



Report of the Sub Committee
on
Unorganised Manufacturing & Services Sectors
for
Compilation of National Accounts Statistics
with
Base Year 2011-12

**National Accounts Division
Central Statistics Office
Ministry of Statistics and Programme Implementation
Government of India
New Delhi**

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On my personal behalf and on behalf of the Committee, I wish to offer my warm appreciation to Shri. Ashish Kumar, ADG (NAD) & DG (CSO incharge) and Shri.S.V.Ramana Murthy, DDG & Member Secretary, for their contributions to the deliberations of the Committee and their untiring efforts in bringing this Report.

Finally, I would like to place on record our sincere thanks to the Secretariat for successfully conducting the meetings and logistical support provided by the team in the National Accounts Division. The report would not have taken shape without the dedicated and untiring efforts put forth by them.

On behalf of the Sub-Committee, I have great pleasure in submitting its report on unorganized manufacturing and services sectors.


(Prof. K.Sundaram)

27/02/2015

New Delhi

Contents

Description	Page No.
I. Introduction and the task	1
II. Current Methodology - Labour Input Method: Data sources, methodology and drawbacks	3
III. Alternative Methodology for Compilation of Estimates	15
IV. Estimates of the new series based on new method "Effective Labour Input Method (ELIM)"	22
V. Proposed Categories based on NIC 2008 for Compilation of National Accounts Statistics, 2011-12 Base Year Series	33
VI. Proposed Indicators for projecting the Base Year Estimates to subsequent years	39
VII. Recommendations	42
Annexures	43 - 88

Abbreviations

GDP – Gross Domestic Product

GVA – Gross Value Added

LI – Labour Input

ELIM – Effective labour input method

GVAPW – Gross Value Added Per Worker

GVAPEW – Gross Value Added per Effective Worker

CAGR – Compound Annual Growth Rate

NIC – National Industrial Classification

CC – Compilation Category

RSE – Relative Standard Error

Vbl - Variable

Chapter I

Introduction and the Task

Introduction

1.1 The unorganized non-agricultural segment of the economy, despite having a major contribution to the Gross Domestic Product, suffers from an irregular flow of current data. In the absence of regular data from official sources and annual enterprise surveys, the Gross Value Added (GVA) estimates in respect of unorganized segments of manufacturing and services sectors are compiled indirectly through labour input method using the benchmark-indicator procedure.

1.2 For the purpose of data collection, manufacturing sector is broadly sub-divided into two categories i.e. organised (covering units coming under the Factories Act 1948) and unorganised. While data for organised manufacturing sector are collected through Annual Survey of Industries (ASI), the same for the residual non-factory unorganised manufacturing sector are collected periodically through NSS as follow-up surveys of Economic Censuses (EC). The unorganised manufacturing sector has roughly one-third share in the total contribution by the manufacturing sector in the GDP.

1.3 In the case of the service sector, there is no Act under which the sector can be distinguished as organised and the residual as unorganised. For the organised service sector, units registered under Companies Act or Societies Act are considered as organised. In case of education, for instance, educational institutions whose salaries are funded by Government are considered as organised. The contribution of unorganized service sector to GDP is 30%.

Constitution and Composition of the Sub Committee

1.4 With a view to improve upon the methodology of compilation of estimates in this sector for both manufacturing and services, a sub-committee of the Advisory Committee on National Accounts Statistics (ACNAS) on Unorganised Manufacturing & Services Sectors was constituted as per order No. M-11016/5/2013-NAD-9 dated 11.09.2013 (copy enclosed in the annexure)with following composition and terms of reference:

Chair	Prof. K.Sundaram (Non- Official)
Members	1. Dr.K.V.Ramaswamy, IGIDR, Mumbai (Non- Official)
	2. Shri Asis Ray, DDG, SDRD, NSSO, Kolkata (Official)
	3. Shri P.C. Sarker, DDG, DPD, NSSO, Kolkata (Official)
	4. Shri P.C. Mohanan, DDG, Computer Centre, MOSPI (Official)
	5. Shri Ashish Kumar, ADG, NAD, CSO (Official)
	6. DDG(Coordination), NAD, CSO (Official)
Member Secretary	7. Shri S.V. Ramana Murthy, DDG, NAD, CSO (Official)

Terms of Reference (TOR) of the Sub-Committee

Following are the TOR of the Sub-Committee:

- (i) To assess the appropriateness of present method of Labour Input adopted for compilation of GVA for unorganized sector for services and manufacturing, and suggest an alternative system, if needed;
- (ii) To develop compilation categories (CCs) taking into account NIC-2008 based on the measures of errors both from enterprise surveys and employment & unemployment survey. Also develop concordance between new CCs to the present CCs;
- (iii) Suggest appropriate indicators for each compilation category for estimation of GVA for the years succeeding the base year till base is further revised; and
- (iv) Compile estimates of Labour Inputs and GVA based on revised methodology both for earlier base year 2004-05 and for the year 2011-12, and also between base years.

Meetings of the Sub Committee

1.5 The committee had four meetings (03.10.2013, 11.04.2014, 11.09.2014 and 08.01.2015) the proceedings of which are at Annexures 5, 6, 7 and 9. In addition to these meetings, the chairman reviewed the work periodically. The proceedings of the internal meeting held on 16-12-2014 in the chamber of Dr. Pronab Sen, NSC Chairman is at Annexure 8.

Time period: Initially the Sub-Committee was to submit its report by March, 2014. However, the tenure of the sub committee was extended thrice (till 31.01.2015) vide order No. M-11016/5/2013-NAD-9 dated 15.04.2014, 29.10.2014 and 07.01.2015 (copy placed at Annexures 1 -4).

Organisation of the Report

1.6 The report, in addition to this chapter, contains five more chapters.

Chapter II

Current Methodology - Labour Input Method: Data sources, methodology and limitations

2.1 The data collected from households like those based on PC or EUS of NSSO are usually in terms of employment of persons whereas the data from enterprises, collected in the ESs are in terms of jobs. Since the amount of labour that is going into production is what matters rather a simple head count, the previous committees on workforce estimation had recommended the use of labour input instead of workforce or headcount of persons engaged in any economic activity in compilation of estimates. Thus the term “Labour input” relates to the number of jobs i.e. persons engaged in that economic activity in principal as well as subsidiary status while the term ‘workforce’ refers to the headcount i.e. number of persons (owners, hired workers and helpers) engaged wholly or partly in that economic activity (principal capacity status workers + workers engaged in that activity in subsidiary status only).

2.2 At present, the estimates of value added and related macro- economic aggregates for a number of economic activities carried out in the unorganized segment of the economy are compiled using an indirect method called the Labour Input Method (LIM). In this method, first the labour input (LI) is compiled as the sum of workers , either on the principal status or on the subsidiary status (including the work on subsidiary status of principal status workers), at detailed activity level known as ‘compilation categories (CCs)’.

2.3 The compilation categories are determined by regrouping the economic activities at 3, 4 and 5 digit level described in the National Industrial Classification (NIC), which, in turn, follows the International Standards Industrial Classification (ISIC) of All Economic Activities of the United Nations. As per the recommendations of the Advisory Committee, the same compilation categories of 1999-2000 series based on NIC 1998 were used for the current series(2004-05=100) because of marginal changes in NIC 2004.

2.4 The benchmark GVA estimates of the unorganized manufacturing and services sectors are then prepared for the compilation categories for the base year of national accounts series using the estimated labour input (LI) engaged and the value added per worker (VAPW) in the activity.

2.5 The base year estimates are projected to subsequent years using the following method:

Manufacturing: The base year estimates for all compilation categories are projected to subsequent years using the growth in Index of Industrial Production (IIP) and WPI.

Services: The estimates of LI in the different CCs are generally prepared using the inter survey compound annual growth rate of quinquennial Employment & Unemployment surveys. The value

added per worker of rural and urban areas are projected to subsequent years using CPI (AL) and CPI (IW) respectively. The GVA estimates are then compiled as the product of workforce and VAPW for the respective rural/urban/organized and unorganized segments. However, if suitable physical and price indicators relevant to the economic activity are available, then the benchmark year's GVA estimates are extrapolated with the same. The constant price estimates are prepared by deflating the current price estimates with suitable indicator or moving the base year with suitable physical indicator.

2.6 The list of CCs and the indicators being currently used for projecting the base year estimates are given at Table 1.

Table 1

S.No.	Compilation Category	Indicator used
25	Maintenance and repair of motor vehicles and motor cycles	GTI index
26	Sale of motor vehicles	GTI index
27	Whole sale trade except of motor vehicles + Auctioning activities	GTI index
28	Repair of personal and household goods	GTI index
29	Retail trade (except motor vehicle)	GTI index
30	Hotels; camping sites etc.	GTI index
31	Restaurants, bars and canteens	GTI index
32	Transport via railways	(Entirely an organized segment activity)
33	Scheduled passenger land transport	Growth in registered vehicles * Price index
34	Non-scheduled passenger land transport by motor vehicles	Growth in registered vehicles * Price index
35	Freight transport by motor vehicles	Growth in registered vehicles * Price index
36	Other non-scheduled passenger land transport	LI method
37	Freight transport other than by motor vehicles	LI method
38	Transport via pipelines	(Entirely an organized segment activity)
39	Water Transport	Index of cargo handled at major and minor ports X CPI
40	Air transport	(Entirely an organized segment activity)
41	Storage and warehousing	LI method
42	Supporting & auxiliary transport activities	Combined growth of Road, Water and Air transport
43	National post activities	(Entirely an organized segment activity)
44	Courier activities	LI method

S.No.	Compilation Category	Indicator used
45	Cable operator	LI method
46	Other communication	Growth in minutes of usage & Implicit price deflator of Private corporate
47	Real Estate Activities	LI method
48	Renting of machinery & equipment without operator, personal / household goods	LI method
49	Computer and Related activities	Private corporate growth
50	Legal activities	LI method
51	Accounting, book-keeping	LI method
52	Research and development+ market research and public opinion polling+ business and management consultancy activities+ architectural, engineering and other technical activities+ advertising+ business activities n.e.c (-) auctioning activities	LI method
53	Coaching centres + Activities of the individuals providing tuition	LI method
54	Education excluding (Coaching centres + Activities of the individuals providing tuition)	Growth in consumer expenditure on education
55	Human health activities+ Veterinary activities	Growth in consumer expenditure on health
56	Sewage And Refuse Disposal, Sanitation And Similar Activities	LI method
57	Activities Of Membership Organisationsn.e.c.+ Social work with accommodation	LI method
58	Recreational, cultural and sporting activities	LI method
59	Washing and cleaning of textile and fur products	LI method
60	Hair dressing and other beauty treatment	LI method
61	Custom Tailoring	LI method
62	Funeral and related activities	Population Growth
63	Private households employing staff	LI method
64	Extra territorial organisations	(Entirely an organized segment activity)

Data Sources for Estimates of LI

2.7 For the current series (2004-05) of NAS, the estimates of Labour Input (LI) for the public, private corporate and unorganised sectors, separately for rural and urban areas, have been derived compilation category-wise from the results of NSS 61st round (2004-05) of Employment Unemployment Survey (EUS) and population projections as on 1.10.2004 of the Office of the Registrar General of India (RGI). In accordance with the decisions of the Advisory Committee, the estimates of LI for the public, private corporate and unorganised sectors have been derived on the basis of place of work in rural and urban areas rather than on the basis of place of residence of the workers. However, while adopting this decision,

it was observed that a number of workers had no fixed place of work. Therefore, these workers who had no fixed place of work were redistributed on the basis of their place of residence.

For the compilation categories relating to manufacturing sector, labour input for registered sector is available from Annual Survey of Industries (ASI) 2004-05. The estimates of labour input for unregistered manufacturing segment covered under MSME have been derived from the 'Fourth All India Census of Micro, Small and Medium Enterprises (MSME), 2006-07'. The labour input for the unregistered manufacturing sector (not covered under MSME definition) has been derived by subtracting the labour input in ASI and MSME from the total labour input in the manufacturing activity.

Limitations of LI method:

2.8 The Labour Input Method, however, suffers from inherent problems. Firstly, while compiling GVAPW from the ES, it is assumed that there is equal contribution from all categories of workers engaged in an economic activity i.e the contribution of an employer, a wage – employee (Regular or Casual), or a family worker, is taken to be equal. Second issue is in projecting the LI for subsequent years for the CCs in the Services sector. The CAGR concept based on past two rounds of EUS being used to project the LI ends up overestimating the LI for most of the compilation categories especially in the scenario where there is a drop in the LI over the next two consecutive surveys (EUS). The use of indicators in projecting the base year estimates (already high due to the overestimated LI) of some CCs to subsequent years adds to the problem. This is evident from the estimates of GVA for the CCs compiled using the LI method from the latest surveys (67th round GVAPW and LI based on 68th round & Population Census 2011) for 2011-12. A comparison of these estimates with the 2011-12 estimates of the current series indicates a gap of 108% (Table 3). Annexure 14 gives the GVAPW, compilation category wise, from the 67th round.

2.9 Moreover, the workforce participation rate (WPR) in recent years has been changing across all categories especially for female workers, thus violating the assumption of a constant labour input growth (Table 2).

Table 2

Worker (status 11-51) population ratio (ps+ss) for all Industries (01- 99)

Age Group	61st Round				68th Round				Change in WPR			
	RM	RF	UM	UF	RM	RF	UM	UF	RM	RF	UM	UF
0-4	0	0	0	0	0	0	0	0	0	0	0	0
5-9.	3	3	2	3	0	1	1	1	-3	-2	-1	-2
10-14.	68	74	48	33	26	28	33	9	-42	-46	-15	-24
15-19	497	319	335	128	303	156	223	78	-194	-163	-112	-50

Age Group	61st Round				68th Round				Change in WPR			
	RM	RF	UM	UF	RM	RF	UM	UF	RM	RF	UM	UF
20-24	849	410	684	201	742	278	594	160	-107	-132	-90	-41
25-29	966	513	909	229	942	357	906	231	-24	-156	-3	2
30-34	981	584	969	290	981	426	973	248	0	-158	4	-42
35-39	989	639	977	328	989	480	986	281	0	-159	9	-47
40-44	983	625	980	312	987	482	985	275	4	-143	5	-37
45-49	981	615	968	267	988	484	976	244	7	-131	8	-23
50-54	963	561	931	258	966	444	941	219	3	-117	10	-39
55-59	930	509	830	218	935	393	868	177	5	-116	38	-41
60+	644	253	366	100	649	213	365	78	5	-40	-1	-22
All	546	327	549	166	543	248	546	147	-3	-79	-3	-19

Table 3

Estimates for the year 2011-12 based on Labour Input Method using the latest surveys(67th and 68th rounds of NSS) and Comparison with the estimates released in NAS 2014 (base year 2004-05)

(Rs. in crore)

S.No.	Compilation Category	NIC 2008	GVA 2011-12 (using LI method)			Current Series NAS 2014 Total	% Difference (Current Series-LI method GVA)
			Rural	Urban	Total		
1	Cotton ginning, cleaning and baling	1632	15	175	189	-	-
2	Production, processing and preservation of meat, fish, fruit vegetables, oils and fats	101+102+103+104	3677	4556	8232	9303	13.01
3	Manufacture of dairy product	105	422	742	1164	1705	46.48
4	Manufacture of grain mill products, etc. and animal feeds	106+108	5435	3784	9219	11765	27.61
5	Manufacture of other food products	107	3361	9103	12464	15180	21.79
6	Manufacture of beverages	110	358	806	1163	1485	27.67
7	Manufacture of tobacco products	12	5324	1753	7077	10456	47.76
8	Spinning, weaving and finishing of textile+ Other textiles+ Knitted and crocheted fabrics and articles	13+143	9275	30866	40142	49206	22.58
1+8			9290	31041	40331	49206	22.01
9	Wearing apparel, except fur apparel and tailoring	141-14105	1272	9549	10821	19084	76.36

S.No.	Compilation Category	NIC 2008	GVA 2011-12 (using LI method)			Current Series NAS 2014 Total	% Difference (Current Series-LI method GVA)
			Rural	Urban	Total		
10	Dressing and dyeing of fur; manufacture of articles of fur and tanning and dressing of leather; manufacture of luggage, handbags, saddlery, harness and footwear	142+15	993	5125	6118	9063	48.15
11	Manufacture of wood and of products of wood and cork, except furniture; manufacture of articles of straw and plating materials	16	9394	6170	15564	24777	59.20
12	Manufacture of furniture	3100	8494	7584	16078	17038	5.97
13	Manufacture of Paper And Paper Products and publishing, printing and reproduction of recorded media	17+18+(58-582)	1835	8985	10820	11621	7.41
14	Manufacture of coke, refined petroleum products and nuclear fuel and rubber and plastic products	19+22	1292	3550	4842	9720	100.75
15	Manufacture of chemical and chemical products	20+21	1758	2939	4698	13839	194.58
16	Manufacture of other non-metallic mineral products	23	17356	6130	23485	28577	21.68
17	Manufacture of Basic Iron & Steel+ Casting of iron and steel	241+2431	2329	3424	5753	12838	123.14
18	Manufacture of basic precious and non-ferrous metals+ Casting of non-ferrous metals	242+2432	28	726	754	3118	313.54
19	Recycling of metal waste and scrap+ non-metal waste and scrap	383	55	2354	2408	805	-66.58

S.No.	Compilation Category	NIC 2008	GVA 2011-12 (using LI method)			Current Series NAS 2014 Total	% Difference (Current Series-LI method GVA)
			Rural	Urban	Total		
20	Manufacture of fabricated metal products, except machinery and equipments	25+3311	5905	15790	21695		-
21	Manufacture of machinery and equipment n.e.c + office, accounting and computing machinery	28+3312+3320	1637	6554	8191		-
20+21	<i>Manufacture of fabricated metal products, except machinery and equipments, machinery and equipment n.e.c + office, accounting and computing machinery</i>	25+3311+28+3312+3320	7542	22345	29886	49460	65.49
22	Electrical machinery and apparatus n.e.c.+ radio, television and communication equipment and apparatus	(26-(265+266+267)) +27+3313+3314+9512	1915	4224	6139	10231	66.67
23	Manufacture of medical, precision and optical instruments, watches and clocks+ Manufacturing n.e.c	32+265+266+267+3319	3798	15645	19444	26983	38.78
24	Manufacture of motor vehicles, trailers and semi-trailers+ manufacture of other transport equipment	29+30+3315	1815	4581	6396	17608	175.30
	Total Unorganised Manufacturing		87740	155115	242855	353864	45.71
25	Maintenance and repair of motor vehicles and motor cycles	45403+452	4731	13088	17820	33060	85.53
26	Sale of motor vehicles	45-45403-452+473	5714	11415	17128	27129	58.39
27	Whole sale trade except of motor vehicles + Auctioning activities	46+92001	12780	56143	68924	219894	219.04

