



Republic of Ghana

# 2003 NATIONAL INDUSTRIAL CENSUS REPORT

BACKGROUND AND RESULTS  
JUNE 2006

GHANA STATISTICAL SERVICE  
P.O. BOX 1098  
ACCRA

# 2003 NATIONAL INDUSTRIAL CENSUS

## **PHASES 1 AND 2 REPORT**

## **BACKGROUND AND RESULTS**

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P. O. BOX 1098,  
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## **SYMBOLS USED**

- Nil
- Less than one percent

## **PREFACE**

The 2003 National Industrial Census was carried out in two phases. The first phase, conducted in October 2003, listed and collected location and organizational data on establishments engaged primarily in mining and quarrying, manufacturing, construction and the production and distribution of electricity and water. The second phase collected detailed information in November 2004 to February 2005.

This is a combined report of the two phases. It is in three parts. Part 1 presents the background, methodology, concepts and census terms. Part 2 discusses salient features of the data and Part 3 presents some reference tables. The Ghana Industrial Classification, Questionnaires, Table of Sampling Rates, and precision of estimates are included as an appendix.

Other Reference Tables are being processed and will be published later as Statistical Abstract. Data on Construction has not been included in this report due to some technical difficulties which are being addressed for later publication.

I wish to thank the management of establishments for their cooperation and understanding without which the census could not have been taken.

I also wish to express my appreciation to the Association of Ghana Industries, Ghana National Chamber of Commerce and Industry, Members of the Census Steering Committee and the Census Technical and Advisory Committee, all of whom assisted with the census.

My profound gratitude also goes to the United Nations Industrial Development Organisation (UNIDO) for providing technical assistance to the census which has built capacity at Ghana Statistical Service, Ministry of Trade and Industry and the Registrar General's Department. Finally, my appreciation also goes to (DANIDA) for providing funding for technical assistance received from UNIDO.

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June, 2006

# PART I

## CHAPTER 1

## PROJECT BACKGROUND

### 1.1 INTRODUCTION

There is a growing concern about the slow growth of Ghana's industrial sector, particularly with respect to the manufacturing sub-sector which has stagnated in comparison with countries like Cote d'Ivoire and Malaysia where manufacturing levels were lower than Ghana 30 years ago. The state of Ghana's industry has been recognized by the Government of Ghana and a number of initiatives have been taken over the years to help accelerate industrial growth. Despite laudable interventions, such as the New Industrial Reform, the Accelerated Growth Programme and the Ghana Poverty Reduction Strategy, manufacturing value added in Ghana grew at a low rate between 1990 and 2001.

The small size of the Ghanaian market and the failure of manufacturers to break into export markets are frequently cited among the causes of the present predicament of the manufacturing sub-sector. The Mining sub sector has overcome some of these obstacles with increases in output over the years, which is mostly exported. Production of Electricity and Water on the other hand has not grown enough to support higher rates of growth of industry.

Improvement in the sector largely depends on facts available on the structure and performance of the sector. Thus, policy formulation, monitoring and evaluation cannot be effective without up-to-date, reliable and accessible statistics on the performance of the sector.

Since 1988, a number of nationwide firm level and household surveys have been conducted to provide some insight into the performance of industry in the country. Most of these surveys, however, have not provided information on changes in the structure of industry over time and some have achieved rather low response rates for any meaningful analysis. Industrial censuses provide the information required in addition to sectoral and regional comparisons, which are needed especially when the major challenge of maintaining a regularly updated register of establishments has not been overcome.

It is for these reasons that the Ghana Statistical Service (GSS) in collaboration with Ministry of Trade and Industry and President's Special Initiative (MOTI PSI) and with technical support from United National Industrial Development Organisation (UNIDO) conducted the 2003 National Industrial Census (NIC).

### 1.2 INDUSTRIAL STATISTICS IN GHANA

#### 1.2.1 Industrial Censuses in Ghana

The first industrial census in Ghana was conducted by the Central Bureau of Statistics, now the Ghana Statistical Service, in 1962. The census was an enumeration of all mining and quarrying, manufacturing, construction, electricity and distributive trade establishments. It provided basic information on the structure and activity of all industrial establishments in the country and constituted a frame for the organization of subsequent statistical enquiries into industry

The second census was conducted in 1987 in two phases: one in November-December 1987 and the other in October-December 1988 with 1987 as the reference year. The first phase of the census was to obtain basic data on all establishments engaged in mining and quarrying, manufacturing and the production and distribution of electricity and water. Information was collected on location, industrial activity among others. The second phase of the census covered all in-scope establishments engaging ten or more persons and collected data on employment, earnings, fixed assets, stocks, costs and receipts.

The third National Industrial Census was conducted in 2003 in two phases: one in October–November 2003 and the other in November 2004 –March 2005 with 2003 as the reference year. Phase I of the census was to obtain basic data on all establishments engaged in mining and quarrying, manufacturing, construction and the production and distribution of electricity and water. Information was collected on location, industrial activity among others. Phase II of the census covered all in – scope establishments engaging less than 10 persons. It collected the same information as in the 1987 Phase II, and used unabridged questionnaire for the small establishment.

### 1.2.2 The Integrated System

The annual and quarterly surveys together with a decennial census were to be the key elements in an integrated system of industrial statistics. Annual and quarterly surveys of establishments engaging 30 or more persons were therefore introduced in 1964 after the first census. The quarterly survey questionnaire was an abridged version of the annual form. A monthly survey of selected commodity items was introduced in 1982 in order to compile indices of production.

For a number of reasons, including lack of financial resources and staff, industrial censuses were not conducted decennially. As a result, the quarterly survey was discontinued in 1978 and publication of the annual survey was also discontinued in 1989. This was because annual surveys conducted yielded too low response rates for publication of results. The monthly survey of selected commodities has however continued and is published. The integrated system has therefore not been developed as planned..

## 1.3 OBJECTIVES OF THE CENSUS

The 2003 National Industrial Census seeks to collect, analyse and disseminate statistical information on industry and to build Ghana's capacity to carry out industrial surveys at

regular intervals. It also aims to produce time series data that will aid formulation of policy and facilitate the assessment of the impact of policies and programmes that seek to enhance industrial growth.

The following specific and immediate objectives were envisaged:

#### Phase I

- To obtain benchmark data on the structure of industry, and to provide background information for Phase II of the census.
- To establish an industrial database and a continuously updated register which will monitor and reflect changes in the structure of industry and provide a frame for industrial surveys.

#### Phase II

- To obtain data on production and employment as a basis for government and business analysis and decision-making.
- To provide benchmark data for revising and updating the GSS annual survey of Industry and other economic series.
- To measure the contribution that each industry and region makes to Ghana's employment and production.
- To obtain internationally comparable data on the structure and activity of each industrial sub-sector.

### 1.4 SCOPE AND COVERAGE

The following scope and coverage for each phase of the census were envisaged.

#### Phase I

Phase I of the census involved the listing of all recognizable industrial establishments in the country that are primarily engaged in Mining and Quarrying, Manufacturing, Construction and the production and distribution of Electricity and Water.

Though coverage of all recognizable establishments was the objective of Phase I, household industries were not included in the census. One reason is that the methods used in this census are not suitable for household-based industries. The other reason is that Round 5 of the Ghana Living Standards Survey (GLSS), which was to be conducted in 2004, would include questions on the activities of household industries, and was therefore more appropriate for covering the household sector of industry. However,

where a sign board indicated an establishment was located in a house, it was treated as a “recognizable establishment” and included.

Enumeration was also generally confined to urban areas except for establishments listed in the interim register (refer 3.1.1), that were located in rural areas. Enumerators were also instructed to enquire from each settlement of the existence of any establishment in surrounding areas.

## Phase II

Phase II of the census covered all establishments primarily engaged in mining and quarrying, construction, production and distribution of electricity and water, all manufacturing establishments engaging 10 or more persons, and a representative sample of manufacturing establishments engaging less than 10 persons. A list of major economic activities included in the survey and their corresponding ISIC categories are presented in

[Appendix](#)

### 1.5 REFERENCE YEAR

The reference year was the calendar year 2003. Reporting on a fiscal year was accepted provided the fiscal year included at least six months of the 2003 calendar year.

### 1.6 LEGISLATION AND CONFIDENTIALITY

The census was organized within the frame-work of the PNDC Law 135 (Statistical Service Law 1985) which provides the legal basis of the Statistical Service. The Law empowers the Government Statistician “to conduct statistical surveys, including any census in Ghana”, and calls for the provision of entry on premises of businesses to ask questions. It includes the requirement that respondents furnish information and that all census officers take an oath of secrecy.

### 1.7 BUDGET

Government of Ghana provided funds for fieldwork, preparatory activities training, and data processing while DANIDA provided funds through UNIDO for technical assistance in the form of equipment and training.

### 1.8 INSTITUTIONAL ARRANGEMENT

In order to achieve the census objectives, institutional structures were put in place with

GSS directly responsible for the implementation of the census. The Project Secretariat, based in the GSS was responsible for the technical direction and execution of the census in addition to servicing following the two national project committees.

