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REGIONAL CONCENTRATION OF UNORGANISED MANUFACTURING SECTOR IN INDIA: A SPATIAL ANALYSIS

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This study shows the regional disparity of the unorganised manufacturing sector and the unorganised sector in India. The main factors used in this study is, the number of enterprises, the value of fixed assets, gross value-added, and total number of the workers employed in the unorganised manufacturing sector and unorganised sector in India. The data is extracted from the 73rd round of National Sample Survey Organisation on 'Unincorporated Non-agricultural Enterprises (excluding construction) in India'. The study is likely to highlight the concentration ratio and location of the unorganised manufacturing sector and the unorganised sector that would be helpful to understand the regional concentration. The unorganised manufacturing sector from emerging economies is expanded to incorporate region-level analysis, the literature may continue to ignore the regional factor and capacity-building process that makes from certain representative states. This study provides a new aspect of understanding with more comprehensive observations and evidence to investigate the ongoing debate on variation in performing of unorganised manufacturing sector among the Indian regions and provide a better outlook for policy implications at a micro-level.

Keywords : *Unorganised Manufacturing Sector, Regional Disparity, Concentration Ratio*

Introduction

India is a nation like other developing nations that has been facing industrial concentrations in some of the locations since its industrialization. Faced with such a situation the Government has adopted a series of measures to achieve balanced regional industrial development and guided the industrialisation process by highly regulated policies, with many industries reserved for the public sector (Sekhar, 1983). However, these initiatives are taken from the beginning of the planning period, the main problem of the Indian economy's balanced industrial growth remains. Through the role of state control as industrial owner and regulator of locations after the initiative of economic reforms in 1991 Saikia (2011) argued that the industry will

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be concentrated in the advanced states while reforming to realise the benefits of social and economic infrastructure development.With this background, observations show increasing regional inequality since the period of industrialisation. This is primarily caused by the differentiated growth pattern between high and low industrialised regions in India (Bhattacharya & Sakthivel, 2004; Kar and Sakthivel, 2007). This type of argument motivates the study on developing nations, which observes the spatial variation in the industrialisation. It is one of the major reasons for the spatial income variation in most of the developing nations(Sakia, 2011; Kim 2008; Puga, 1999; Fujita et al., 1999).

With this context, the present study focuses on the analysis of the regional variation of the Unorganised Manufacturing Sector (UMS) and Unorganised Sector (US) in India. While these sectors contribute to the economy in terms of employment, production for masses and ease to set up the new businesses. And in which the manufacturing sector has a huge capacity to generate the employment opportunities and produce for mass. With this background, the objective of the study is to analyse the spatial distribution of the UMS and US in terms of total enterprise size in the states, total workers involved in the states, Gross Value Added (GVA) in the states and total assets of the state. Further, it examines the degree of spatial concentration at an aggregate and disaggregates regional level. It proceeds with the review of the literature in section 2 and 3 explaining the research methodology and data source. Section 4 analyses the spatial distribution of US and UMS at the regional as well as state levels. Section 5 examines the spatial concentration at the disaggregated regional level. The last section discusses the finding and conclusion in the context of regional variation and spatial concentration of the UMS.

Review of Literature

This study based on regions as well as state-wise analysis of UMS and US in India. The aspect of this study is not new in India. There had been extensive attempts made in the previous studies. The study on regional variations of industrialisation and its pros and cons for the industrial development in India as well as regional level have existed. However, these existing works of literature provide contradictory arguments and findings on the growth and pattern of industrialisation in India. The regional variation in a country like India is a very important concern. Here, its large economy in which different regions with different resources, geographical structure, and contributions would have to make a disparity in growth pattern over the period. In the earlier period, many of the policymakers have supported the centralised industrial policy, it could be one reason the regional disparity exists. Despite the planning, however, the regional

disparity is a serious concern for India (Bhattacharya and Sakthival, 2004). The liberalisation has been followed at different levels of the states, and it seems to have boosted the inter-state disparity in the economic growth of India. India's economic growthis mostly dependent on the industrial efficiency, whichalso, depends on functions of the agglomeration economies. The effects of economic reform seem to have generated factors, which broadly fall into this type of agglomeration economies. And hence, the economic growth among the Indian states, have shown inequalities instead of convergence (Bhanumurthy & Mitra, 2004).

