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CENTRAL STATISTICAL AGENCY

BUSINESS STATISTICS

Revised

Report on

The 1st Quarter of the 2004 E.F.Y.

Manufacturing Business Survey

ADDIS ABABA

December 2011

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I. Introduction

One of the major uses of industrial statistics is to support the compilation of annual national account. Even when annual industrial and other economic surveys are conducted, the information collected through them become available only some time after the end of the reference period. For effective management of the economy as well as policy formulation it is necessary to have information available as early as possible in make use of short term indicators for measurement of changes in the level of the economic activities of the country.

In line with this, the current short term business survey is carried out to obtain data which could be used to monitor the current business situation and forecast short term developments and turning points of the business cycle. The range of information and/or indicators covered in this survey goes beyond variables that can easily be captured by conventional quantitative methods like 'qualitative information' of capacity utilization, production bottlenecks, and plans and expectations for immediate future and the mangers view on overall current economic situation of the country.

Hence, the Central Statistical Agency (CSA) as the body charged with collecting and compiling accurate and up to date Statistical information on almost all socio-economic aspects of the country. Thus, CSA has carried out this quarterly survey in line with its mandates after a hiatus of almost a year, by incorporating suggestions given by major users of this report. This business survey could play a significant role in meeting the needs of short term statistics in order to monitor the economic development of the country in quarterly basis.

Short term business statistics like all business statistics faces the opposing forces of the need for data on one hand and the cost of burden of providing data on the other. In fact the production of such statistics can be considered as bridging the gap between information users and information held by the respondents. *The current business survey can be defined as a*

business cycle analysis of interrelated developments. This kind of survey tries to capture judgments on past, current and future economic developments.

Consequently, there are many users of short term statistics with many different motivations for using the data, the analysis performed generally fall in to one of the two types:

- Comparison between two different point in time, of one or several parts of the business population, and
- Comparison within one reference period of two or more different sub populations.

With this framework, these kinds of business survey play a vital role in answering the following types of questions:

- Which phase of the economic cycle are we in at present?
- What will be the probable development in near future?
- Are we currently in the continuation of the moment already started (upward or downward) or,
- Is it possible that are we in a break in relation to this moment, i.e. turning or reversal point?

Hence, to meet the demands of such kind of statistics, CSA has made a rebasing to keep up with the development and accordingly to come up with an accurate, reliable and timely information about the business activities of manufacturing industries.

II. Objectives of the Survey

This quarterly business survey aims to provide statistical information necessary to improve the competitiveness and performance of the business community in the country and also to provide information on a wide range of economic activity that are increasingly becoming important for economic analysis.

The main objectives of this quarterly business survey are:

- To produce and compile up-to-date, reliable, and comparable information on the activity, competitiveness and performance of manufacturing industries,
- To assist in economic analysis and forecast the future trend of the business sector,
- To be used in compiling the various components of quarterly national accounts, which are in turn needed in the calculation of GDP, and
- To show the cyclical movement of the sector in terms of major indicators.

Therefore, conducting the current business survey on dynamic economic sectors like manufacturing industries is an accepted way of availing basic business information to depict the general trend on interrelated developments of the economy. Moreover, it could be a base for examining the nature of the sequence of evolution and future expectations in order to ensure that adequate decisions can be made on time.

Structure of this report

Section III provides an overview of the survey methodology. Section IV presents the background on training of field staffs. Section V states the concept and definition of terms. Section VI describes about data entry, editing, cleaning and tabulation of the results. Section VII explores the major findings of the survey. Finally, Appendix I, describes the estimation procedure we followed.

III. SURVEY METHODOLOGY

3.1 Scope and Coverage

The Quarterly Manufacturing Business Sample Survey was conducted covering only those establishments producing their goods using power driven machines having 10 and above workforce in both public and private owned manufacturing industries found in the country.

3.2 Sampling Frame

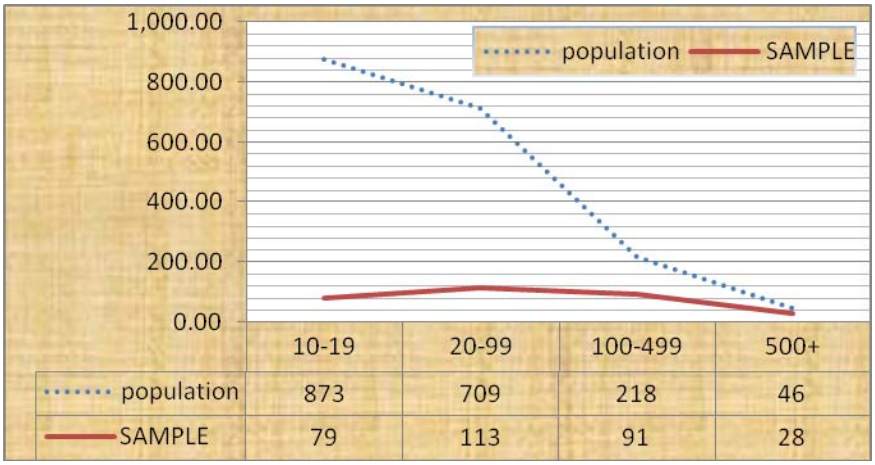
The list of basic values of each and every establishment was obtained or constructed from the 2008/09 Large and Medium Scale Manufacturing Industries Census and was used as a frame for conducting this Quarterly Manufacturing Business Sample Survey.

3.3 Sample Design

A single stage stratified sample design has been implemented to select sample establishments. In order to do so, each of the establishment under consideration was grouped into a four-digit level of International Standard Industrial Classification (ISIC rev 3.1) and considered as stratum. However, the total number of the four-digit level ISICs was found to be too many and the contribution of some of the ISIC's to the total basic value was also very low. Hence, a cut-off strategy was adopted for considering those ISIC's having a contribution of 0.6 percent (threshold value) and above to the overall basic value. Therefore, a total of 33 out of 49 ISICs were finally taken into consideration but the contributions of those below the threshold value is distributed to their related ISIC's in order to limit bias of the final estimate. Fifteen domains of estimates (reporting levels) are then constructed from the 33 ISICs and major findings of the survey are reported for them. Taking into account resource constraints and the production structure of the manufacturing sector, 310 sample establishments were initially decided to be sufficient to conduct the survey. The spread of basic values across the four-digit ISICs as observed from the frame was, however, uneven. Therefore, a power allocation (with a power of ½), have been employed to distribute the 310 sample establishments among the 33 ISICs since it increases the precision of small strata by slightly decreasing the precision of large strata. However, it was found that the basic values are not good measure of size in reflecting the current structure and growth of the manufacturing sector. The reasons for this are, one the weighting structure based on basic values are too old enough to reflect the current dynamic economic performance of the sector. Second the basic values reported are not that much reliable enough to differentiate the big and small establishments so that estimates based of the

basic values are not reflecting the reality, i.e. some domains are underestimated and others are overestimated, so that the need arise to change the weighting structure based on employment size are relatively more stable over time and that can reflect the right situation of manufacturing sector. Therefore, in this fourth quarter and onward estimates are grossed up by employment size to infer about the population parameters.