A 15-member National Steering Committee (NSC) was formed to guide the planning and implementation of the census. Its composition was institution based to reflect Ministries Departments and Agencies (MDAs), and Private Sector Agencies (PSAs) that have a responsibility for industrial policy formulation and standards administration in the country. The institutions represented on the committee were:

- Ghana Statistical Service
- Ministry of Finance and Economic Planning
- Ministry of Trade and Industry
- National Board for Small Scale Industries
- Ministry of Housing and Construction
- Ministry of Road and Transport
- Mines Department
- Architectural and Engineering Services Ltd.
- Association of Ghana Industries
- Ghana National Chamber of Commerce and Industry
- Association of Road and Building Contractors (ABCCG)
- Private Enterprises Foundation
- Minerals Commission
- Institute for Industrial Research of CSIR.
- United Nations Industrial Development Organization (UNIDO)

The establishment of a Technical Advisory Committee which was also institution based ensured representation at the highest technical level. The committee was charged with the responsibility of reviewing the progress of work and providing needed advice. The institutions represented on the Technical Advisory Committee were:

- Ghana Statistical Service
- Ministry of Trade and Industry
- National Board for Small Scale Industries
- UNIDO



## CHAPTER 2                    **STATISTICAL CONCEPTS, MEASURES AND CENSUS TERMS**

### 2.1     **STATISTICAL CONCEPTS AND MEASURES**

#### 2.1.1   The Statistical Unit

Ideally the statistical unit as recommended by the United Nations Statistical Office for industrial enquiries is the establishment which is defined as a unit of production engaged in a single kind of activity under a single ownership at a single location. In practice difficulties arose in applying this definition to some enterprises hence the concept of reporting unit was adopted. The reporting unit was the smallest unit which could provide the information required by the census. With the exception of the following cases, the reporting unit and the establishment are identical:

- (1) A unit, though under single ownership and carrying out a single activity, may operate at different locations but maintain consolidated accounts which do not readily yield data on separate locations. This occurs in some larger industrial concerns and also in the production of electricity and water.
  
- (2) A number of manufacturing units engaged in two or more manufacturing activities. Where possible a completed questionnaire was obtained in respect of each activity otherwise a combined return for all activities was accepted.

#### 2.1.2   Classification of Industry

The International Standard Industrial Classification for all Economic Activities (ISIC) was adopted for classifying industry. The industry group (four digit) level was found to be sufficiently detailed for Ghana's needs. The only exceptions were in mining where extensions were made for gold mining, bauxite mining and manganese mining and in manufacture of furniture where extensions were made for wooden, metal and plastic furniture.

When a manufacturing unit engaged in two or more manufacturing activities, an attempt was made to obtain a questionnaire on each activity. When it was not possible to obtain information on the separate activities, the unit was assigned to the industry which generated the greater sales. This procedure tended to obscure the full range of manufacturing, as in the case where a manufacturing unit was the sole producer of a product but the production of the product was not its primary activity.

Some units engaged in both manufacturing and non manufacturing activities. Examples are saw-milling and logging (manufacturing and forestry) and where Manufacture of concrete pillars and renting of buildings. (Manufacturing and real estate) Where the accounts were not separable, and neither activity was reported as primary, the unit was included in the census.

Fitting shops tend to engage in both reconstruction and repair of vehicles. Reconstruction and major alteration of vehicles is classified as manufacturing while vehicle repair is classified under personal services. The data collected on a unit had to clearly show that it was engaged in reconstruction before being classified as manufacturing. Establishments primarily engaged in repair of household appliances such as televisions and radios are classified under personal services and thus fell outside the scope of the census.

### 2.1.3 Classification of Products and Materials

Both products and materials were coded on the basis of lists (one list for each) prepared by the Census Secretariat. The rationale was to reduce the number of items on the list of selected products and materials, recommended by the United Nations and also to reduce coding errors.

Codes for Principal products and materials were entered directly onto questionnaires and where the code was not found in the office code list, the descriptions were extracted from the questionnaire for a code to be assigned. A five– digit code obtained by using the first five digits from the left of the codes in the U.N. recommended Standard International Trade Classification (SITC) version 98, was used to classify materials and products.

### 2.1.4 Geographic Classification

For the purpose of analysis by location, establishments covered were classified by region, district and town. The codes for each of these classification systems were not related. That is none of the codes used for any of them could be derived from the other.

### 2.1.5 Average Number of Persons Engaged

Data collected on persons engaged in Phase II are different from those collected in Phase I. Phase I data related to persons engaged as at a fixed reference date (as at 30<sup>th</sup> June, 2003). In Phase II, interest was centred on average number of persons engaged during the reporting period. Data on employees were collected in respect of four quarters of the year. The average employment for an establishment was derived as a simple average of the four quarters. Average persons engaged equals average persons employed plus the total number of all unpaid workers engaged by 30<sup>th</sup> June, 2003.

### 2.1.6 Depreciation of Fixed Assets

The census collected data on the book value of establishments' fixed assets and provision for depreciation. Most of the large establishments had no difficulty in giving information on depreciation of their fixed assets. A number of the small establishments, however, could not give any information on depreciation. Others provided data which were not meaningful. In both cases, estimates for depreciation were made by applying the following rates:

- 4 per cent for buildings
- 10 per cent for machinery and equipment
- 20 per cent for transport equipment.

### 2.1.7 Value of Stocks

Stocks of materials, fuels and supplies were valued at current replacement cost based on purchasers' prices. Work in progress, finished goods and goods for resale were valued at producers' prices. Most of the inconsistencies observed at the editing stage were in the data on stocks.

About 5 per cent of the questionnaires failed the internal consistency checks applied because the stock of finished goods for the beginning of the year plus the total production for the year was not equal to the stock of finished goods at the end of the year plus total sales. In other cases stocks of materials plus purchases were less than stocks of materials at the end of the year. With the very large establishments, questionnaires were referred back to the field for correction or explanation in case there had been revaluation. In the case of others the data were compared with stocks data of similar establishments and adjusted accordingly.

## 2.2. DEFINITIONS OF CENSUS TERMS

The definition of terms in this section are based on the instructions given to enumerators and respondents as to the way in which questionnaires were to be completed. Details on how principal industrial indicators have been calculated are also provided in this section.

### 2.2.1 Principal Indicators

**Establishment** a unit of production engaging in a single kind of activity under a single ownership at a single location. Where separate figures relating to activities of different establishments under the same management were not available, a combined return was accepted.

**Average Number of Persons Engaged** the total number of persons who work in or for the establishment; the average number of operatives plus the average number of other employees plus working proprietors and active business partners plus learners (including unpaid apprentices) plus unpaid family workers.

**Employees** all persons working for and paid by the establishment. They include persons working full-time or part-time and employees on sick leave, paid vacations and holidays.

<b>Wages and Salaries</b>	all payments, whether in cash or in kind, made by the employer during the year to employees, including wages and salaries, other cash payments, bonuses, cost of living allowances, wages paid during vacation and sick leave, contributions payable by employees
	and deducted by the employer such as Social Security and National Insurance Trust contributions, taxes etc.
<b>Value of output</b>	equals total sales of goods plus receipts for contract and commission work done for others plus receipts for repair and installation work for others plus other receipt for industrial services plus sales of goods bought and resold in same condition as purchased plus fixed assets produced for own account plus stocks of work in progress and goods on hand for sale at the end of the year less stock of work in progress and goods for sale on hand at the beginning of the year.
<b>Cost of materials, Supplies and contract Industrial Services</b>	<p>equals cost of materials and supplies (both domestic and imported) plus fuels purchased plus electricity purchased plus cost of</p> <p>and commission work done by others plus cost of repair and maintenance work done by others plus cost of goods expressly bought to be sold in the same condition as purchased plus stock of materials, supplies and fuel at the beginning of the year less stock of materials, supplies and fuel at the end of the year.</p>
<b>Census Value Added</b>	equals value of output less cost of materials, fuels, supplies and industrial services.
<b>Changes in stocks</b>	<p>equals end-of-year stock of</p> <ul style="list-style-type: none"> <li>i) materials, fuels and supplies</li> <li>ii) work in progress</li> <li>iii) finished goods</li> <li>iv) goods for resale.</li> </ul> <p>less beginning-of-year stock of</p> <ul style="list-style-type: none"> <li>i) materials, fuels, and supplies</li> <li>ii) work in progress</li> <li>iii) finished goods</li> <li>iv) goods for resale</li> </ul>
<b>Gross addition and</b>	equals capital expenditure on new, secondhand, improvements,

**to fixed assets** work done on own account of

- i) land
- ii) buildings
- iii) machinery and equipment
- iv) transport equipment

less proceeds from sale of

- i) land
- ii) buildings
- iii) machinery and equipment
- iv) transport equipment

### 2.2.2 Other Census Terms

**Operatives** are employees directly engaged in production or production related activities in the establishment. These include persons engaged in fabrication, processing and assembling, mechanics who attend to the machines, shop cleaning personnel, warehousemen, packers, shop-testing and record keeping personnel and paid apprentices. They also include any supervisory personnel whose function is to record or expedite any step in the production process.

**Other Employees** are all other paid workers. They include administrative, clerical, accounting personnel, managers and directors of corporations working for salary or wage.

**Working Proprietors and active Business partners** these are proprietors and partners who are actively engaged in the management of the establishment and are not paid salary or wage.

**Learners** include all persons undergoing on the job training without pay including unpaid apprentices.

**Unpaid family Workers** they are all persons living in the household of any of the owners of establishment and working in the establishment without regular pay for at least one third of the normal working period.