Barro, (1991) argues that the nature of convergence theorem is the postulate that when an economic growth rate at fast-track, initially some of the regions perform better than other regions because of the better resource view. But after some time, the law of diminishing marginal returns applies, at the initial period the rate of growth would converge, because of disparity of marginal efficiency of capital (higher in underdeveloped regions and lower in developed regions). It would be bridging the gaps at the level of income among the regions.

However, the existed empirical studies are very controversial in nature. The observations are also mentioned that when the economy is liberalised many of the controls on the investment are removed. Regions with developed infrastructure attract more investment from the foreign capital and use the foreign market mechanism. It turns to lead the regional disparity in the initial phase of the reforms (Bhattacharya and Sakthivel, 2004). Mitra et al., (1998) argue that the availability of better infrastructure in the regions is a strong determinant of the industrial growth in terms of productivity, competitiveness and better use of the available resources. Awasthi, (1991) and Dholakia, (1994) haveargued that interstate disparityhas declined in the manufacturing sector before the reform period. While in the post-reform period it has significantly increased (Lal & Chakrayorthy, 2005).

Most of the above discussionsare from the organised manufacturing sector. While very few of the debate and discussion are in terms of the regional pattern of UMS.There is extensive regional disparity exists in terms of labour productivity, group activity, capital productivity, etc. Mukherjee, (2004) has argued that the highest productivity has existed in machinery equipment sector and the lowest productivity has existed in the food and beverage sector. While, the region-wise central and north India have the highest in labour productivity and in the capital productivity south and west India is the highest.

However, the regional disparity located in different parts of states in terms of socio-economic and agriculture development. The industrial sector is the most concentrated sector in which reforms have focused on. The growth shows the significant regional variation of the manufacturing sector (Mitra et al., 1998). This growth is based on factors relating to the productivity of the manufacturing sector. It is crucial for economic development; attract high-income counterparts in the developing regions. While the factors which explain the regional variations of industrial productivity are also accountable for economic growth. Here, Bhattacharya and Sakthivel, (2004) argued that the regional growth variation is associated with the industrial productivity of the states.

There are so many critical components for this study but here we are unable to recognise all those factors, which determine the size and location of the UMS in the regions. Several other important factors promote industrialisation in the developing state and play a vital role in attracting the business opportunity. But for empirical estimations it is very difficult to include all those qualitative factors. Saikia, (2016) argues that there are some specific skills inherited in the states which are based on the cast, class, religious groups. It leads to maintaining the formation of industrial clusters based on such skills. But these factors find difficult to estimate and quantify for the empirical analysis.

Research gap

There has been an interesting debate on the regional disparity of the manufacturing sector in India. This debate continues with issues related to variation in the UMS such as productivity estimations, growth, employment generation and GSDP fluctuation among the Indian regions as well as states. The regional characters matter for shaping the behaviour of the manufacturing sector (Saikia, 2016; Kathuriya et al., 2010; Pradhan and Das, 2016; Pradhan et al., 2013; Pradhan, 2011). The region-specific characteristics are showing huge variation in state-level policy, legislation, employee status, geographical structure, economy, infrastructure, etc. that affect the industries at a different scale, so in that case, the regional analysis assumes significance role to play for the growth of UMS.

However, the gap shows that the majority of studies have been examined economy-wise, industry-wise trends and patterns. But there are limited studies on the regional analysis of UMS in India. The study tries to fulfil this gap by putting forth a more comprehensive situation of the UMS.

Methodology and Data Source

For this study, the data is extracted from NSSO 73rd round on 'Unincorporated Non-Agricultural Enterprises (excluding construction) in India2015-16.The selected variables have been used to ascertain the regional as well as state-wise disparity. The foremost major variables estimated for this study are the total number of enterprises, the total value of fixed assets, the total number of workers engaged and gross value added of UMS and US. The value of total fixed assets is estimated based on totalling the value of land, building, plant and machinery, transport equipment, tools, and some other type of fixed assets such as software and database information, computer and telecommunication equipment and capital work in progress. The total number of workers is estimated by adding the number of working owners, formally hired workers, informal hired worker, helper/apprentice and other workers engaged in UMS and US. While the gross value-added estimated through the total receipt minus total operating expenses and distributive expenses if any during the study period. The methods for using spatial analysesareConcentration Ratio (CR) and Location Herfindahl-Hirschman Index (HHI) which explains the regional concentration of the UMS as well as the US.