A systematic sampling with probability proportional to size (PPS) selection procedure were employed, measure of size being basic value obtained from the frame, was used in order to select sample establishments from each of the 33 ISIC. In fact for the selection purpose basic value are already employed but PPS ensure the selection of big establishments so that using employment size instead of basic value does not distort their representation on the selected establishments rather than reflecting the current situation. See the following figure of already sampled establishment's representation when employment size was used instead of the basic value.



	10-19	20-99	100-499	500+
population	873	709	218	46
SAMPLE	79	113	91	28

As regards to the ultimate coverage, the survey was not carried out for 17 establishments out of the sampled 310 establishments; 15 establishments were due to non-response and 2 establishments due to closure. As a result, the survey succeeded to cover 293 (95 percent) establishments throughout the country.

Estimation procedures of totals, ratios and sampling error are given in Appendix I.

IV. Training of Field Staff and Data Collection

The training was conducted in one phase by two senior staff members of the Business Statistics Directorate and experienced branch statistical office staffs took part in establishment surveys training exercise. Enumerator's manual was prepared for the survey to introduce them with the detailed explanations of the basic concepts and how to handle each and every part of the questionnaire.

V. Concepts and Definitions

Manufacturing: - is defined here according to International Standard Industrial Classification (ISIC Rev. 3) as "the physical or chemical transformation of materials or components into new products, whether the work is performed by power-driven machines or by hand, whether it is done in a factory or the worker's home, and whether the products are sold at wholesale or retail. The assembly of the component parts of manufactured products is also considered as manufacturing activities."

An Establishment: - is defined as the whole of the premises under the same ownership or management at a particular address. (e.g. a bakery, sawmill, etc.)

Permanent Workers: - these are employees, (based on the agreement between the workers and employers) engaged to work in the factory for long period of time. These workers are usually found regularly on the payroll of the establishment. Basically, this category consists of production, administrative and technical employees. According to this definition, unpaid family workers, active partners and working proprietors are excluded.

Seasonal and Temporary Workers: - these include workers who are employed for a whole or part of the year with the agreement that they work for short period of time. These workers are not regularly on the payroll of the establishment.

Revenue from Sales: - represents the total sales value of all products and by-products during the reference period valued at market price.

Raw Materials: - include all raw and auxiliary materials, parts and containers which are consumed during the reference period. The value of local raw materials is the value of locally produced raw materials and is the cost incurring the factory, which includes the purchasing price, transport charges, taxes and other incidental costs. The value of imported raw materials is the value of raw materials produced in other countries and obtained directly or from local market and is the cost incurring the factory which includes the purchasing price, transport charges, taxes and other incidental costs.

New Capital Expenditure: - is the cost of new or used capital equipment bought during the reference period by the existing establishments.

Survey Period: Based on the Ethiopian Fiscal Year, this periods are defined as follows:-

- ***First Quarter*** – July 8 – October 10
- ***Second Quarter*** – October 11 – January 8
- ***Third Quarter*** – January 9 – April 8
- ***Fourth Quarter*** - April 9 – July 7

VI. Data Processing

Editing, Coding and Verification

A number of quality control steps were taken to ensure the data quality. Instruction manuals on editing were given to personnel involved in the editing process. Briefings on the subject along with the editing manual were put to use, to edit and code the data collected. Finally, the edited and coded questionnaires were checked and verified by another group of professionals.

Data Entry, Cleaning and Tabulation

The data were entered and verified on personal computers using CSPro software. Four CSA data entry staff participated in this purpose for one day, with close supervision of one programmer. Then, the data entered were cleaned using a personal computer in combination with manual editing for some serious errors. Finally, the tabulation of the results was processed using the same software by two programmers from business statistics directorate.

VII. Summary of Survey Findings

Employment

A more compressive measure of the total size of employment in industries is the number of persons engaged at a particular time, which in turn is an important indicator for measuring performance of industries. Survey results in Table 1 below publicize that, in this first quarter of 2004 E.F.Y., a total of **215,619** workers were engaged in the manufacturing industry, of which **157,575** (73 percent) were permanent while the remaining **57,935** (27 percent) persons were seasonal or temporary employees. Among the industrial groupings, manufacturing of non metallic industries were the major employers, employing around 20 percent of the total work force in the sector accompanied by textile and food product which took around 17 percent. On the other hand, tobacco manufacturing establishment contributed 0.3 percent of the total employment, which is on the bottom line.

Table 1 Number of Persons Engaged by Major Industrial Groups

Major Industrial Group	Number of Estab.	Permanent	Contract*	Total
Manufacture of food products	831	26,546	9,958	36,614
Manufacture of beverage	55	10,987	815	11,802
Manufacture of tobacco products	1	668	6	674
Manufacture of textiles	54	34,210	2,901	37,111
Manufacture of wearing appare,except fur apparel	85	12,809	2,170	14,979
Tanning and dressing of leather, manufacture of footwear, luggage and hand bags	175	12,493	2,923	15,415
Manufacture of wood and of products and cork, except furniture	-	-	-	-
Manufacture of paper & paper products.	161	8,373	955	9,328
Manufacture of chemicals and chemical products	85	5,036	4,480	9,516
Manufacture of rubber products	194	10,864	917	11,781
Manufacture of other non-metallic products	789	20,281	22,297	42,578
Manufacture of basic iron and steel	82	2,964	5480	8,445
Manufacture of fabricated metal products except machinery and equipment	123	4,240	953	5,193
Manufacture of motor vehicles, trailers and semi-trailers	7	1,619	581	2,201
Manufacture of furniture	306	6,485	3,497	9,982
Total	2,949	157,575	57,935	215,619

Beside this, a follow-up question about the employment situation was forwarded to respondents about their expectation on the number of employees in the next quarter. As presented in Table 2 below, 1099 establishments responded that they would expect a change (upward or downward) in the number of the work force due to different reasons. Out of these establishments, 11.2 percent of them forecasted increase in the number of workforce, while 26.3 percent of them expect a decline in the next quarter. The remaining 62.5 percent would expect no change in the next quarter.