S.No.	Compilation Category	NIC 2008	GVA 2011-12 (using LI method)			Current Series NAS 2014	% Difference (Current Series-LI method GVA)
			Rural	Urban	Total		
28	Repair of personal and household goods	952	5774	8735	14509	49190	239.04
29	Retail trade (except motor vehicle)	47-473+92002	112115	251848	363963	772968	112.38
30	Hotels; camping sites etc.	55	1193	7175	8369		-
31	Restaurants, bars and canteens	56	11929	29064	40993		-
30+31	<i>Hotels & Restaurants</i>	<i>55,56</i>	<i>13123</i>	<i>36239</i>	<i>49362</i>	<i>87874</i>	<i>78.02</i>
32	Transport via railways	491					
33	Scheduled passenger land transport	4921	4862	12209	17071	43557	155.16
34	Non-scheduled passenger land transport by motor vehicles	4922-49226	22891	23383	46273	88650	91.58
35	Freight transport by motor vehicles	49231	31471	24618	56090	165303	194.71
36	Other non-scheduled passenger land transport	49226	4953	3602	8555	31721	270.77
37	Freight transport other than by motor vehicles	49232	2563	2456	5019	20403	306.51
38	Transport via pipelines	493					
39	Water Transport	50	101	59	161	722	349.53
40	Air transport	51					
41	Storage and warehousing	521	184	531	715	2859	299.79
42	Supporting & auxiliary transport activities	52-521+79	1644	8356	10000	16273	62.74
43	National post activities	531					
44	Courier activities	532	237	1089	1326	8343	529.40
45	Cable operator	61103	708	1396	2103	4774	127.00
46	Other communication	61-61103	50	632	682	21601	3068.76
47	Real Estate Activities	68	1188	11770	12958	41851	222.97

S.No.	Compilation Category	NIC 2008	GVA 2011-12 (using LI method)			Current Series NAS 2014	% Difference (Current Series-LI method GVA)
			Rural	Urban	Total		
48	Renting of machinery & equipment without operator, personal / household goods	77	1457	2873	4330	10154	134.49
49	Computer and Related activities	582+62+(63-6391)+9511	676	7492	8168	20634	152.61
50	Legal activities	691	1986	8889	10875	27903	156.58
51	Accounting, book-keeping	692	484	5616	6101	9055	48.43
52	Research and development+ market research and public opinion polling+ business and management consultancy activities+ architectural, engineering and other technical activities+ advertising+ business activities n.e.c (-) auctioning activities	70+71+72+73+74+78+80+81+82	3506	20944	24451	31315	28.07
53	Coaching centres + Activities of the individuals providing tuition	85491	1781	7711	9491	60948	542.14
54	Education excluding (Coaching centres + Activities of the individuals providing tuition)	85-85491	11736	19825	31561	38507	22.01
55	Human health activities+ Veterinary activities	86+75	6292	20544	26836	44518	65.89
56	Sewage And Refuse Disposal, Sanitation And Similar Activities	37+381+382+39	561	1327	1888	5748	204.36
57	Activities Of Membership Organisations n.e.c.+ Social work with accommodation	87+88+94	1809	3890	5699	10356	81.70
58	Recreational, cultural and sporting activities	59+60+6391+90+91+(92-92001-92002)+93	1230	5185	6415	26812	317.93
59	Washing and cleaning of textile and fur products	9601	1666	3099	4765	11652	144.50
60	Hair dressing and other beauty treatment	9602	6111	5837	11948	12756	6.76

S.No.	Compilation Category	NIC 2008	GVA 2011-12 (using LI method)			Current Series NAS 2014	% Difference (Current Series-LI method GVA)
			Rural	Urban	Total		
61	Custom Tailoring	14105	12161	16674	28835	28158	-2.35
62	Funeral and related activities	9603+9609	2932	9555	12487	25593	104.95
	Total Unorganised services		279477	607032	886509	2000280	125.64
	Total (Manufacturing + services)		367217	762147	1129364	2354144	108.45

Conclusion:

2.10 The difference in the estimates 2011-12 based on the LI method using 67th and 68th rounds of NSS and the estimates of 2011-12 released in NAS 2014 of the current series are attributed to the following factors:

- 1) Higher CAGR based on 55th round (1999-2000) and 61st round (2004-05) – The growth observed in employment between the years 2004-05 and 2011-12 is low as compared to that observed between the years 1999-2000 and 2004-05.
- 2) Choice of indicators used for projecting the base year estimates of some CCs.
- 3) Owing to difference in coverage of surveys: For instance, trade activities were not covered in the 63rd round owing to which the projected estimates for 2004-05 of the previous series (1999-2000) were retained in the 2004-05 series also.
- 4) WPR of female workers in EUS 2009-10 and 2011-12 across all age groups have been falling, contrary to the assumed constant rate of growth of LI (Table 2).

2.11 An attempt has to be made to compile the estimates for the new base (2011-12) based on a new methodology that can address the labour productivity issues and also for identifying suitable indicators for projecting these estimates to subsequent years without depending on the CAGRs, which are backward looking.

Chapter III

Alternative Methodology for Compilation of Estimates

3.1 The System of National Accounts (SNA) considers the counts of jobs as a superior measure of labour input. The present LI method takes into account the multiple economic activities carried out by a part of the working population. The ESs collect data on the nature of job i.e. full time or part time for different categories of workers. Two part time workers are counted as two and not one. The EUS collects data on the number of persons engaged in some economic activity, in either principal status or subsidiary status. The previous committees/working groups especially the Working Group on Workforce estimation for compilation of National Accounts Statistics with Base Year 1999-2000 have extensively taken up the issue of suitably adjusting the workforce estimates for multiple jobs in the base year so that there is consistency between the denominator in GVAPW and the workforce. However, not much thought has gone into addressing the issue of different labour productivity among the different categories of workers. For instance, treating a casual or unpaid worker at par with the hired worker may not be correct. This applies specially to the manufacturing activities and services activities like education, health etc., where production is impacted by the skills possessed by the workers.

3.2 For example, if there are three categories of workers L_1 , L_2 and L_3 engaged in an economic activity and each has different productivity a_1 , a_2 and a_3 respectively. Suppose the value added Y and the LIs (labour input which is workforce adjusted for multiple jobs) are linearly related, then the following equation holds good:

$$Y = a_1L_1 + a_2L_2 + a_3L_3$$

In the case where $a_1 = a_2 = a_3 = a$ (say) i.e. the productivity of each category of labour is same, the above equation reduces to:

$$Y = a*(L_1+L_2+L_3) = a*L, \text{ which is the current LI method for computing GVA of an economic activity.}$$

3.3 In the absence of appropriate indicators for carrying forward the base year value added estimates of certain activities, inter survey growth rates of LI i.e. workforce adjusted for multiple activities, are used. The assumption that GVA grows at a constant rate based on LI growth is too far-fetched and would not reflect the true picture of the activity in the economy.

3.4 The Committee had the challenging task of identifying a method that will address the issue of equal labour productivity in the LIM and finding relevant indicators for projecting the estimates to subsequent years of CCs currently moved using CAGR.

3.5 First, a suitable regression model to compute weights of the different categories of labour is required. The LIs adjusted for productivity could be termed as "Effective Labour" and the method based on using this effective LI in compilation of GVA estimates as "Effective Labour Input Method (ELIM)".

3.6 As per SNA 2008 (Chapter 19, para 19.55, 19.56), "It is possible to produce a quality-adjusted measure of the labour inputs that takes account of changes in the mix of workers over time by weighting

together indicators of quality for different grades of workers. (The term quality-adjusted is used as being parallel to the idea of quality-adjusted price indices but it could also be seen as an adjustment for the change in the composition of the workers involved.)The quality indicators used can relate to variables such as academic qualifications, trade qualifications, experience (typically based on age of the worker), industry of employment and so on. The various indicators are weighted together using average hourly wages for a worker falling into each category. The premise behind this approach is that workers in each category are hired only until their marginal product becomes equal to the price of labour input of that category, i.e. the wage rate for that category. In other words, hiring of workers in each category is done as long as their wages, including on-costs is less than the marginal revenue expected to result from their production. Further, para 19.62 states that “Volumes of output per hour worked (or per person employed) are described as measures of labour productivity. However, this is a somewhat unsophisticated measure because changes in this measure can reflect a number of factors other than just the number of hours of labour employed”.

3.7 Calculating a quality-adjusted labour input measure using the above approach is very data intensive. Prof. Goldar, in his paper on Measuring Effective Labour Input in manufacturing industries, has mentioned about the use of the Translog index of labour input for measuring the growth in effective labour input in an industry in the face of changing composition of employment. This index involves a weighted aggregation of different categories of workers with the weights being based on their wage rates. An important assumption underlying the index is that workers are paid according to their marginal product. Thus, by using wage-based weights for aggregation of different categories of workers, this index takes care of differences in capabilities of workers and also in the efforts made by them, subject to the condition that the underlying assumptions of competitive labour markets are valid. He has further stated that this methodology, however, would not work, or would not work properly, if wage data are not available for certain categories of workers, or if the wages paid to different categories of workers are not equal (not even proportional) to their marginal productivities.

3.8 The above-mentioned wage-based methodology of computing effective labour input thus cannot be applied to data on unorganized manufacturing and services enterprises as data on wage rates are not available, or even defined , for certain major categories of workers such as self-employed or unpaid family workers.

3.9 Alternative methods not involving the use of wage data for measuring effective LI were discussed in detail by the subcommittee. It was felt that in the absence of wage data for aggregation, marginal productivity may be a suitable choice for weighting the different categories of workers. The term “marginal productivity” refers to the extra output gained by adding one unit of labor with all other inputs held constant. The weighted aggregation of workers on the basis of their marginal productivity will be a good measure of effective LI. The subcommittee deliberated on the use of various production functions viz. multiple linear functions, classical Cobb-Douglas production function vs other forms to arrive at the marginal productivity of different categories of workers.

3.10 The linear production function, despite being a simple function, assumes constant marginal productivity of factors of production. Normally, in any economy, such a behavior i.e. the output (GVA in this case) increasing by a constant amount with increase in the input is an unrealistic assumption.

3.11 Suppose the dependent variable Y which denotes output is regressed on three categories of labour and capital, the linear model is specified as:

$$Y = a + bK + c_1L_1 + c_2L_2 + c_3L_3 + u$$

Where, Y = GVA
 K = capital
 L₁ = Owner
 L₂ = Hired worker
 L₃ = Helper
 U = Random error term

The marginal productivities, which are the first partial derivatives, are constant in this production function. Estimation of this equation will yield the coefficients of the three categories of workers which are the marginal productivities of the workers.

For eg: The marginal productivity of say L₁ is:

$$\{\partial Y / \partial L_1\} = c_1 \text{ which is a constant.}$$

3.12 The empirical data is unlikely to support the assumption of a linear production function and constant marginal product, and therefore the measure of effective labour based on this method would be subject to errors. Hence, it may not be the ideal choice for computing the marginal productivity.

3.13 The Cobb-Douglas production function is an established functional form for estimating the production function of a particular type of establishment units. The theoretical aspects of this function are given below:

The **Cobb–Douglas production function**, a particular functional form of the production function, is widely used to represent the technological relationship between the amounts of two or more inputs, particularly physical capital and labor, and the amount of output that can be produced by those inputs. In its most standard form for production of a single good with two factors, the function is

$$Y = AL^\beta K^\alpha$$

where:

- Y = total production (the real value of all goods produced in a year)
- L = labor input (the total number of person-hours worked in a year)
- K = capital input (the real value of all machinery, equipment, and buildings)
- A = total factor productivity

- α and β are the output elasticities of capital and labor, respectively. These values are constants determined by available technology.

Output elasticity measures the responsiveness of output to a change in levels of either labor or capital used in production. Further, if

$$\alpha + \beta = 1,$$

the production function has constant returns to scale, meaning that doubling the usage of capital K and labor L will also double output Y. If

$$\alpha + \beta < 1,$$

returns to scale are decreasing, and if

$$\alpha + \beta > 1,$$

returns to scale are increasing. Assuming perfect competition and $\alpha + \beta = 1$, α and β can be shown to be capital's and labor's shares of output.

3.14 The Cobb Douglas function is useful mainly in identifying the technological relationship between the amounts of two or more inputs which in most cases is capital and labour, and the amount of output that can be produced by those inputs. The function may be modified by taking GVA, which is linked to production, of a group of units engaged in similar activity and the different categories of labour as separate input as specified below:

$$Y = A L_1^{\alpha_1} L_2^{\alpha_2} L_3^{\alpha_3} K^{\beta}$$

3.15 A limitation of this function is that if the value of any one of the input variables is zero, the entire value of the function is reduced to zero. The survey on unincorporated enterprises (67th round) covered both own account enterprises OAEs (enterprises with no hired worker on a fairly regular basis) and establishments (enterprises with atleast one hired worker on a fairly regular basis). In OAEs, the number of workers of one category viz. hired workers is zero, and this will make production equal to zero according to the production function which is obviously unrealistic. The number of OAEs in certain categories is found to be high as compared to the establishments.

The above function could be further modified as:

$$\text{Model Expression: } Y = A K^{\beta} [L_2 + \delta L_1 + \delta \quad]^{\alpha} \quad - \quad (1)$$

This is the nested Cobb Douglas function. Now this will address the issue of zero values in the hired workers category. The entire term in the square bracket may be considered to be the effective labour input.

After taking the natural log of eq. 1 and adding a dummy variable representing the sector (rural, urban),

$$\text{Log } Y = \text{Log } A + \beta \text{ Log } K + \alpha \text{ Log } [L2 + \delta 1L1 + \delta 2L3] + \gamma S \quad - \quad (2)$$

Where, Y = GVA
 K = capital
 L1 = Owner
 L2 = Hired worker (formal + informal)
 L3 = Helper
 S = Dummy variable for sector (Rural = 0, Urban = 1)

3.16 Further advantage of this model is that the coefficients of labour terms, $\delta 1$ and $\delta 2$, in this equation give the relative marginal productivities or conversion factors directly for the computation of effective labour input.

3.17 Based on the merits of the above model, the subcommittee, therefore, recommends the use of nested Cobb-Douglas production function for computing the relative marginal productivities or conversion factors of owner and helper categories in terms of hired worker (formal and informal).

3.18 Since there is a possibility of the estimates of parameters being sensitive to the initial guesses for the parameters provided, the initial values of the constant, α , β and γ as obtained by using the Cobb-Douglas production function $\text{Log } Y = \text{Log } C + \beta \text{ Log } K + \alpha \text{ Log } L + \gamma S$ where $L = L1 + L2 + L3$, $S =$ Dummy variable for sector (Rural = 0, Urban = 1) may be a good choice.

3.19 $\delta 1$ and $\delta 2$ in equation (2) are the conversion factors (or relative marginal productivity) of the owner and helper categories of workers respectively in terms of hired worker. For eg. $\delta 1 = 0.5$ implies that 10 owners are equivalent to 5 hired workers.

3.20 $\delta 1$ and $\delta 2$ could then be used for computing the GVA per effective Worker = GVA from 67th Round/ $[L2 + \delta 1L1 + \delta 2L3]$. Once the GVA per effective worker is obtained, the same conversion factors may be applied on the LI from 68th round EUS data, duly adjusted for population as per Population Census 2011, for getting the effective LI engaged in that activity/category. The 67th round NSS Enterprise Survey (2010-11) on unincorporated non-agricultural enterprises (excluding construction) collected, inter alia, data on employment for four categories of labour viz. i) 801 – working owner; ii) 802 - formal hired worker; iii) 803 – informal hired worker; iv) 804 – other worker/helper. The 68th round EUS data classifies the status of workers as - “worked in h.h. enterprise (self-employed): own account worker -11, employer-12, worked as helper in h.h. enterprise (unpaid family worker) -21; worked as regular salaried/ wage employee -31, worked as casual wage labour: in public works -41, in other types of work -51”. The comparisons between the codes of EUS and ES could be done as below:

3.21 The 68th round EUS (2011-12) also collected similar data viz. codes 11+12 = 801 of ES; 21 = 804; 31 = 803 and 41+51 = 802.

Codes 11 & 12 of EUS = Code 801 of ES

Code 21 of EUS = Code 804 of ES

Code 31 of EUS = Code 803 of ES

Codes 41 and 51 of EUS = Code 802 of ES

3.22 The GVA adjusted for labour productivity (Effective GVA) is then computed as the product of Effective LI based on EUS & Population Census 2011, and GVA per effective worker from ES.

3.23 The subcommittee also discussed at lengths regarding the specific data from the 67th round to be used for carrying out the above exercise. While the OAEs in some categories are more, the data based on establishments (employing at least one hired worker on a fairly regular basis) from the enterprise survey are bound to be more reliable as compared to OAEs. Most of these establishments maintain books of accounts. Therefore, it may be safely presumed that the estimates derived from the establishment records would yield more robust estimates as compared to those based on considering all enterprises (OAE and establishments). The conversion factors derived using the nested Cobb Douglas production function on the establishment data of enterprise survey is recommended by the subcommittee for computing the effective LI based GVA estimates.

3.24 The 62nd round enterprise survey on unorganized manufacturing sector further categorized the establishments into two types: Non Directory and Directory. The establishments employing less than six workers (household and hired workers taken together) were termed as non- directory manufacturing establishments and remaining (6 or more workers) as directory manufacturing establishments. The subcommittee feels that an approximation of this kind could be carried out in the current survey data too i.e. the 67th round and the effective GVAPW worked out for the urban sector based on records/establishments with 6 or more workers (may be referred to as Directory enterprises or DTE) using the conversion factors derived as explained in paras above. Such type of establishments may be deemed to be more representative of the particular category/activity in the urban areas in addition to maintaining and providing more reliable data. The effective GVAPW thus computed for categories may be used for compiling the GVA estimates of the urban part while for rural part, the establishment based effective GVA be retained.

3.25 The categories could be grouped suitably on the basis of nature of activities and a common CF be derived for each group. This will also take care of the minimum sample size requirement of each category.

3.26 In order to compare with the current base year (2004-05) estimates, similar exercises need to be carried out using 62nd round ES (unorganized manufacturing 2005-06), 63rd round ES (services excluding trade 2006-07) and 61st round EUS (2004-05). While the same method could be adopted to compile the estimates based on previous rounds (62nd round ES -unorganized manufacturing 2005-06, 63rd round ES -services excluding trade 2006-07 and 61st round EUS (2004-05), it needs to be kept in mind that the previous ES surveys viz 62nd and 63rd rounds differed from the current survey (67th round) in terms of approach, coverage etc. Two approaches viz. list frame approach and area frame approach were considered in the previous rounds of ES as against an area frame in 67th round. The list frame approach had large enterprises and was treated as a separate stratum. The coverage and nature

of enterprises covered in the rounds were also different. Trade activities were not covered in the 63rd round. Further, the 63rd round covered private corporate enterprises. In order to make the models comparable with the coverage of 67th round, the records pertaining to the corporate and large enterprises from the list frame need to be removed. This requires an adjustment in multiplier before carrying out the regression exercises as the reduction in sample enterprises would also change the sample fraction leading to a change in multiplier. This would require adjustment from the listing schedule which may not be possible in the limited time frame. However, this could be resolved to a great extent by using the sample data instead of population values for both the rounds. Since the previous enterprise surveys did not differentiate between formal hired and informal hired workers as in the 67th round, the two categories of LI could be combined while computing the marginal productivity.