Regional Distribution of UMS and US

This section is explaining the regional distribution of the UMS and the US of India. While looking at this section it is important to keep in mind the figure of the regional as well as states figure. The tabulation showing through the enterprises' number, the value of fixed assets, gross value added, total employment of the UMS and US. These variables are showing huge variation ina different part of the regions as well as in the Indian states. These variations depend on its geographical structure, infrastructural resources. (Table 1 and 2 shows distributions of the UMS and US with the help of the above-mentioned variable).

Unorganised Manufacturing Sector

The UMS is an important sector of the country; here it provides 36.04 million of the employment and 268066 cr. (Rs.) value-added contributed to the Indian economy. The following table (see appendix A) measure situations for the number of enterprises, fixed assets, employment, and gross value added in the regions, as well, as in the state wise. The highest number of enterprises, owned by East India 30.05 per cent and South India 29.19 per cent followed by North India 17.11 per cent, West India 16.55 per cent, Central India 5.27 per cent

and Northeast India 1.83 per cent. While, the value of the fixed assets, owned by the region,West India 42. 27 per cent and South India 26.32 per cent followed by North India 18.16 per cent, East India 8.40 percent, Central India 4.07 percent and Northeast India 0.77 per cent of the UMS in India. The employment provided by the region in the UMS, highest in South India 27.98 per cent and East India 27.13 per cent followed by North India 19.85 percent, West India 18.09 per cent, Central India 5.20 percent and Northeast India 1.74 per cent share has in India. GVA is an important measurement of the contribution to the economy. In the UMS regional share of the GVA highest of South India 29.36 per cent and West India 27.73 per cent followed by North India 21.40 per cent, East India 16.28 per cent, Central India 3.43 per cent and Northeast India 1.80 per cent.

Table–1. Regional Disparity of UMS Enterprises, Fixed Assets, Total Worker, GVA in India

State	Enterprises (000's)	Fixed Assets (0000000's)	Total Worker (000's)	GVA (0000000's)
	2015-16	**2015-16**	**2015-16**	**2015-16**
Central India	**1045(5.27)**	**18481(4.07)**	**1875(5.20)**	**9194(3.43)**
Chhattisgarh	200(1.01)	3520(0.78)	421(1.17)	2130(0.79)
Madhya Pradesh	846(4.26)	14961(3.30)	1454(4.03)	7064(2.64)
East India	**5962(30.05)**	**38127(8.40)**	**9778(27.13)**	**43645(16.28)**
Bihar	785(3.96)	8224(1.81)	1217(3.38)	9297(3.47)
Jharkhand	499(2.52)	2908(0.64)	754(2.09)	3157(1.18)
Orissa	488(2.46)	2804(0.62)	847(2.35)	3173(1.18)
West Bengal	4189(21.12)	24192(5.33)	6960(19.31)	28018(10.45)
North India	**3395(17.11)**	**82390(18.16)**	**7154(19.85)**	**57371(21.40)**
Chandigarh	7(0.03)	860(0.19)	22(0.06)	345(0.13)
Delhi	183(0.92)	13399(2.95)	712(1.97)	12920(4.82)
Haryana	185(0.93)	7009(1.55)	418(1.16)	4949(1.85)
Himachal Pradesh	96(0.48)	2022(0.45)	140(0.39)	1159(0.43)
Jammu & Kashmir	241(1.22)	3984(0.88)	338(0.94)	3054(1.14)
Punjab	387(1.95)	11760(2.59)	687(1.91)	7195(2.68)
Uttar Pradesh	2224(11.21)	41625(9.18)	4709(13.07)	26484(9.88)
Uttaranchal	71(0.36)	1730(0.38)	127(0.35)	1264(0.47)
Northeast India	**362154(1.83)**	**3510(0.77)**	**627(1.74)**	**4817(1.80)**
Arunachal Pradesh	1(0.00)	14(0.00)	2(0.01)	36(0.01)
Assam	204(1.03)	2052(0.45)	386(1.07)	3108(1.16)
Manipur	64(0.32)	406(0.09)	90(0.25)	522(0.19)
Meghalaya	16(0.08)	123(0.03)	29(0.08)	241(0.09)
Mizoram	84(0.04)	312(0.07)	12(0.03)	140(0.05)
Nagaland	16(0.08)	192(0.04)	29(0.08)	248(0.09)
Sikkim	2(0.01)	69(0.02)	3(0.01)	26(0.01)
Tripura	51(0.26)	341(0.08)	76(0.21)	495(0.18)
South India	**5790(29.19)**	**119385(26.32)**	**10086(27.98)**	**78708(29.36)**
A & N Island	3(0.01)	156(0.03)	6(0.02)	69(0.03)
Andhra Pradesh	1036(5.22)	15213(3.35)	1949(5.41)	10067(3.76)
Karnataka	1261(6.36)	32283(7.12)	2176(6.04)	19335(7.21)
Kerala	558(2.81)	10520(2.32)	1012(2.81)	10336(3.86)
Lakshadweep	1(0.00)	10(0.00)	1(0.00)	13(0.00)