Table 2 Number of Establishments by Reason for Change in the Number of Persons Engaged in The Next Quarter

Major Industrial Group	Size of employees in the next quarter compared to the last one		
	It will increase	It will decrease	It will be the same
Manufacture of food products	126	185	520
Manufacture of beverage	4	9	42
Manufacture of tobacco products	-	-	1
Manufacture of textiles	3	7	44
Manufacture of wearing appare,except fur apparel	-	25	60
Tanning and dressing of leather,manufacture of footwear, luggage and hand bags	23	27	125
Manufacture of wood and of products and cork, except furniture	-	-	-
Manufacture of paper & paper products.	9	6	146
Manufacture of chemicals and chemical products	17	28	40
Manufacture of rubber products	52	35	107
Manufacture of other non-metallic products	19	350	400
Manufacture of basic iron and steel	1	-	81
Manufacture of fabricated metal products except machinery and equipment	2	7	114
Manufacture of motor vehicles,trailers and semi-trailers	3	1	2
Manufacture of furniture	68	90	147
Total	**328**	**771**	1,**831**
%Total	**11.2**	**26.3**	**62.5**

Value of Production

The value of production is regarded as one of the important variables for measuring economic activity and development of industrial production. In this quarter manufacturing industries registered a total value of production amounting to 22.5 billon birr. Among the industries, the largest share of production value is contributed by manufacturing of textile products accompanied by food processing and other non metallic product contributing 38.4 percent, 11.9 percent and 8.3 percent of the total value, respectively. The smallest values of production were registered by manufacturers of metal products except machinery and equipments and tobacco manufacturing which are 1.6 and 0.9 percent of the total respectively as depicted below in Table 3.

Table 3. Total Value of production by Major Industrial Group

Major Industrial Group	Value of Production	Percentage
Manufacture of food products	2,688,620,795	11.93
Manufacture of beverage	1,417,677,049	6.29
Manufacture of tobacco products	208,794,654	0.93
Manufacture of textiles	8,656,709,003	38.40
Manufacture of wearing appare,except fur apparel	522,596,900	2.32
Tanning and dressing of leather,manufacture of footwear, luggage and hand bags	1,045,863,578	4.64
Manufacture of wood and of products and cork, except furniture	-	-
Manufacture of paper & paper products.	1,061,506,893	4.71
Manufacture of chemicals and chemical products	1,144,410,124	5.08
Manufacture of rubber products	1,271,836,027	5.64
Manufacture of other non-metallic products	1,865,403,392	8.28
Manufacture of basic iron and steel	1,274,175,565	5.65
Manufacture of fabricated metal products except machinery and equipment	370,627,927	1.64
Manufacture of motor vehicles,trailers and semi-trailers	547,595,280	2.43
Manufacture of furniture	465,879,534	2.07
Total	22,541,696,720	100.00

Revenue Generation and Prospects

A total of 16.7 billion birr was earned as revenue in the manufacturing sector during the First quarter of 2004 E.F.Y, of which 90 percent was generated from local sales while the remaining 10 percent was generated from exports. Manufacturers of food products, beverage, and non metallic products contributed the largest share of the total revenue generated during the quarter, amounting to 19.9, 13.4, and 11.3 percent of the total revenue, respectively, whereas, Motor vehicles, Trailers and semi trailers products manufacturing industries' revenue were the lowest, amounting only 1.0 percent of the total. Similar to previous quarters, most of the establishments supplied their products to local markets, except manufacturing industries of tanning and textile products, which generated 67.4 and 48.4 percent of their revenue from export market respectively, as shown in Table 4 below.

These two industrial groupings together have earned about 95.3 percent of the total export revenue of the large and medium manufacturing industries. This trend indicates that the export performance of Ethiopian manufacturing industries is still very low and relies on few industries. This situation calls for prompt action from concerned bodies and stakeholders to promote and enhance the performance and competence of manufacturing industries both locally and internationally.

On the other hand, a total of 9.7 billon birr was spent as cost of production in manufacturing industries in this quarter which is equal to 58.4 percent of their revenue. Relative to revenue from sales, the highest expense for production related activities were registered in the quarter in motor vehicles, metal products and basic iron and steel industries amounting to 421 million, 272 million, and 1.1 billon birr, respectively.

In 000' Birr

Table 4: Revenue from sales by Major industrial Groupings

Major Industrial Groupings	Revenue from sales						Stock	Expenses
	Local	%	Export	%	Total	%		
Manufacture of food products	3,299,271	22.0	9,362	0.6	3,308,633	19.9	1,111,114	2,002,430
Manufacture of beverage	2,219,257	14.8	5,984	0.4	2,225,240	13.4	359,056	883,939
Manufacture of tobacco products	249,544	1.7	1,934	0.1	251,478	1.5	-	130,029
Manufacture of textiles	568,808	3.8	532,829	32.5	1,101,638	6.6	72,642	719,627
Manufacture of wearing apparel, except fur apparel	467,920	3.1	32,907	2.0	500,827	3.0	23,171	263,995
Tanning and dressing of leather, manufacture of footwear, luggage and hand bags	498,883	3.3	1,030,936	62.8	1,529,819	9.2	401,389	664,320
Manufacture of wood and of products and cork, except furniture	-	-	-	-	-	-	-	-
Manufacture of paper & paper products.	1,072,645	7.1	-	-	1,072,645	6.4	95,465	410,560
Manufacture of chemicals and chemical products	1,188,099	7.9	15,223	0.9	1,203,322	7.2	149,727	842,953
Manufacture of rubber products	1,222,118	8.1	-	-	1,222,118	7.3	262,884	883,497
Manufacture of other non-metallic products	1,865,950	12.4	11,766	0.7	1,877,716	11.3	221,559	835,825
Manufacture of basic iron and steel	1,405,088	9.4	-	-	1,405,088	8.4	187,122	1,082,206
Manufacture of fabricated metal products except machinery and equipment	346,851	2.3	-	-	346,851	2.1	54,100	272,099
Manufacture of motor vehicles, trailers and semi-trailers	172,995	1.2	-	-	172,995	1.0	393,015	421,345
Manufacture of furniture	441,067	2.9	-	-	441,067	2.6	390,614	322,120
Total	15,018,496	100.0	1,640,941	100.0	16,659,438	**100.0**	3,721,858	9,734,944

Despite this fact, the surveyed manufacturing establishments were also asked about the likely direction of their sales revenue for the coming quarter. Among the establishments who responded to this question, 971 of them (38 percent) would expect a future change in their total revenue due to a growing local demand for their products. On the other hand 512 respondents (20 percent) and 469 respondents (18.3 percent) expect a decline in their revenue due to decrease in demand locality and shortage of or high price of inputs as depicted in Table 5 below.