3.27 To sum up, the subcommittee after detailed analysis and discussion recommends the use of nested Cobb Douglas function to compute the weights based on relative marginal productivities/ conversion factors of owner and helper categories of labour in terms of the hired worker. The GVA estimates of the unorganized manufacturing and services sectors may be compiled using the new method 'Effective Labour Input Method (ELIM)' by using the effective LI.

Chapter IV

Estimates of the new series based on new method “Effective Labour Input Method (ELIM)”

4.1 For compiling the estimates (2011-12) for the new series, the data from the 68th round of NSS (EUS) duly adjusted for population as per Population Census 2011 and 67th round on unincorporated enterprises were used for carrying out the regression exercise, as mentioned in the previous chapter, with GVA (67th round) as the dependent variable and the three categories of workers (67th round) and assets, both owned and hired (67th round) as independent variables. For working out the revised estimates for 2004-05 based on the new method, the data from the 61st round of NSS (EUS) duly adjusted for population as per Population Census 2001 and 62nd and 63rd rounds of NSS for manufacturing and services sectors respectively were used.

4.2 Assumptions and Data validation carried out

- (i) The enterprise type code in the 68th round EUS was missing in 1590 records. These were treated as belonging to the unorganized sector leading to an increase in unorganized LI by 10% (Annexure 13 gives a comparison between LI and adjusted LI).
- (ii) The unreliability of capital stock data in unorganized sector enterprises was discussed and it was felt that there may be some degree of inaccuracy in the capital stock estimates for own account enterprises. But, the bias in capital stock estimates in own account enterprises is unlikely to be correlated with the employment level and its structure in such enterprises. Therefore, it may be safely presumed that the estimates of labour input related parameters obtained by regression analysis will not be biased because of the inaccuracies in capital stock estimates. While the inaccuracy in capital estimates may cause a downward bias in the estimate of capital coefficient, it is unlikely to cause any bias in the estimate of conversion factors (derived from labour coefficients) which are used to convert different types of workers into an equivalent number of hired workers.
- (iii) For both manufacturing and services sectors, the compilation categories were grouped on the basis of nature of activity and the conversion factors worked out. The details of these groups and CFs are at Tables 4 and 9 below.
- (iv) The data of establishments only were used for computing effective LI as the CFs obtained using this data were comparable across rounds and also provided more robust estimates. Depending on the nature of activity, the CFs were applied on urban DTE data for some categories.

(v) The reference period of the 67th round survey on unincorporated enterprises of NSS was 2010-11. The GVAPW 2010-11 derived from the survey data was moved to 2011-12 using relevant price indicators for manufacturing and services sector.

(vi) The standard LI method was applied for categories where different productivity of workers may not have a significant impact on value added.

4.3 Results & Analysis

Estimates for unorganized manufacturing for the new base (2011-12=100)

The estimates of the base year in the current series (2004-05) were compiled using LIM and for subsequent years, these were projected using IIP and WPI. The CFs, R² and GVA estimates for the new series and current series based on the new method ELIM are given in the following tables:

Table 4: Conversion factors

CC	Groups	Activity	67th round				62nd Round			
			Owner	Hired	Helper	R ²	Owner	Hired	Helper	R ²
CC 2-7	1	Food Products, Beverages and Tobacco	0.18	1.00	0.25	0.51	0.37	1.00	0.20	0.41
CC1,8-10	2	Textiles, Apparel and Leather Products	0.24	1.00	0.04	0.74	0.39	1.00	0.20	0.50
CC 11-16	3	Wood, coke, petroleum, rubber, chemicals and related products	0.32	1.00	0.00	0.69	0.47	1.00	0.33	0.40
CC 17-21	4	Metal Products	0.54	1.00	0.16	0.60	0.24	1.00	0.33	0.47
CC 22-24	5	Machinery and Equipments	0.67	1.00	0.00	0.73	0.24	1.00	0.39	0.43

4.4 The GVA per effective worker and effective LI for 2011-12 are given in Annexure 20. A comparison of LI and effective LI from 68th and 61st rounds are at Annexures 16 and 17 respectively.

Table 5: Comparative Estimates for Unorganised Manufacturing

(Rs. in crore)

CC	Activity	2004-05			2011-12		
		GVA (Current series)	Effec. GVA 62	% diff.	GVA (Current series)	Effec. GVA 67	% Diff
2	Production, processing and preservation of meat, fish, fruit vegetables, oils and fats	5553	2576	115.56	9303	9647	-3.56
3	Manufacture of dairy product	981	591	66.05	1705	1504	13.38
4	Manufacture of grain mill products, etc. and animal feeds	9768	5662	72.5	11765	13700	-14.12
5	Manufacture of other food products	5145	4434	16.05	15180	12918	17.51
6	Manufacture of beverages	760	487	56.02	1485	1598	-7.03
7	Manufacture of tobacco products	3248	2827	14.89	10456	8185	27.76
	Total (Manufacturing of food products, beverages & tobacco)	25455	16577	53.56	49896	47551	4.93
1+8	Spinning, weaving and finishing of textile+ Other textiles+ Knitted and crocheted fabrics and articles	28581	17468	63.62	49206	50647	-2.84
9	Wearing apparel, except fur apparel and tailoring	12710	7799	62.97	19084	10727	77.9
10	Dressing and dyeing of fur; manufacture of articles of fur and tanning and dressing of leather; manufacture of luggage, handbags, saddlery, harness and footwear	5654	3327	69.94	9063	9748	-7.02
	Total (Manufacturing of textiles, apparel & leather products)	46945	28593	64.18	77353	71122	8.76
11	Manufacture of wood and of products of wood and cork, except furniture; manufacture of articles of straw and plating materials	8360	7228	15.67	24777	19643	26.14
12	Manufacture of furniture	5964	5085	17.29	17038	17850	-4.55

CC	Activity	2004-05			2011-12		
		GVA (Current series)	Effec. GVA 62	% diff.	GVA (Current series)	Effec. GVA 67	% Diff
13	Manufacture of Paper And Paper Products and publishing, printing and reproduction of recorded media	6402	3993	60.35	11621	12167	-4.49
14	Manufacture of coke, refined petroleum products and nuclear fuel and rubber and plastic products	4078	3360	21.35	9720	5912	64.41
15	Manufacture of chemical and chemical products	8610	3075	179.99	13839	7363	87.95
16	Manufacture of other non-metallic mineral products	11735	13686	-14.25	28577	29151	-1.97
	Total (Manufacturing of machinery and equipments)	45149	36426	23.95	105572	92086	14.64
17	Manufacture of Basic Iron & Steel+ Casting of iron and steel	4097	1986	106.3	12838	8473	51.51
18	Manufacture of basic precious and non-ferrous metals+ Casting of non-ferrous metals	1129	1412	-20.09	3118	616	406.28
19	Recycling of metal waste and scrap+ non-metal waste and scrap	264	242	8.82	805	3220	-75
20+21	Manufacture of fabricated metal products, except machinery and equipments and Manufacture of machinery and equipment n.e.c + office, accounting and computing machinery	17728	17053	3.96	49460	31910	55
	Total (Manufacturing of coke, petroleum, rubber, chemical and related products)	23218	20694	12.2	66220	44219	49.75
22	Electrical machinery and apparatus n.e.c.+ radio, television and communication equipment and apparatus	4938	3342	47.74	10231	7506	36.31

CC	Activity	2004-05			2011-12		
		GVA (Current series)	Effec. GVA 62	% diff.	GVA (Current series)	Effec. GVA 67	% Diff
23	Manufacture of medical, precision and optical instruments, watches and clocks+ Manufacturing n.e.c	12076	12497	-3.37	26983	19352	39.43
24	Manufacture of motor vehicles, trailers and semi-trailers+ manufacture of other transport equipment	6204	2476	150.57	17608	6397	175.28
	Total (Manufacturing of wood, paper and other articles)	23218	18316	26.77	54823	33255	64.86
Total		163984	120606	35.97	353864	288233	22.77

The estimates based on the revised methodology are lower by 23 % than the current series estimates for 2011-12.

4.5 The estimates for 2004-05 based on the new method are lower by 36% from the existing estimates for the same year based on LI method. These estimates were projected using the existing indicators i.e. IIP and WPI. A comparison of these projected estimates with the current series and new series estimates for 2011-12 are given in the table below:

Table 6: Comparative estimates of unorganized manufacturing

(Rs. in crore)

CC	Activity	2011-12			Ratio	Ratio
		Projected	2004-05 Series (NAS)	2011-12 series (Effec. 67)	(Proj./NAS)	(Proj./Effec. 67)
2	Production, processing and preservation of meat, fish, fruit vegetables, oils and fats	4316	9303	9647	0.46	0.45
3	Manufacture of dairy product	1027	1705	1504	0.60	0.68
4	Manufacture of grain mill products, etc. and animal feeds	6820	11765	13700	0.58	0.50
5	Manufacture of other food products	13081	15180	12918	0.86	1.01

CC	Activity	2011-12			Ratio	Ratio
		Projected	2004-05 Series (NAS)	2011-12 series (Effec. 67)	(Proj./NAS)	(Proj./Effec. 67)
6	Manufacture of beverages	952	1485	1598	0.64	0.60
7	Manufacture of tobacco products	9101	10456	8185	0.87	1.11
	Total (Manufacturing of food products, beverages & tobacco)	35297	49896	47551	0.71	0.74
1+8	Spinning, weaving and finishing of textile+ Other textiles+ Knitted and crocheted fabrics and articles	30073	49206	50647	0.61	0.59
9	Wearing apparel, except fur apparel and tailoring	11710	19084	10727	0.61	1.09
10	Dressing and dyeing of fur; manufacture of articles of fur and tanning and dressing of leather; manufacture of luggage, handbags, saddlery, harness and footwear	5333	9063	9748	0.59	0.55
	Total (Manufacturing of textiles, apparel & leather products)	47116	77353	71122	0.61	0.66
11	Manufacture of wood and of products of wood and cork, except furniture; manufacture of articles of straw and plating materials	21421	24777	19643	0.86	1.09
12	Manufacture of furniture	14526	17038	17850	0.85	0.81
13	Manufacture of Paper And Paper Products and publishing, printing and reproduction of recorded media	7248	11621	12167	0.62	0.60
14	Manufacture of coke, refined petroleum products and nuclear fuel and rubber and plastic products	8010	9720	5912	0.82	1.35
15	Manufacture of chemical and chemical products	4943	13839	7363	0.36	0.67
16	Manufacture of other non-metallic mineral products	33326	28577	29151	1.17	1.14

CC	Activity	2011-12			Ratio	Ratio
		Projected	2004-05 Series (NAS)	2011-12 series (Effec. 67)	(Proj./NAS)	(Proj./Effec. 67)
	Total (Manufacturing of machinery and equipments)	89474	105572	92086	0.85	0.97
17	Manufacture of Basic Iron & Steel+ Casting of iron and steel	6223	12838	8473	0.48	0.73
18	Manufacture of basic precious and non-ferrous metals+ Casting of non-ferrous metals	3692	3118	616	1.18	6.00
19	Recycling of metal waste and scrap+ non-metal waste and scrap	740	805	3220	0.92	0.23
20+21	Manufacture of fabricated metal products, except machinery and equipments and Manufacture of machinery and equipment n.e.c + office, accounting and computing machinery	47577	49460	31910	0.96	1.49
	Total (Manufacturing of coke, petroleum, rubber, chemical and related products)	58231	66220	44219	0.88	1.32
22	Electrical machinery and apparatus n.e.c.+ radio, television and communication equipment and apparatus	6925	10231	7506	0.68	0.92
23	Manufacture of medical, precision and optical instruments, watches and clocks+ Manufacturing n.e.c	27925	26983	19352	1.03	1.44
24	Manufacture of motor vehicles, trailers and semi-trailers+ manufacture of other transport equipment	7027	17608	6397	0.40	1.10
	Total (Manufacturing of wood, paper and other articles)	41877	54823	33255	0.76	1.26
	Total	271995	353864	288233	0.77	0.94

4.6 The estimates based on ELIM for 2011-12 are higher by 6% than the projected estimates based on the new method for the base year 2004-05. *If the new methodology based estimates for 2004-05 had been projected to 2011-12 using IIP and WPI, then the estimates of 2011-12 for the new series would have been 6% higher than the 2004-05 series estimates.*

Estimates for unorganized services sector for the new base (2011-12)

Trade, Hotels & Restaurants

4.7 The value added for this sector in the base year is estimated from the ES and EUS. For the 2004-05 base revision, there was no sample survey of unorganized trade available as the 63rd round ES did not cover the activities of trade. Consequently, the exercise continued with the results of the earlier survey (NSS 55th round 1999-2000). The estimates for the years succeeding the base year in the 2004-05 series were prepared using as the index of gross trading income as was the practice in the 1999-2000 series. The index tracked the growth in volume of tradable goods, in the economy, derived from current estimates of production in agriculture, manufacturing and mining. This is a reasonable assumption in short intervals of time. However, when projections are extended over long periods of time, errors build up. This is because in addition to physical volume, value added also depends on levels of intermediation between the producers and consumers, changes in underlying quality of goods, changes in marketing practices for instance bundling higher quality value added services with goods like warranties, etc. These get picked up in the surveys as they gather information on all aspects of value added.

4.8 Comparison of the current series estimates with the estimates generated for 2010-11 clearly indicates that the indicator based growth has overstated the value added by a very large margin.

4.9 The estimates of Hotels & Restaurants have also been projected to subsequent years using the GTI index. The index of GTI may be appropriate for projecting the trade estimates for a shorter period but it may not be a good indicator for projecting the estimates of Hotels & Restaurants. The wide divergence in the latest survey based results and indicator based estimates is clearly indicative of this.

4.10 The committee also observed that the difference in labour productivity in the unincorporated sector may not have a significant impact in the output/GVA of these activities. The standard LIM with sector wise LI from EUS, duly adjusted for population as per Population Census 2011, and GVAPW of establishment for rural and that of DTE for urban may be used to derive the value added estimates of Trade and Hotels & Restaurants. The same method was adopted in 1999-2000 series also.

$$\text{GVA} = \text{LI(R)} * \text{GVAPW (Rural establishment)} + \text{LI (U)} * \text{GVAPW (Urban DTE)}$$

The estimates of the new series thus compiled and a comparison with the 2004-05 series estimates are given in the following table:

Table 7: Comparative estimates of Trade, Hotels & Restaurants

(Rs. in crore)

S.No.	Trade categories	2004-05 series	2011-12 series	% difference
25	Maintenance and repair of motor vehicles and motor cycles	33060	20710	59.63
26	Sale of motor vehicles	27129	22747	19.26
27	Whole sale trade except of motor vehicles + Auctioning activities	219894	87194	152.19
28	Repair of personal and household goods	49190	17322	183.97
29	Retail trade (except motor vehicle)	772968	559176	38.23
	Total Trade	1102241	707149	55.87
30+31	Hotel & Restaurants	87874	71748	22.48

4.11 After detailed discussions on estimation procedure used in the base year of current series and analysis of indicators used for projecting each of the remaining compilation categories, the subcommittee recommends the method as indicated in the last column of the following table. The estimates of 2011-12 in the 2004-05 series have been compiled for these CCs either using relevant indicators or by LI method (CPI and CAGR of LIs between the 55th and 61st rounds). Those based on LI method using inter survey growth rate of LI are bound to be overestimated as the growth rate of LI from 1999-2000 to 2004-05 was higher than the actual growth rate observed between 2004-05 and 2011-12 (Annexure 12).

4.12 For CC 41 Storage and Warehousing and CC 58 Recreational, cultural and sporting activities, the rate of growth in GVAPW between the 63rd and 67th round surveys was found negative. This appears to be far from reality with the growing economy. This is also corroborated by the consumer expenditure survey data which explains that the expenditure on recreation has increased over the years, probably due to rising income and change in preferences. In view of this, it was felt necessary to adjust the estimate of GVAPW of this CC using the ratio of average per capita expenditure on recreation and entertainment as per NSS 508 and KI (68/1.0) to that of 2004-05. Accordingly, the necessary adjustment in the GVAPW of 67th round was done to estimate the GVA for this category. For the CC 63 Private households employing persons, the GVA which is compensation of employees only was computed from the 68th round EUS of NSS.

4.13 A comparison of the estimates in the two series is also given below:

Table 8

(Rs. in crore)

S.No.	Compilation Category	2004-05 series	2011-12 series	% difference	Method *
33	Scheduled passenger land transport	43557	28580	52.40	2
34	Non-scheduled passenger land transport by motor vehicles	88650	82388	7.60	2
35	Freight transport by motor vehicles	165303	94987	74.03	2

S.No.	Compilation Category	2004-05 series	2011-12 series	% difference	Method *
36	Other non-scheduled passenger land transport	31721	12455	154.69	1
37	Freight transport other than by motor vehicles	20403	9131	123.44	1
39	Water Transport	722	1081	-33.22	3
41	Storage and warehousing	2859	1622	76.27	3
42	Supporting & auxiliary transport activities	16273	13374	21.68	2
44	Courier activities	8343	1846	351.96	2
45	Cable operator	4774	2078	129.74	2
46	Other communication	21601	5504	292.45	1
47	Real Estate Activities	41851	25844	61.94	3
48	Renting of machinery & equipment without operator, personal / household goods	10154	4097	147.87	3
49	Computer and Related activities	20634	12611	63.62	3
50	Legal activities	27903	32145	-13.20	3
51	Accounting, book-keeping	9055	6431	40.80	3
52	Research and development+ market research and public opinion polling+ business and management consultancy activities+ architectural, engineering and other technical activities+ advertising+ business activities n.e.c (-) auctioning activities	31315	28252	10.84	2
53	Coaching centres + Activities of the individuals providing tuition	60948	33288	83.10	3
54	Education excluding (Coaching centres + Activities of the individuals providing tuition)	38507	34200	12.60	3
55	Human health activities+ Veterinary activities	44518	29946	48.67	3
56	Sewage And Refuse Disposal, Sanitation And Similar Activities	5748	1740	230.25	3
57	Activities Of Membership Organisations n.e.c.+ Social work with accommodation	10356	6281	64.87	2
58	Recreational, cultural and sporting activities	26812	18245	46.96	2
59	Washing and cleaning of textile and fur products	11652	5711	104.01	2
60	Hair dressing and other beauty treatment	12756	12697	0.46	2
61	Custom Tailoring	28158	31126	-9.53	2
62	Funeral and related activities	25593	24212	5.70	2
63	Private HHs employing persons	15014	17180	-12.61	
	Total	825179	577050	43.00	

*Note:

1 LI Method: LI (Rural) x GVAPW (Rural Establishment) + LI(Urban) x GVAPW(Urban DTE)

2 Effective LI based on establishment

3 Effective LI based on GVAPW of establishment for Rural and GVAPW of DTE for Urban

4.14 The category wise details of LI/Effective LI and GVAPW/GVAPEW as used in compilation of GVA of the respective category are given at Annexure 21.