Pondicherry	25(0.13)	671(0.15)	46(0.13)	450(0.17)
Tamil Nadu	1761(8.88)	47814(10.54)	3403(9.44)	29127(10.87)
Telangana	1146(5.77)	12717(2.80)	1493(4.14)	9311(3.47)
West India	**3284(16.55)**	**191742(42.27)**	**6521(18.09)**	**74333(27.73)**
D & N Haveli	5(0.03)	199(0.04)	11(0.03)	99(0.04)
Daman & Diu	2(0.01)	66(0.01)	3(0.01)	29(0.01)
Goa	12(0.06)	750(0.17)	29(0.08)	486(0.18)
Gujrat	1252(6.31)	86259(19.02)	2645(7.34)	34524(12.88)
Maharashtra	1254(6.32)	83404(18.39)	2493(6.92)	27036(10.09)
Rajasthan	759(3.83)	21064(4.64)	1340(3.72)	12159(4.54)
Grand Total	**19839(100)**	**453635(100)**	**36041(100)**	**268066(100)**

Note: Percentage share in parenthesis

Source: NSSO,73 Round on Unincorporated Non-Agricultural Enterprises (Excluding Constructing) in India, 2015-16.

The above table shows disparity across the regions in India, in which West India and South India show their significant performance across the regional group. While the state showing the same pattern as region shows. Only a few of the state leading in enterprises size, employment provider in UMS.The contribution of fixed assets and GVA show the same figure as above for contribution in the state economy.

Unorganised Sector

The above table also measures the variation and shows the overall contributions of UMS. Now in the US, three major economies are included except agriculture enterprises and construction workers. In the US data is combined from the trading sector, manufacturing sector, and the service sector. The following table 2(see appendix A)shows the region-wise as well as the state-wise distribution of the US. The main observationsshow111.27 million of the workers engaged in this sector and 1123968 cr. GVA contributing to the Indian economy.

However, the highest number of enterprises, owned by South India 27.24 per cent and East India 25.06 per cent followed by North India 22.00 per cent, West India 11.16 per cent, Central India 5.56 per cent and Northeast India 2.99 per cent. While the highest value of the fixed assets (Rs.) owned by the region, West India 35.82 per cent and South India 26.49 per cent followed by North India 21.97 per cent, East India 8.74 Per cent, Central India 5.46 Percent and Northeast India 1.51 per cent of the US in India. The employment provided by the region in the US, highest in South India 28.03 per cent and North India 23.15 per cent followed by East India 22.19 Per cent, West India 18.07 per cent, Central India 5.46 Percent and Northeast India 1.51 per cent share has in India. The regional share of the GVA is highest

in South India, 30.92 per cent and North India 23.39 per cent followed by West India 23.28 per cent, East India 15.55 per cent, Central India 4.25 per cent and Northeast India 2.61 per cent.