**Man-days** is the total number of days spent by operatives working for the establishment and not number of days paid for. It includes number of days worked as over-time. Where overtime data were in hours, they are converted to days by dividing the number of over-time

<p>days spent</p>	<p>hours by the number of working hours per day. The number of days obtained is multiplied by the number of operatives. Man- exclude days spent on vacation, holidays, causal or sick leave by operatives.</p>
<p><b>Supplements to wages and salaries</b></p>	<p>it is the employer's contribution on behalf of employees to the Social Security and National Insurance Trust, private pension plan, provident fund and workmen's accident compensations plan, insurance premiums on hospital and medical plans, premium on accident and sickness Insurance and life insurance premiums. It also includes all such schemes whether legally acquired, initiated by the employer or established as a result of labour management bargaining contract.</p>
<p><b>Work-in-progress</b></p>	<p>materials which have been partially processed by the establishment but which are not usually sold without further processing.</p>
<p><b>Purchasers' Prices</b></p>	<p>the delivered cost at the establishment including the purchase prices, charges for transport, the cost of insurance, value of packaging materials charged for and all taxes and duties on the goods less discounts and rebates allowed to the purchaser and the the value of packaging materials returned to the supplier.</p>
<p><b>Ex-factory price</b></p>	<p>the establishment price charged to the consumer including duties and taxes which fall on the products when they leave the establishment excluding all subsidies.</p>
<p><b>New-fixed assets</b></p>	<p>refer to assets which have been acquired for the first time by the establishment and which have not previously been used in Ghana.</p>
<p><b>Second hand Fixed assets</b></p>	<p>refer to fixed assets acquired by the establishment during the year which have previously been used in Ghana.</p>
<p><b>Cost of non-Industrial Services</b></p>	<p>include communications costs (telex, telephone, internet, postage costs, etc).plus rental payments for building and machinery plus advertising cost plus bank charges plus other such costs.</p>
<p><b>Receipts for non-Industrial Services</b></p>	<p>include receipts from rents, commission receipts, revenue from the operation of employee facilities, receipts for transport and warehousing services rendered to others other than delivery of own products.</p>

**Cost of industrial Services** include payments made to others for contract work done by others on the establishment's materials.

**Receipt for Industrial Services** include receipts for contract and commission work done on other establishments' materials like processing, transforming and assembly of materials supplied by the units which order the work, receipts for repair and installation work done for others and value of fixed assets produced for own account.

### 3.1 PHASE I METHODOLOGY

#### 3.1.1 Planning and Preparation

Planning of the census started in 2002 with the setting up of the two census Committee (Ref. Chapter 1) and preparation of a project document. An interim register of industrial establishments was compiled from existing registers of relevant MDAs as well as business associations. Based on this information, the budgetary requirement for the census was estimated and included in the 2003 budget for GSS.

#### 3.1.2 Principal Census Documents

##### **The Questionnaires**

Work on questionnaire design began in 2002. It was based on the 1987 questionnaire with modifications to cater for construction establishments and scanning.

The data items covered on the final questionnaire were:

- Name of establishment
- Physical Location
- Postal Address
- Industrial Activity
- Form of Organisation
- Type of Ownership
- Accounting Records
- Number of Persons Engaged
- Levels of skill of persons engaged

##### **The Field and Editing Manuals**

A field instruction manual was prepared alongside questionnaire design. The manual supplemented instructions on the questionnaire and ensured uniform application of concepts and procedures throughout the census. An office editing manual was also prepared based on the 1987 manuals with an extension to construction. It included completeness and data consistency checks, and set out procedures used in preparing the data for processing.

##### **Tabulation Plan**

Table outlines, setting out the data needs, were prepared alongside questionnaire design. They specified computer output.



### 3.1.3 Pretest

The questionnaire and other documents were pretested using the scannable version and the non-scannable version. The first one was on the non-scannable questionnaire in Accra in September 2002, and the second pretest was conducted on the scannable questionnaire in Accra and Kumasi in August 2003. Based on evidence from the pretests, amendments were made to the census questionnaire, and the estimated number of establishments to be covered per enumerator was obtained. To test data processing procedures, the completed questionnaires from the pretest were edited, coded and submitted to the Data Processing Unit of GSS for processing. Output from the scanning of questionnaires provided feedback on the quality of handwriting required to enhance data capture.

### 3.1.4 Field Preparations

#### **Recruitment**

A total of 300 enumerators and 60 supervisors were recruited for training by the Regional Statisticians from the ten regions. Many of the enumerators were fresh Senior Secondary School (SSS) and Higher National Diploma (HND) graduates. Some of these trainees were also recruited from the NBSSI and MOTI PSI, whilst all the supervisors were from the GSS.

#### **Training**

Two workshops were conducted in June 2002 and September 2003 for professional staff of the project secretariat and Regional Statisticians. A nine-day residential training of supervisors and enumerators was organized at the Accra Training College, Legon from 26<sup>th</sup> September to 4<sup>th</sup> October 2003. The principal training documents were the questionnaire and field manual. The concepts, procedures, and problems likely to be encountered in the field were discussed in detail. Lectures were supplemented with practical sessions, demonstrations and participants' involvement in mock interviews. Trainees were assessed by written tests and observations.

#### **Supplies and Printing**

The main documents printed for training and enumeration were the questionnaire, the field manual and field control and summary forms. Forty thousand copies of the questionnaire and forms were printed by two private printing companies on contract and delivered on time. The field manual was printed by the GSS Printing Section.

Field supplies were purchased before the training and later transported to the training venue for distribution to enumerators. These included items such as satchels, pens, pencils, note books, identity cards and medicines for first aid.

## **Transport**

Twelve vehicles were allocated for field work by GSS. Two each were allocated to Greater Accra and Ashanti and one to each of the other regions. In addition, the project used six MOTI PSI regional vehicles.

## **Mapping and Zoning**

To control enumeration, the country was divided into 297 zones implicitly stratified by regions and districts. The zones were grouped into 59 supervisory areas. The provision of detailed zone maps assisted supervisors and enumerators in planning the enumeration and prevented an establishment from being enumerated more than once and to ensure complete coverage.

## **Prelisting**

Prelisting involved compiling the names and addresses of known establishments in each zone, with the objective of checking the completeness of coverage and helping enumerators to locate establishments.

## **Publicity**

In order to inform and sensitize the public and establishments about the census, a publicity programme was drawn up. It included the launching of the Census in September 2003 before the start of the main training programme. Posters, flyers and car stickers were printed and distributed to District Assemblies, establishments and stakeholders such as AGI and other members of the Industry Working Group of the National Advisory Committee of Producers and Users of Statistics (NACPUS). There were also advertisements in the print media, announcements and discussions on radio and television.

### **3.1.5 Field Operations**

#### **Field Data Collection**

Field work commenced on 6<sup>th</sup> October 2003 and lasted for three weeks. A total of 374 field personnel comprising 297 enumerators, 59 supervisors and 18 drivers were involved. The task for the enumerators was to visit all establishments, explain the purpose of the census and conduct interview. The work of each group of five enumerators was reviewed by a supervisor. The very first five questionnaires completed by an enumerator were reviewed by the supervisor to ensure satisfactory work before continuing with others which were also subjected to further checks. Field work was also inspected by the Regional Statisticians and Secretariat staff including one officer from MOTI PSI.

## **Field Editing**

Field editing is an important feature of field work. Questionnaires were edited for completeness, consistency and accuracy to detect and correct errors before they were sent to Head Office.

### **3.1.7 Data Processing**

Data processing comprised manual preparation of tables from field summaries, editing and coding of completed questionnaires, data capture, verification, computer preparation of tables and tabulation review.

## **Editing and Coding**

The data was manually edited and coded. The purpose of the editing was to check the questionnaires for completeness, accuracy and consistency before the data was captured. Lead editors coded industrial activity and checked the work of check editors. Check editors examined the work of editors and made corrections. Problems that the lead editors were unable to resolve were discussed for a decision to be taken. Editing and Coding operations took six weeks.

## **Data Capture and Verification**

Data was captured and verified by using high speed scanners. The total period of data capture was sixteen weeks. Scanning lasted for twelve weeks, commencing November 2003 and was completed in February 2004. Activity descriptions were manually entered by data entry operators.

Data were verified by scanning operators during scanning by comparing captured characters with the information on questionnaires. Another approach used for verifying the data was to match the data captured by scanners for selected data items with the same data captured by manual data entry for each establishment.

## **Validation and Tabulation**

Data validation consisted of identification of inconsistencies within records and testing for incorrect codes for regions, districts, towns and principal activities. Checks also included detection of omission and commission of data in various fields within a record and appropriateness of Principal Industry Codes, Ownership, Type and Nationality of Ownership and number of Persons Engaged. The Validation and Tabulation was done using the SPSS Version 11.5 Software package.

## **Tabulation Review and Publication**

The final stage in preparing the Phase I data for publication was the review of lists and output tables. The review process took longer than planned due to staffing problems and

preparations for Phase II.

There was also delay due to late response from the Electricity and Water establishments. The tables were reviewed for internal consistency and reasonableness. The data and listing were compared with information from other sources such as SSNIT and Value Added Tax (VAT) Service. This exercise was difficult due to differences in scope, coverage and classification. After this process had been completed and queries and inconsistencies resolved, the data was released for further analysis and publication.

### **Directory of Construction Establishments**

The census list of construction establishments was found to be very short compared to other administrative records on construction. A comprehensive list of construction establishments was compiled to complement the list obtained from the Phase I field listing. It was compiled from administrative records from regional and district offices of the Internal Revenue Service (IRS), ABCCG and VAT Service among others. These lists however, did not provide complete information for registry purposes. Many of the establishments for example lacked information on physical location which is necessary for enumerators to visit them to collect data during the Phase II. As a result, data collected on construction has not been included in this report.

## **3.2 PHASE II METHODOLOGY**

### **3.2.1 Planning and Preparation**

#### **Proposal**

The detailed proposal for Phase II followed that of the 1987 survey with an inclusion of construction and small manufacturing establishments. It was circulated to MOTI PSI, and UNIDO to obtain comments on basic survey issues before work was far advanced on questionnaire design and tabulation. The proposal set out the principal features of the survey including scope, coverage, objectives, data to be collected, reference period, types of questionnaire, method of enumeration, enumeration period and definition of statistical unit.

#### **Initial Decisions**

A basic decision had to be made as to whether to adopt the full or minimum programme for industrial surveys set out in the United Nations Statistics Office recommendations, or adopt something in between. Though there is difficulty in extracting data for the full programme from manufacturers' accounts, there is always pressing need for the data. It was therefore decided to adopt the full programme for establishments engaging 10 or more persons and the minimum programme for smaller establishments.