4.15 The CFs and R² based on establishment data of 63rd and 67th rounds are given in the following table:

Table 9: Conversion factors (CFs) and R²

CC	Activity	67th Round				63rd Round			
		Owner	Hired	Helper	R ²	Owner	Hired	Helper	R ²
25-29*	Trade	0.66	1.00	0.28	0.50				
30-31*	Hotels & Restaurants	0.63	1.00	0.35	0.63	0.61	1.00	0.39	0.57
33-42	Transport	0.33	1.00	0.38	0.58	0.47	1.00	0.31	0.54
44-46	Communication	0.32	1.00	0.37	0.61	0.66	1.00	0.25	0.47
47-52	Real Estate	0.76	1.00	0.16	0.52	0.59	1.00	0.28	0.48
53-54	Education	1.29	1.00	0.44	0.73	1.32	1.00	0.38	0.58
55	Health	0.73	1.00	0.25	0.65	0.73	1.00	0.37	0.58
56-62	Remaining Services	1.09	1.00	0.00	0.68	1.14	1.00	0.12	0.51

*CFs not used for compilation of GVA of these categories

Annexures 10 gives the sample size comparison between 67th round and 62nd , 63rd rounds.

Annexure 11 gives the details of number of own account enterprises (OAEs) and establishments from the 67th round.

Annexures 14 and 15 give the sectorwise GVAPW and RSE (GVAPW) from 67th round.

Annexures 18 and 19 give the comparison of LI and effective LI from 68th and 61st rounds respectively.

Chapter V

Proposed Categories based on NIC 2008 for Compilation of National Accounts Statistics, 2011-12 Base Year Series

5.1 The NIC 2008 based on ISIC 4 is structurally different from NIC 2004. Revised CCs based on NIC 2008 keeping in view the disaggregation needed on the basis of importance of activities and at the same time without compromising on the reliability of estimates by going for NIC 4, 5 digits is much needed. An attempt was made to bring the categories close to 2 digit NIC of 2008 to the extent possible. However, in some cases, NIC 3, 4 or 5 digit categories had to be considered owing to the need for bringing out separate estimates of that activity. Before recommending the following revised CCs, the subcommittee had analyzed the sample size for each activity and relative standard error in the 67th and 68th rounds. The aspect of availability of suitable indicators for projecting the estimates to subsequent years was also another factor in deciding the revised CCs for the new base.

5.2 Table 9 gives the Relative Standard Error (RSE) of GVAPW, CC wise, from the 67th Round.

5.3 The recommended CCs or grouping of activities based on NIC 2008 for the new base (2011-12=100) are given in Table 6. The previous CC No. is also given in the table.

5.4 The previous manufacturing category CC 19 'Recycling of metal waste and scrap + non-metal waste and scrap' and services category CC 56 'Sewage' will form a new category 'Sewerage, waste management and remediation activities' and be a part of Utility services.

5.5 In the Services sector, some major changes proposed are as below:

- 1) 'Repair of computers' to be a part of previous CC 28 'Repair of personal and household goods'.
- 2) Extra territorial organisations are not a part of GDP and hence removed from the list.
- 3) Publishing, Sound Recording and Broadcasting activities to form a new CC.
- 4) Sewage activities removed from services sector and made a part of Electricity, Gas, Water Supply and Utility Services.

Table 10: Proposed Compilation Categories

New CC No.	Prev CC No.	Compilation Category	NIC 2008
1	2	Production, processing and preservation of meat, fish, fruit, vegetables, oils and fats	101-104
2	3	Manufacture of dairy products	105
3	4	Manufacture of grain mill products, etc. and animal feeds	106+108
4	5	Manufacture of other food products	107

New CC No.	Prev CC No.	Compilation Category	NIC 2008
5	6	Manufacture of beverages	11
6	7	Manufacture of tobacco products	12
7	1,8(p)	Manufacture of textiles + cotton ginning	13+01632
8	8(p),9	Manufacture of wearing apparel, except custom tailoring	14-14105
9	10(p)	Manufacture of leather and related products	15
10	17	Manufacture of Basic Iron and Steel + Casting of iron and steel	241+2431
11	18	Manufacture of basic precious and non-ferrous metals + Casting of non-ferrous metals	242+2432
12	20	Manufacture of fabricated metal products, except machinery and equipment	25
13	22(p)	Manufacture of electronic component, consumer electronics, magnetic and optical media	261+264+268
14	22	Manufacture of computer and peripheral equipment	262
15	22(p)	Manufacture of communication equipment	263
16	23	Manufacture of optical and electronics products n.e.c	265+266+267
17	22	Manufacture of Electrical equipment	27
18	21	Manufacture of machinery and equipment n.e.c	28
19	24	Manufacture of Transport	29+30
20	14(p)	Manufacture of coke and refined petroleum products	19
21	15.1	Manufacture of chemical and chemical products except pharmaceuticals, medicinal and botanical products	20
22	15.2	Manufacture of pharmaceutical; medicinal chemicals and botanical products	21
23	14(p)	Manufacture of rubber & plastic products	22
24	16	Manufacture of other non-metallic mineral products	23
25	11	Manufacture of wood and of products of wood and cork, except furniture; manufacture of articles of straw and plaiting material	16
26	13.1	Manufacture of paper and paper products	17
27	13.2	Printing and reproduction of recorded media except publishing	18
28	12	Manufacture of furniture	31
29	23(p)	Other Manufacturing	32
30	20 to 23 part	Repair and installation of machinery and equipment	33
31	25	Maintenance and Repair of motor vehicles and motor cycles	452+45403
32	26	Sale of motor vehicles and motor cycles	45-45403-452+473
33	27	Whole sale trade except of motor vehicles and motor cycles	46+92001
34	29	Retail sale trade except of motor vehicles and motor cycles	47-473+92002
35	28	Repair of computers and personal and household goods	95
36	30,31	Hotels & Restaurants	55,56
37	32	Transport via Railways	491

New CC No.	Prev CC No.	Compilation Category	NIC 2008
38	33	Scheduled passenger land transport	4921
39	34,36	Non-scheduled passenger land transport	4922
40	35	Motorised freight transport	49231
41	37	Non motorised freight transport	49232
42	38	Transport via pipelines	493
43	39	Water Transport	50
44	40	Air Transport	51
45	41	Storage & Warehousing	521
46	42	Services incidental to transport	522
47	43	Postal activities	531
48	44	Courier activities	532
49	45	Activities of cable operators	61103
50	46	Telecommunication	61-61103
51	Part of 13,49,58	Recording, Publishing and Broadcasting services	58,59,60
52	47	Real Estate activities	68
53	49	Computer and information related services	62,63
54	50	Legal activities	691
55	51	Accounting & book keeping activities	692
56	52	Research and development and other professional, scientific and technical services	70 to 75
57	48	Rental and leasing services	77
58	Part of 52	Administrative and support services excluding rental and leasing services	78 to 82
59	53	Coaching/Academic tutoring services	85491
60	54	Education other than coaching	85-85491
61	55, 57(p)	Human health activities and care services with/without accommodation	86,87,88
62	58	Recreational, cultural and sporting activities	90,91,92 (- 92001,92002),93
63	57	Activities of membership organisations	94
64	59	Washing & cleaning of textiles and fur products	9601
65	60	Hair dressing and other beauty treatment	9602
66	61	Custom tailoring	14105
67	62	Other personal service activities	9609,9603
68	63	Private households with employed persons	97
69	56	Sewerage, waste management and remediation activities	37,38,39

Table 11: Estimates of unorganized manufacturing and services as per modified CCs

S.No	Activity	GVA (in crores)
1	Production, processing and preservation of meat, fish, fruit, vegetables, oils and fats	9647
2	Manufacture of dairy products	1504
3	Manufacture of grain mill products, etc. and animal feeds	13700
4	Manufacture of other food products	12918
5	Manufacture of beverages	1598
6	Manufacture of tobacco products	8185
7	Manufacture of textiles + cotton ginning	50647
8	Manufacture of wearing apparel, except custom tailoring	10727
9	Manufacture of leather and related products	9748
10	Manufacture of Basic Iron and Steel + Casting of iron and steel	8473
11	Manufacture of basic precious and non-ferrous metals + Casting of non-ferrous metals	616
12	Manufacture of fabricated metal products, except machinery and equipments	31910
13	Manufacture of electronic component, consumer electronics, magnetic and optical media	2318
14	Manufacture of computer and peripheral equipment	478
15	Manufacture of communication equipments	407
16	Manufacture of optical and electronics products n.e.c	409
17	Manufacture of Electrical equipments	6398
18	Manufacture of machinery and equipments n.e.c	10342
19	Manufacture of Transport	6397
20	Manufacture of coke and refined petroleum products	532
21	Manufacture of chemical and chemical products except pharmaceuticals, medicinal and botanical products	4166
22	Manufacture of pharmaceutical; medicinal chemicals and botanical products	3197
23	Manufacture of rubber & plastic products	5380
24	Manufacture of other non-metallic mineral products	29151
25	Manufacture of wood and of products of wood and cork, except furniture; manufacture of articles of straw and plaiting material	19643
26	Manufacture of paper and paper products	4554
27	Printing and reproduction of recorded media except publishing	6000
28	Manufacture of furniture	17850

S.No	Activity	GVA (in crores)
29	Other Manufacturing	3302
30	Repair and installation of machinery and equipments	541
	Total manufacturing	280737
31	Maintenance and Repair of motor vehicles and motor cycles	20710
32	Sale of motor vehicles and motor cycles	22747
33	Whole sale trade except of motor vehicles and motor cycles	87194
34	Retail sale trade except of motor vehicles and motor cycles	559176
35	Repair of computers and personal and household goods	23973
36	Hotels & Restaurants	71748
37	Transport via Railways	
38	Scheduled passenger land transport	28580
39	Non-scheduled passenger land transport	94842
40	Motorised freight transport	94987
41	Non motorised freight transport	9131
42	Transport via pipelines	(organized activity)
43	Water Transport	1081
44	Air Transport	(organized activity)
45	Storage & Warehousing	1622
46	Services incidental to transport	6345
47	Postal activities	(organized activity)
48	Courier activities	1846
49	Activities of cable operators	2078
50	Telecommunication	5504
51	Recording, Publishing and Broadcasting services	6487
52	Real Estate activities	25844
53	Computer related services	8650
54	Legal activities	32145
55	Accounting & book keeping activities	6431
56	Research and development and other professional, scientific and technical services	17011
57	Rental and leasing services	4097
58	Administrative and support services excluding rental and leasing services	18454
59	Coaching/Academic tutoring services	33288
60	Education other than coaching	34200
61	Human health activities and care services with/without accommodation	31654

S.No	Activity	GVA (in crores)
62	Recreational, cultural and sporting activities	13343
63	Activities of membership organisations	4388
64	Washing & cleaning of textiles and fur products	5711
65	Hair dressing and other beauty treatment	12697
66	Custom tailoring	31126
67	Other personal service activities	24212
68	Private households with employed persons	17180
	Total services	1358482
69	Sewerage, waste management and remediation activities	3220

Chapter VI

Proposed Indicators for projecting the Base Year Estimates to subsequent years

6.1 In the absence of direct current data on production, the annual estimates of value added for the years subsequent to the base year of unorganized manufacturing and services sectors are compiled by moving forward the benchmark estimates by quantity and price indicators. Though workforce is not a preferred physical indicator for this purpose, it has been used for extrapolating the base year estimates of many categories like business and other services owing to non-availability of appropriate physical indicators. The problem involved in the use of inter survey growth rate of workforce for extrapolating the LI (workforce adjusted for multiple activities) has been discussed in Chapter II. The difference in the actual growth rates in LI observed between 2004-05 and 2011-12 and those used in projecting the LI from 2004-05 to 2011-12 based on the growth rates between 1999-2000 and 2004-05 clearly explains the situation.

6.2 Detailed discussions were held on identifying suitable indicators especially for the categories moved using LI growth and also on the appropriateness of other physical indicators currently being used for projecting. It was felt that use of corporate growth instead of past LI growth for categories where other indicators are not available may be more suitable as these are at least based on the current scenario. Trade activities, as mentioned earlier, are projected using the GTI index which is a volume indicator. A value based indicator may capture the underlying growth in this sector better than a volume indicator. Sales taxes are value based and may be a good option for carrying forward the base year estimates. The option of using Service tax based indicator, wherever available, could also be explored.

6.3 For the CCs in the unorganised manufacturing sector (S.No. 1-30), the subcommittee recommends that the GVA estimates for subsequent years may be compiled using IIP for first revised estimate (RE) and growth in ASI for second and third REs.

6.4 Presently, out of 40 CCs in the Services sector, there are 17 CCs for which the (base-year) estimates are projected using indicators relevant to the activity. These 17 indicator based compilation categories account for almost 82% of unorganized GDP from non-financial services sector (excluding railways, posts and public admin). Barring five CCs, completely in the organized segment, for which estimates are prepared using current data sources, the estimates for the remaining 18 CCs have been prepared in the current series by projecting LI from past EUS. The details of the indicators used and LI based categories are given in Chapter 2.

6.5 After looking at the choice of indicators and the frequency at which these are available, the subcommittee recommends the following indicators for preparing the estimates of the unorganized part for subsequent years in the new series:

Table 12 – Indicators for projecting the estimates of the unorganized part to subsequent years

S.No.	Compilation Category	Indicators proposed	Indicators used/Comments
31	Maintenance and Repair of motor vehicles and motor cycles	Sales growth of vehicles	GTI index
32	Sale of motor vehicles and motor cycles	Service Tax	
33	Whole sale trade except of motor vehicles and motor cycles	Sales tax growth of unorganized sector/ modified GTI index	
34	Retail sale trade except of motor vehicles and motor cycles		
35	Repair of computers and personal and household goods		
36	Hotels & Restaurants	GTI relating to food articles and manufacturing/Service tax growth/Corporate growth	
37	Transport via Railways	This activity is entirely in the organized segment and the data required for GVA estimation is obtained from the administrative sources.	
38	Scheduled passenger land transport	Growth in registered vehicles * Price index	Growth in registered vehicles * Price index
39	Non-scheduled passenger land transport		LI method
40	Motorised freight transport		Growth in registered vehicles * Price index
41	Non motorised freight transport		LI method
42	Transport via pipelines	This activity is entirely in the organized segment and the data required for GVA estimation is obtained from the administrative sources.	
43	Water Transport		
44	Air Transport	This activity is entirely in the organized segment and the data required for GVA estimation is obtained from the administrative sources.	
45	Storage & Warehousing	Storage index	LI method
46	Services incidental to transport	Combined growth of Road and Water transport	Combined growth of Road, Water and Air transport
47	Postal activities	This activity is entirely in the organized segment and the data required for GVA estimation is obtained from the administrative sources.	
48	Courier activities	Service tax	LI method

S.No.	Compilation Category	Indicators proposed	Indicators used/Comments
49	Activities of cable operators	growth/Corporate growth	LI method
50	Telecommunication		Growth in minutes of usage & Implicit price deflator of Private corporate
51	Recording, Publishing and Broadcasting services		
52	Real Estate activities	Corporate growth	LI method
53	Computer related services		
54	Legal activities		LI method
55	Accounting & book keeping activities		
56	Research and development and other professional, scientific and technical services		
57	Rental and leasing services		
58	Administrative and support services excluding rental and leasing services		
59	Coaching/Academic tutoring services		LI method
60	Education other than coaching	Growth in consumer expenditure on education	Growth in consumer expenditure on education
61	Human health activities and care services with/without accommodation	Growth in consumer expenditure on health	Growth in consumer expenditure on health
62	Recreational, cultural and sporting activities	Service tax growth /Growth in expenditure in non food items	LI method
63	Activities of membership organisations		
64	Washing & cleaning of textiles and fur products		
65	Hair dressing and other beauty treatment		
66	Custom tailoring		
67	Other personal service activities	Growth in expenditure in non food items	Population growth
68	Private households with employed persons	LI method	LI method

6.6 Further, the subcommittee recommends that in the event of a better indicator becoming available for any category in between the base years, the same may be used.

Chapter VII

Recommendations

7.1 The subcommittee after deliberating on various issues relating to estimation of GVA for the various compilation categories for the unorganized manufacturing and services sectors for the new base made a number of recommendations. These recommendations are consolidated and presented in this chapter for easy and quick reference.

- 1) The base year estimates of the unorganized part of both manufacturing and services sectors should be essentially compiled using the effective labour input method based on NSS 67th and 68th round data (adjusted for population as per Population Census 2011).
- 2) The estimates for subsequent years of unorganized manufacturing may be projected using IIP for first revised estimate (RE) and growth in ASI for second and third REs.
- 3) For the unorganized services sector, the estimates for subsequent years may be projected using relevant indicators wherever available. In case of indicators not being available, corporate growth in that sector may be used. The current practice of projecting using inter survey growth rate of LI and CPI may be discontinued. Better indicators, as and when available, may be used for projecting the estimates.
- 4) The proposed compilation categories based on regrouping of economic activities as per NIC 2008 is given in Table 10/Chapter V.
- 5) The disaggregation to be followed for presentation of the main aggregates in the next series of NAS could be done as per the categories mentioned in Chapter VI with suitable modifications based on the availability of indicators available for projecting the unorganized part and also disaggregation permitted by the public and private corporate sector estimates.

No.M-11016/3/2013-NAD-9
 Ministry of Statistics and Programme Implementation
 Central Statistics Office
 National Accounts Division

Sardar Patel Bhawan, Sansad Marg,
 New Delhi-11 Dated: September 11, 2013

ORDER

Subject: Sub-Committee on Unorganized Manufacturing & Services Sectors

With a view to revise the base year of National Accounts Statistics from 2004-05 to 2011-12, it has been decided to constitute a sub-committee of the Advisory Committee on National Accounts Statistics (ACNAS) to review the existing methodology for compilation of estimates of Unorganized Manufacturing & Services Sectors and suggest improvement for its adoption in the new series for each of the revised compilation category (reworked based upon NIC-2008). The composition of the sub-committee on Unorganized Manufacturing & Services Sectors is as under:

Composition of the Sub-Committee:

Chair	Prof. K. Sundaram (Non-Official)
Members	<ol style="list-style-type: none"> 1. Dr. S. V. Ramaswamy, IGDR, Mumbai (Non-Official) ✓ 2. Shri Asis Ray, DDG, SDRD, NSSO, Kolkata (Official) 3. Shri P. C. Sarker, DDG, DPD, NSSO, Kolkata (Official) 4. Shri P. C. Mohanan, DDG, Computer Centre, MOSPI (Official) 5. Shri Ashish Kumar, ADG, NAD, CSO (Official) 6. DDG (Coordination), NAD, CSO (Official) 7. Shri S.V. Ramana Murthy, DDG, NAD, CSO (Member Secretary, Official)

Terms of Reference:

- (i) To assess the appropriateness of present method of Labour Input adopted for compilation of GVA for unorganized sector for services and manufacturing, and suggest an alternative system, if needed;
- (ii) To develop compilation categories (CCs) taking into account NIC-2008 based on the measures of errors both from enterprise surveys and employment & unemployment survey. Also develop concordance between new CCs to the present CCs;
- (iii) Suggest appropriate indicators for each compilation category for estimation of GVA for the years succeeding base year till base is further revised; and
- (iv) Compile estimates of Labour Inputs and GVA based on revised methodology both for earlier base year 2004-05 and for the year 2011-12, and also between base years.