Table–2. Regional Disparity of Unorganised Enterprises, Fixed Assets, Total Worker, and GVA in India

State	Enterprises (000)	Fixed Assets (0000000)	Total Worker (000)	GVA (0000000)
Central India	**3522(5.56)**	**120774(5.46)**	**6612(5.94)**	**47807(4.25)**
Chhattisgarh	848(1.34)	25296(1.14)	1687(1.52)	11087(0.99)
Madhya Pradesh	2674(4.22)	95478(4.32)	4925(4.43)	36720(3.27)
East India	**15886(25.06)**	**193199(8.74)**	**24690(22.19)**	**174777(15.55)**
Bihar	3446(5.44)	60651(2.74)	5307(4.77)	51519(4.58)
Jharkhand	1588(2.51)	22204(1.00)	2503(2.25)	16574(1.47)
Odisha	1984(3.13)	24018(1.09)	3326(2.99)	21076(1.88)
West Bengal	8868(13.99)	86327(3.90)	13554(12.18)	85608(7.62)
North India	**13945(22.00)**	**485975(21.97)**	**25756(23.15)**	**262921(23.39)**
Chandigarh	56(0.09)	4694(0.21)	129(0.12)	2284(0.20)
Delhi	936(1.48)	61263(2.77)	2301(2.07)	45913(4.08)
Haryana	970(1.53)	47098(2.13)	1912(1.72)	29090(2.59)
Himachal Pradesh	392(0.62)	19705(0.89)	648(0.58)	7938(0.71)
Jammu & Kashmir	709(1.12)	27857(1.26)	1089(0.98)	15162(1.35)
Punjab	1465(2.31)	56809(2.57)	2480(2.23)	30137(2.68)
Uttar Pradesh	9000(14.20)	254502(11.51)	16538(14.86)	125053(11.13)
Uttarakhand	417(0.66)	14048(0.64)	660(0.59)	7344(0.65)
Northeast India	**1892(2.99)**	**33437(1.51)**	**2918(2.62)**	**29287(2.61)**
Arunachal Pradesh	23(0.04)	739(0.03)	41(0.04)	903(0.08)
Assam	1214(1.92)	15464(0.70)	1816(1.63)	16996(1.51)
Manipur	180(0.28)	1905(0.09)	292(0.26)	2523(0.22)
Meghalaya	112(0.18)	1959(0.09)	191(0.17)	1966(0.17)
Mizoram	35(0.06)	3636(0.16)	62(0.06)	1179(0.10)
Nagaland	91(0.14)	3887(0.18)	177(0.16)	2180(0.19)
Sikkim	26(0.04)	3302(0.15)	45(0.04)	426(0.04)
Tripura	211(0.33)	2544(0.12)	295(0.27)	3114(0.28)
South India	**17270(27.24)**	**585985(26.49)**	**31190(28.03)**	**347557(30.92)**
A & N Islands	19(0.03)	2175(0.10)	39(0.03)	549(0.05)
Andhra Pradesh	3387(5.34)	67246(3.04)	5619(5.05)	45148(4.02)
Karnataka	3834(6.05)	166865(7.54)	7145(6.42)	91443(8.14)
Kerala	2379(3.75)	101565(4.59)	4492(4.04)	63693(5.67)
Lakshadweep	2(0.00)	54(0.00)	3(0.00)	38(0.00)
Puducherry	96(0.15)	4396(0.20)	184(0.17)	3184(0.28)
Tamil Nadu	4948(7.80)	182316(8.24)	9682(8.70)	101962(9.07)
Telangana	2605(4.11)	61366(2.77)	4026(3.62)	41540(3.70)
West India	**10876(17.16)**	**792316(35.82)**	**20105(18.07)**	**261620(23.28)**
D & N Haveli	16(0.02)	1017(0.05)	36(0.03)	340(0.03)
Daman & Diu	8(0.01)	368(0.02)	14(0.01)	157(0.01)
Goa	70(0.11)	4514(0.20)	160(0.14)	3580(0.32)
Gujarat	3316(5.23)	201299(9.10)	6118(5.50)	73764(6.56)
Maharashtra	4779(7.54)	461726(20.88)	9123(8.20)	132187(11.76)
Rajasthan	2687(4.24)	123392(5.58)	4652(4.18)	51591(4.59)
Grand Total	**63392(100)**	**2211686(100)**	**111271(100)**	**1123968(100)**

Note: Percentage share in parenthesis

Source: Same as Table 1.

The above tables showing the same distributions of the state as well as regions for example organised sector in the previous studies done by Pradhan (2016). South India and west India are the highest contributors as compared to the other regions. In many of the studies based on regional determinants shows these regions have better infrastructure for industrial developments, not even the organised sector but also in the US. However, the above factor's showing the highest contribution from the developed regions, but we can say that the same policy needs to be developed for the US in other regions. For the more concentrated results, the next section of the study provides better information regarding the degree of regional the concentration of UMS and the US in India.