Table 5 Number of establishments by Reason for Change in Sales revenue with respect to the coming quarter

	Major reasons for change in total sales revenue									
Major Industrial Groupings	Increase demand locally	Decrease demand locally	Increase in international demand	Decrease in international demand	Unable to compete locally	Shortage of or high price of inputs	Unable to compete with imported products	Shortage of foreign exchange	Others	Total
Manufacture of food products	289	74	-	-	-	254	30	-	130	776
Manufacture of beverage	36	6	-	-	1		-	-	11	54
Manufacture of tobacco products	-	-	-	-	-		-	-	-	-
Manufacture of textiles	9	3	3	-	-	8	-	-	28	49
Manufacture of wearing apparel, except fur apparel	48	1	32	-	-	4	-	-	-	85
Tanning and dressing of leather manufacture of footwear, luggage and hand bags	14	41	10	1	-	6	-	-	43	115
Manufacture of wood and of products and cork, except furniture	-	-	-	-	-	-	-	-	-	-
Manufacture of paper & paper products.	75	34	-	5	-	-	-	-	8	123
Manufacture of chemicals and chemical products	33	31	-	-	-	10	-	-	9	83
Manufacture of rubber products	127	30	-	-	-	16	-	-	5	178
Manufacture of other non-metallic products	102	227	68	1	-	22	-	-	189	609
Manufacture of basic iron and steel	35	-	-	-	-	31	-	-	16	82
Manufacture of fabricated metal products except machinery and equipment	37	31	-	-	-	11	-	-	12	91
Manufacture of motor vehicles, trailers and semi-trailers	6	1	-	-	-	-	-	-	-	7
Manufacture of furniture	161	33	-	-	-	107	-	-	5	306
Total	971	512	112	7	1	469	30	-	456	2,557

As compared to the previous quarter, the number of establishments which would expect a change in their revenue in the next quarter due to different reasons has increased.

Raw Materials

Even though, raw material is one of the major factors of production, the majority of the Ethiopian manufacturing industries are known for high dependency on imported raw materials in their production activities and this urges for one to ask the reason for such a huge dependence. Out of the total respondent establishments for this particular question, 1,208 establishments, constituting 67 percent reported that the raw material is not available locally and hence, the major reason for depending on imported raw materials, as shown in Table 6 below. Moreover, Shortage of the available supply in the local market was reported as the second major reason by 326 establishments i.e. 18 percent of the total for relying on imported raw materials. In general, the results show that the raw material demand by local manufacturing industries couldn't be satisfied from domestic sources due to these major reasons mentioned above. Therefore, the respective government bodies and stakeholders must strive to build the capacity, interdependence and performance of manufacturing industries as a whole.

Table 6 Distribution of Establishments by Reason for Dependency on imported Raw Materials

	Major reasons for consuming imported raw materials										
Major industrial Groupings	Lack of available supply in the local market	%	The raw material is not found locally	%	Local suppliers are not reliable	%	The quality of locally available raw materials is not reliable	%	others	%	Total
Manufacture of food products	22	4	459	88	15	3	4	1	26	5	525
Manufacture of beverage	3	5	46	91	2	4	-	-	-	-	51
Manufacture of tobacco products	-	-	1	100	-		-	-	-	-	1
Manufacture of textiles	3	9	26	91	-		-	-	-	-	29
Manufacture of wearing apparel, except fur apparel	55	65	30	35	-	-	-	-	-	-	85
Tanning and dressing of leather, manufacture of footwear, luggage and hand bags	35	24	87	59	-	-	25	17	-	-	147
Manufacture of wood and of products and cork, except furniture	-	-	-	-	-	-	-	-	-	-	-
Manufacture of paper & paper products.	60	37	93	58	-	-	7	4	-	-	160
Manufacture of chemicals and chemical products	2	2	83	98	-	-	-	-	-	-	85
Manufacture of rubber products	93	48	101	52	-	-	-	-	-	-	194
Manufacture of other non-metallic products	2	3	56	79	-	-	2	3	11	15	71
Manufacture of basic iron and steel	-	-	50	98	-	-	-	-	1	2	51
Manufacture of fabricated metal products except machinery and equipment	17	17	36	37	-	-	44	46	-	-	97
Manufacture of motor vehicles, trailers and semi-trailers	-	-	7	100	-	-	-	-	-	-	7
Manufacture of furniture	36	12	131	45	-	-	84	29	40	14	290
Total	326	18	1,208	67	17	1	165	9	77	4	1,793

New Capital Expenditure

New capital formation by the existing establishments in the quarter amounted to birr 306.2 million. Of this amount, the share of tanning and dressing, rubber products, and food product manufacturing industries was 55.8 million birr (18.2 percent), 41.3 million (13.5 percent), and 38.0 million (12.4percent),respectively (see Table 6 below). The establishments have been investing their capital for acquisition of various fixed assets in the quarter, of which, around birr 116.1 million (37.9 percent) of the total new capital expenditure was spent on new machinery and equipment, while birr 107.2 million (35.0 percent) and 66.5 million (21.7percent) of the total capital expenditure was spent for buildings and vehicles respectively.

Total new capital expenditure in the sector has decreased by more than 708.6 million birr (69.8 percent) as compared to the previous quarter in absolute terms. Regarding industrial groupings, high investment in fixed capital was registered in manufacturing of tanning dressing and rubber products for machinery and equipments and building .

Table 7 Value of New Capital Expenditure on Fixed Assets for Major Industrial Groupings

Major Industrial Groupings	Building	Machinery & Equipments	Vehicles	Others	Total
Manufacture of food products	15,379,969	7,087,013	14,644,474	907,424	38,018,880
Manufacture of beverage	13,112,185	9,804,448	11,758,288	2,348,429	37,023,350
Manufacture of tobacco products	71,857	2,009,736	209,115	992,186	3,282,894
Manufacture of textiles	7,198,555	8,418,947	7,866,393	825,972	24,309,867
Manufacture of wearing apparel, except fur apparel	-	4,859,537	1,353,000	12,695	6,225,232
Tanning and dressing of leather, manufacture of footwear, luggage and hand bags	1,728,890	34,703,309	17,637,272	1,755,300	55,824,771
Manufacture of wood and of products and cork, except furniture	-	-	-	-	-
Manufacture of paper & paper products.	1,735,328	1,561,463	1,387,076	335,444	5,019,311
Manufacture of chemicals and chemical products	24,671,273	5,796,245	3,714,032	118,056	34,299,606
Manufacture of rubber products	29,350,000	6,584,201	2,221,463	3,161,571	41,317,235
Manufacture of other non-metallic products	6,716,926	10,418,189	899,181	656,117	18,690,413
Manufacture of basic iron and steel	4,178,517	604,125	847,826	707,496	6,337,964
Manufacture of fabricated metal products except machinery and equipment	1,296,826	18,749,260	1,613,349	1,634,644	23,294,079
Manufacture of motor vehicles, trailers and semi-trailers	1,816,966	4,246,936	1,621,205	2,894,306	10,579,413
Manufacture of furniture	-	1,267,428	723,416	6,721	1,997,565
Total	107,257,292	116,110,837	66,496,091	16,356,360	306,220,580

