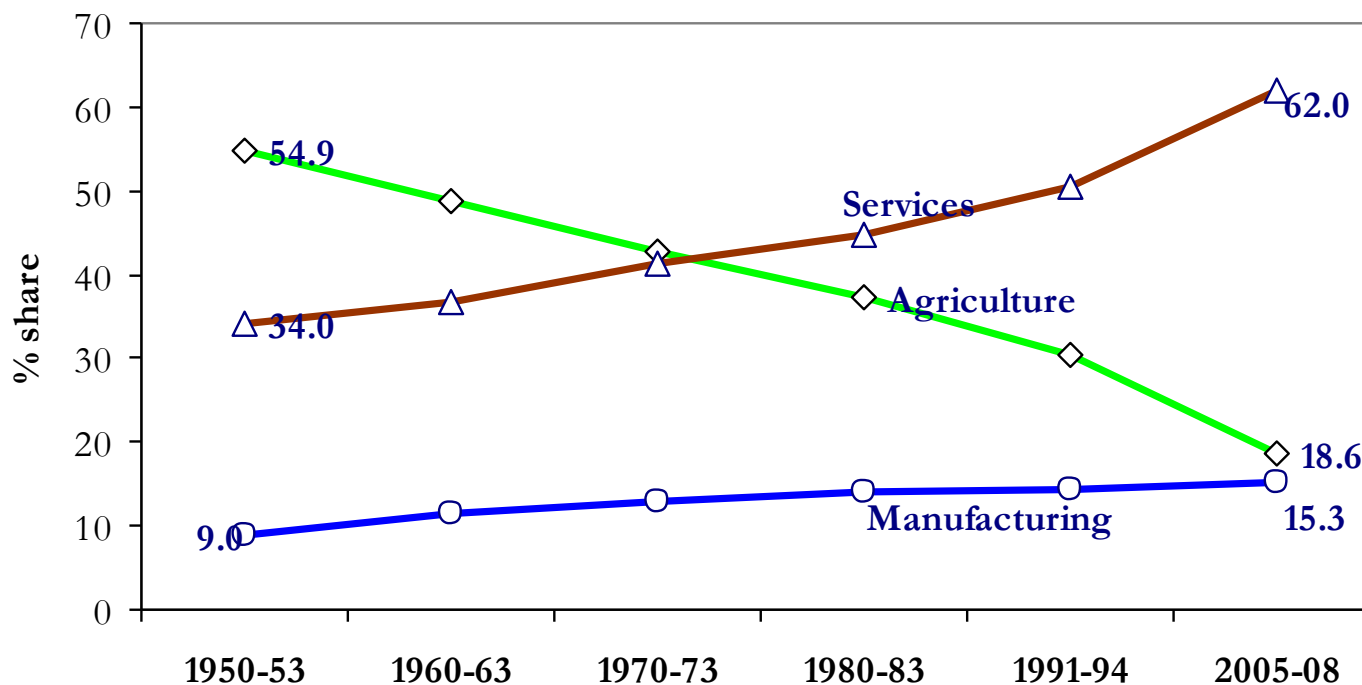


# Indian Industry: Issues and Database

Jayan Jose Thomas

Indian Institute of Technology Delhi

## *Shares (%) in India's Gross Domestic Product, 1950-3 to 2005-8*



Note: GDP at Factor Cost at 1999-0 prices

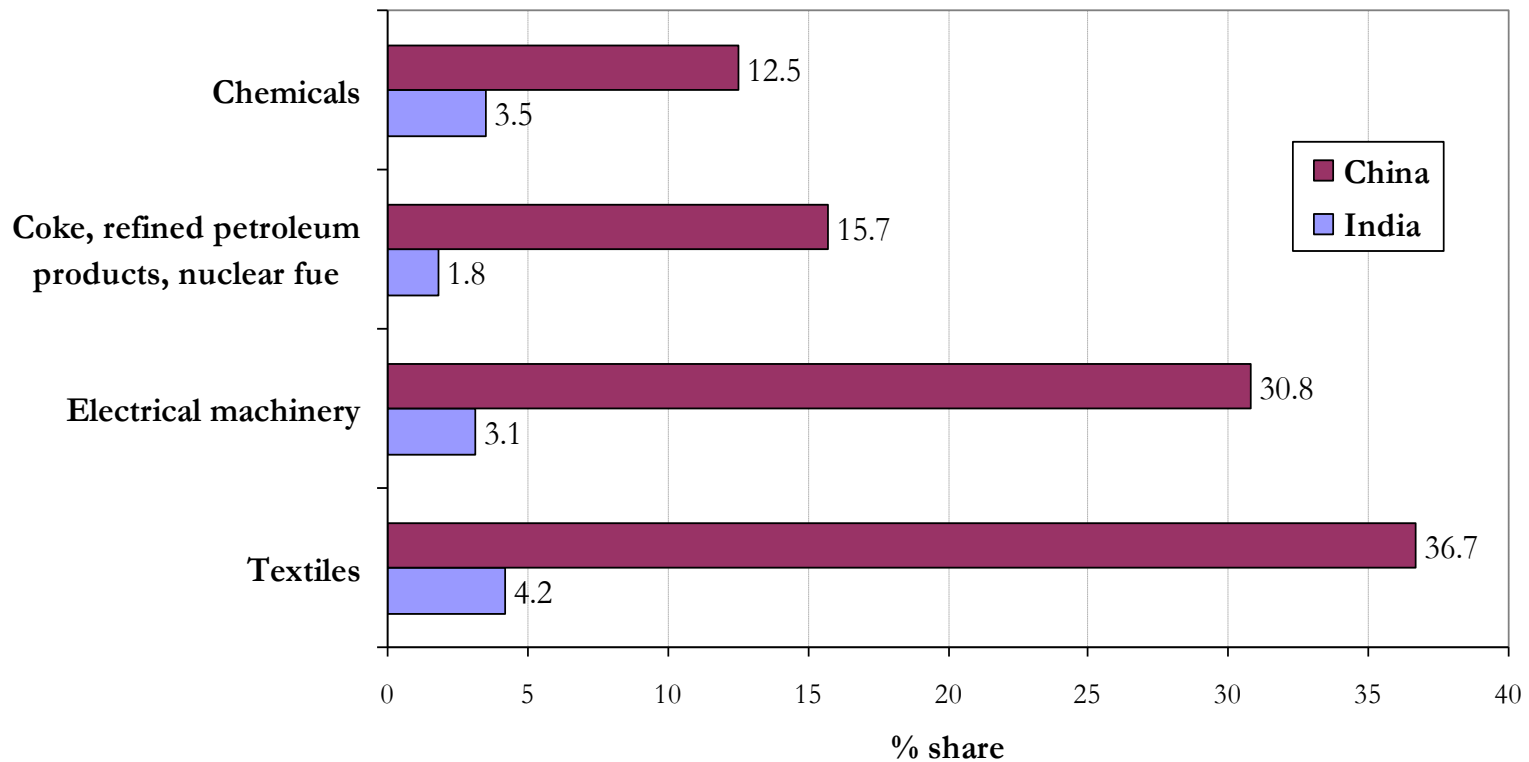
Source: National Accounts Statistics published by Central Statistical Organization

## *Important Features of India's Population and Workforce, 2009-10*

	Numbers in millions	in %
Total Population	1093.0	