Spatial Concentration of US and UMS

This section examines the aggregate level of spatial concentration of UMS and the US across the regions. Here the term spatial concentration is used for the industries which are concentrated in a few of the geographical regions. The terms spatial concentration is sometimes used as a synonym of agglomeration, clustering but fundamentally different from these. In general, the term agglomeration refers to the geographical concentration of economic activity. Whereas, Brulhart, (1998) and Redding, (2009) argues that the spatial concentration refers to the geographical concentration of economic activity in the industry, after controlling of overall economic activity for the geographical concentration. While according to Chakravorty and Lall, (2007) cluster is a phenomenon in which actions and objects are not randomly distributed over the space but tend to be organised into a close group. However, here the spatial concepts are different from industrial concentration, which refers to the degree of economic activities of the small number of firms in an industry irrespective of their geographical location. There are several statistical measurements for spatial concentration proposed in the literature. It includes traditional measurements such as location CR, coefficient of variation, location HHI, location quotient and location Gini index, etc. Whereas, the recent measurement is Ellison Moran's I and Glaser index, etc. However, these measurements cannot be estimated in a precise form. They have their advantages and disadvantages. For the reliability and comparability of measurement, the present study employed a traditional measurement of the location HHI and CR, meanwhile not any single index attains the reliable conclusion. While the HHI and CR are absolute measurements of the spatial concentration.

The location HHI of industry is defined as the sum squares of enterprises, employment, GVA, and total assets shares of all states in the industry. Symbolically,

$$H_i^c = \sum_{k-1}^{n} (E_{ik}/E_i)^2$$

Where ik E is employment (or GVA/fixed assets/enterprises) of the k^{th} region in i^{th} industry and E_i is employment (or GVA/fixed assets/ enterprises) of all the region in the i^{th} industry.

However, the CR of industry is defined as the sum of enterprises, employment, GVA, and total assets shares of all states in the industry. Symbolically,

$$C_i^c = \sum_{k-1}^{n} (E_{ik}/E_i) * 100$$

where ik E is employment/GVA/fixed assets/enterprises of the k^{th} region in i^{th} industry and E_i is employment/GVA/fixed assets/ enterprises of all the region in the i^{th} industry.

Table–3. Concentration Ration and Location Herfindahl Index of Unorganised Manufacturing Sector by Region-2015-16

	Fixed Assets		Gross Value Added		Employment		Enterprises	
Region[3]	**CR%**	**HHI**	**CR%**	**HHI**	**CR%**	**HHI**	**CR%**	**HHI**
CI	4.074	0.002	3.430	0.001	5.202	0.003	5.267	0.003
EI	8.405	0.007	16.281	0.027	27.130	0.074	30.052	0.090
NI	18.162	0.033	21.402	0.046	19.850	0.039	17.113	0.029
NEI	0.774	0.000	1.797	0.000	1.740	0.000	1.825	0.000
SI	26.317	0.069	29.361	0.086	27.985	0.078	29.185	0.085
WI	42.268	0.179	27.729	0.077	18.093	0.033	16.553	0.027

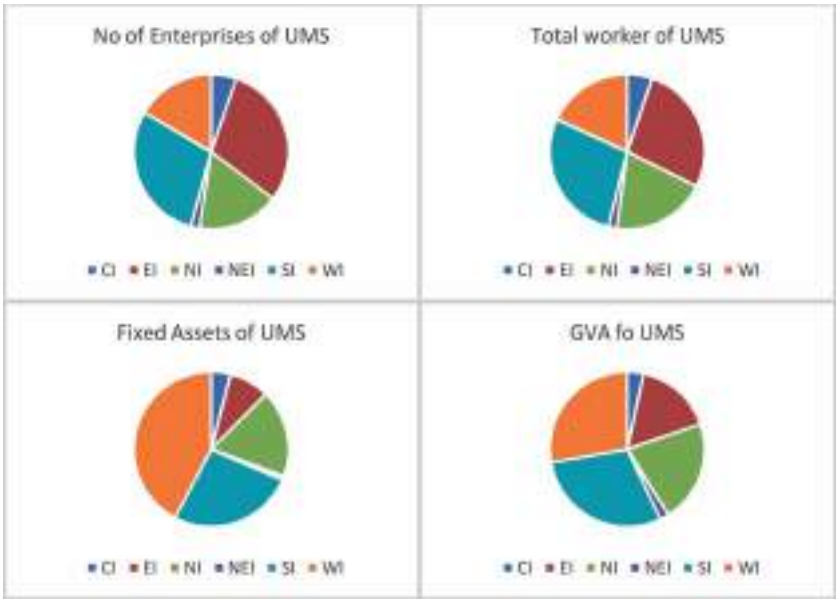
Source: Author's own Computation based on NSSO,73 Round.