38


2. The sub-committee shall submit its report by the end of six months from the date of its constitution. The sub-committee may co-opt any member, if necessary, for dealing with specific issues relating to the subject. The non-official Members would be paid a sitting fee of Rs. 1,000/- per day and DA/leave) commensurate per their eligibility in the organization to which they belong (in case they are in service) or the last work occupied (in case they are retired), in accordance with Appendix 2 to SR 198(A). The travel costs in respect of official Members would be borne by the respective Organizations.

3. The expenditure will be debitable to the respective minor heads under the following heads:-

- Major Head-"J454" Census, Survey and Statistics
- Sub Major Head-02 Survey and Statistics
- Minor Head-02.204 Central Statistical Organization

of Plan Scheme "Capacity Development of SPI" under Grant No. 91 of this Ministry during the Financial Year 2013-14.

4. This issues with the concurrence of AS & FA (S&PI) vide Dy. No. 856/AS&FA dated 09/07/2013.


(G. Vaidheeswaran)

Under Secretary to the Govt. of India

Copy to:

- 1. Chairman and members of the Sub-Committee
- 2. I.DG, National Statistical Commission
- 3. Admn. I/O
- 4. Cash & Accounts Section
- 5. Budget & Finance/ General Section
- 6. PPS to CSI & Secretary, Ministry of Statistics & PI
- 7. PPS to DG & C/O, NSSO

Dr.14-11016/9/2013-3454-9
Ministry of Statistics and Programme Implementation
Central Statistics Office
National Accounts Division

Sardar Patel Bhawan, Sansad Marg,
New Delhi-11 Dated: April 15, 2014

ORDER

Subject: Sub-Committee on Agriculture and Allied Sectors

The tenure of the sub-committee on Agriculture and Allied Sectors constituted vide the order of even no. dated 11.09.2013 is hereby extended for a further six months.

2. The sub-committee shall submit its report by the end of the extension period.

3. The expenditure will be debitable to the respective minor heads under the following heads:

Major Head-"3454"	Census, Survey and Statistics
Sub Major Head-02	Survey and Statistics
Minor Head-02.204	Central Statistical Organization

of Plan Scheme "Capacity Development of SPI" under Grant No: 93 of this Ministry during the Financial Year 2014-15.

4. Terms of reference and other terms and conditions of the sub-committee will remain same.

5. This supersedes Ministry's order of even number dated 11/4/2011.

6. This issues with the concurrence of AS & FA (S&PI) vide Dy. No. 358/AS&FA dated 1.4.2014.



(G. Vaidheeswaran)

Under Secretary to the Govt. of India

Copy to:

1. Chairman and members of the Sub-Committee
2. DDG, National Statistical Commission
3. Admn.I/II
4. Cash & Accounts Section
5. Budget & Finance/ General Section
6. PPS to CSI & Secretary, Ministry of Statistics & PI
7. PPS to DG, CSO
8. PPS to DG &CEO, NSSO

No.M-11016/5/2013-NAD-9
Ministry of Statistics and Programme Implementation
Central Statistics Office
National Accounts Division

Sardar Patel Bhawan, Sansad Marg,
New Delhi-1 Dated: October 29, 2014

ORDER

Subject: Sub-Committee on Unorganised Manufacturing & Services Sectors

The tenure of the sub-committee on Unorganised Manufacturing and Services Sectors constituted vide order of even no. dated 11.09.2013 and extended vide order of even no. dated 15.04.2014 is hereby further extended up to 31.12.2014.

2. The sub-committee shall submit its report by the end of the extension period.

3. The expenditure will be debitable to the respective minor heads under the following heads:

Major Head-"3454"	Census, Survey and Statistics
Sub Major Head-02	Survey and Statistics
Minor Head-02.204	Central Statistical Organization

of Plan Scheme "Capacity Development of SPI" under Grant No: 93 of this Ministry during the Financial Year 2014-15.

4. Terms of reference and other terms and conditions of the sub-committee will remain same.

5. This issues with the concurrence of AS & FA (S&PI) vide Dy. No. 1069/AS&FA dated 27.10.2014.



(Sander Singh)

Under Secretary to the Govt. of India

Copy to:

1. Chairman and members of the Sub-Committee
2. DDG, National Statistical Commission
3. Admn. I/II
4. Cash & Accounts Section
5. Budget & Finance/ General Section
6. PPS to CSI & Secretary, Ministry of Statistics & PI
7. PPS to DG, CSO
8. PPS to DG &CEO, NSSO

No.M-11016/5/2013-NAD-9
Ministry of Statistics and Programme Implementation
Central Statistics Office
National Accounts Division

Sardar Patel Bhawan, Sansad Marg,
New Delhi-1 Dated: January 7, 2015

ORDER

Subject: Sub-Committee on Unorganised Manufacturing & Services Sectors

The tenure of the Sub-Committee on Unorganised Manufacturing and Services Sectors, constituted vide order of even no. dated 11.09.2013 and extended vide orders of even no. dated 15.04.2014 and 29.10.2014 is hereby further extended up to 31.01.2015

2. The Sub-Committee shall submit its report by the end of the extension period.


3. The expenditure will be debitible to the respective minor heads under the following heads:

Major Head-"3454"	Census, Survey and Statistics
Sub Major Head-02	Survey and Statistics
Minor Head-02.204	Central Statistical Organization

of Plan Scheme "Capacity Development of SPI" under Grant No: 93 of this Ministry during the Financial Year 2014-15.

4. Terms of reference and other terms and conditions of the Sub-Committee will remain same.

5. This issues with the concurrence of SS & FA (S&PI) vide Dy. No. 08/SS&FA dated 05.01.2015.


(P. Bhanumati)
Director

Copy to:

1. Chairman and members of the Sub-Committee
2. DDG, National Statistical Commission
3. Admn./II
4. Cash & Accounts Section
5. Budget & Finance/ General Section
6. PPS to CSI & Secretary, Ministry of Statistics & PI
7. PPS to DG, CSO
8. PPS to DG & CEO, NSSO

Ministry of Statistics & Programme Implementation
Central Statistics Office
National Accounts Division

Minutes of the first meeting of the Sub-Committee on Unorganised Manufacturing & Services Sectors

The first meeting of the Sub-Committee on Unorganised Manufacturing & Services sectors was held on **3rd October, 2013 at 11.00 A.M.** under the chairmanship of Prof. K. Sundaram at Sardar Patel Bhawan, New Delhi. The list of participants is enclosed.

2. At the outset, the Chairman welcomed all the members and participants. Subsequently, a presentation was made by CSO on the current methodology of compiling GVA estimates, sources of data, existing compilation categories and the proposed compilation categories. Detailed discussions were held on the methodology adopted for compiling GVA estimates of various activities especially Trade, Other communication etc. The chairman suggested exploring CPI (Rural and Urban) data and checking the list of commodities for which wholesale prices and retail prices are separately available for computing Trade & Transport margins (TTM). It was felt that this may yield better TTMs on a regular basis especially for commodities like oils, pulses, wheat etc. For Other communication category, it was suggested that the possibility of using 'Average Revenue per minute of usage' as an indicator for projecting the estimates may be looked into.

3. Dr. Shailja Sharma, DDG, NSSO (ex-DDG, Manufacturing Unit of NAD) responded to the queries related to the methodology adopted for compiling the estimates of the unorganized manufacturing sector and the various data sources. The workforce estimates of unorganized manufacturing are derived after adjusting for the workers of ASI and the MSME sector. Only employees (excluding supervisory personnel) from ASI are included. Using the definition of usage of power (10+ with power and 20+ without power), the number of workers are deemed to have been those enterprises of MSME sector which should have been covered in the ASI. Since MSME census was conducted in 2006-07, the workforce estimates of 2004-05 pertaining to MSME units covered under unregistered manufacturing is derived by interpolating backward using the inter-survey growth rate of the workforce of 55th round (1999-00) and 61st round (2004-05) of NSS. The workforce of MSME units in unregistered manufacturing thus calculated is deducted from the work force obtained from the Employment-Unemployment Survey of NSS (after netting out the ASI part) to obtain the residual workforce i.e. those working in non-MSME unregistered manufacturing units. It was mentioned by Dr. Ramaswamy, IGIDR that the results of MSME will not be available for the next base in the absence of MSME census.

4. The sample size based on the enterprise survey (NSS 67th Round) for the proposed compilation categories were analysed and it was suggested that the sample size needs to be computed from the

previous rounds also viz. 63rd round for GVAPW, 61st and 68th round for the labour input. Based on the comparison between the rounds and the sample size observed, the compilation categories may be modified/aggregated. For comparison of estimates between two base years, the aggregated estimates for the merged compilation categories may be then split based on workers from Employment-Unemployment Survey.

5. For the next meeting, the chairman proposed the following:

- (i) The compilation categories may be organized according to their contribution to GVA of manufacturing and services separately.
- (ii) The difference between the projected figures of GVA and those computed using LI method based on latest surveys may be worked out and the compilation categories where the difference is large would be identified.
- (iii) Growth rate in effective LI based on 61st and 68th rounds and effective GVAPW based on 62nd, 63rd and 67th rounds be computed.
- (iv) Sample size and RSE for the compilation categories may be worked out from the 61st, 62nd, 63rd, 67th and 68th rounds of NSS.

6. As the sub-committee has no representative from the manufacturing unit, it was decided to coopt Shri. Kameshwar Ojha, DDG (Manufacturing), CSO (NAD).

7. It was informed that the committee may also deliberate on the methodology for compilation of these sectors for States.

The meeting ended with a vote of thanks to the chair.

List of participants in the meeting held on 03.10.2013

- 1) Prof. K. Sundaram, Chairman
- 2) Dr. K. V. Ramaswamy, Professor, IGIDR
- 3) Shri Ashish Kumar, ADG, CSO (NAD)
- 4) Shri S. V. Ramana Murthy, DDG, CSO (NAD)
- 5) Dr. Shailja Sharma, DDG, CSO (NAD)
- 6) Shri P. C. Sarkar, DDG, NSSO (DPD)
- 7) Shri Asis Ray, DDG, NSSO (SDRD)
- 8) Ms. P. Bhanumati, Director, CSO (NAD)
- 9) Ms. Kanchana V. Ghosh, Director, CSO (NAD)
- 10) Shri L. S. Deswal, Deputy Director, CSO (NAD)
- 11) Ms. Chetna Shukla, Deputy Director, CSO (NAD)

**Ministry of Statistics & Programme Implementation
Central Statistics Office
National Accounts Division**

**Minutes of the second meeting of the Sub-Committee on Unorganised Manufacturing & Services
Sectors**

The second meeting of the Sub-Committee on Unorganised Manufacturing & Services sectors was held on **11th April, 2014 at 11.30 A.M.** under the chairmanship of Prof. K. Sundaram at Sardar Patel Bhawan, New Delhi. The list of participants is enclosed.

2. At the outset, the Chairman welcomed all the members and participants. Detailed discussions were held on the various exercises carried out, subsequent to the first meeting, for compiling GVA estimates of various activities. The chairman expressed concern over the small sample size observed in the survey results for certain compilation categories especially courier activities and its effect on getting reliable GVA estimates. It was suggested that for such categories, the estimates may be compiled for the activity as a whole instead of doing it separately for rural and urban sectors. The minimum sample size for each category was decided as 30. It was further suggested that even if upon combining the sectors, the sample size is not up to the mark i.e. atleast 30, the categories may be suitably combined.

3. The estimates of retail trade and the use of GTI index in projecting the estimates were discussed in detail. It was felt that the methodology for compiling GTI needs to be revisited. ADG (NAD) mentioned that retail trade surveys on a regular basis are much needed to improve the estimates of retail trade. It was suggested that from the consumer expenditure survey data, the consumption level of households engaged in trade (retail and wholesale) be analysed to check whether the real income (consumption expenditure as proxy) has gone up.

4. Professor Ramaswamy desired to know about the indicators being used to project the estimates and how they have moved over the years. It was agreed that a note on indicators being used to project the bench mark estimates will be provided to the members of the committee. A lot of emphasis was placed on identifying relevant indicators for the categories for which the estimates are prepared using the labour input method and also improving the existing indicators wherever possible. There should be special annual/quarterly surveys to generate indicators for use in estimation of GVA of major contributing services.

The meeting ended with a vote of thanks to the chair.

List of participants in the meeting held on 11.04.2014

1. Prof. K. Sundaram, Chairman
2. Dr. K. V. Ramaswamy, Professor, IGIDR
3. Shri Ashish Kumar, ADG, CSO (NAD)
4. Shri. P.C.Mohanan, DDG, Computer Centre, MOSPI
5. Shri S. V. Ramana Murthy, DDG, CSO (NAD)
6. Shri. KameshwarOjha, DDG, CSO (NAD)
7. Shri E. Dasarathan, DDG, CSO (NAD)
8. Ms. Kanchana V. Ghosh, Director, CSO (NAD)
9. Shri. Nagesh, Joint Director, CSO (NAD)
10. Ms. Reena Nagar, Assistant Director, CSO (NAD)

**Ministry of Statistics & Programme Implementation
Central Statistics Office
National Accounts Division**

Minutes of the third meeting of the Sub-Committee on Unorganised Manufacturing & Services Sectors

The third meeting of the Sub-Committee on Unorganised Manufacturing & Services sectors was held on **11th September, 2014 at 11.30 A.M** under the chairmanship of Prof. K. Sundaram at Sardar Patel Bhawan, New Delhi. The list of participants is enclosed.

2. At the outset, the Chairman welcomed all the members and participants. A presentation was made by Member Secretary wherein the current methodology of compiling GVA estimates which is the Labour Input method and its limitations were discussed. Also, the behavior of employment pattern was brought forth. The need for identifying a new methodology to overcome the limitations of the existing methodology was reiterated. The results of the new methodology suggested earlier based on effective LI were presented.

3. The Chairman threw light on the fact that LIs for the organized manufacturing had grown resulting in decrease in the LIs for the unorganized sector. To this, Shri. P.C. Mohanan added that Helper category has shown to have the least growth. To emphasize on this, Dr. K. V. Ramaswamy pointed out that formalization of the workforce has been the main reason for the reduction of the growth rate in the helper category.

4. The chairman opined that choice of alternate regression models need to be looked into and if required the set of coefficients, R-square etc. may be shown to a group of experts.

5. The Chief Statistician of India suggested that the coefficients for hired worker be given the weight of 1 and other two categories of workers be expressed in terms of the hired worker. Also, he pointed out that there would be no revisions of the estimates, already released, from 2004-05 onwards based on the new methodology.

6. The following recommendations were made by the Chairman:

(i) Regression Model 3 vbl sectorwise with capital may be used to compute the effective LI for both manufacturing and services sector; i.e. GVA from 67th round regressed on three kinds of labour namely owner, hired (formal+ informal) and helper; and capital (owned asset + hired asset).

(ii) The significant & positive standardized coefficients thus obtained may be used to compile the conversion factors in terms of hired worker.

(iii) The regression may be carried out separately for rural & urban sectors subject to adequate sample size of at least 30. For those cases where sample size is less than 30, regressions may be carried out jointly for rural and urban.

(iv) As far as the proposed compilation categories were concerned, RSEs for the new compilation categories based on NIC-2008 have to be scrutinized.

(v) For projecting the base year estimates of the services sector to the subsequent years, two separate set of estimates be made- one using the old indicator and one using the new indicator and accordingly a note be prepared.

The meeting ended with a vote of thanks to the chair.

List of participants in the meeting held on 11.09.2014

- 1) Prof. K. Sundaram, Chairman
- 2) Dr. T.C. Anant, Secretary, MOS& PI
- 3) Dr. K. V. Ramaswamy, Professor, IGIDR
- 4) Shri Ashish Kumar, ADG, CSO (NAD)
- 5) Shri P. C. Mohanan, DDG, Computer Center
- 6) Shri S. V. Ramana Murthy, DDG, CSO (NAD)
- 7) Shri. E. Dashrathan, DDG, CSO, (NAD)
- 8) Shri Kameshwer Ojha, DDG, CSO, (NAD)
- 9) Ms. Kanchana V. Ghosh, Director, CSO (NAD)
- 10) Shri Nagesh Kumar Singh, Director, CSO (NAD)
- 11) Dr. Sudeepta Ghosh, Assistant Director, CSO (NAD)
- 12) Ms. Reena Nagar, Assistant Director, CSO (NAD)

**Ministry of Statistics & Programme Implementation
Central Statistics Office
National Accounts Division**

Minutes of the review meeting held on 16-12-2014

A review meeting of the officers of NAD and Prof. K. Sundaram, Chairman of the Sub-Committee on Unorganised Manufacturing & Services sectors was held on **16th December, 2014 at 3.00 A.M** to take stock of all the exercises carried out on the basis of decisions taken during various meetings of the sub committee since its inception and also to apprise the same to Secretary (S&PI) and Chairman, NSC. The meeting was held in the chamber of Chairman, NSC. Prof.B.N.Goldar, Chairman of the Sub Committee on Private Corporate Sector also attended the meeting. The list of participants is enclosed.

2. At the outset, the Chairman of the subcommittee briefed the Chairman, NSC and Secretary(S&PI) about the exercises carried out and the issues faced. On the basis of analysis carried out, it was decided that a non linear nested Cobb Douglas production function using three categories of LI, Capital (Owned+ Hired Assets) and a dummy variable for sector (Rural=0, Urban=1) using sample data on establishments only from 67th Round be used for computing the conversion factors of owner and helper in terms of hired worker for both manufacturing and service sectors. These conversion factors may then be used for compiling the GVA estimates for 2011-12 based on effective LI methodology. Similar exercise was to be repeated for the 62nd and 63rd rounds of NSS to work out the estimates based on revised methodology for 2004-05. It was also agreed that annual growth rates of the estimates, between 2004-05 and 2011-12, based on new methodology would be computed and compared with the growth published in NAS -2014. It was felt that if these two rates were comparable, it would provide a validation of chosen methodology.

List of participants in the meeting held on 11.09.2014

- 12) Prof. Pronab Sen, Chairman, NSC
- 13) Dr. T.C. Anant, Secretary, MOS& PI
- 14) Prof. K. Sundaram, Chairman
- 15) Shri Ashish Kumar, DG, CSO
- 16) Prof. B.N.Goldar, IEG
- 17) Ms. Kanchana V. Ghosh, Director, CSO (NAD)
- 18) Ms. Reena Nagar, Assistant Director, CSO (NAD)

**Ministry of Statistics & Programme Implementation
Central Statistics Office
National Accounts Division**

**Minutes of the fourth meeting of the Sub-Committee on Unorganised Manufacturing & Services
Sectors**

The fourth meeting of the Sub-Committee on Unorganised Manufacturing & Services sectors was held on **8th January, 2015 at 10.30 A.M** under the chairmanship of Prof. K. Sundaram at Sardar Patel Bhawan, New Delhi. The list of participants is enclosed.