Total Workers	457.9	100
Agriculture and allied activities	258.7	56.5
Manufacturing	<b>55.9</b>	<b>12.2</b>
Construction	26.0	5.7
Services	105.8	23.1
Workers in organized sector, 2007	27.2	5.9
Workers in factory sector, 2007-08	<b>10.4</b>	<b>2.3</b>
Total jobs in the IT sector, 2008-09	2.2	0.5

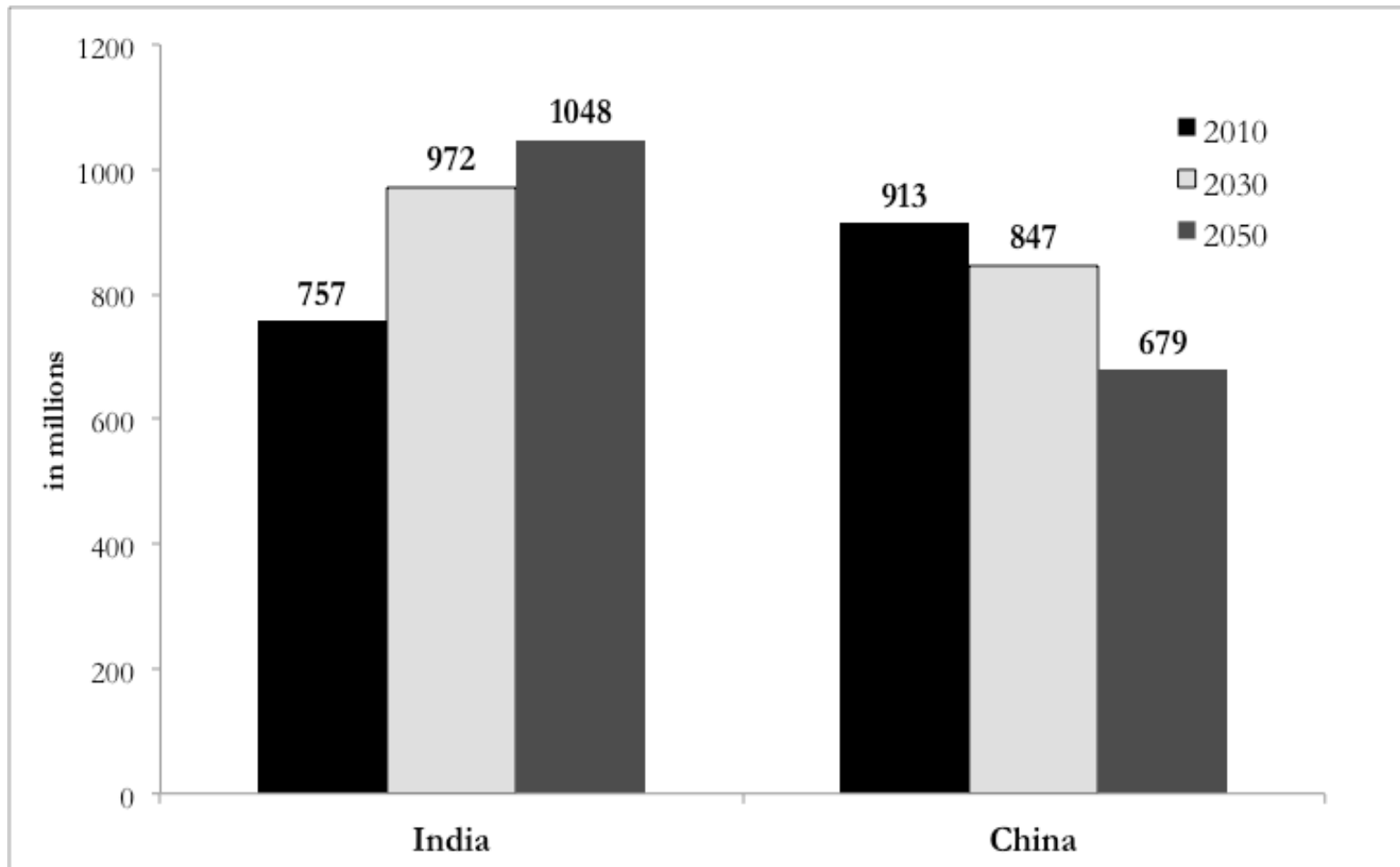
For more details, please see: Thomas, Jayan Jose (2012) India's Labour Market During the 2000s: Surveying the Changes, *Economic and Political Weekly*, December 22, 2012