Capacity Utilization

In almost all short-term business surveys, capacity utilization is considered as an important variable in studying the efficiency and performance of manufacturing industries overtime. For this reason, two questions were forwarded to the respondents during the survey: the first, regarding the existing level of capacity utilization by the establishments, whereas, the second question was about the reasons for operating under their full capacity. As shown in Table 8 below, during the quarter, only 49.0 percent of the capacity of the manufacturing industries was being utilized. A relatively high degree of capacity utilization was observed in the manufacture of wearing apparel and motor vehicles and trailers amounting to 81.3 and 73.6 percent, respectively, while low level of capacity utilization was observed in manufacturing of basic iron and steel, textile and non metal manufacturing industries exhibiting 35.3, 35.6 and 36.0 percent, respectively.

Table 8 Distribution of Establishments by Percentage of Capacity Utilization

Major Industrial Groupings	Number of establishments by Capacity utilization range				Average
	25 % and below	26 to 50 %	51 to 75 %	76 to 100 %	
Manufacture of food products	72	234	414	52	52.1
Manufacture of beverage	4	19	7	21	53.5
Manufacture of tobacco products	-	-	1	-	52.0
Manufacture of textiles	2	9	15	6	35.6
Manufacture of wearing apparel, except fur apparel	-	-	55	30	81.3
Tanning and dressing of leather, manufacture of footwear, luggage and hand bags	25	50	33	40	44.2
Manufacture of wood and of products and cork, except furniture	-	-	-	-	-
Manufacture of paper & paper products.	-	49	66	46	67.2
Manufacture of chemicals and chemical products	30	10	20	25	54.5
Manufacture of rubber products	75	19	42	58	52.2
Manufacture of other non-metallic products	405	135	173	46	36.0
Manufacture of basic iron and steel	24	56	2	-	35.3
Manufacture of fabricated metal products except machinery and equipment	38	18	25	43	55.1
Manufacture of motor vehicles, trailers and semi-trailers	-	2	-	4	73.6
Manufacture of furniture	60	51	132	62	56.9
Total	735	652	983	433	49.0

As shown in Table 8 among the total manufacturing establishments included in this survey, 26.2 percent of them were operating below or equal to 25 percent of their capacity, while around 15.4 percent of the establishments have been operating above 75 percent of their full capacity during the survey period. Most of the establishments (35.1 percent) have been utilizing between 51 and 75 percent of their full capacity, whereas 23.3 percent of them were operating between 26 and 50 percent. In general, the survey results indicate Ethiopian manufacturing industries are operating at a low level of capacity.

The average level of capacity utilization in the survey quarter was almost similar to the previous quarter which was 52.7 percent. On the other hand, the number of establishments which operated below 25 and 51 to 75 percent of their full capacity has increased in this quarter compared to the previous quarter.

The low level of capacity utilization in the sector would compel one to ask "what was behind this weak level of capacity utilization?" The responses obtained are presented in Table 9, which indicates that 43 percent of them reported shortage of raw materials as the major reason for not operating at their full capacity. On the other hand, 30 percent of them reported shortage of electricity and water supply as the second major reason for not operating at their full capacity.

Table 9 Number of Establishments by Reason for not working at Full Capacity

	Year of Commencement					
	Less than 3 years	3 to 5 years	6 to 8 years	Above 8 years	Total	%
First Major reason for not working at full capacity						
Shortage of raw materials	109	332	192	512	1,145	43
Shortage of spare parts	1	11	12	13	37	1
Shortage of foreign exchange	-	54	-	7	61	2
Lack of demand/market	61	251	148	414	874	33
Shortage of working capital	22	10	18	34	84	3
Shortage of electricity and water supply	85	109	60	32	286	11
Repeated breakage of machinery	2	-	9	8	19	1
Lack of skilled man power	-	-	7	3	10	0
Government rules and regulations	-	26	-	-	26	1
Others	31	-	53	58	142	5
Total	310	792	500	1,081	2,684	100
Second Major reason for not working at full capacity						
Shortage of raw materials	6	123	89	170	387	17
Shortage of spare parts	2	2	24	99	128	6
Shortage of foreign exchange	-	36	23	10	69	3
Lack of demand/market	159	116	2	105	381	17
Shortage of working capital	61	70	22	67	220	10
Shortage of electricity and water supply	46	245	115	294	699	30
Repeated breakage of machinery	11	18	37	107	173	8
Lack of skilled man power	-	-	80	3	83	4
Government rules and regulations	-	15	-	48	63	3
Others	12	82	-	13	106	5
Total	297	706	392	915	2,310	100
Third Major reason for not working at full capacity						
Shortage of raw materials	1	25	4	54	84	7
Shortage of spare parts	-	7	23	9	40	3
Shortage of foreign exchange	-	-	-	25	25	2
Lack of demand/market	2	11	1	25	40	3
Shortage of working capital	42	41	73	28	185	15
Shortage of electricity and water supply	27	10	27	127	191	15
Repeated breakage of machinery	13	77	31	45	166	13
Lack of skilled man power	10	-	2	31	43	3
Government rules and regulations	68	152	74	70	363	29
Others	33	28	34	37	132	10
Total	196	351	269	452	1,268	100

The number of establishments which reported ‘‘Lack of market demand ’’ as a reason has declined significantly in this quarter as compared to the previous quarter, and also those which reported ‘shortage of foreign exchange’ has shown a decline in this quarter and is not found to be a major reason. Besides to this, none of the establishments reported, ‘lack of skilled

manpower', and only 4 establishments reported 'government rules and regulation' as a problem for not operating at their full capacity.

APPENDIX

Estimation procedures of total, ratio and sampling errors

To estimate the required variables by reporting levels (domains), the following formulas were used.