## **Questionnaire Design and Pretesting**

Questionnaire design was undertaken alongside tabulation plan. These documents formed the basis of discussion with UNIDO consultants. The draft questionnaire was tested on a panel of accountants from industrial establishments. The form of questions, sections of the questionnaire and finally the complete questionnaire were tested in the field. The final phrasing and arrangement of questions were arrived at on the basis of field experience. Pretesting took three months. Three types of questionnaires were designed and tested for the manufacturing sector. Short, medium and long forms for establishment size in categories less than 10, 10-19, and 20+ respectively.

The final version of the survey questionnaires consisted of five forms: a long questionnaire for manufacturing establishments engaging 10 or more persons, an abridged questionnaire for manufacturing establishments engaging less than 10 persons, and separate questionnaires for establishments in mining and quarrying, construction, electricity and water production. A sample of the long manufacturing questionnaire is given in [Appendix](#)

## **Pilot Survey**

A pilot survey was conducted in September 2004 to obtain information on the following issues: the efficiency of the questionnaire, the adequacy of field instructions and procedures, the adequacy of enumerator training, field organisation and costs, and communication between the field and Head Office. The pilot covered a sample of 225 industrial establishments in all regions. On completion of field work which took four weeks, pilot questionnaires were edited, the data summarised, enumerators debriefed and the pilot experience reviewed.

The questionnaires were revised in the light of the experience gained. The main revisions were in the order in which questions were asked, the rephrasing of some instructions and addition of more items to the questionnaire for small establishments and construction. The pilot experience informed the finalisation of field procedures and enumerators training. The number of questionnaires for manufacturing was finally reduced from three by discarding the medium questionnaires and modifying the long form so that it could be used for all establishments engaging more than 10.

## **Sample Design**

A representative sample of 6,020 establishments was selected from the Phase I listing for coverage in Phase II. It consisted of a certainty sample of 4,900 establishments comprising all manufacturing establishments engaging more than 10 persons, all establishments engaged in Mining and Quarrying, Construction, Electricity and Water, and an uncertainty sample of 1,120 establishments which was a 5 per cent sample of manufacturing establishments engaging less than 10 persons.

The sample was designed to provide sufficient level of precision for the survey estimates for each 4-digit ISIC domain. A one-stage sample design was used for the survey with the primary sampling units (PSU) being the individual establishment.

The sampling frame of establishments had two levels of stratification in addition to implicit stratification from ordering the establishments within each stratum. The first level of stratification was by the 4-digit ISIC activities, which represented the smallest domains of analysis. Within each of these individual activities, the establishments were further stratified by the number of persons engaged, which is also correlated with industrial production, revenue, expenditures and other aggregates to be measured in the survey. This high degree of stratification of industrial establishments by ISIC and then number of persons engaged was to improve the efficiency of the sample design and to make it possible to allocate the sample among the strata in an optimum manner.

The sample size for the survey was determined by the accuracy required for the survey estimates for each domain, as well as by resource and operational constraints. Thus, a maximum sample size of about 6,000 establishments was established using Neyman's Allocation with adjustment made to minimize sample size whilst maintaining the required accuracy of estimates.

Given that of the 27,000 industrial establishments listed in Phase I, those with 10 or more persons engaged contribute a relatively large component of total employment, they were included in the sample with certainty. All of the establishments in the Construction, Electricity and Water, Mining and Quarrying sub-sectors were included in the survey regardless of size. Given that reliable estimates are required for each 4-digit ISIC group, activities with few establishments were also identified as certainty strata. The distribution of selected establishments, sample results and response rate are presented in [Appendix 2](#).

### **Recruitment and Training of Field Staff**

The Phase I and Pilot experience brought home the necessity to recruit high calibre of field staff. Phase II field supervisors were selected from the GSS field staff who collected data collection for the Annual Survey of Industries and performed well in Phase I and in the Pilot. Enumerators were recruited partly from the GSS Field Division and fresh SSS and HND graduates and National Service Personnel.

A recruitment team from Head Office interviewed candidates in Greater Accra Region, tested their literacy and numeracy skills and selected participants for training. Regional Statisticians recruited field staff in the other regions. Due to time constraints the test could not be administered in the other regions. Additional participants were therefore recruited to allow for possible drop-outs due to unsatisfactory performance at the training programme.

Both supervisors and enumerators underwent a two-week residential training course. Training was conducted by senior staff of the Industrial Census, with the assistance of

Regional Statisticians. It included lectures, demonstrations, practical work and assessments. Assessment was by regular written examination and by observation of practical work. Out of the trainees, 257 were accepted for field work.

Training did not end with the formal course but continued in the field. Supervisors held regular sessions with their enumerators, discussing issues arising in the field and explaining how they were to be dealt with. They also observed enumerators at interviews. These and their review of completed schedules afforded them opportunity to take corrective action where necessary.

## **Publicity**

The publicity programme for Phase II was just as was done for Phase I. In addition, 'T' shirts with survey inscriptions printed on them were worn by the field staff to enhance their identification and publicise the survey.

### **3.2.2 Data Collection**

#### **Method of Enumeration**

Enumeration which was by field interviewing commenced in December 2004 and ended officially in February 2005. The establishments in each zone were listed and their locations, addresses and other identification information were entered on the questionnaires. The questionnaires, other forms and field materials were packed into zonal satchels and dispatched to enumerators who sent two copies of the questionnaire to each establishment for completion after which one was returned and the other retained.

The enumerators spent the first two weeks of field work planning the enumeration in their zones. They visited each establishment, explained the purpose of the survey, introduced the questionnaire and arranged appointments to either assist them to complete it or check and pick-up the completed questionnaire.

Enumerators entered their itineraries and appointments on planning forms which were reviewed by their supervisors. In this way, it was possible to monitor and control the enumeration, and to make adjustment where necessary to individual enumerator's workloads. Enumerators were instructed to look out for unlisted establishments and report to their supervisors.

#### **Field Editing and Summarization**

Each questionnaire included a section entitled "Enumerator's Review". This review included completeness checks; ratio and balance checks; and notes on sources of anomalies in the data. This had to be completed by enumerators for each questionnaire. The supervisor edited each questionnaire and the enumerator's review. This processing highlighted deficiencies in the completion of each questionnaire and these were investigated before the questionnaire was forwarded to the Head Office. Summaries

were made by enumerators by entering totals of selected data items into summary sheets. The field summaries were checked and the national totals compiled. These summaries provided control totals for subsequent operations.

At the completion of field work each supervisor debriefed the enumerators in his/her area. It was compulsory for all enumerators to attend the meeting. Similarly, the Regional Statisticians debriefed their supervisors whilst Field Coordinator debriefed the Regional Coordinator.

The debriefing reports were important in assessing the strengths and weaknesses of the regional enumerations. They provided insight into the data and information for the adjustment of sample weights. They also provide valuable records for the planning of future censuses and surveys.

### **Problems Encountered in the Field**

Fieldwork was originally planned to commence and be completed before the end of 2004. However enumerators experienced delays in completing the forms, as most establishments were engaged in their production for the Christmas season. Also, a number of establishments covered, particularly seamstresses and furniture makers, were not accustomed to completing questionnaires and did not easily accept the detailed examination of their accounts. Many of them do not keep any formal accounts, and more time was needed to help them make careful estimates. Enumerators and Supervisors spent much time educating such respondents on the purpose and content of the survey and assuring them of the confidentiality of the information provided. Enumeration period was therefore extended to March 2005.

Phase I of the census identified large cooperatives and associations of bakeries, distilleries, potteries and others. Enumerating these groups under Phase II was difficult. It was observed that these groups have loose relationships and do not keep single accounts. Members of some cooperatives obtain their raw materials in bulk and sell their products separately. Other groups on the other hand purchase their raw materials on individual basis and sell products under cooperatives arrangements. It was not therefore possible to obtain the required data for most of these associations, groups and cooperatives. Enumerators were to examine each cooperative or association carefully, select two individual members which had 10 or more persons engaged and cover these as single establishments. Most members did not have this number and therefore were not enumerated. The few cooperatives and groups which had common accounts were enumerated as single units. Data on associations groups and cooperatives have therefore been excluded in this report.

#### **3.2.3 Data Processing, Tabulation and Review**

##### **Office Summarisation**

On receiving the questionnaires in the Head Office, data on selected indicators were



summarized. It was done independently but on the same indicators as was summarized in the field. The results of the two summaries were compared and discrepancies investigated and reconciled.

The summarization enabled initial regional analysis to be done. Anomalies and outliers in some regions were identified which enabled quick investigation and field referral to be made.

### **Editing and Coding**

All questionnaires were edited for completeness, scope, internal consistency and comparability. Questionnaires that did not meet the test were set aside for determination. Questionnaires were first edited by a lead editor, then by the team leader in charge. Data for establishments that were included in the Annual Survey were compared with those collected in the previous year. Where the data were not consistent, the questionnaires were set aside for determination.

The classification used in coding included form of organisation, type of ownership, nationality of ownership, regions, districts, towns, principal industrial activity, secondary industrial activity, materials and products.

### **Determinations and field Referrals**

Problems encountered were mainly with coding of materials and products where the names of materials were either spelt or described incorrectly. There were also some problems as a result of the use of the wrong type of manufacturing questionnaire which emanated from different establishment sizes reported for the same establishment during Phase I and Phase II enumeration. Several questionnaires had inconsistent data on stocks and depreciation of fixed assets. Other problems were due to the mis-quoting of values in million of cedis or absolute figures. Some establishments quoted values in foreign currency instead of cedis as specified by the questionnaire.

About 10 per cent of the questionnaires were set aside during editing and coding for a decision on how they should be treated. Determination on these questionnaires were made by Senior Project Staff. Once a determination was made on one type of problem, it was recorded and consistently applied to all similar problems.

Some establishments were out of scope since the sale of goods sold in the same condition as purchased was greater than the value of sales and contract works or the period of operation was less than 6 months of 2003.