Shares in Total Value Added Globally, 2007



*Source: UNIDO (2009).*

# Population in the Age Group of 15-59 years, in millions



Source: World Bank

## Increase in the supply workers ready to join the non-agricultural labour force due to:

- The increase in **working-age** population
- Movement of workers away from **agriculture**
- The growth in the population of **students**

# Net Average Annual Change of 15-59 Population, 2004-05 and 2011-12, in millions

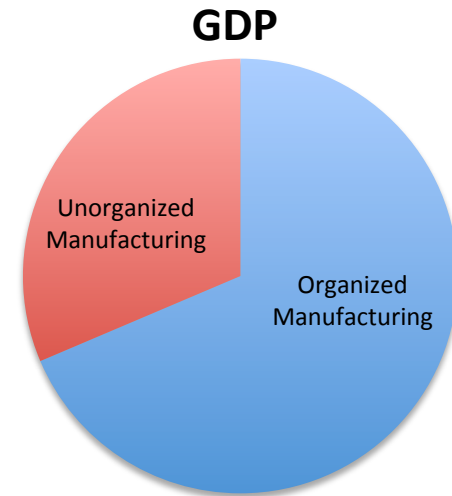
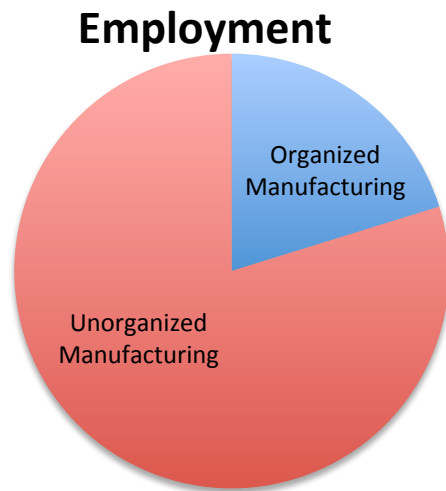
		Males	Females	Total
1	Population	8.1	8.1	16.2
2	Students	3.4	2.6	5.9
3	Population -- students	4.7	5.5	10.3
4	Employed, agriculture	-0.8	-3.7	-4.5
3 + (-4)	Potential workers, non-agriculture	5.5	<b>9.3</b>	<b>14.7</b>
5	Employed, non-agriculture	5.3	<b>1.2</b>	<b>6.5</b>
6	Attending domestic duties	0.0	<b>8.1</b>	8.2