2. At the outset, the Chairman welcomed all the members and participants and gave a broad outline of the new methodology proposed and also the need for such change. He informed the members that based on the inputs received from Professor B.N.Goldar, a non linear nested Cobb Douglas production function was used to derive the conversion factors of the owner and helper in terms of the hired worker for compiling the effective LI method based GVA estimates. He emphasized on the fact that the discussion would mainly focus on the set of coefficients/conversion factors (establishments or total enterprises) to be chosen and also the indicators to move the base year estimates to the subsequent years.

3. The results of the new methodology based on effective LI method using a non linear nested Cobb Douglas function were presented. The two sets of estimates based on total enterprises and establishment data respectively for both the sectors were discussed compilation category wise.

4. Regarding the indicators for moving the base year estimates of unorganized manufacturing sector, Shri. S.V.Ramana Murthy, DDG pointed out that there has been a lot of criticism on the use of Index of Industrial Production (IIP) and Wholesale Price Index (WPI) as indicators to move the base year estimate, as IIP is also based on organised sector growth only. Alternatively, he proposed the Annual Survey of Industries (ASI) growth for inflating the base year estimate to the subsequent years.

5. The estimates of trade and the methodology for compiling the same were discussed in detail. It was opined by the chairman that the non availability of data in the 63rd round of NSS has led to some over estimation of GVA in this sector.

6. After detailed discussions on the new methodology, use of total enterprises data vis a' vis establishment records and choice of indicators for moving the estimates, the following recommendations were made:

Unregistered Manufacturing sector

(i) Conversion factors based on non-linear nested Cobb Douglas function using 3 categories of LI, capital (owned+hired assets) and dummy variable for sector (rural=0, urban=1) considering establishments only may be considered for obtaining the effective LI which then could be used for revising the base year estimates for manufacturing.

(ii) For the categories where there is a significantly large variation in the proposed estimates from the current series estimates, check whether these variations are due to aggregation of the compilation categories.

(iii) As far as indicators for moving the base year estimates for unregistered manufacturing are concerned, for the immediate year the ASI (Total-NDCU-DCU-Private Corporate) growth may be taken. For the subsequent year where ASI results are not available, the WPI and IIP may be used. As soon as the new ASI results are out, the estimates may be accordingly revised.

Unorganised Services sector

(i) Separate conversion factors using the nonlinear function mentioned above on establishment data be derived for Health, Education and remaining personal services in the Other Services group.

(ii) For real estate and other business services, use of effective LI method based on the nonlinear production function on establishments data in categories where the different categories of LI would have an impact on GVA.

(iii) For trade and hotels & restaurants, and other CCs where use of different categories of LI may not have a significant impact on GVA, normal LI method (undifferentiated LI) using GVAPW of establishment for rural and GVAPW of DTEs (enterprises with greater than 5 workers) was suggested as it was felt that the estimates thus obtained would be more robust.

7. The following indicators were suggested for moving the estimates to subsequent years:

Compilation Categories	Procedure/Indicators
Unorganised Manufacturing	Project 2011-12 to next year using ASI growth and arrive at unorganised sector by residual approach adjusting for organised manufacturing and non ASI. For 2012-13, project total by IIP and adjust for mfg (corp +NDCU), use IIP on non ASI and deduce unorganised as residual.
Wholesale and Retail Trade	Estimate the total gross trading income either by GTI or sales tax and adjust for organised sector use with unorganised sector as residual for each year. Then construct an index and

Compilation Categories	Procedure/Indicators
	use it for projecting the unorganised sector.
Maintenance, Sale and Repair of Motor Vehicles	Growth in registered vehicles.
Repair of computers and HH goods	Take the share of unorganised sector GVA to cumulative stock (5 years) of durable goods (obtained from ASI) as the contribution to GVA. Adjust the cumulative stock by adding the next year value and subtracting the first year's value. Or Use the new base IIP of durable goods.
Hotels & Restaurants	Growth in service tax of hotels or GTI of Mfg. (food) and Agriculture for the aggregate and adjust for the organised sector.
Transport sector	Use the growth in registered vehicles and the WPI growth to move the aggregate in the base year. Remove the organised sector from the current year and unorganised sector as residual.
Computers	Growth in organised software sector companies of low turnover
Health & Education	Consumption growth in these two sectors over 68 th and 61 st round and deflated by CPI to get constant
Remaining services	Non food growth

The meeting ended with a vote of thanks to the chair.

List of participants in the meeting held on 08.01.2015

- 19) Prof. K. Sundaram, Chairman
- 20) Dr. K. V. Ramaswamy, Professor, IGIDR
- 21) Shri Ashish Kumar, DG, CSO (NAD)
- 22) Shri P. C. Mohanan, DDG, Computer Center
- 23) Shri S. V. Ramana Murthy, DDG, CSO (NAD)
- 24) Ms. Kanchana V. Ghosh, Director, CSO (NAD)
- 25) Shri Nagesh Kumar Singh, Director, CSO (NAD)
- 26) Dr. Sudeepta Ghosh, Assistant Director, CSO (NAD)
- 27) Ms. Reena Nagar, Assistant Director, CSO (NAD)

Annexure 10

Manufacturing- Sample size comparison 67th and 62nd rounds

S.No.	Compilation Category	62nd Round			67th Round			% Difference (67 - 63)		
		Rural	Urban	Total	Rural	Urban	Total	Rural	Urban	Total
1	Cotton ginning, cleaning and baling	63	56	119	21	18	39	-66.67	-67.86	-67.23
2	Production, processing and preservation of meat, fish, fruit vegetables, oils and fats	753	1020	1773	1586	1604	3190	110.62	57.25	79.92
3	Manufacture of dairy product	277	265	542	246	288	534	-11.19	8.68	-1.48
4	Manufacture of grain mill products, etc. and animal feeds	5325	2343	7668	6196	2359	8555	16.36	0.68	11.57
5	Manufacture of other food products	1379	1917	3296	2113	2444	4557	53.23	27.49	38.26
6	Manufacture of beverages	888	332	1220	1072	312	1384	20.72	-6.02	13.44
7	Manufacture of tobacco products	1669	1298	2967	2172	1096	3268	30.14	-15.56	10.14
8	Spinning, weaving and finishing of textile+ Other textiles+ Knitted and crocheted fabrics and articles	3936	4219	8155	4288	4252	8540	8.94	0.78	4.72
9	Wearing apparel, except fur apparel and tailoring	456	1174	1630	519	1038	1557	13.82	-11.58	-4.48
10	Dressing and dyeing of fur; manufacture of articles of fur and tanning and dressing of leather; manufacture of luggage, handbags, saddlery, harness and footwear	230	760	990	242	756	998	5.22	-0.53	0.81
11	Manufacture of wood and of products of wood and cork, except furniture; manufacture of articles of straw and plating materials	5836	2097	7933	5513	2467	7980	-5.53	17.64	0.59
12	Manufacture of furniture	2043	1713	3756	2764	2336	5100	35.29	36.37	35.78
13	Manufacture of Paper And Paper Products and publishing, printing and reproduction of recorded media	405	1840	2245	397	2148	2545	-1.98	16.74	13.36
14	Manufacture of coke, refined petroleum products and nuclear fuel and rubber and plastic products	360	574	934	231	619	850	-35.83	7.84	-8.99
15	Manufacture of chemical and chemical products	695	704	1399	471	380	851	-32.23	-46.02	-39.17

S.No.	Compilation Category	62nd Round			67th Round			% Difference (67 - 63)		
		Rural	Urban	Total	Rural	Urban	Total	Rural	Urban	Total
16	Manufacture of other non-metallic mineral products	3833	1126	4959	3191	1031	4222	-16.75	-8.44	-14.86
17	Manufacture of Basic Iron & Steel+ Casting of iron and steel	74	122	196	62	113	175	-16.22	-7.38	-10.71
18	Manufacture of basic precious and non-ferrous metals+ Casting of non-ferrous metals	101	260	361	40	74	114	-60.40	-71.54	-68.42
19	Recycling of metal waste and scrap+ non-metal waste and scrap	14	39	53	38	82	120	171.43	110.26	126.42
20	Manufacture of fabricated metal products, except machinery and equipments	2474	2579	5053	2639	2988	5627	6.67	15.86	11.36
21	Manufacture of machinery and equipment n.e.c + office, accounting and computing machinery	573	1114	1687	951	1084	2035	65.97	-2.69	20.63
22	Electrical machinery and apparatus n.e.c.+ radio, television and communication equipment and apparatus	469	991	1460	844	1728	2572	79.96	74.37	76.16
23	Manufacture of medical, precision and optical instruments, watches and clocks+ Manufacturing n.e.c	1644	4180	5824	1961	3959	5920	19.28	-5.29	1.65
24	Manufacture of motor vehicles, trailers and semi-trailers+ manufacture of other transport equipment	155	416	571	136	383	519	-12.26	-7.93	-9.11
Total Mfg.		33652	31139	64791	37693	33559	71252	12.01	7.77	9.97

Services - Sample size comparison 67th and 63rd rounds

S.No.	Compilation Category	63rd Round			67th Round			% Difference (67 - 63)		
		Rural	Urban	Total	Rural	Urban	Total	Rural	Urban	Total
25	Maintenance and repair of motor vehicles and motor cycles	0	0	0	2228	4139	6367			
26	Sale of motor vehicles				614	1526	2140			
27	Whole sale trade except of motor vehicles + Auctioning activities	0	3	3	2894	6662	9556			
28	Repair of personal and household goods				4955	5765	10720			
29	Retail trade (except motor vehicle)				46689	45687	92376			
30	Hotels; camping sites etc.	297	1330	1627	479	1137	1616	61.28	-14.51	-0.68

S.No.	Compilation Category	63rd Round			67th Round			% Difference (67 - 63)		
		Rural	Urban	Total	Rural	Urban	Total	Rural	Urban	Total
31	Restaurants, bars and canteens	12204	16757	28961	10882	13023	23905	-10.83	-22.28	-17.46
33	Scheduled passenger land transport	106	132	238	507	1787	2294	378.30	1253.79	863.87
34	Non-scheduled passenger land transport by motor vehicles	6128	9142	15270	5026	3530	8556	-17.98	-61.39	-43.97
35	Freight transport by motor vehicles	3499	2243	5742	4714	2047	6761	34.72	-8.74	17.75
36	Other non-scheduled passenger land transport	5570	5858	11428	1743	1710	3453	-68.71	-70.81	-69.78
37	Freight transport other than by motor vehicles	4836	3491	8327	1717	1143	2860	-64.50	-67.26	-65.65
39	Water Transport	137	26	163	76	13	89	-44.53	-50.00	-45.40
41	Storage and warehousing	9	61	70	21	28	49	133.33	-54.10	-30.00
42	Supporting & auxiliary transport activities	250	1592	1842	379	887	1266	51.60	-44.28	-31.27
44	Courier activities	38	428	466	28	312	340	-26.32	-27.10	-27.04
45	Cable operator	324	187	511	215	198	413	-33.64	5.88	-19.18
46	Other communication	7864	13981	21845	843	1219	2062	-89.28	-91.28	-90.56
47	Real Estate Activities	1271	2312	3583	807	1779	2586	-36.51	-23.05	-27.83
48	Renting of machinery & equipment without operator, personal / household goods	2637	2728	5365	1922	1757	3679	-27.11	-35.59	-31.43
49	Computer and Related activities	68	879	947	149	775	924	119.12	-11.83	-2.43
50	Legal activities	329	2554	2883	159	1160	1319	-51.67	-54.58	-54.25
51	Accounting, book-keeping	52	747	799	25	429	454	-51.92	-42.57	-43.18
52	Research and development+ market research and public opinion polling+ business and management consultancy activities+ architectural, engineering and other technical activities+ advertising+ business activities n.e.c (-) auctioning activities	1804	5015	6819	1390	3172	4562	-22.95	-36.75	-33.10
53	Coaching centres,(+) Activities of the individuals providing tuition	2519	4817	7336	1039	1716	2755	-58.75	-64.38	-62.45
54	Education-(Coaching centres,(+) Activities of the individuals providing tuition	1510	3096	4606	3045	3798	6843	101.66	22.67	48.57
55	Human health activities+ Veterinary activities	4420	7098	11518	3214	4577	7791	-27.29	-35.52	-32.36
56	Sewage And Refuse Disposal, Sanitation And Similar Activities	179	195	374	53	138	191	-70.39	-29.23	-48.93
57	Activities Of Membership Organisations n.e.c.+ Social work with accommodation	1734	1350	3084	1115	783	1898	-35.70	-42.00	-38.46
58	Recreational, cultural and	1158	1479	2637	884	1249	2133	-23.66	-15.55	-19.11

S.No.	Compilation Category	63rd Round			67th Round			% Difference (67 - 63)		
		Rural	Urban	Total	Rural	Urban	Total	Rural	Urban	Total
	sporting activities									
59	Washing and cleaning of textile and fur products	4785	4652	9437	1409	2299	3708	-70.55	-50.58	-60.71
60	Hair dressing and other beauty treatment	6820	7467	14287	5406	5251	10657	-20.73	-29.68	-25.41
61	Tailoring*	8203	9270	17473	14380	15169	29549	75.30	63.64	69.11
62	Funeral and related activities	1014	1379	2393	834	1192	2026	-17.75	-13.56	-15.34
	Total	79765	110269	190034	119841	136057	255898	50.24	23.39	34.66

**taken from 62nd Round*

Annexure 11

67th round – Number of OAEs and Establishments

S.No.	Compilation Category	Enterprise Type		Total
		OAE	Establishment	
1	Cotton ginning, cleaning and baling	18	21	39
2	Production, processing and preservation of meat, fish, fruit vegetables, oils and fats	1972	1218	3190
3	Manufacture of dairy product	290	244	534
4	Manufacture of grain mill products, etc. and animal feeds	6200	2355	8555
5	Manufacture of other food products	1769	2788	4557
6	Manufacture of beverages	1060	324	1384
7	Manufacture of tobacco products	2965	303	3268
8	Spinning, weaving and finishing of textile+ Other textiles+ Knitted and crocheted fabrics and articles	5335	3205	8540
9	Wearing apparel, except fur apparel and tailoring	786	771	1557
10	Dressing and dyeing of fur; manufacture of articles of fur and tanning and dressing of leather; manufacture of luggage,handbags,saddlery,harness and footwear	531	467	998
11	Manufacture of wood and of products of wood and cork,except furniture;manufacture of articles of straw and plating materials	5609	2371	7980
12	Manufacture of furniture	2465	2635	5100
13	Manufacture of Paper And Paper Products and publishing, printing and reproduction of recorded media	991	1554	2545
14	Manufacture of coke, refined petroleum products and nuclear fuel and rubber and plastic products	293	557	850
15	Manufacture of chemical and chemical products	434	417	851
16	Manufacture of other non-metallic mineral products	1748	2474	4222
17	Manufacture of Basic Iron & Steel+ Casting of iron and steel	70	105	175
18	Manufacture of basic precious and non-ferrous metals+ Casting of non-ferrous metals	50	64	114
19	Recycling of metal waste and scrap+ non-metal waste and scrap	56	64	120
20	Manufacture of fabricated metal products, except machinery and equipments	2387	3240	5627

S.No.	Compilation Category	Enterprise Type		Total
		OAE	Establishment	
21	Manufacture of machinery and equipment n.e.c + office, accounting and computing machinery	1049	986	2035
22	Electrical machinery and apparatus n.e.c.+ radio, television and communication equipment and apparatus	1552	1020	2572
23	Manufacture of medical, precision and optical instruments, watches and clocks+ Manufacturing n.e.c	3585	2335	5920
24	Manufacture of motor vehicles, trailers and semi-trailers+ manufacture of other transport equipment	110	409	519
Total Mfg.		41325	29927	71252
25	Maintenance and repair of motor vehicles and motor cycles	2054	4313	6367
26	Sale of motor vehicles	783	1357	2140
27	Whole sale trade except of motor vehicles + Auctioning activities	3613	5943	9556
28	Repair of personal and household goods	8586	2134	10720
29	Retail trade (except motor vehicle)	71430	20946	92376
	Total Trade	86466	34693	121159
30	Hotels; camping sites etc.	102	1514	1616
31	Restaurants, bars and canteens	12350	11555	23905
33	Scheduled passenger land transport	1939	355	2294
34	Non-scheduled passenger land transport by motor vehicles	6741	1815	8556
35	Freight transport by motor vehicles	2625	4136	6761
36	Other non-scheduled passenger land transport	3423	30	3453
37	Freight transport other than by motor vehicles	2728	132	2860
39	Water Transport	50	39	89
41	Storage and warehousing	13	36	49
42	Supporting & auxiliary transport activities	517	749	1266
44	Courier activities	50	290	340
45	Cable operator	79	334	413
46	Other communication	1722	340	2062
47	Real Estate Activities	2017	569	2586
48	Renting of machinery & equipment without operator, personal / household goods	1420	2259	3679
49	Computer and Related activities	369	555	924
50	Legal activities	953	366	1319
51	Accounting, book-keeping	125	329	454
52	Research and development etc.	2219	2343	4562

S.No.	Compilation Category	Enterprise Type		Total
		OAE	Establishment	
53	Coaching centres + Activities of the individuals providing tuition	2287	468	2755
54	Education excluding (Coaching centres + Activities of the individuals providing tuition)	1288	5555	6843
55	Human health activities+ Veterinary activities	3928	3863	7791
56	Sewage And Refuse Disposal, Sanitation And Similar Activities	126	65	191
57	Activities Of Membership Organisations n.e.c.+ Social work with accommodation	1520	378	1898
58	Recreational, cultural and sporting activities	1089	1044	2133
59	Washing and cleaning of textile and fur products	3320	388	3708
60	Hair dressing and other beauty treatment	7343	3314	10657
61	Custom Tailoring	22940	6609	29549
62	Funeral and related activities	1834	192	2026
Total Services		171583	84315	255898

Comparison of Growth Rates used for projecting and Growth rates observed between 2004-05 & 2011-12