Table 3 (see appendix A) shows the Concentration Ratio and Location Herfindahl Index of UMS during the study period 2015-16. It is measuring the concentration and leading share of the region of UMS in terms of enterprises, employment, GVA, and fixed assets. In the fixed assets, the highest CR 42.286 per cent and HHI 0.179 in West India which shows the low concentration and monopolistic market. While HHI shows the moderate market concentration of fixed assets in West India. In the GVA, the highest CI 29.361 per cent and HHI 0.086 show South India which shows the low concentration, monopolistic market and while HHI indicates an un concentrated market of GVA in South India. In the employment, the highest CR

Note: [3] the above table shows the regional concentration and HHI in which CI Stand for Central India, EI Stand for East India, NI stands for North India, NEHI stands for Northeast India, SI stands for South India and WI stands for West India.

27.958 per cent and HHI 0.078 shows South India, which shows the low concentration, monopolistic market and while HHI indicates an un concentrated market of GVA in South India. In the enterprises, the highest CR 30.052 per cent and HHI 0.090 shows East India, which shows the low concentration, monopolistic market and while HHI indicates an un concentrated market of GVA in East India.

Figure–1. Concentration Ration of UMS in the Indian regions, 2015-16



Source: Author's own Computation based on NSSO,73 Round.

However, for the US the summary measure reported in table 4 used to measure the location HHI and CR. It is measuring the concentration and leading share of the region of US in terms of enterprises, employment, GVA, and fixed assets in India.

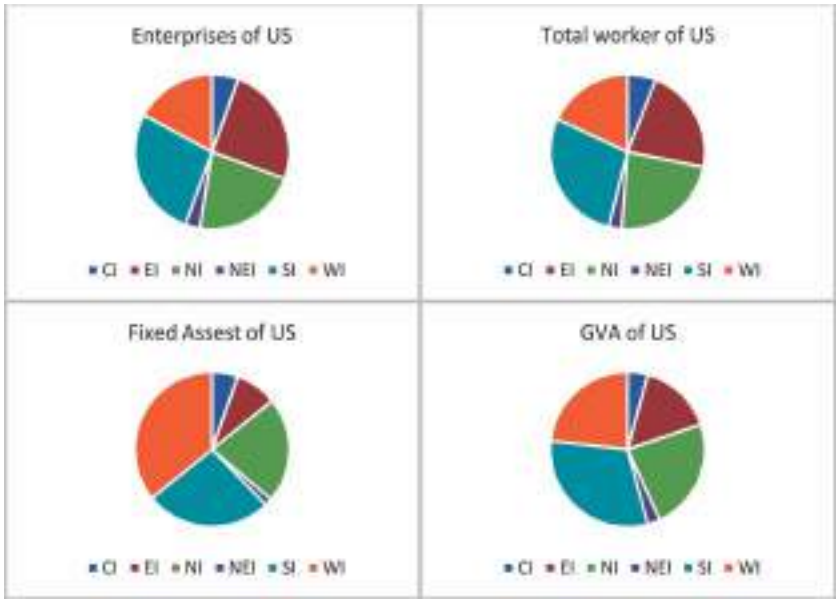
Table–4. Concentration Ration and Location Herfindahl Index of Unorganised Sector by Region-2015-16

Region	Fixed Assets		Gross Value Added		Employment		Enterprises	
	CR%	HHI	CR%	HHI	CR%	HHI	CR%	HHI
CI	5.4607	0.0030	4.2534	0.0018	5.9425	0.0035	5.5561	0.0031
EI	8.7354	0.0076	15.5500	0.0242	22.1891	0.0492	25.0606	0.0628
NI	21.9731	0.0483	23.3922	0.0547	23.1475	0.0536	21.9982	0.0484
NEI	1.5118	0.0002	2.6057	0.0007	2.6225	0.0007	2.9851	0.0009
SI	26.4949	0.0702	30.9223	0.0956	28.0303	0.0786	27.2435	0.0742
WI	35.8241	0.1283	23.2764	0.0542	18.0681	0.0326	17.1564	0.0294

Source: Same as Table 3.