# Net Increase in Employment, 2004-05 to 2011-12, in millions

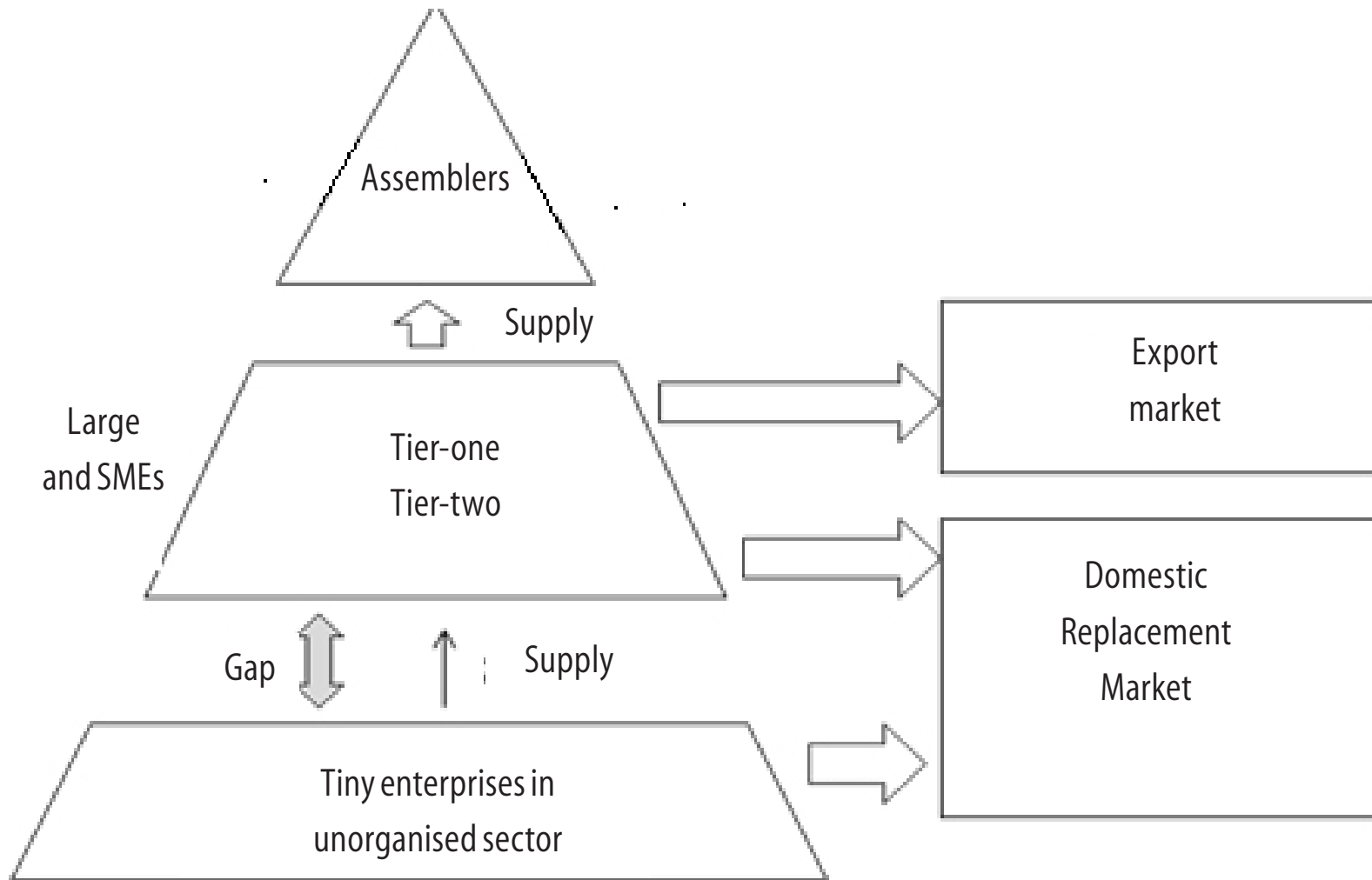
1. Agriculture and allied activities	<b>-33.3</b>
2. Manufacturing	5.1
3. Construction	<b>23.9</b>
4. Trade, repair, hotels, transport, commn.	9.6
5. Financing, Insurance, Real estate and business services	5.8
5a. Computer and related activities	1.7
6. Community, social and personal services	3.4
6a. Public administration and defence	-0.7
6b. Education	2.8
6c. Employment in private households and other services	-0.2
Total Non-agricultural	<b>48.0</b>
Total	<b>14.7</b>



# Shares of organized and unorganized sectors in total Manufacturing Employment and Manufacturing GDP, 2009-10



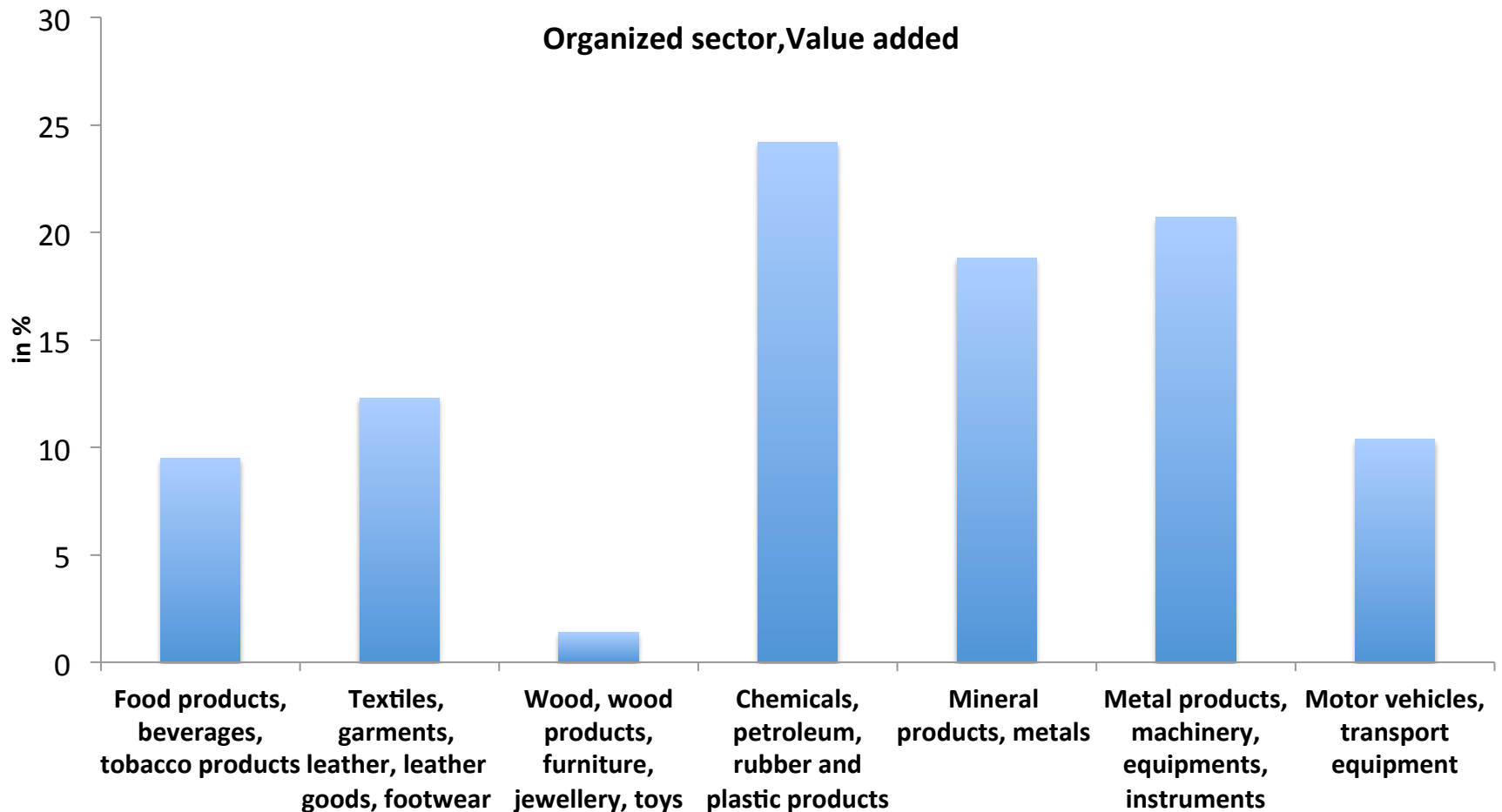
# Structure of Auto-Component Industry in India