There were also the following inconsistencies with some forms:

- The principal manufacturing activity not consistent with the descriptions of materials purchased and description of principal products.

- Stocks of finished goods at the beginning of year plus production not equal to stocks of finished goods at the end of year plus sales.
- Value of inputs greater than output value
- Output values too high compared to inputs.
- Total delivered cost given without quantity and average unit prices.
- Monetary values not properly rounded-up in millions.
- 
- Employees given without corresponding wages and salaries or vice versa.
- 

### **Computer Processing**

The Integrated Micro Computer Processing Software (IMPS) was used to create the necessary screens for data entry. Ten data entry operators entered the data on Personal Computers. Establishment data was verified by double data entry. After which, the files were listed for checking. Full data on each small establishment was checked against entries in their questionnaire. Records with errors were amended and listed again for further checking.

### **Tabulation and Review**

The data files were merged after the checking process and the SPSS software Version 11.5 was used to produce the working tables for tabulation review. For the review, averages of variables as well as key industrial ratios were calculated and listed for each industry group. Those establishments with extreme values from the group mean or having ratios that did not bear reasonable relationships were singled out for further review. In the process, a number of response errors were detected. Correction involved adjusting values of some establishments or field referrals for further investigation.

Original establishment weights were adjusted using information on the status of enumeration for each establishment covered. The adjusted weights were appended to the establishment records and final tables prepared for Review and Publication.

## PART 2

Table 1 shows that an overwhelming majority (98.5%) of the total number of establishments is in the manufacturing sub-sector. The bulk (88.4%) of the persons engaged by industry was found in this sub-sector. Mining and Quarrying and Electricity and Water sub-sectors form only 1.5 per cent of the total number of establishments identified. With respect to employment, the two sub-sectors employed about 12 per cent of the people engaged in the industry.

**Table 1: Establishments and Persons Engaged by Industry Major Division**

Industry Major Division	Establishments		Persons Engaged	
	Number	Percent	Number	Percent
Mining and Quarrying	166	0.6	19,703	7.2
Manufacturing	26,088	98.5	243,516	88.4
Electricity and Water	239	0.9	12,276	4.4
<b>All Industry</b>	<b>26,493</b>	<b>100.0</b>	<b>275,495</b>	<b>100.0</b>

Of the 275,495 industrial workforce, about two-thirds (68.2%) were males while the remaining 31.8 per cent were females. There were larger proportions of males engaged in the Mining and Quarrying and Electricity and Water (92.4 and 86.6 per cent respectively) compared with those engaged in the Manufacturing (65.3%) sub-sector (see Table 2).

**Table 2: Persons Engaged by Industry Major Division and Sex**

Industry Major Division	Persons Engaged				
	Total	Male	Percent	Female	Percent
Mining and Quarrying	19,703	18,214	92.4	1,489	7.6
Manufacturing	243,516	159,066	65.3	84,336	34.7
Electricity and Water	12,276	10,625	86.6	1,765	13.4
<b>All Industry</b>	<b>275,495</b>	<b>187,905</b>	<b>68.2</b>	<b>87,590</b>	<b>31.8</b>

Table 3 presents the regional distribution of establishments and persons engaged. Greater Accra provided the greatest number of establishments followed by Ashanti. The two regions accounted for 50 per cent of the total number of establishments in industry. It is also noted that Central (9.7%) and Eastern (11.4%) regions had much more number of establishments compared with Western region (7.5%) but the latter accounted for 12.1 per cent of the total number of persons engaged which outnumbered that of Central and Eastern (7.1% and 9.3% respectively). This could be explained by the presence of relatively large establishments in the Western region. In terms of number of establishments and persons engaged, Upper West, Upper East and Northern had the least in that order.

**Table 3: Establishments and Persons Engaged by Region**

<b>Region</b>	<b>Establishments</b>		<b>Persons Engaged</b>	
	<b>Number</b>	<b>Percentage</b>	<b>Number</b>	<b>Percentage</b>
Western	1,976	7.5	33,216	12.1
Central	2,562	9.7	19,580	7.1
Greater Accra	6,764	25.5	73,374	26.6
Volta	1,370	5.2	15,842	5.8
Eastern	3,026	11.4	25,531	9.3
Ashanti	6,487	24.5	69,603	25.3
Brong Ahafo	1,791	6.8	15,456	5.6
Northern	1,245	4.7	14,009	5.1
Upper East	849	3.2	5,794	2.1
Upper West	423	1.6	3,090	1.1
<b>Total Country</b>	<b>26,493</b>	<b>100.0</b>	<b>275,495</b>	<b>100.0</b>

Table 4 indicates that in Western, Ashanti and Greater Accra, at least 7 in every 10 persons engaged by industry were males. In the three northern regions however, the total industrial workforce was mainly females. The proportions of females in the three regions ranged from 61.2 per cent in Upper West to 65.6 per cent in Northern. The number of females engaged by industry was also relatively high in Central, Volta, Eastern and Brong Ahafo. The proportions ranged from 33.6 per cent in Brong Ahafo to 41.6 per cent in Central.

**Table 4: Persons Engaged by Region and Sex**

<b>Region</b>	<b>Persons Engaged</b>				
	<b>Total</b>	<b>Male</b>	<b>Percent</b>	<b>Female</b>	<b>Percent</b>
Western	33,218	27,696	83.4	5,522	16.6
Central	19,583	11,435	58.4	8,148	41.6
Greater Accra	73,377	51,542	70.2	21,835	29.8
Volta	15,724	10,137	64.5	5,587	35.5
Eastern	25,536	16,554	64.8	8,982	35.2
Ashanti	69,605	52,213	75.0	17,392	25.0
Brong Ahafo	15,449	10,257	66.4	5,192	33.6
Northern	14,124	4,861	34.4	9,263	65.6
Upper East	5,861	2,039	34.8	3,822	65.2
Upper West	3,018	1,171	38.8	1,847	61.2
<b>All Industry</b>	<b>275,495</b>	<b>187,905</b>	<b>68.2</b>	<b>87,590</b>	<b>31.8</b>

Table 5 shows the regional distribution of manufacturing establishments and persons engaged. Greater Accra and Ashanti regions accounted for over 50 per cent of both the

number of establishments and persons engaged while the three northern regions together accounted for less than 10 per cent.

**Table 5: Establishments and Persons Engaged in Manufacturing by Region**

Region	Establishments		Persons Engaged	
	Number	Percentage	Number	Percentage
Western	1,922	7.4	27,409	11.3
Central	2,498	9.6	16,824	6.9
Greater Accra	6,708	25.7	67,992	27.9
Volta	1,312	5.0	14,148	5.8
Eastern	2,975	5.0	21,316	8.8
Ashanti	6,440	24.7	59,157	24.3
Brong Ahafo	1,754	6.7	14,631	6.0
Northern	1,232	4.7	13,652	5.6
Upper East	839	3.2	5,572	2.3
Upper West	408	1.6	2,815	1.2
<b>Total Country</b>	<b>26,088</b>	<b>100.0</b>	<b>243,516</b>	<b>100.0</b>

Table 6 indicates that Mining and Quarrying is an important economic activity in Ashanti and Western regions. The two regions employed 43.3 per cent and 22.8 per cent respectively of the total number of persons engaged in this sub-sector. Thus, Ashanti and Western regions alone accounted for about two-thirds of the total employment. In terms of number of establishments and persons engaged, Mining and Quarrying is not an important economic activity in the three northern regions.

**Table 6: Establishments and Persons Engaged in Mining and Quarrying by Region**

Region	Establishments		Persons Engaged	
	Number	Percentage	Number	Percentage
Western	22	13.3	4,484	22.8
Central	39	23.5	1,855	9.4
Greater Accra	39	23.5	1,758	8.9
Volta	21	12.7	1,008	5.1
Eastern	16	9.6	1,762	8.9
Ashanti	24	14.5	8,538	43.3
Brong Ahafo	4	2.4	247	1.3
Northern	-	-	-	-
Upper East	1	0.6	51	0.3
Upper West	-	-	-	-
<b>Total Country</b>	<b>166</b>	<b>100.0</b>	<b>19,703</b>	<b>100.0</b>

Table 7 shows the regional distribution of establishments and persons engaged in Electricity and Water. Five regions (Volta-15.5%, Eastern-14.6%, Brong Ahafo-13.8%, Western-13.4% and Central-10.5%) had more than 10 per cent each of the total number of Electricity and Water Establishments while the remaining 5 regions have less than 10 per cent each of the establishments. Greater Accra which is highly populated and with the highest number of industrial establishments was one of the regions with low electricity and water production establishments (7.1%). Four regions namely, Greater Accra (29.5%), Eastern (20.0%), Ashanti (15.5%) and Western (10.8%) engaged about three-quarters of the total employment in Electricity and Water. The three northern regions accounted for 15.5 percent of the total number of establishments but less than 7 per cent of the total persons engaged.

**Table 7: Establishments and Persons Engaged in Electricity and Water by Region**

Region	Establishments		Persons Engaged	
	Number	Percentage	Number	Percentage
Western	32	13.4	1,323	10.8
Central	25	10.5	901	7.3
Greater Accra	17	7.1	3,624	29.5
Volta	37	15.5	686	5.6
Eastern	35	14.6	2,453	20.0
Ashanti	23	9.6	1,908	15.5
Brong Ahafo	33	13.8	578	4.7
Northern	13	5.4	357	2.9
Upper East	9	3.8	171	1.4
Upper West	15	6.3	275	2.2
<b>Total Country</b>	<b>239</b>	<b>100.0</b>	<b>12,276</b>	<b>100.0</b>

From table 8, there was an indication of a preponderance of small-sized establishments. Of the 26,493 establishments identified during the census, more than four-fifth (84.3%) of them were small-sized (engaged less than 10 persons) while the remaining 15.7 per cent were large establishments employing at least 10 persons. The number of small-sized establishments differed depending on the industry division. For example, the percentage of small-sized establishments in Manufacturing is higher than that of the two other sub-sectors. The small-sized establishments constituted 85.0 per cent in Manufacturing while it was 38.0 per cent and 36.4 per cent in Mining and Quarrying and Electricity and Water respectively.