1. Estimate of domain total $\hat{Y}_h$ is given by:

$$\hat{Y}_h = \sum_{i=1}^{n_h} W_{hi}\, y_{hi} \quad \text{----------} \qquad (1)$$

Where,

$W_{hi} = \dfrac{M_h}{n_h M_{hi}}$ is the basic sampling weight

M_h = Sum of basic values of establishments in stratum h obtained from the sampling frame.

M_{hi} = Basic value of the i^{th} establishment in stratum h obtained from the sampling frame.

n_h = Number of successfully covered sample establishments in stratum h.

y_{hi} = The observed value of a characteristic y for manufacturing industry i in stratum h.

Note:

- Estimate of total manufacturing characteristic, $\hat{Y}$, is obtained by summing up stratum/domain total estimates.

$$\hat{Y} = \sum_{h=1} \hat{Y}_h \quad \text{----------} \qquad (2)$$

- During the time of sample selection establishments having a basic value higher than the sampling interval were selected with certainty (with a probability of 1). Hence, the basic sampling weight of those establishments was taken to be 1.

3. Sampling variance of the estimates:

Sampling variance of estimate of stratum total are given by the following formulas:

The variance of domain or reporting total estimate is:

$$V(\hat{Y}_h) = \frac{n_h}{n_h - 1}\left[\sum_{i=1}^{n_h}\left(\hat{Y}_{hi} - \frac{\hat{Y}_h}{n_h}\right)^2\right] \text{----------} \quad (3)$$

Where,

$\hat{Y}_{hi} = W_{hi} y_{hi}$

Other notations are as defined above.

$$V(\hat{Y}) = \sum_h V(\hat{Y}_h) \text{----------} \quad (4)$$

$$SE(\hat{Y}_h) = \sqrt{Var(\hat{Y}_h)} \text{----------} \quad (5)$$

4. Coefficient of variation and confidence interval

The following formulas were used to calculate coefficient of variation and confidence interval of the domain (reporting level) total.

The coefficient of variation (CV) of domain total in percentage is:

$$CV(\hat{Y}_h) = \frac{SE(\hat{Y}_h)}{\hat{Y}_h} x100 \text{----------} (6)$$

And

A 95 % confidence interval (CI) of domain total is:

$\hat{Y}_h \pm 1.96\, x\, SE(\hat{Y}_h)$ ---------- (7)

5. Ratio estimates:

$$\hat{R}_h = \frac{\hat{Y}_h}{\hat{X}_h} \text{ and } \hat{R} = \frac{\hat{Y}}{\hat{X}} \quad \text{----------} \quad (8)$$

Where, the numerator and the denominator are estimates of domain totals of characteristic y and x, respectively.

$$Var\left(\hat{R}_h\right) = \frac{1}{\hat{X}_h^{\,2}}\left[Var\left(\hat{Y}_h\right) + \hat{R}_h^2\, Var\left(\hat{X}_h\right) - 2\hat{R}_h\, Cov\left(\hat{Y}_h, \hat{X}_h\right)\right]$$

In which

$$Cov\left(\hat{Y}_{h,}\hat{X}_h\right) = \frac{n_h}{n_h - 1}\left[\sum_{i=1}^{n_h}\left(\hat{Y}_{hi} - \frac{\hat{Y}_h}{n_h}\right)\left(\hat{X}_{hi} - \frac{\hat{X}_h}{n_h}\right)\right]$$

Where,

$\hat{X}_{hi} = W_{hi} X_{hi}$

Other notations are as defined above.

Estimates of standard error, coefficient of variation and confidence interval for the ratio estimate can be calculated by adopting formulas 5, 6 and 7.

Table 1. Number of Persons Engaged by Major Industrial Groups, 4th Quarter 2003 E.F.Y(2010/11)				
Major Industrial Group	Number of Estab.	Parmanent	Contrat*	Total
Manufacture of food products	831	26,546	9,958	36,614
Manufacture of beverage	55	10,987	815	11,802
Manufacture of tobacco products	1	668	6	674
Manufacture of textiles	54	34,210	2,901	37,111
Manufacture of wearing appare,except fur apparel	85	12,809	2,170	14,979
Tanning and dressing of leather,manufacture of footwear, luggage and hand bags	175	12,493	2,923	15,415
Manufacture of wood and of products and cork, except furniture	-	-	-	-
Manufacture of paper & paper products.	161	8,373	955	9,328
Manufacture of chemicals and chemical products	85	5,036	4,480	9,516
Manufacture of rubber products	194	10,864	917	11,781
Manufacture of other non-metallic products	789	20,281	22,297	42,578
Manufacture of basic iron and steel	82	2,964	5480	8,445
Manufacture of fabricated metal products except machinery and equipment	123	4,240	953	5,193
Manufacture of motor vehicles,trailers and semi-trailers	7	1,619	581	2,201
Manufacture of furniture	306	6,485	3,497	9,982
Total	2,949	157,575	57,935	215,619

Table 2. Distribution of Major Industrial Group by Size of employees in the next quarter compared to the last one, 4th Quarter 2003 E.F.Y(2010/11)

	Size of employees in the next quarter compared to the last one		
Major Industrial Group	It will increase	It will decrease	It will be the same
Manufacture of food products	126	185	520
Manufacture of beverage	4	9	42
Manufacture of tobacco products	-	-	1
Manufacture of textiles	3	7	44
Manufacture of wearing appare,except fur apparel	-	25	60
Tanning and dressing of leather,manufacture of footwear, luggage and hand bags	23	27	125
Manufacture of wood and of products and cork, except furniture	-	-	-
Manufacture of paper & paper products.	9	6	146
Manufacture of chemicals and chemical products	17	28	40
Manufacture of rubber products	52	35	107
Manufacture of other non-metallic products	19	350	400
Manufacture of basic iron and steel	1	-	81
Manufacture of fabricated metal products except machinery and equipment	2	7	114
Manufacture of motor vehicles,trailers and semi-trailers	3	1	2
Manufacture of furniture	68	90	147
Total	328	771	1,831
% Total	11.19	26.31	62.51

Table 3. Total Value of production by Major Industrial Group , 4th Quarter 2003 E.F.Y(2010/11)		
	Value of Production	Percentage
Major Industrial Group		
Manufacture of food products	2,688,620,795	11.93
Manufacture of beverage	1,417,677,049	6.29
Manufacture of tobacco products	208,794,654	0.93
Manufacture of textiles	8,656,709,003	38.40
Manufacture of wearing appare,except fur apparel	522,596,900	2.32
Tanning and dressing of leather,manufacture of footwear, luggage and hand bags	1,045,863,578	4.64
Manufacture of wood and of products and cork, except furniture	-	-
Manufacture of paper & paper products.	1,061,506,893	4.71
Manufacture of chemicals and chemical products	1,144,410,124	5.08
Manufacture of rubber products	1,271,836,027	5.64
Manufacture of other non-metallic products	1,865,403,392	8.28
Manufacture of basic iron and steel	1,274,175,565	5.65
Manufacture of fabricated metal products except machinery and equipment	370,627,927	1.64
Manufacture of motor vehicles,trailers and semi-trailers	547,595,280	2.43
Manufacture of furniture	465,879,534	2.07
Total	22,541,696,720	100.00