**Shuji Uchikawa (2011) Small and Medium Enterprises in the Indian Auto-Component Industry, Economic and political Weekly**

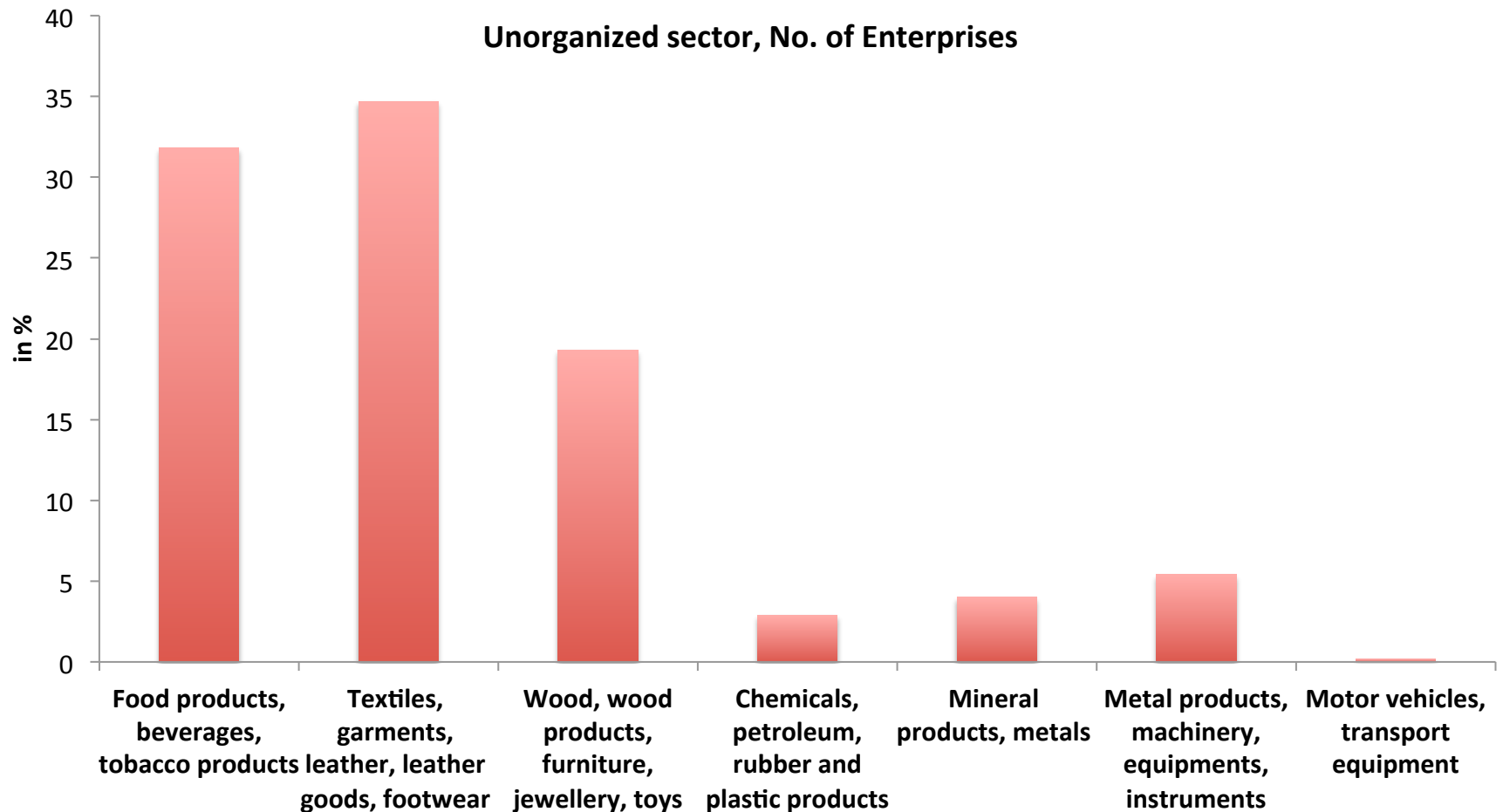
# Industry-wise distribution, 2005-06

Shares of different industries in total value added by the organized manufacturing sector in 2005-06