**Table 8: Establishments by Size and Industry Major Division**

Industry Major Division	Establishment Size									Total
	1 - 4	5 - 9	10 - 19	20 - 29	30 - 49	50 - 99	100 - 199	200 - 499	500+	
<b>Mining and Quarrying</b>										
Number	26	37	27	15	12	18	12	10	9	166
Percentage	15.7	22.3	16.3	9.0	7.2	10.8	7.2	6.0	5.4	100.0
<b>Manufacturing</b>										
Number	14,352	7,829	2,427	541	401	287	124	87	40	26,088
Percentage	55.0	30.0	9.3	2.1	1.5	1.1	0.5	0.3	0.2	100.0
<b>Electricity and Water</b>										
Number	60	27	46	41	29	15	7	10	4	239
Percentage	25.1	11.3	19.2	17.2	12.1	6.3	2.9	4.2	1.7	100.0
<b>Total Industry</b>										
Number	14,438	7,893	2,500	597	442	320	143	107	53	26,493
Percentage	54.5	29.8	9.4	2.3	1.7	1.2	0.5	0.4	0.2	100.0

With respect to employment, the small-sized establishments engaged about one-third (31.1%) while the large establishments engaged the remaining 68.9 per cent of the total industrial workforce (see Table 9)

There were disparities in the persons engaged in the industry major divisions. The large establishments in the Mining and Quarrying and Electricity and Water sub-sectors engaged majority of the total number of persons employed ( over 98 per cent) while the large manufacturing establishments employed about two-thirds (65.2%) of the total number that the Manufacturing sub-sector engaged.



**Table 9: Persons Engaged by Size and Industry Major Division**

Industry Major Division	Persons Engaged									Total
	1 - 4	5 - 9	10 - 19	20 - 29	30 - 49	50 - 99	100 - 199	200 - 499	500+	
<b>Mining and Quarrying</b>										
Number	72	229	351	341	448	1,165	1,672	2,929	12,496	19,703
Percentage	0.4	1.2	1.8	1.7	2.3	5.9	8.5	14.9	63.4	100.0
<b>Manufacturing</b>										
Number	35,834	48,982	30,784	12,405	14,538	18,270	16,819	26,240	39,644	243,516
Percentage	14.7	20.1	12.6	5.1	6.0	7.5	6.9	10.8	16.3	100.0
<b>Electricity and Water</b>										
Number	125	175	679	982	1,100	1,030	910	3,603	3,672	12,276
Percentage	1.0	1.4	5.5	8.0	9.0	8.4	7.4	29.3	29.9	100.0
<b>Total Industry</b>										
Number	36031	49386	31814	13728	16086	20,465	19,401	32,772	55,812	275,495
Percentage	13.1	17.9	11.5	5.0	5.8	7.4	7.0	11.9	20.3	100.0

In the regions, Eastern (87.6%) had the highest proportion of small-sized establishments while Volta (77.3%) had the least. The small-sized establishments provided employment to large proportions of the people in Upper East, Upper West and Central regions. Of the total persons employed by industry in these regions, more than half in Upper East and at least 2 in every 5 in Upper West and Central regions were engaged by the small-sized establishments. Western, Greater Accra and Volta, on the other hand, had large proportions of the people engaged in the large establishments (see Tables 10 and 11).

**Table 10: Establishments by Size and Region**

Region	Establishment Size									Total
	1-4	5-9	10-19	20-29	30-49	50-99	100-199	200-499	500+	
Western	49.7	34.8	9.5	1.8	1.1	1.1	0.7	0.7	0.6	100.0
Central	59.6	27.1	8.3	2.1	1.3	0.9	0.4	0.3	0.1	100.0
Greater Accra	61.1	24.3	8.0	2.2	1.5	1.3	0.7	0.7	0.2	100.0
Volta	45.1	32.2	12.9	3.4	2.7	2.1	1.1	0.3	0.2	100.0
Eastern	63.7	23.9	7.6	1.5	1.5	1.1	0.2	0.3	0.2	100.0
Ashanti	47.0	36.5	11.2	2.4	1.3	0.8	0.4	0.4	0.2	100.0
Brong Ahafo	61.0	24.2	9.4	1.8	1.8	0.8	0.7	0.1	0.2	100.0

Northern	39.8	34.9	10.7	4.1	5.7	4.2	0.6	0.1	0.0	100.0
Upper East	44.9	39.7	10.5	2.7	0.9	0.9	0.2	0.0	0.0	100.0
Upper West	55.3	31.4	8.3	1.4	1.4	1.4	0.7	0.0	0.0	100.0
<b>Total</b>	<b>54.5</b>	<b>29.8</b>	<b>9.4</b>	<b>2.3</b>	<b>1.7</b>	<b>1.2</b>	<b>0.5</b>	<b>0.4</b>	<b>0.2</b>	<b>100.0</b>

**Table 11: Persons Engaged by Size and Region**

Region	Persons Engaged									Total
	1-4	5-9	10-19	20-29	30-49	50-99	100-199	200-499	500+	
Western	8.1	13.0	7.0	2.5	2.3	4.1	6.1	13.3	43.5	100.0
Central	18.3	21.9	13.8	6.2	6.5	7.0	5.7	8.6	12.0	100.0
Greater Accra	13.6	14.0	9.5	4.7	5.3	7.7	9.8	19.4	16.0	100.0
Volta	9.3	17.4	14.3	6.7	8.5	11.1	11.6	5.8	15.3	100.0
Eastern	17.2	17.8	11.5	3.9	6.5	7.8	2.9	13.6	18.9	100.0
Ashanti	11.7	21.2	13.2	5.1	4.2	4.4	5.0	10.7	24.5	100.0
Brong Ahafo	17.7	17.5	13.8	4.9	7.7	6.6	10.0	2.6	19.3	100.0
Northern	10.2	19.9	12.1	8.4	18.2	23.3	6.4	1.5	0.0	100.0
Upper East	19.6	27.1	14.7	4.5	7.7	13.5	12.7	0.0	0.0	100.0
Upper West	19.6	27.1	14.7	4.5	7.7	13.5	12.7	0.0	0.0	100.0
<b>Total</b>	<b>13.1</b>	<b>17.9</b>	<b>11.5</b>	<b>5.0</b>	<b>5.8</b>	<b>7.4</b>	<b>7.0</b>	<b>11.9</b>	<b>20.3</b>	<b>100.0</b>

Table 12 indicates that about two-fifth of the total industrial workforce was made up of skilled workers while 16.4 per cent of them were unskilled. Apprentices constituted 27.5 per cent and those in the professional and managerial group were 5.4 per cent. Other workers (comprising of technical and clerical categories) formed 9.7 per cent of the industrial workforce.

There were differentials in the skill levels of persons engaged in the major industrial divisions. Whereas larger proportions of those engaged in Mining and Quarrying (54.0%) and Manufacturing (40.4%) were identified as skilled workers, their proportion was relatively small in Electricity and Water (34.0%). In the case of Electricity and Water, a relatively large proportion (46.3%) of the workforce was other workers (comprising of technical and clerical workers). The apprentices were mainly in manufacturing activities and the proportion of unskilled workers in Mining and Quarrying (21.9%) were also quite high.

**Table 12: Persons Engaged by Industry Major Division and Level of Skills**

Level of Skill	Manufacturing		Mining and Quarrying		Electricity and Water		Total	
	No.	%	No.	%	No.	%	No.	%
Skilled Workers	98,290	40.4	10,638	54.0	4,167	34.0	113,095	41.1
Unskilled Workers	39,982	16.4	4,322	21.9	813	6.6	45,117	16.4
Apprentices	75,528	31.0	101	0.5	73	0.6	75,702	27.5
Professional/Managerial	12,010	4.9	1,284	6.5	1,534	12.5	14,828	5.4
Other Workers	17,706	7.3	3,358	17.0	5,689	46.3	26,753	9.7

<b>Total</b>	<b>243,516</b>	<b>100.0</b>	<b>19,703</b>	<b>100.0</b>	<b>12,276</b>	<b>100.0</b>	<b>275,495</b>	<b>100.0</b>
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From table 13, about 4 in every 5 persons engaged by industry worked in an establishment that was wholly owned by a Ghanaian. About 44 per cent of the industrial workforce was engaged in establishments owned by Ghanaian males, about a quarter of them in establishments owned by Ghanaian females while 11 percent were engaged in establishments owned by both Ghanaian males and females. Those who worked in establishments that belonged to either non-Ghanaians or people with mixed nationality constituted the remaining 18.6 per cent.