Table 4. Stock value and expenses by Major Industrial Group, 4th Quarter 2003 E.F.Y(2010/11)

			Revenu from sales				Stock	Expenses		in 1000			
Major Industrial Group	**Local**	**%**	**Export**	**%**	**Total**	**%**			**local**	**export**	**total**	**stock**	**expence**
Manufacture of food products	3,299,271,339	99.72	9,361,650	0.28	3,308,632,989	19.86	1,111,114,133	2,002,430,269	3,299,271	9,362	3,308,633	1,111,114	2,002,430
Manufacture of beverage	2,219,256,580	99.73	5,983,847	0.27	2,225,240,427	13.36	359,055,899	883,938,620	2,219,257	5,984	2,225,240	359,056	883,939
Manufacture of tobacco products	249,544,256	99.23	1,934,005	0.77	251,478,261	1.51	-	130,029,042	249,544	1,934	251,478	-	130,029
Manufacture of textiles	568,808,159	51.63	532,829,391	48.37	1,101,637,550	6.61	72,642,131	719,626,761	568,808	532,829	1,101,638	72,642	719,627
Manufacture of wearing appare,except fur apparel	467,919,921	93.43	32,907,443	6.57	500,827,364	3.01	23,171,154	263,994,974	467,920	32,907	500,827	23,171	263,995
Tanning and dressing of leather,manufacture of	498,882,717	32.61	1,030,936,237	67.39	1,529,818,954	9.18	401,389,188	664,319,681	498,883	1,030,936	1,529,819	401,389	664,320
Manufacture of wood and of products and cork, except	-	-	-	-	-	-	-	-	0	-	-	-	-
Manufacture of paper & paper products.	1,072,645,459	100.00	-	-	1,072,645,459	6.44	95,464,619	410,559,717	1,072,645	-	1,072,645	95,465	410,560
Manufacture of chemicals and chemical products	1,188,098,987	98.73	15,222,600	1.27	1,203,321,587	7.22	149,727,305	842,952,983	1,188,099	15,223	1,203,322	149,727	842,953
Manufacture of rubber products	1,222,118,139	100.00	-	-	1,222,118,139	7.34	262,884,076	883,497,018	1,222,118	-	1,222,118	262,884	883,497
Manufacture of other non-metallic products	1,865,949,553	99.37	11,766,056	0.63	1,877,715,609	11.27	221,558,557	835,825,189	1,865,950	11,766	1,877,716	221,559	835,825
Manufacture of basic iron and steel	1,405,088,431	100.00	-	-	1,405,088,431	8.43	187,122,459	1,082,206,097	1,405,088	-	1,405,088	187,122	1,082,206
Manufacture of fabricated metal products except	346,851,202	100.00	-	-	346,851,202	2.08	54,099,592	272,099,193	346,851	-	346,851	54,100	272,099
Manufacture of motor vehicles,trailers and semi-	172,995,076	100.00	-	-	172,995,076	1.04	393,014,949	421,344,938	172,995	-	172,995	393,015	421,345
Manufacture of furniture	441,066,656	100.00	-	-	441,066,656	2.65	390,614,193	322,119,996	441,067	-	441,067	390,614	322,120
Total	**15,018,496,475**	**90.15**	**1,640,941,229**	**9.85**	**16,659,437,704**	**100.00**	**3,721,858,256**	**9,734,944,477**	**15,018,496**	**1,640,941**	**16,659,438**	**3,721,858**	**9,734,944**

Table 5. Distribution of Major Industrial Group by Major reasons for change in total sales revenue, 4th Quarter 2003 E.F.Y(2010/11)

	Major reasons for change in total sales revenue									
Major Industrial Group	Increase demand locally	Decrease demand locally	Increase in international demand	Decrease in international demand	Unable to compete with similar products locally	Shortage of or high price of inputs	Unable to compete with imported products	Shortage of foreign exchange	Others	Total
Manufacture of food products	289	74	-	-	-	-	30	-	130	776
Manufacture of beverage	36	6	-	-	1		-	-	11	54
Manufacture of tobacco products	-	-	-	-	-		-	-	-	-
Manufacture of textiles	9	3	3	-	-		-	-	28	49
Manufacture of wearing appare,except fur apparel	48	1	32	-	-	4	-	-	-	85
Tanning and dressing of leather,manufacture of footwear, luggage and hand bags	14	41	10	1	-	6	-	-	43	115
Manufacture of wood and of products and cork, except furniture	-	-	-	-	-	-	-	-	-	-
Manufacture of paper & paper products.	75	34	-	5	-	-	-	-	8	123
Manufacture of chemicals and chemical products	33	31	-	-	-	10	-	-	9	83
Manufacture of rubber products	127	30	-	-	-	16	-	-	5	178
Manufacture of other non-metallic products	102	227	68	1	-	22	-	-	189	609
Manufacture of basic iron and steel	35	-	-	-	-	31	-	-	16	82
Manufacture of fabricated metal products except machinery and equipment	37	31	-	-	-	11	-	-	12	91
Manufacture of motor vehicles,trailers and semi-trailers	6	1	-	-	-	-	-	-	-	7
Manufacture of furniture	161	33	-	-	-	107	-	-	5	306
Total	971	512	112	7	1	469	30	-	456	2,557

Table 6. Distribution of Major Industrial Group by Major reasons for consuming imported raw materials, 4th Quarter 2003 E.F.Y(2010/11)