# Industry-wise distribution, 2005-06

Shares of different industries in total number of enterprises in the unorganized sector in 2005-06



# Shares in % of selected States in Organized and Unorganized Manufacturing in India

<b>States</b>	<b>Factory sector, Gross Value Added</b>	<b>Unregistered Manufacturing, No. of Enterprises</b>
<b>Maharashtra</b>	<b>22.8</b>	<b>8</b>
<b>Gujarat</b>	<b>14.1</b>	<b>5.1</b>
<b>Tamil Nadu</b>	<b>9.2</b>	<b>9.2</b>
<b>Uttar Pradesh</b>	<b>5.6</b>	<b>14.5</b>
<b>West Bengal</b>	<b>3.1</b>	<b>15.1</b>
<b>India</b>	<b>100</b>	<b>100</b>

# **Data on Organized manufacturing**

- **Annual Survey of Industries** : all factories employing **10 or more workers with the aid of power** (Sections 2m(i) and 2m(ii) of the Factories Act, 1948)
- **Index of Industrial Production**, Monthly basis

# Data on Unorganized Sector

- **NSSO Surveys on Employment and Unemployment** (*Household surveys*; for total manufacturing: 1993-94, 1999-2000, 2004-05, 2009-10, 2011-12)

# Data on Unorganized Sector

- **NSSO Surveys on Unorganized manufacturing**  
(*Enterprise surveys*: 1989-90, 1994-95, 2000-01, 2005-06, 2010-11) (output, GVA, employment, etc.)
- (2010-11: unincorporated non-agricultural enterprises excluding construction)
- In manufacturing: covers enterprises excluding those registered under Sections 2m (i) and 2m (ii) of the Factories Act, 1948.



Numbers of factories (organized sector) and unorganized (or unincorporated) enterprises in India, in 100,000 (lakh) numbers

Number of factories, ASI , 2011-12	2.2
Number of unincorporated manufacturing enterprises, NSSO, 2010-11	172.1

Numbers of employees in organized (or factory) sector, unorganized (or unincorporated) sector and total manufacturing in India, in 100,000 (lakh) numbers

Employees in factories, ASI , 2011-12	134.3
Workers in unincorporated manufacturing enterprises, NSSO enterprise survey, 2010-11	348.9
Workers in manufacturing, NSSO household survey, 2011-12	613.0

- Economic Census: 1977, 1980, 1990, 1998, and 2005, 2014 respectively
- 
- Micro, Small and Medium Enterprises – defined by investment in plant and machinery (not employment)

# More on ASI:

- **Census Sector:** comprising larger factories (with 100 or more workers)
- **Sample sector:** all other factories
- The sampling frame of ASI is based on the **lists of factories maintained by the Chief Inspectors of Factories** in the various states.
- (The deletion of deregistered factories from the frame is done only once in three years)

# ASI: Limitations

- However, **several manufacturing units** (mostly those employing 10-20 workers) **do not register under the Factories Act**. These units will not be included in the ASI frame.
- Factories Act: relate to regulations on workers' safety, health and welfare.
- **Entrepreneurs try to avoid the costs** and regulations that accompany registration (and, **at the same time, limited benefits from registration**)
- In 2007-08, there were **146,000 factories** according to ASI. But NSSO unorganized manufacturing survey for 2005-06 reveal that there were **239,000 manu. units** that employed at least 10 persons but were not registered (and not included in ASI).
- **Inclusion of closed factories:** CIF does not delete them from the list

# NSSO Unorganized Manufacturing Surveys

- Adopts a stratified multi- stage design with villages/ urban blocks as the first-stage units (FSUs) and unorganised manufacturing units as the ultimate-stage units (USUs)
- In 2005-06, a sample of 9923 FSUs and 82,897 enterprises were surveyed.
- Gross value added (GVA) per worker based on these surveys used for national income accounting purposes. Could be an underestimate, though

# Economic Census

- Covers **all economic activities** (agricultural and non-agricultural) except those involved in crop production and plantations, public administration, defense and compulsory social security
- Gives information on **number of units and number of workers** engaged in the industrial sector in **various regions (at the sub-state level)**.
- Identifies regions having concentration of establishments of specific activities.
- Provides a **sampling frame of first stage units** (i e, villages/ urban blocks) for the conduct of follow-up establishment surveys by NSSO.