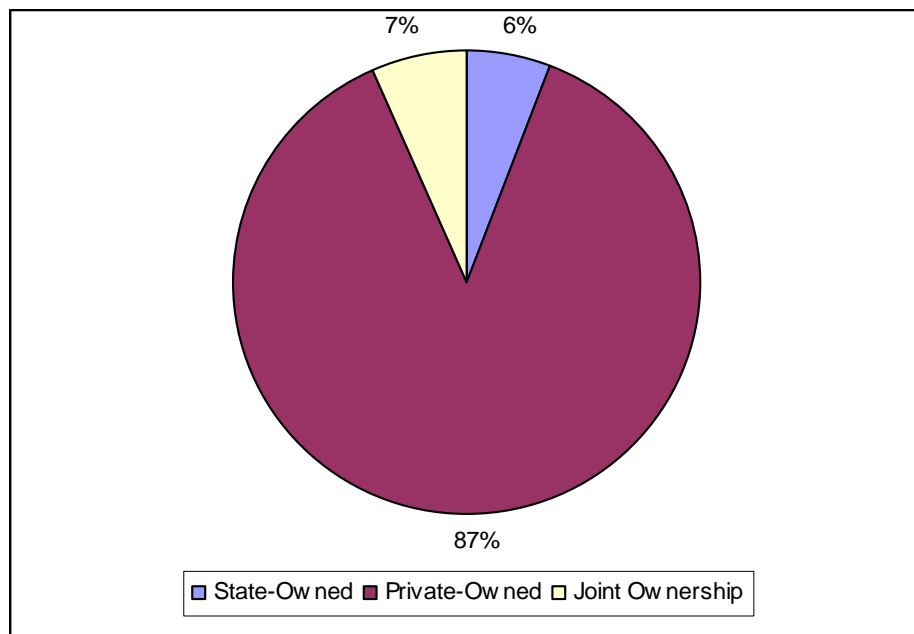
Very large proportions of persons engaged in Manufacturing and Mining and Quarrying (83.1 per cent and 95.4 per cent respectively) worked in establishments that were wholly owned by Ghanaians alone. More than half (54.3%) of the workforce in Mining and Quarrying was engaged in establishments that were either owned by non-Ghanaians or belonged to people of mixed nationality.

**Table 13: Persons Engaged by Industry Major Division and Nationality of Ownership and Gender**

<b>Nationality of Ownership</b>	<b>Manufacturing</b>		<b>Mining and Quarrying</b>		<b>Electricity and Water</b>		<b>Total</b>	
	<b>No.</b>	<b>%</b>	<b>No.</b>	<b>%</b>	<b>No.</b>	<b>%</b>	<b>No.</b>	<b>%</b>
Ghanaian Males	104,866	45.5	2,327	21.6	31	12.9	107,224	44.4
Ghanaian Females	59,048	25.6	218	2.0	0.0	0.0	59,266	24.5
Ghanaian (both Male & Female)	27,615	12.0	2,387	22.1	198	82.5	30,200	12.5
Non-Ghanaians	21,997	9.5	2,207	20.4	0.0	0.0	24,204	10.0
Mixed Nationality	16,983	7.4	3,654	33.9	11	4.6	20,648	8.6
<b>Total</b>	<b>230,509</b>	<b>100.0</b>	<b>10,793</b>	<b>100.0</b>	<b>240</b>	<b>100.0</b>	<b>241,542</b>	<b>100.0</b>

Figure 1 shows that majority (87%) of the industrial workforce was engaged in establishments which are privately owned. Those engaged by state-owned and joint ownership establishments constituted 6 per cent and 7 per cent respectively.

**Figure 1: Persons Engaged by Type of Ownership of Establishment**



About 95 per cent of the people engaged in Manufacturing, 54.8 per cent in Mining and Quarrying and only 2 per cent in Electricity and Water were in privately owned establishments. Majority (97.2%) of the workforce in Electricity and Water were in state-owned establishments. Every 2 in 5 persons engaged in the Mining and Quarrying sub-sector were found in establishments that were jointly owned (see Table 14).

**Table 14: Persons Engaged by Industry Major Division and Type of Ownership**

Type of Ownership	Manufacturing		Mining and Quarrying		Electricity and Water		Total
	No.	%	No.	%	No.	%	
State-Owned	2,912	1.2	906	4.6	11,938	97.2	15,756
Private-Owned	230,512	94.7	10,793	54.8	240	2.0	241,545
Joint Ownership	10,092	4.1	8,004	40.6	98	0.8	18,194
<b>Total</b>	<b>243,516</b>	<b>100.0</b>	<b>19,703</b>	<b>100.0</b>	<b>12,276</b>	<b>100.0</b>	<b>275,495</b>

It is observed from table 15 that a large proportion of the people employed by industry

were mainly engaged by sole proprietors, private limited companies and associations or groups. Together, these engaged about 85 per cent of the industrial workforce. The other types of legal organisations including public limited companies engaged less than 9 per cent of the total workforce.

In terms of the major industrial groups, sole proprietorship establishments (46.6%), private limited companies (29.1%) and associations or groups (14.5%) are the leading employers in Manufacturing and for Mining and Quarrying it was private limited companies (59.5%), public limited companies (16.8%) and associations or groups (11.9%). In the case of Electricity and Water, public limited companies were the leading employer engaging over 90 per cent of the total workforce in the sub-sector.

**Table 15: Persons Engaged by Industry Major Division and Type of Legal Organisation**

Type of Legal Organisation	Manufacturing		Mining and Quarrying		Electricity and Water		Total	
	No.	%	No.	%	No.	%	No.	%
Private Limited	70,852	29.1	11,728	59.5	670	5.5	83,250	30.2
Public Ltd Company	8,056	3.3	3,318	16.8	11,471	93.4	22,845	8.3
Partnership	4,499	1.8	439	2.2	11	0.1	4,949	1.8
Sole Proprietorship	113,557	46.6	678	3.4	8	0.1	114,243	41.5
Association or Group	35,339	14.5	2,337	11.9	93	0.8	37,769	13.7
Co-operative	7,961	3.3	111	0.6	12	0.1	8,084	2.9
NGO	775	0.3	0.0	0.0	11	0.1	786	0.3
External Company	2,477	1.0	1,092	5.5	0.0	0.0	3,569	1.3
<b>Total</b>	<b>243,516</b>	<b>100.0</b>	<b>19,703</b>	<b>100.0</b>	<b>12,276</b>	<b>100.0</b>	<b>275,495</b>	<b>100.0</b>

## 5.1 SUMMARY

Table 17 shows the composition of establishments, persons engaged, value of output and census value added for the three major industry divisions. The results indicate that a total of 24,133 establishments operated in mining and quarrying, manufacturing and production and distribution of electricity and water. The average number of persons engaged was 249,062 with the average number of employees as 143,467. The value of output was ₵37.9 trillion with ₵2.5 trillion paid out as wages and salaries and ₵23.2 trillion as the cost of materials, fuels and industrial services. Census value added was ₵14.5 trillion.

The number of establishments that operated in the manufacturing division was 23,797 and the average number of persons engaged was 221,952 with 116,773 as employees. Value of output for manufacturing was ₵26.4 trillion out of which ₵1.7 trillion was paid as wages and salaries and ₵16.7 trillion as cost of materials, fuels and industrial services. Census value added in manufacturing was ₵9.6 trillion.

Corresponding figures for mining and quarrying division were 125 establishments, 15,254 persons engaged, 14,868 employees, ₵5.3 trillion value of output, ₵0.5 trillion as wages and salaries, ₵2.2 trillion as cost of materials fuels and industrial services and ₵3.1 trillion census value added.

For the Electricity and Water division, there were 211 establishments with 11,856 persons engaged and 11,826 employees. Value of output was ₵6.2 trillion with ₵0.3 trillion paid out as wages and salaries and ₵4.2 trillion as the cost of materials, fuels and industrial services. Census value added was ₵1.7 trillion. The major division is completely owned by Ghana Government. With the exception of 60 unpaid learners all the work force in the division was made up of employees.

Phase II of the census identified a total of 4,079 establishments with 10 or more persons engaged in mining and quarrying; manufacturing and in all establishments (irrespective of size) producing and distributing electricity and water. The average number of persons engaged was 160,049 with the average number of employees as 124,238. The value of output was ₵36.1 trillion with ₵2.4 trillion paid out as wages and salaries and ₵22.3 trillion as the cost of materials, fuels and industrial services. Census value added was ₵13.5 trillion.

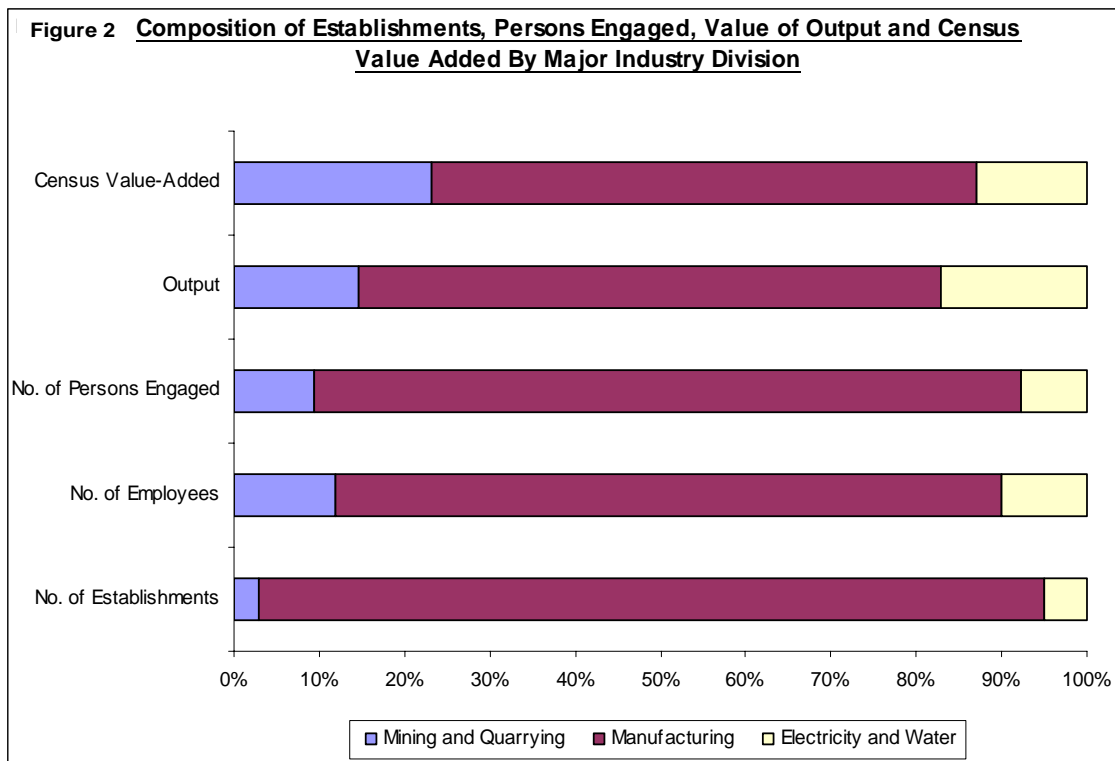
Inferences from the results of small establishment sample survey indicate that 20,054 establishments with less than 10 persons engaged in mining and quarrying and manufacturing in the reference year. The average number of persons engaged was 88,764 with the average number of employees as 19,228. The value of output was ₵1.8 trillion with ₵101.9 billion paid out as wages and salaries and ₵835.3.5 billion as cost of materials, fuels and industrial services. Census value added was ₵967.3 billion.