CC	Activity	61st Round		68th Round		CAGR		Growth rates used	
		Rural	Urban	Rural	Urban	Rural	Urban	Rural	Urban
25	Maintenance and repair of motor vehicles and motor cycles	659614	1242269	726016	1498872	1.01	1.03		
26	Sale of motor vehicles	147948	522238	208934	592210	1.05	1.02		
27	Whole sale trade except of motor vehicles + Auctioning activities	1597449	3617162	1530483	3260024	0.99	0.99		
28	Repair of personal and household goods	1489873	1623640	1302860	1305749	0.98	0.97		
29	Retail trade (except motor vehicle)	13652728	16894408	16596171	17555164	1.03	1.01		
30	Hotels; camping sites etc.	42523	277415	137272	451149	1.18	1.07		
31	Restaurants, bars and canteens	2229075	3223322	2758319	3892610	1.03	1.03		
33	Scheduled passenger land transport	324441	337232	514057	1209778	1.07	1.20	1.18	1.14
34	Non-scheduled passenger land transport by motor vehicles	2010339	2680871	3052568	2347922	1.06	0.98	1.18	1.20
35	Freight transport by motor vehicles	2438781	1795269	3098865	1763548	1.03	1.00	1.17	1.17
36	Other non-scheduled passenger land transport	1031896	954098	1110047	662468	1.01	0.95	1.07	1.10
37	Freight transport other than by motor vehicles	1064779	825635	573170	453480	0.92	0.92	1.06	1.02
39	Water Transport	37205	22986	22751	23714	0.93	1.00	0.95	0.98
41	Storage and warehousing	27907	50034	199019	665828	1.32	1.45	1.10	1.15
42	Supporting & auxiliary transport activities	47399	257684	4901	29381	0.72	0.73	1.19	1.17

CC	Activity	61st Round		68th Round		CAGR		Growth rates used	
		Rural	Urban	Rural	Urban	Rural	Urban	Rural	Urban
44	Courier activities	13486	163796	91042	130364	1.31	0.97	0.93	1.21
45	Cable operator	36893	61298	55461	212448	1.06	1.19	1.20	1.17
46	Other communication	276231	381876	222182	617755	0.97	1.07	1.24	1.12
47	Real Estate Activities	75094	450254	224652	349744	1.17	0.96	1.22	1.27
48	Renting of machinery & equipment without operator, personal / household goods	257171	313775	79742	580542	0.85	1.09	1.24	1.12
49	Computer and Related activities	30920	441571	187557	500000	1.29	1.02	1.21	1.20
50	Legal activities	144849	368548	38130	262707	0.83	0.95	1.08	1.08
51	Accounting, book-keeping	46918	291963	527009	1480918	1.41	1.26	1.06	1.09
52	Research and development+ market research and public opinion polling+ business and management consultancy activities+ architectural, engineering and other technical activities+ advertising+ business activities n.e.c (-) auctioning activities	267349	1103793	477682	616562	1.09	0.92	1.09	1.13
53	Coaching centres,(+) Activities of the individuals providing tuition	380661	736013	1496960	1931983	1.22	1.15	1.17	1.19
54	Education-(Coaching centres,(+) Activities of the individuals providing tuition	1074747	1229334	783028	1399324	0.96	1.02	1.09	1.09
55	Human health activities+ Veterinary activities	761121	1114794	129460	231980	0.78	0.80	1.06	1.09
56	Sewage And Refuse Disposal, Sanitation And Similar Activities	163030	159722	557302	374893	1.19	1.13	1.05	1.15

CC	Activity	61st Round		68th Round		CAGR		Growth rates used	
		Rural	Urban	Rural	Urban	Rural	Urban	Rural	Urban
57	Activities Of Membership Organisations n.e.c.+ Social work with accommodation	603421	332716	413235	571638	0.95	1.08	1.03	1.04
58	Recreational, cultural and sporting activities	404855	612042	786238	595494	1.10	1.00	1.10	1.09
59	Washing and cleaning of textile and fur products	1091104	837974	1643654	851446	1.06	1.00	1.02	1.05
60	Hair dressing and other beauty treatment	1369829	854350	3674065	3133694	1.15	1.20	1.02	1.06
61	Tailoring	1724422	1487993	685511	1320255	0.88	0.98	1.10	1.14
62	Funeral and related activities	492190	497881	959517	2832640	1.10	1.28	1.06	1.08
63	Private Households With Employed Persons	1279011	3295692	959517	2832640	0.96	0.98	1.03	1.10

Annexure 13

Comparison of LI and adjusted LI (after treating missing enterprise type records as unorganized sector enterprises) from 68th Round

(in numbers)

S.No.	Compilation Category	Unadjusted LI			Adjusted LI			% Difference
		Rural	Urban	Total	Rural	Urban	Total	(Adj.-Unadj.)
1	Cotton ginning, cleaning and baling	2721	32014	34735	2858	36106	38964	12.18
2	Production, processing and preservation of meat, fish, fruit vegetables, oils and fats	557821	424520	982342	585062	481341	1066403	8.56
3	Manufacture of dairy product	45693	92369	138062	95093	117588	212681	54.05
4	Manufacture of grain mill products, etc. and animal feeds	1208968	518419	1727387	1501896	589790	2091685	21.09
5	Manufacture of other food products	1026894	1138131	2165025	1079391	1291510	2370901	9.51
6	Manufacture of beverages	108600	107044	215644	117835	124938	242773	12.58
7	Manufacture of tobacco products	3636782	1006518	4643300	3787273	1151792	4939065	6.37
8	Spinning, weaving and finishing of textile+ Other textiles+ Knitted and crocheted fabrics and articles	3525952	4958491	8484443	3642852	5607166	9250018	9.02
9	Wearing apparel, except fur apparel and tailoring	326812	1301926	1628738	347391	1469964	1817355	11.58
10	Dressing and dyeing of fur; manufacture of articles of fur and tanning and dressing of leather; manufacture of luggage, handbags, saddlery, harness and footwear	215028	832457	1047485	215028	938144	1153172	10.09

S.No.	Compilation Category	Unadjusted LI			Adjusted LI			% Difference
		Rural	Urban	Total	Rural	Urban	Total	(Adj.-Unadj.)
11	Manufacture of wood and of products of wood and cork, except furniture; manufacture of articles of straw and plating materials	2798163	906006	3704168	3083720	1032062	4115782	11.11
12	Manufacture of furniture	1472778	801208	2273986	1550933	904353	2455286	7.97
13	Manufacture of Paper And Paper Products and publishing, printing and reproduction of recorded media	306756	827450	1134206	312303	933327	1245630	9.82
14	Manufacture of coke, refined petroleum products and nuclear fuel and rubber and plastic products	157039	455146	612185	174065	513891	687955	12.38
15	Manufacture of chemical and chemical products	490737	457635	948372	523534	520612	1044146	10.10
16	Manufacture of other non-metallic mineral products	3444318	901589	4345907	3942506	1031206	4973712	14.45
17	Manufacture of Basic Iron & Steel+ Casting of iron and steel	276958	239028	515986	286211	269590	555801	7.72
18	Manufacture of basic precious and non-ferrous metals+ Casting of non-ferrous metals	6487	90617	97103	6487	102065	108551	11.79
19	Recycling of metal waste and scrap+ non-metal waste and scrap	9689	326968	336657	9689	368414	378102	12.31
20	Manufacture of fabricated metal products, except machinery and equipments	1128376	1399909	2528285	1156481	1579322	2735802	8.21
21	Manufacture of machinery and equipment n.e.c + office, accounting and computing machinery	306792	534704	841496	324434	602238	926673	10.12

S.No.	Compilation Category	Unadjusted LI			Adjusted LI			% Difference
		Rural	Urban	Total	Rural	Urban	Total	(Adj.-Unadj.)
22	Electrical machinery and apparatus n.e.c.+ radio, television and communication equipment and apparatus	272650	427681	700332	304479	482146	786625	12.32
23	Manufacture of medical, precision and optical instruments, watches and clocks+ Manufacturing n.e.c	1049017	1997421	3046438	1100459	2254170	3354630	10.12
24	Manufacture of motor vehicles, trailers and semi-trailers+ manufacture of other transport equipment	164472	330392	494864	164472	372146	536618	8.44
25	Maintenance and repair of motor vehicles and motor cycles	726016	1498872	2224887	727422	1688196	2415618	8.57
26	Sale of motor vehicles	208934	592210	801145	227743	669317	897059	11.97
27	Whole sale trade except of motor vehicles + Auctioning activities	1530483	3260024	4790507	1738747	3678356	5417103	13.08
28	Repair of personal and household goods	1302860	1305749	2608609	1492616	1471320	2963936	13.62
29	Retail trade (except motor vehicle)	16596171	17555164	34151335	17682870	19842156	37525026	9.88
30	Hotels; camping sites etc.	137272	451149	588422	137272	509813	647085	9.97
31	Restaurants, bars and canteens	2758319	3892610	6650929	2842256	4399139	7241396	8.88
33	Scheduled passenger land transport	514057	1209778	1723835	525514	1362571	1888085	9.53
34	Non-scheduled passenger land transport by motor vehicles	3052568	2347922	5400490	3152626	2647577	5800202	7.40
35	Freight transport by motor vehicles	3098865	1763548	4862412	3360090	1994821	5354912	10.13
36	Other non-scheduled passenger land transport	1110047	662468	1772515	1197822	746105	1943927	9.67
37	Freight transport other than by motor vehicles	573170	453480	1026649	632143	511749	1143891	11.42
39	Water Transport	22751	23714	46465	24408	26708	51116	10.01
41	Storage and warehousing	107337	47333	154671	108000	54005	162006	4.74
42	Supporting & auxiliary	199019	665828	864847	262126	750195	1012321	17.05

S.No.	Compilation Category	Unadjusted LI			Adjusted LI			% Difference
		Rural	Urban	Total	Rural	Urban	Total	(Adj.-Unadj.)
	transport activities							
44	Courier activities	39892	117378	157270	39892	132216	172108	9.43
45	Cable operator	91042	130364	221406	107485	146853	254338	14.87
46	Other communication	55461	212448	267909	55461	240817	296278	10.59
47	Real Estate Activities	222182	617755	839938	258668	708311	966979	15.13
48	Renting of machinery & equipment without operator, personal / household goods	224652	349744	574396	313807	393951	707758	23.22
49	Computer and Related activities	79742	580542	660284	88390	654412	742802	12.50
50	Legal activities	187557	500000	687557	191763	564683	756447	10.02
51	Accounting, book-keeping	38130	262707	300838	38130	300231	338361	12.47
52	Research and development+ market research and public opinion polling+ business and management consultancy activities+ architectural, engineering and other technical activities+ advertising+ business activities n.e.c (-) auctioning activities	527009	1480918	2007927	593469	1682568	2276037	13.35
53	Coaching centres + Activities of the individuals providing tuition	477682	616562	1094244	528452	697826	1226278	12.07
54	Education excluding (Coaching centres + Activities of the individuals providing tuition)	1496960	1931983	3428943	1609558	2195384	3804942	10.97
55	Human health activities+ Veterinary activities	783028	1399324	2182353	853532	1582478	2436010	11.62
56	Sewage And Refuse Disposal, Sanitation And Similar Activities	129460	231980	361440	129784	264732	394516	9.15
57	Activities Of Membership Organisations n.e.c.+ Social work with accommodation	557302	374893	932196	627018	424683	1051701	12.82
58	Recreational, cultural and sporting activities	413235	571638	984873	487146	651638	1138784	15.63

S.No.	Compilation Category	Unadjusted LI			Adjusted LI			% Difference
		Rural	Urban	Total	Rural	Urban	Total	(Adj.-Unadj.)
59	Washing and cleaning of textile and fur products	786238	595494	1381732	797811	672845	1470656	6.44
60	Hair dressing and other beauty treatment	1643654	851446	2495100	1695516	962273	2657788	6.52
61	Custom Tailoring	3674065	3133694	6807759	3978975	3548643	7527619	10.57
62	Funeral and related activities	685511	1320255	2005766	815610	1500406	2316017	15.47
Total		66590174	71116617	137706795	71636574	80450859	152087432	10.44

Annexure 14
GVAPW from 67th Round
(in Rs)

S.No.	CC	Rural	Urban
1	Cotton ginning, cleaning and baling	47756	44628
2	Production, processing and preservation of meat, fish, fruit vegetables, oils and fats	58006	87301
3	Manufacture of dairy product	40993	58190
4	Manufacture of grain mill products, etc. and animal feeds	33402	59188
5	Manufacture of other food products	28741	65012
6	Manufacture of beverages	28015	59492
7	Manufacture of tobacco products	12975	14039
8	Spinning, weaving and finishing of textile+ Other textiles+ Knitted and crocheted fabrics and articles	23502	50777
9	Wearing apparel, except fur apparel and tailoring	33785	59922
10	Dressing and dyeing of fur; manufacture of articles of fur and tanning and dressing of leather; manufacture of luggage, handbags, saddlery, harness and footwear	42623	50387
11	Manufacture of wood and of products of wood and cork, except furniture; manufacture of articles of straw and plating materials	28118	55144
12	Manufacture of furniture	50550	77353
13	Manufacture of Paper And Paper Products and publishing, printing and reproduction of recorded media	54230	88797
14	Manufacture of coke, refined petroleum products and nuclear fuel and rubber and plastic products	68491	63726
15	Manufacture of chemical and chemical products	31001	52081
16	Manufacture of other non-metallic mineral products	40634	54830
17	Manufacture of Basic Iron & Steel+ Casting of iron and steel	75111	117158
18	Manufacture of basic precious and non-ferrous metals+ Casting of non-ferrous metals	39612	65621
19	Recycling of metal waste and scrap+ non-metal waste and scrap	52285	58927
20	Manufacture of fabricated metal products, except machinery and equipments	47129	92223
21	Manufacture of machinery and equipment n.e.c + office, accounting and computing machinery	46568	100389
22	Electrical machinery and apparatus n.e.c.+ radio, television and communication equipment and apparatus	58042	80810
23	Manufacture of medical, precision and optical instruments, watches and clocks+ Manufacturing n.e.c	31858	64020
24	Manufacture of motor vehicles, trailers and semi-trailers+ manufacture of other transport equipment	101882	113537
25	Maintenance and repair of motor vehicles and motor cycles	60034	71513
26	Sale of motor vehicles	231585	157306
27	Whole sale trade except of motor vehicles + Auctioning activities	67846	140788
28	Repair of personal and household goods	35704	54761

S.No.	CC	Rural	Urban
29	Retail trade (except motor vehicle)	58524	117077
30	Hotels; camping sites etc.	80247	129823
31	Restaurants, bars and canteens	38742	60940
32	Transport via railways		
33	Scheduled passenger land transport	85401	82647
34	Non-scheduled passenger land transport by motor vehicles	67020	81465
35	Freight transport by motor vehicles	86454	113834
36	Other non-scheduled passenger land transport	38169	44535
37	Freight transport other than by motor vehicles	37423	44270
38	Transport via pipelines		
39	Water Transport	38256	20520
40	Air transport		
41	Storage and warehousing	15712	90750
42	Supporting & auxiliary transport activities	57900	102736
43	National post activities		50914
44	Courier activities	54769	75965
45	Cable operator	60761	87654
46	Other communication	8317	24196
47	Real Estate Activities	42389	153277
48	Renting of machinery & equipment without operator, personal / household goods	42865	67273
49	Computer and Related activities	70617	105601
50	Legal activities	95600	145198
51	Accounting, book-keeping	117262	172544
52	Research and development+ market research and public opinion polling+ business and management consultancy activities+ architectural, engineering and other technical activities+ advertising+ business activities n.e.c (-) auctioning activities	54538	114819
53	Coaching centres + Activities of the individuals providing tuition	31101	101923
54	Education excluding (Coaching centres + Activities of the individuals providing tuition)	67301	83297
55	Human health activities+ Veterinary activities	68041	119747
56	Sewage And Refuse Disposal, Sanitation And Similar Activities	39904	46249
57	Activities Of Membership Organisations n.e.c.+ Social work with accommodation	26631	84499
58	Recreational, cultural and sporting activities	23307	73400
59	Washing and cleaning of textile and fur products	19278	42487
60	Hair dressing and other beauty treatment	33267	55955
61	Custom Tailoring	28211	43342
62	Funeral and related activities	33184	58740
63	Private Households With Employed Persons	-	-
64	Extra Territorial Organizations And Bodies	-	-

Annexure 15

Relative Standard Error (RSE) for GVAPW - 67th Round

S.No.	Compilation Category	NIC 2008	Rural	Urban
1	Cotton ginning, cleaning and baling	1632	0.54	0.00
2	Production, processing and preservation of meat, fish, fruit vegetables, oils and fats	101+102+103+104	4.84	2.16
3	Manufacture of dairy product	105	5.18	0.74
4	Manufacture of grain mill products, etc. and animal feeds	106+108	4.32	3.91
5	Manufacture of other food products	107	5.66	3.45
6	Manufacture of beverages	110	6.73	2.19
7	Manufacture of tobacco products	12	5.87	4.23
8	Spinning, weaving and finishing of textile+ Other textiles+ Knitted and crocheted fabrics and articles	13+143	5.83	4.50
9	Wearing apparel, except fur apparel and tailoring	141-14105	4.90	3.22
10	Dressing and dyeing of fur; manufacture of articles of fur and tanning and dressing of leather; manufacture of luggage, handbags, saddlery, harness and footwear	142+15	1.54	3.61
11	Manufacture of wood and of products of wood and cork, except furniture; manufacture of articles of straw and plating materials	16	3.27	3.36
12	Manufacture of furniture	3100	1.29	2.20
13	Manufacture of Paper And Paper Products and publishing, printing and reproduction of recorded media	17+18+(58-582)	5.31	3.87
14	Manufacture of coke, refined petroleum products and nuclear fuel and rubber and plastic products	19+22	10.06	14.02
15	Manufacture of chemical and chemical products	20+21	14.79	29.76
16	Manufacture of other non-metallic mineral products	23	3.62	16.51
17	Manufacture of Basic Iron & Steel+ Casting of iron and steel	241+2431	11.32	0.80
18	Manufacture of basic precious and non-ferrous metals+ Casting of non-ferrous metals	242+2432	0.76	0.35
19	Recycling of metal waste and scrap+ non-metal waste and scrap	383	0.07	1.37
20	Manufacture of fabricated metal products, except machinery and equipments	25+3311	3.40	3.13
21	Manufacture of machinery and equipment n.e.c + office, accounting and computing machinery	28+3312+3320	4.20	3.99
22	Electrical machinery and apparatus n.e.c.+ radio, television and communication equipment and apparatus	(26-(265+266+267)) +27+3313+3314+9512	8.46	2.91
23	Manufacture of medical, precision and optical instruments, watches and clocks+ Manufacturing n.e.c	32+265+266+267+3319	6.79	4.73
24	Manufacture of motor vehicles, trailers and semi-trailers+ manufacture of other transport equipment	29+30+3315	2.97	2.37