## **6<sup>th</sup> Economic Census (conducted between January 2013- April 2014)**

- **58.5 million establishments** operating in the country (39. 3 million in 2005)
- Employing **131 million workers**
- Average employment per establishment: 2.24
- Maharashtra(11.1%), Uttar Pradesh (10.8%), West Bengal (9.1%), Tamil Nadu (8.9%), Gujarat (7.3%) of total employment in these establishments



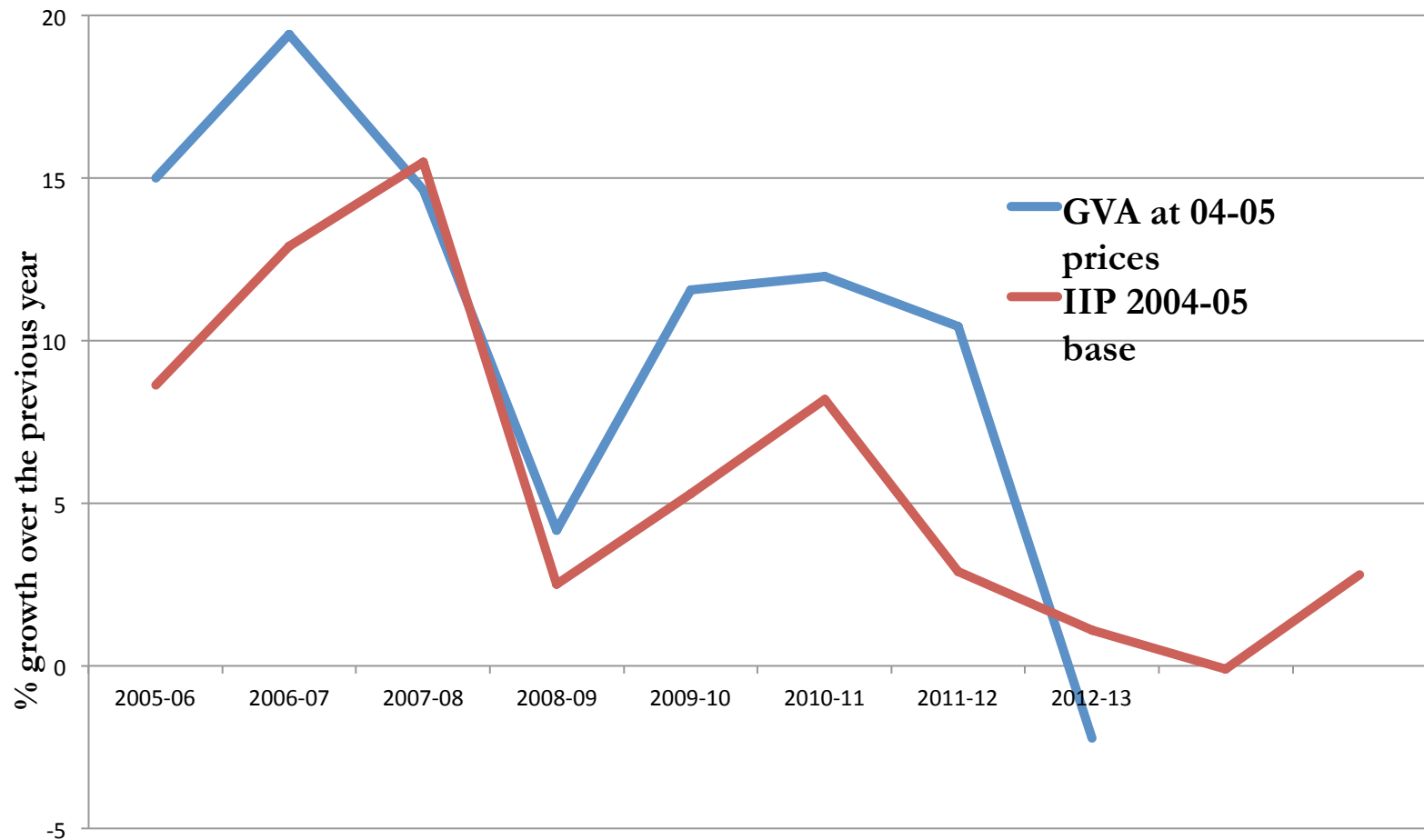
# IIP

- IIP is a base-year weighted (Laspeyres), quantity index of production of (i) mining, (ii) manufacturing and (iii) electricity
- Computed using the monthly production data supplied by factories/firms to their respective promotional/ regulatory authorities in the central government. CSO collects this data.

# IIP -- Limitations

- Covers only the organized segment.
- Firms are not under any compulsion to provide monthly production data to their source agencies.
- No incentives either for firms to register and supply information
- Inadequate coverage of small-scale sector

# Growth (in %, over the previous year) of Gross Value Added by Registered Manufacturing, ASI and IIP



# Differences between ASI and IIP

- “the IIP is constructed with fixed weights in the base year. Due to diversification of the production structure, .... the index fails to capture the incremental output originating from newer industries and products.
- Solution: change the IIP’s base year more frequently...”
- Nagaraj, R (2015), ‘Growth in GVA of Indian Manufacturing’, *Economic and Political Weekly*, June 13.