The above table (see appendix A)shows the Concentration Ration and Location Herfindahl Index of US for the year 2015-16. In the fixed assets, the highest CR 35.8241 percent and HHI 0.1283 in West India which shows the low concentration and monopolistic market. While HHI shows the moderate market concentration of fixed assets in West India. In the GVA, highest CI 30.9223 percent and HHI 0.0956 shows South India which shows the low concentration, monopolistic market and while HHI indicates an unconcentrated market of GVA in South India.In the employment, the highest CR 28.0303 percent and HHI 0.0786 shows the South India, which shows the low concentration, monopolistic market and while HHI indicates an unconcentrated market of GVA in South India. In the enterprises, the highest CR 27.2435 percent and HHI 0.0742 shows East India, which shows the low concentration, monopolistic market and while HHI indicates an unconcentrated market of GVA in East India.

Figure–2. Concentration Ration of US in the Indian regions, 2015-16



Source: Author's own Computation based on NSSO,73 Round.

Conclusion and implications

This paper mainly examined the region as well as state-wise disparity of the US and UMS. This disparity was examined with the help of percentage shares of fixed assets value, the number of total workers employed, GVA and no. of enterprises. The study also examines

the region-wise spatial concentration with the help of above-said variables. The method used for the spatial concentration measured through the CR and HHI which is traditionally more reliable measurement of the spatial concentration. These measurements are shown for the year 2015-16 with the latest data set of NSSO 73rd round on unincorporated non-agricultural enterprises in India. Meanwhile, there are very limited studies that have been done so far on this data set in this dimension. The present analysis contributed to the region-wise studies which are based on the manufacturing sector. The analysis of this study is exploratory in nature, while the findings of the study play an important role in understanding the concentration level of UMS and US both at the regional level. It helps the policy implication regarding the regional developments of India and also helps the other developing nations which are showing similar Indian regional patterns.

However, the variable analysis in the study shows that the UMS and US have allowedto concentrated market in the developed region specifically in the WI and SI. While the share of the leading states like Maharashtra, Tamil Nadu, Karnataka, Gujarat, and West Bengal have been more concentrated state as compared with the moderately leading state like Punjab, Haryana, Kerala, Rajasthan Andhra Pradesh, etc. There are hardly any significant improvements observed in backward states like Bihar, Orissa, Uttar Pradesh and other states which comes under the EI and NI. These are the states having poor conditions as compared to their resource's availability.

It is also found that in the US and UMS centralised forces are functioning in the developed state and these forces are not strong enough to attract new industries in under-developed regions. It is a critical fact at the policy point of view for the regional economies where the disparity is in overall industrial development.

Whereas, in the post-reform period many studies found that the poorer states in terms of manufacturing sector had adopted the reform policy at very earliest. However, those states were not capable to enhance the economic performance. These states are facing problems at various indicators such as low literacy rate, the high incidence of poverty, weak socio-economic infrastructure, low capital formations, and some other development indicators. Development of these states would probably be worth with considerable strategies based on its rich natural resources. Those industries which are based on the local resources will be stimulating the development of both upstream and downstream industries. And at the same time, improving the linking strategies with the organised sector through subcontracting. This will help to increase the production opportunity with their complementary

relationship. It will also help to provide the market linkages for the US and UMS and emphasis should also be given to improve the economic condition and investment opportunity in these states. While these states are always at the disadvantaged position as compared with developed states in terms of foreign investment, better infrastructure, and investment opportunities. Therefore, there is a need to develop the socio-economic infrastructure that improves the local circumstances such as connectivity with markets, human capital, financing facility, electricity, etc. and to improve the necessary policy framework for supporting the business environment in these states. Further, this study provides the clue to future researchers to work on the economy-wide market structure of the US that will give a better outlook and helps to the development of developing countries.

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