S.No.	Compilation Category	NIC 2008	Rural	Urban
25	Maintenance and repair of motor vehicles and motor cycles	45403+452	2.06	3.72
26	Sale of motor vehicles	45-45403-452+473	3.19	5.20
27	Whole sale trade except of motor vehicles + Auctioning activities	46+92001	3.44	4.28
28	Repair of personal and household goods	952	1.47	1.85
29	Retail trade (except motor vehicle)	47-473+92002	1.95	2.92
30	Hotels; camping sites etc.	55	2.56	6.90
31	Restaurants, bars and canteens	56	2.15	2.73
33	Scheduled passenger land transport	4921	1.79	3.26
34	Non-scheduled passenger land transport by motor vehicles	4922-49226	1.62	1.93
35	Freight transport by motor vehicles	49231	2.13	5.44
36	Other non-scheduled passenger land transport	49226	3.06	2.57
37	Freight transport other than by motor vehicles	49232	2.83	3.64
39	Water Transport	50	10.34	0.00
41	Storage and warehousing	521	0.00	0.00
42	Supporting & auxiliary transport activities	52-521+79	6.89	4.43
44	Courier activities	532	0.02	2.19
45	Cable operator	61103	1.28	1.77
46	Other communication	61-61103	6.15	9.51
47	Real Estate Activities	68	5.63	14.23
48	Renting of machinery & equipment without operator, personal / household goods	77	3.05	3.68
49	Computer and Related activities	582+62+(63-6391)+9511	4.68	12.08
50	Legal activities	691	3.85	17.91
51	Accounting, book-keeping	692	0.00	1.77
52	Research and development+ market research and public opinion polling+ business and management consultancy activities+ architectural, engineering and other technical activities+ advertising+ business activities n.e.c (-) auctioning activities	70+71+72+73+74+78+80+81+82	3.06	4.22
53	Coaching centres + Activities of the individuals providing tuition	85491	3.76	3.30
54	Education excluding (Coaching centres + Activities of the individuals providing tuition)	85-85491	7.07	5.81
55	Human health activities+ Veterinary activities	86+75	4.75	3.56
56	Sewage And Refuse Disposal, Sanitation And Similar Activities	37+381+382+39	1.03	13.69
57	Activities Of Membership Organisationsn.e.c.+ Social work with accommodation	87+88+94	4.12	3.00
58	Recreational, cultural and sporting activities	59+60+6391+90+91+(92-92001-92002)+93	2.65	3.90
59	Washing and cleaning of textile and fur products	9601	4.62	2.28
60	Hair dressing and other beauty treatment	9602	2.16	1.91
61	Custom Tailoring	14105	1.79	2.40
62	Funeral and related activities	9603+9609	3.71	6.25

Annexure 16

Manufacturing: 68th round LI and Effective LI comparison of unorganized sector

(in numbers)

S.No.	Activity	LI	Effective LI	LI	Effective LI
		68th Round		67th Round	
1	Cotton ginning, cleaning and baling	38964	36743	13372	6683
2	Production, processing and preservation of meat, fish, fruit vegetables, oils and fats	1066403	497592	638129	261365
3	Manufacture of dairy product	212681	115027	160511	65819
4	Manufacture of grain mill products, etc. and animal feeds	2091685	1035359	1996916	641872
5	Manufacture of other food products	2370901	1411621	1609442	891986
6	Manufacture of beverages	242773	139125	371590	118696
7	Manufacture of tobacco products	4939065	1246466	3080703	671889
8	Spinning, weaving and finishing of textile+ Other textiles+ Knitted and crocheted fabrics and articles	9250018	4747232	5952184	2340562
9	Wearing apparel, except fur apparel and tailoring	1817355	1169420	736871	489443
10	Dressing and dyeing of fur; manufacture of articles of fur and tanning and dressing of leather; manufacture of luggage, handbags, saddlery, harness and footwear	1153172	930792	331388	167228
11	Manufacture of wood and of products of wood and cork, except furniture; manufacture of articles of straw and plating materials	4115782	1738745	2826847	941058
12	Manufacture of furniture	2455286	1316920	1202278	611524
13	Manufacture of Paper And Paper Products and publishing, printing and reproduction of recorded media	1245630	870685	867674	562633
14	Manufacture of coke, refined petroleum products and nuclear fuel and rubber and plastic products	687955	544142	566889	364383
15	Manufacture of chemical and chemical products	1044146	824971	502281	275186
16	Manufacture of other non-metallic mineral products	4973712	3926903	2799216	1804607
17	Manufacture of Basic Iron & Steel+ Casting of iron and steel	555801	497674	56657	38477

S.No.	Activity	LI	Effective LI	LI	Effective LI
		68th Round		67th Round	
18	Manufacture of basic precious and non-ferrous metals+ Casting of non-ferrous metals	108551	69254	72021	49740
19	Recycling of metal waste and scrap+ non-metal waste and scrap	378102	368141	28840	20503
20	Manufacture of fabricated metal products, except machinery and equipments	2735802	2071843	1859559	1360149
21	Manufacture of machinery and equipment n.e.c + office, accounting and computing machinery	926673	639241	628945	454841
20+21	Manufacture of fabricated metal products, except machinery and equipments and Manufacture of machinery and equipment n.e.c + office, accounting and computing machinery	3662475	2711083	2488504	1814990
22	Electrical machinery and apparatus n.e.c.+ radio, television and communication equipment and apparatus	786625	663128	553877	405535
23	Manufacture of medical, precision and optical instruments, watches and clocks+ Manufacturing n.e.c	3354630	2392901	2366906	1640172
24	Manufacture of motor vehicles, trailers and semi-trailers+ manufacture of other transport equipment	536618	446654	158828	133589
Total		47088331	27700581	29381924	14317941

Annexure 17

Manufacturing: 61st round LI and Effective LI comparison of unorganized sector

(in numbers)

S.No.	Activity	LI	Effective LI	LI	Effective LI
		62nd Round		61st Round	
1	Cotton ginning, cleaning and baling				
2	Production, processing and preservation of meat, fish, fruit vegetables, oils and fats	402757	195981	591322	367355
3	Manufacture of dairy product	315566	121803	194691	95451
4	Manufacture of grain mill products, etc. and animal feeds	2862141	1124922	1899485	1087764
5	Manufacture of other food products	2159331	1353134	1847528	1215915
6	Manufacture of beverages	575413	229527	246533	127169
7	Manufacture of tobacco products	4198516	1392625	3370053	1470871
8	Spinning, weaving and finishing of textile+ Other textiles+ Knitted and crocheted fabrics and articles				
9	Wearing apparel, except fur apparel and tailoring	719294	467713	2857272	1691753
10	Dressing and dyeing of fur; manufacture of articles of fur and tanning and dressing of leather; manufacture of luggage, handbags, saddlery, harness and footwear	491687	308387	1207259	794451
11	Manufacture of wood and of products of wood and cork, except furniture; manufacture of articles of straw and plating materials	4057791	1896999	4846696	2592328
12	Manufacture of furniture	893201	568984	1382631	931096
13	Manufacture of Paper And Paper Products and publishing, printing and reproduction of recorded media	759769	492874	1124256	860676
14	Manufacture of coke, refined petroleum products and nuclear fuel and rubber and plastic products	292138	214159	635569	547747
15	Manufacture of chemical and chemical products	851905	491671	1314062	1073829
16	Manufacture of other non-metallic mineral products	2331017	1462700	4020168	3177595
17	Manufacture of Basic Iron & Steel+ Casting of iron and steel	39849	28033	251103	219980

S.No.	Activity	LI	Effective LI	LI	Effective LI
		62nd Round		61st Round	
18	Manufacture of basic precious and non-ferrous metals+ Casting of non-ferrous metals	68198	43099	204268	121843
19	Recycling of metal waste and scrap+ non-metal waste and scrap	14317	10129	82895	46252
20+21	Manufacture of fabricated metal products, except machinery and equipments and Manufacture of machinery and equipment n.e.c + office, accounting and computing machinery	2223230	1317310	3360251	2372560
22	Electrical machinery and apparatus n.e.c.+ radio, television and communication equipment and apparatus	287435	168544	626706	412941
23	Manufacture of medical, precision and optical instruments, watches and clocks+ Manufacturing n.e.c	2038272	1218950	3060394	1957144
24	Manufacture of motor vehicles, trailers and semi-trailers+ manufacture of other transport equipment	202435	157060	459274	401705
Total		32117031	16372413	41439061	26356582

Annexure 18

Services: 68th round LI and Effective LI comparison of unorganized sector

(in numbers)

		LI	Effective LI	LI	Effective LI
S.No.	Compilation Category	68th Round		67th Round	
25	Maintenance and repair of motor vehicles and motor cycles	2415618	1862385	1485368	1117834
26	Sale of motor vehicles	897059	727738	674346	536732
27	Whole sale trade except of motor vehicles + Auctioning activities	5417103	3909415	3799590	2832353
28	Repair of personal and household goods	2963936	2097926	2034901	1335560
29	Retail trade (except motor vehicle)	37525026	24627301	28093183	17483970
30	Hotels; camping sites etc.	647085	495111	429542	375097
31	Restaurants, bars and canteens	7241396	5199835	6168819	4129124
33	Scheduled passenger land transport	1888085	1097186	693357	286195
34	Non-scheduled passenger land transport by motor vehicles	5800202	3554937	1923247	787443
35	Freight transport by motor vehicles	5354912	4394989	1707434	1062430
36	Other non-scheduled passenger land transport	1943927	727095	1190785	397513
37	Freight transport other than by motor vehicles	1143891	530154	832142	284465
39	Water Transport	51116	46959	26815	11605
41	Storage and warehousing	162006	154689	21884	11635
42	Supporting & auxiliary transport activities	1012321	795790	355920	227187
44	Courier activities	172108	164002	81973	62218
45	Cable operator	254338	154745	103930	67435
46	Other communication	296278	247497	472407	175618
47	Real Estate Activities	966979	746681	574750	441192
48	Renting of machinery & equipment without operator, personal / household goods	707758	537198	980798	730264

S.No.	Compilation Category	LI	Effective LI	LI	Effective LI
		68th Round		67th Round	
49	Computer and Related activities	742802	683392	283437	232539
50	Legal activities	756447	591492	305766	227458
51	Accounting, book-keeping	338361	296305	287221	262754
52	Research and development+ market research and public opinion polling+ business and management consultancy activities+ architectural, engineering and other technical activities+ advertising+ business activities n.e.c (-) auctioning activities	2276037	1999441	1458804	1206311
53	Coaching centres + Activities of the individuals providing tuition	1226278	1512781	666022	793690
54	Education excluding (Coaching centres + Activities of the individuals providing tuition)	3804942	3955972	4022608	4162882
55	Human health activities+ Veterinary activities	2436010	2049080	1988905	1617410
56	Sewage And Refuse Disposal, Sanitation And Similar Activities	394516	196908	64264	37590
57	Activities Of Membership Organisations n.e.c.+ Social work with accommodation	1051701	527049	544230	263593
58	Recreational, cultural and sporting activities	1138784	1068650	891137	816373
59	Washing and cleaning of textile and fur products	1470656	441101	1456486	399417
60	Hair dressing and other beauty treatment	2657788	1071007	2197057	974697
61	Custom Tailoring	7527619	3240627	5663236	2518675
62	Funeral and related activities	2316017	1782189	511357	215530
	Total	104999101	71487627	71991720	46084790

Annexure 19

Services: 61st round LI and Effective LI comparison of unorganized sector

(in numbers)

S.No.	Compilation Category	LI	Effective LI	LI	Effective LI
		63rd Round		61st Round	
25	Maintenance and repair of motor vehicles and motor cycles			1901883	1566397
26	Sale of motor vehicles			670186	532506
27	Whole sale trade except of motor vehicles + Auctioning activities			5214610	3775798
28	Repair of personal and household goods			3113513	2164477
29	Retail trade (except motor vehicle)			30547136	19712338
30	Hotels; camping sites etc.	349319	303468	319938	294368
31	Restaurants, bars and canteens	4650645	3061416	5452397	3790372
33	Scheduled passenger land transport	42124	33798	661673	608889
34	Non-scheduled passenger land transport by motor vehicles	1569625	820654	4691210	3216501
35	Freight transport by motor vehicles	1098607	753590	4234050	3741058
36	Other non-scheduled passenger land transport	1348915	637380	1985994	975532
37	Freight transport other than by motor vehicles	1180466	540127	1890414	1020796
39	Water Transport	30702	15991	60191	47623
41	Storage and warehousing	9349	7858	77942	75552
42	Supporting & auxiliary transport activities	322373	240034	305083	239065
44	Courier activities	106126	93612	177282	165850
45	Cable operator	88643	66378	98191	79295
46	Other communication	2409302	1474444	658107	470628
47	Real Estate Activities	330409	215033	525348	372199
48	Renting of machinery & equipment without operator, personal / household goods	871453	563582	570946	383621

		LI	Effective LI	LI	Effective LI
S.No.	Compilation Category	63rd Round		61st Round	
49	Computer and Related activities	116529	90677	472491	390137
50	Legal activities	295030	197709	513397	334369
51	Accounting, book-keeping	138657	114332	338880	259188
52	Research and development+ market research and public opinion polling+ business and management consultancy activities+ architectural, engineering and other technical activities+ advertising+ business activities n.e.c (-) auctioning activities	723931	506968	1371142	990027
53	Coaching centres + Activities of the individuals providing tuition	910102	980212	1116673	1209428
54	Education excluding (Coaching centres + Activities of the individuals providing tuition)	2543343	2511742	2304081	2292176
55	Human health activities+ Veterinary activities	1832440	1905815	1875916	1950324
56	Sewage And Refuse Disposal, Sanitation And Similar Activities	73024	67623	322752	328246
57	Activities Of Membership Organisations n.e.c.+ Social work with accommodation	612336	626554	936137	963620
58	Recreational, cultural and sporting activities	731812	663078	1016897	983505
59	Washing and cleaning of textile and fur products	1650065	1180367	1929078	1318287
60	Hair dressing and other beauty treatment	1784684	1771548	2224180	2015157
61	Custom Tailoring	4183770		3212416	3183698
62	Funeral and related activities	306711	331322	990071	1032419
	Total	30310494	19775309	81780203	60483444

Annexure 20

Manufacturing- Effective LI & Effective GVAPW using conversion factors based on establishment data of 67th round

S.No.	Compilation category	68th round	67th round
		Effective LI (no.)	Effective GVAPW (in Rs.)
1	Cotton ginning, cleaning and baling	36743	99752
2	Production, processing and preservation of meat, fish, fruit vegetables, oils and fats	497592	193866
3	Manufacture of dairy product	115027	130753
4	Manufacture of grain mill products, etc. and animal feeds	1035359	132323
5	Manufacture of other food products	1411621	91511
6	Manufacture of beverages	139125	114838
7	Manufacture of tobacco products	1246466	65662
8	Spinning, weaving and finishing of textile+ Other textiles+ Knitted and crocheted fabrics and articles	4747232	105886
9	Wearing apparel, except fur apparel and tailoring	1169420	91728
10	Dressing and dyeing of fur; manufacture of articles of fur and tanning and dressing of leather; manufacture of luggage, handbags, saddlery, harness and footwear	930792	104729
11	Manufacture of wood and of products of wood and cork, except furniture; manufacture of articles of straw and plating materials	1738745	112971
12	Manufacture of furniture	1316920	135545
13	Manufacture of Paper And Paper Products and publishing, printing and reproduction of recorded media	870685	139744
14	Manufacture of coke, refined petroleum products and nuclear fuel and rubber and plastic products	544142	108649
15	Manufacture of chemical and chemical products	824971	89253
16	Manufacture of other non-metallic mineral products	3926903	74233
17	Manufacture of Basic Iron & Steel+ Casting of iron and steel	497674	170256
18	Manufacture of basic precious and non-ferrous metals+ Casting of non-ferrous metals	69254	88923
19	Recycling of metal waste and scrap+ non-metal waste and scrap	368141	87457
20+21	Manufacture of fabricated metal products, except machinery and equipments and Manufacture of machinery and equipment n.e.c + office, accounting and computing machinery	2711083	117846
22	Electrical machinery and apparatus n.e.c.+ radio, television and communication equipment and apparatus	663128	113192

S.No.	Compilation category	68th round	67th round
		Effective LI (no.)	Effective GVAPW (in Rs.)
23	Manufacture of medical, precision and optical instruments, watches and clocks+ Manufacturing n.e.c	2392901	80872
24	Manufacture of motor vehicles, trailers and semi-trailers+ manufacture of other transport equipment	446654	143210
	Total	27700581	

Annexure 21

Services – Categorywise LI/Effective LI & GVAPW/Effective GVAPW used in different methods

1. LI Method: $LIR \times GVAPWR_{(Est)} + LIU \times GVAPWU_{(DTE)}$

S.No.	Compilation Category	68th Round LI (no.)		67th Round GVAPW (in Rs.)	
		Rural	Urban	Rural (establishment)	Urban (DTE)
25	Maintenance and repair of motor vehicles and motor cycles	727422	1688196	73559	90982
26	Sale of motor vehicles	227743	669317	357360	218259
27	Whole sale trade except of motor vehicles + Auctioning activities	1738747	3678356	96490	191436
28	Repair of personal and household goods	1492616	1471320	45926	71139
29	Retail trade (except motor vehicle)	17682870	19842156	101884	191015
30+31	<i>Hotel & Restaurants</i>	<i>2979529</i>	<i>4908952</i>	<i>69283</i>	<i>104105</i>
36	Other non-scheduled passenger land transport	1197822	746105	72871	49942
37	Freight transport other than by motor vehicles	632143	511749	86216	71929
46	Other communication	53798	193699	32130	275232

2. Effective LI Method based on establishment records

S.No.	Compilation Category	68th Round Effec. LI (no.)	67th Round Effec. GVAPW (in Rs.)
33	Scheduled passenger land transport	1097186	260483
34	Non-scheduled passenger land transport by motor vehicles	3554937	231756
35	Freight transport by motor vehicles	4394989	216125
42	Supporting & auxiliary transport activities	795790	168063
44	Courier activities	164002	112566
45	Cable operator	154745	134293

S.No.	Compilation Category	68th Round Effec. LI (no.)	67th Round Effec. GVAPW (in Rs.)
52	Research and development+ market research and public opinion polling+ business and management consultancy activities+ architectural, engineering and other technical activities+ advertising+ business activities n.e.c (-) auctioning activities	1999441	141299
57	Activities Of Membership Organisations n.e.c.+ Social work with accommodation	527049	119164
58	Recreational, cultural and sporting activities	1068650	170725
59	Washing and cleaning of textile and fur products	441101	129476
60	Hair dressing and other beauty treatment	1071007	118551
61	Custom Tailoring	3240627	96049
62	Funeral and related activities	1782189	135856

3. Effective LI method based on GVAPW_{Est} for Rural and GVAPW_{DTE} for Urban

S.No.	Compilation Category	68th Round Effec. LI (no.)		67th Round Effec. GVAPW (in Rs.)	
		Rural	Urban	Rural (est.)	Urban (DTE)
39	Water Transport	65200	356971	20405	26554
41	Storage and warehousing	80736	150968	101557	53132
47	Real Estate Activities	110972	435604	205832	540849
48	Renting of machinery & equipment without operator, personal / household goods	62521	88157	249304	287894
49	Computer and Related activities	82364	197529	77131	606262
50	Legal activities	106022	692120	150029	441462
51	Accounting, book-keeping	138657	228116	36682	259623
53	Coaching centres + Activities of the individuals providing tuition	41609	359832	664541	848240
54	Education excluding (Coaching centres + Activities of the individuals providing tuition)	75821	94201	1668175	2287797
55	Human health activities+ Veterinary activities	106059	167162	704927	1344153
56	Sewage And Refuse Disposal, Sanitation And Similar Activities	84592	112315	106721	74572