# Gross Value Added, India's Factory Sector

	GVA, billion Rupees	WPI	GVA
Year	current prices	2004-05 prices	at 2004-05 prices
1993-94	105	60.1	174
1994-95	127	67.5	188
1995-96	163	73.3	222
1996-97	185	74.8	247
1997-98	198	77.0	258
1998-99	174	80.3	216
1999-00	189	82.5	229
2000-01	178	85.2	209
2001-02	183	86.8	211
2002-03	214	89.1	241
2003-04	248	94.1	263
2004-05	310	100.0	310
2005-06	365	102.4	356
2006-07	460	108.2	425
2007-08	553	113.4	487
2008-09	611	120.4	508
2009-10	697	123.1	567
2010-11	825	130.1	634
2011-12	977	139.5	701
2012-13	1007	147.1	685

# WPI for manufactured goods

	2004-05 base		1993-94 base
1993-94	60.1	1993-94	100
1994-95	67.5	1994-95	112.3
1995-96	73.3	1995-96	121.9
1996-97	74.8	1996-97	124.4
1997-98	77.0	1997-98	128
1998-99	80.3	1998-99	133.6
1999-00	82.5	1999-00	137.2
2000-01	85.2	2000-01	141.7
2001-02	86.8	2001-02	144.3
2002-03	89.1	2002-03	148.1
2003-04	94.1	2003-04	156.5
2004-05	100	2004-05	166.3
2005-06	102.4		
2006-07	108.2		
2007-08	113.4		
2008-09	120.4		
2009-10	123.1		
2010-11	130.1		
2011-12	139.5		
2012-13	147.1		
2013-14	151.5		
2014-15	155.1		

# Problems related to Change in Base Year

- The base year for national accounts statistics (NAS) revised at regular intervals – **to take into account the structural changes** in the economy
- Earlier NAS with **base years as 1960-61, 1970-71, 1980-81** – Workforce estimates (especially for informal/unorganized sector) from the **Censuses**
- NAS series with **base years as 1993-94, 1999-2000, 2004-05, 2011-12**: workforce estimates based on employment and unemployment surveys of NSSO
-

## Other Changes with the 2011-12 base NAS

- In the 2004-05 series, the private corporate sector was covered using the **RBI Study on Company Finances** (based on financial results of some **2500 companies**)
- In the 2011-12 series: private corporate sector based on annual accounts of companies as filed with the Ministry of Corporate Affairs (MCA) under their e-governance initiative, **MCA21 (5 lakh companies)**.
- .



# System of National Accounts (SNA) 2008

Gross value added (**GVA**) at basic prices = **GVA** at factor cost  
+ **Production Taxes** – **Production subsidies**

**GDP** at market prices = **GVA** at basic prices + **Product taxes** – **Product subsidies**

Production taxes: land revenues, stamp fee, profession tax

Product taxes: excise duty, sales taxes, import/export duties

Production subsidies: to railway, subsidies to farmers or small industries

Product subsidies: subsidies on food, petroleum, fertilizer, etc

**GVA by economic activity** at current prices, **2011-12** (Rupees crores)  
GDP at factor cost (2004-05 series) and GVA at basic prices (2011-12 series),

	2004-05 series	2011-12 series	% difference
Agriculture and allied	<b>1499098</b>	<b>1505580</b>	<b>0.4</b>
Mining and Quarrying			18
Manufacturing			<b>19.9</b>
Electricity			43.3
Construction			12.2
Trade, repair, hotels			-39.4
Transport, communication	x		-13.8
Financial services			-0.3
Real estate, ownership of dwellings	x		17.7
Public administration and other services	x		-1.2
<b>GVA</b>	<b>8391691</b>	<b>8195546</b>	<b>-2.3</b>

Growth of Manufacturing, in %, over the previous year:  
2004-05 series and 2011-12 series

	2004-05 series	2011-12 series
2012-13	1.1	6.2
2013-14	<b>-0.7</b>	<b>5.3</b>

Growth of GDP, in %, over the previous year: 2004-05 series and 2011-12 series

	2004-05 series	2011-12 series
2012-13	4.5	4.9
2013-14	4.7	6.6

# Sources of Data for Estimation of Registered Manufacturing GVA

Series	Year 1	Year 2	Year 3
	Advance and provisional	1st revised estimate	2nd revised estimate
2004-05 series	IIP	IIP	ASI
2011-12 series	IIP+advance filing of corporate accounts	IIP+MCA-21	MCA-21+non-corporate ASI

- *Source: Nagaraj, R (2015), 'Growth in GVA of Indian Manufacturing', Economic and Political Weekly, June 13.*

# Differences between 2004-05 series and 2011-12 series

- Unit of obtaining information: establishment (or factory) in 2004-05 series to an enterprise (or firm) in 2011-12 series (thus from physical unit of production to organizational unit of production)
- Principal source of data for manufacturing GVA: IIP and ASI in 2004-05 series to Ministry of Corporate Affairs (MCA-21) data in 2011-12 series

## Problems with the MCA-21 database

- Incompleteness and inconsistencies in the MCA-21 database
- Scaling-up of estimates obtained from MCA-21 database for the universe of all working companies
- The number of companies filing their financial returns varies from year to year; corresponding variations in the scaling-up factor and the final estimates.
-

# Industry-wise Distribution of Companies in Private Corporate Sector

Source: R. Nagaraj, EPW, November 2016

	1991	2010	2014
Manufacturing	50.5	27.0	22.1
Finance...(FIRE)	22.1	27.8	35.7
Total	100.0	100.0	100.0
Total in numbers, lakhs	2.2	6.4	8.5