	Major reasons for consuming imported raw materials											
Major Industrial Group	Lack of available supply in the local market	%	The raw material is not found locally	%	Local suppliers are not reliable	%	The quality of locally available raw materials is not reliable	%	Others	%	Total	%
Manufacture of food products	22	4	459	88	15	3	4	1	26	5	525	100
Manufacture of beverage	3	5	46	91	2	4	-	-	-	-	51	100
Manufacture of tobacco products	-	-	1	100	-		-	-	-	-	1	100
Manufacture of textiles	3	9	26	91	-		-	-	-	-	29	100
Manufacture of wearing appare,except fur apparel	55	65	30	35	-	-	-	-	-	-	85	100
Tanning and dressing of leather,manufacture of footwear, luggage and hand bags	35	24	87	59	-	-	25	17	-	-	147	100
Manufacture of wood and of products and cork, except furniture	-	-	-	-	-	-	-	-	-	-	-	-
Manufacture of paper & paper products.	60	37	93	58	-	-	7	4	-	-	160	100
Manufacture of chemicals and chemical products	2	2	83	98	-	-	-	-	-	-	85	100
Manufacture of rubber products	93	48	101	52	-	-	-	-	-	-	194	100
Manufacture of other non-metallic products	2	3	56	79	-	-	2	3	11	15	71	100
Manufacture of basic iron and steel	-	-	50	98	-	-	-	-	1	2	51	100
Manufacture of fabricated metal products except machinery and equipment	17	17	36	37	-	-	44	46	-	-	97	100
Manufacture of motor vehicles,trailers and semi-trailers	-	-	7	100	-	-	-	-	-	-	7	100
Manufacture of furniture	36	12	131	45	-	-	84	29	40	14	290	100
Total	326	18	1,208	67	17	1	165	9	77	4	1,793	100

Table 7.Value of new capital expenditure on fixed assets of the existing establishments by Major Industrial Group, 4th Quarter 2003 E.F.Y(2010/11)

Major Industrial Group	Building	Machinery & Equipments	Vehicles	Others	Total
Manufacture of food products	15,379,969	7,087,013	14,644,474	907,424	38,018,880
Manufacture of beverage	13,112,185	9,804,448	11,758,288	2,348,429	37,023,350
Manufacture of tobacco products	71,857	2,009,736	209,115	992,186	3,282,894
Manufacture of textiles	7,198,555	8,418,947	7,866,393	825,972	24,309,867
Manufacture of wearing appare,except fur apparel	-	4,859,537	1,353,000	12,695	6,225,232
Tanning and dressing of leather,manufacture of footwear, luggage and hand	1,728,890	34,703,309	17,637,272	1,755,300	55,824,771
Manufacture of wood and of products and cork, except furniture	-	-	-	-	-
Manufacture of paper & paper products.	1,735,328	1,561,463	1,387,076	335,444	5,019,311
Manufacture of chemicals and chemical products	24,671,273	5,796,245	3,714,032	118,056	34,299,606
Manufacture of rubber products	29,350,000	6,584,201	2,221,463	3,161,571	41,317,235
Manufacture of other non-metallic products	6,716,926	10,418,189	899,181	656,117	18,690,413
Manufacture of basic iron and steel	4,178,517	604,125	847,826	707,496	6,337,964
Manufacture of fabricated metal products except machinery and equipment	1,296,826	18,749,260	1,613,349	1,634,644	23,294,079
Manufacture of motor vehicles,trailers and semi-trailers	1,816,966	4,246,936	1,621,205	2,894,306	10,579,413
Manufacture of furniture	-	1,267,428	723,416	6,721	1,997,565
Total	107,257,292	116,110,837	66,496,091	16,356,360	306,220,580

Table 8. Distribution of Major Industrial Group by percentage of capacity utilization, 4th Quarter 2003 E.F.Y(2010/11)

	Number of establishements by Capacity utilization range				
Major Industrial Group	25 % and below	26 to 50 %	51 to 75 %	76 to 100 %	Average
Manufacture of food products	72	234	414	52	52.06
Manufacture of beverage	4	19	7	21	53.52
Manufacture of tobacco products	-	-	1	-	52.00
Manufacture of textiles	2	9	15	6	35.62
Manufacture of wearing appare,except fur apparel	-	-	55	30	81.26
Tanning and dressing of leather,manufacture of footwear, luggage and hand bags	25	50	33	40	44.23
Manufacture of wood and of products and cork, except furniture	-	-	-	-	-
Manufacture of paper & paper products.	-	49	66	46	67.15
Manufacture of chemicals and chemical products	30	10	20	25	54.45
Manufacture of rubber products	75	19	42	58	52.16
Manufacture of other non-metallic products	405	135	173	46	35.97
Manufacture of basic iron and steel	24	56	2	-	35.30
Manufacture of fabricated metal products except machinery and equipment	38	18	25	43	55.09
Manufacture of motor vehicles,trailers and semi-trailers	-	2	-	4	73.64
Manufacture of furniture	60	51	132	62	56.89
Total	735	652	983	433	48.97
grand total	26.2	23.3	35.1	15.4	2,803

Table 9. First Major reason for not working at full capacity, Second Major reason for not working at full capacity, Third Major reason for not working at full capacity by Estab Age

	Estab Age					
	Less than 3 years	3 to 5 years	6 to 8 years	Above 8 years	Total	
First Major reason for not working at full capacity						0
Shortage of raw materials	109	332	192	512	1,145	43
Shortage of spare parts	1	11	12	13	37	1
Shortage of foreign exchange	-	54	-	7	61	2
Lack of demand/market	61	251	148	414	874	33
Shortage of working capital	22	10	18	34	84	3
Shortage of electricity and water supply	85	109	60	32	286	11
Repeated breakage of machinery	2	-	9	8	19	1
Lack of skilled man power	-	-	7	3	10	0
Government rules and regulations	-	26	-	-	26	1
Others	31	-	53	58	142	5
Total	310	792	500	1,081	2,684	100
Second Major reason for not working at full capacity						
Shortage of raw materials	6	123	89	170	387	17
Shortage of spare parts	2	2	24	99	128	6
Shortage of foreign exchange	-	36	23	10	69	3
Lack of demand/market	159	116	2	105	381	17
Shortage of working capital	61	70	22	67	220	10
Shortage of electricity and water supply	46	245	115	294	699	30
Repeated breakage of machinery	11	18	37	107	173	8
Lack of skilled man power	-	-	80	3	83	4
Government rules and regulations	-	15	-	48	63	3
Others	12	82	-	13	106	5
Total	297	706	392	915	2,310	100
Third Major reason for not working at full capacity						
Shortage of raw materials	1	25	4	54	84	7
Shortage of spare parts	-	7	23	9	40	3
Shortage of foreign exchange	-	-	-	25	25	2
Lack of demand/market	2	11	1	25	40	3
Shortage of working capital	42	41	73	28	185	15
Shortage of electricity and water supply	27	10	27	127	191	15
Repeated breakage of machinery	13	77	31	45	166	13
Lack of skilled man power	10	-	2	31	43	3
Government rules and regulations	68	152	74	70	363	29
Others	33	28	34	37	132	10
Total	196	351	269	452	1,268	100