TABLE 17: PRINCIPAL INDICATORS OF INDUSTRIAL ACTIVITY  
BY MAJOR INDUSTRY DIVISION AND ESTABLISHMENT SIZE

Major Industry Division and Establishment Size	NO. of Establishments	NO. of Employees	Persons Engaged	Wages and Salaries Total (Million Cedis)	Value of Output (Million Cedis)	Cost of Input (Million Cedis)	Census Value Added (Million Cedis)
Mining & Quarrying	125	14,868	15,254	492,040	5,282,121	2,201,205	3,134,368
Establishments with 30 or more persons	40	14,174	14,425	487,389	5,154,767	2,190,024	3,017,451
Establishments with 20-29 persons	11	246	253	2,117	5,548	1,515	4,068
Establishments with 10-19 persons	23	233	331	1,521	118,053	7,702	110,821
Establishments with 1-9 persons	50	214	245	1,013	3,754	1,964	2,027
Manufacturing Establishments	<b>23,797</b>	<b>116,773</b>	<b>221,952</b>	<b>1,653,068</b>	<b>26,376,128</b>	<b>16,697,453</b>	<b>9,652,725</b>
Establishments with 30 or more persons	517	79,088	84,774	1,376,853	23,051,304	15,038,773	7,990,610
Establishments with 20-29 persons	535	7,227	12,659	37,880	453,798	249,972	196,754
Establishments with 10-19 persons	2,742	11,444	35,742	137,463	1,072,656	575,323	500,137
Establishments with 1-9 persons	20,004	19,014	88,778	100,872	1,798,370	833,385	965,224
Electricity and Water	211	11,826	11,856	315,100	6,157,062	4,251,898	1,746,491
All Establishments Total	<b>24,133</b>	<b>143,467</b>	<b>249,062</b>	<b>2,460,208</b>	<b>37,815,311</b>	<b>23,150,556</b>	<b>14,533,584</b>

Figure 2 shows that the contribution of the manufacturing Sector to the number of establishments, employment, output and census value added was more than double the combined contribution made by the other two sub-sectors. Manufacturing alone accounted for 98.6 per cent of the total number of establishments, 81.4 per cent of the number of employees, 89.2 per cent of persons engaged, 69.7 per cent of output and 66.4 per cent of census value added.

For the other two sub-sectors, (mining and quarrying and electricity and water), mining and quarrying contributed the least (0.5%) to number of establishments, but accounted for (21.6%) to Census Value Added. The Electricity and Water sub-sector however contributed more (16.3%) to output than mining and quarrying (14.0%). Their contribution of Persons engaged was 4.8% for Electricity and Water and 6.1% for Mining and Quarrying.

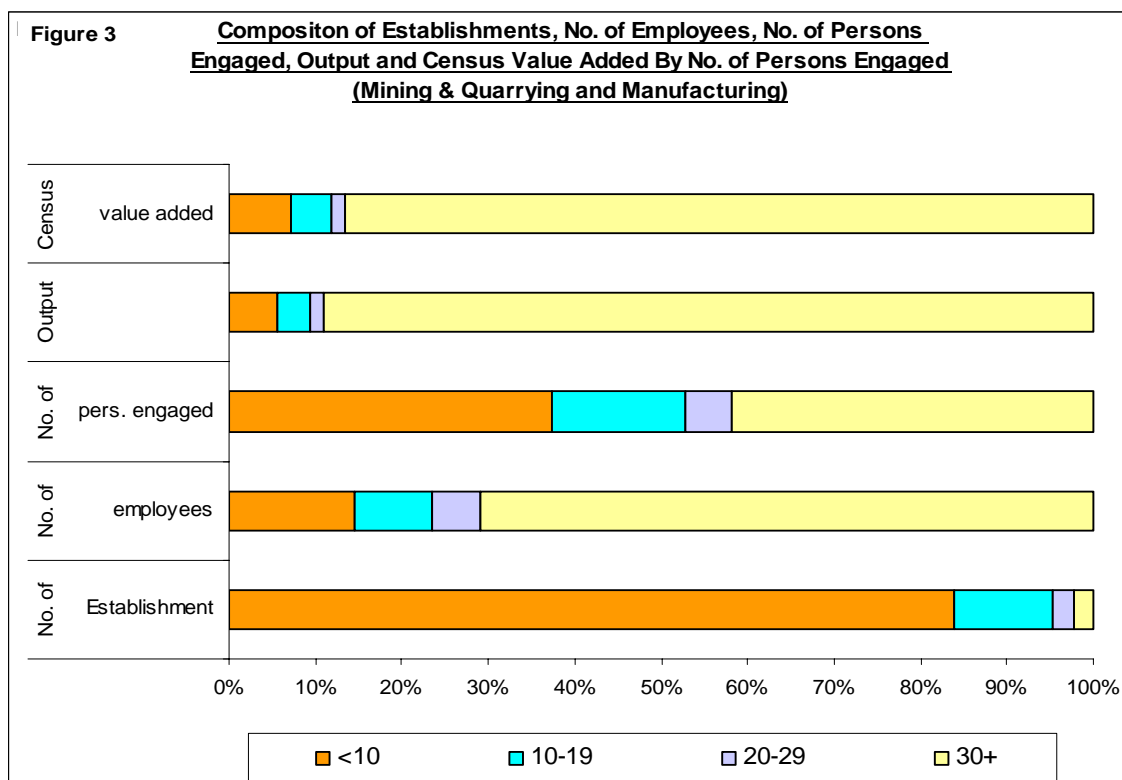


Indicators for mining and quarrying and manufacturing are given separately for establishments having 30 or more, 20-29, 10-19 and less than 10 persons engaged. Figure 3 shows that for the two major industry divisions (mining and quarrying and manufacturing) about 2.3 per cent of the establishments had 30 or more persons engaged. This category of establishments engaged about 36.2 per cent of total persons engaged and contributed about 89 per cent and 87 per cent of value of output and census value added respectively.



Establishments engaging 10-19 persons constituted about 12 per cent of the total number of establishments. They employed about 13 per cent of the persons engaged and contributed about 4 per cent of output and 5 per cent of census value added. Many of the establishments in this category do not keep meaningful accounts. A large number of these establishments are in the wearing apparel, furniture and metal fabrication industry groups and use more of apprentice labour instead of employees.

Establishments engaging 1-9 persons accounted for about 84 per cent of the number of establishments covered. They engaged about 47 per cent of the persons engaged and contributed about 6 per cent of output and 7 per cent of census value added.



For most of the establishments in this category, the census was the first time they completed a questionnaire on their production activities. They were enumerated by using an abridged version of the manufacturing questionnaire. Most of the establishments in this category also do not keep meaningful accounts. Data for some of these establishments were adjusted using the category's industry group averages and simple ratios as the basis for adjustment. As for the 10-19 category a large number of these establishments were in the wearing apparel, furniture and metal fabrication industry groups and use more of apprentice labour instead of employees.

## 5.2 PRODUCTION STATEMENTS

Table 18 provides information on the source of income and the ways in which the income is allocated to the various elements of costs of production. About 61 per cent of the total value of output represented materials, fuels, supplies and other industrial costs whilst 6.5 per cent represented labour cost. The profit content measured by operating surplus as percentage of value of production was 13.4 per cent.

**TABLE 18: PRODUCTION STATEMENT - ALL INDUSTRY**

<b>Allocation</b>	<b>€ Million</b>	<b>Sources</b>	<b>€ Million</b>
Cost of Materials, fuel and supplies and industrial services	23,150,556	Sales and work done	37,815,311
Changes in stocks of materials, Fuels and supplies	437,606	Changes in stock of finished goods, work in progress and goods for resale	306,438
Cost of non-industrial Services	1,792,695		
Wages and Salaries	2,460,208	Receipt for non-industrial services	••
Depreciation	5,177,444		
Operating Surplus	5,097,239		
<b>Total Allocation of Value Of Output</b>	<b>38,121,749</b>	<b>Value of output</b>	<b>38,121,749</b>

Tables 19-21 give separate pictures of the source and allocation of income for mining and quarrying, manufacturing and electricity and water respectively. Materials, fuels, supplies and industrial services constituted 41.2 per cent of the output of mining and quarrying, 62.7 per cent of manufacturing output, and 69.1 per cent of output for the electricity and water major division. Labour cost for mining and quarrying represented 9.2 per cent of output with 26.2 per cent as operating surplus. In manufacturing, labour cost represented 6.2 per cent of value of output with 20.9 per cent as operating surplus. In Electricity and Water sub-sector, labour cost constituted 5.1 per cent of the value of output. This division recorded a negative operating surplus which was accounted for by a very large allowance made for depreciation of fixed assets.

**TABLE 19: PRODUCTION STATEMENT – MINING AND QUARRYING**

<b>Allocation</b>	<b>€ Million</b>	<b>Sources</b>	<b>€ Million</b>
Cost of Materials, fuel and supplies and industrial services	2,201,205	Sales and work done	5,282,121
Changes in stocks of materials, fuel and supplies	10,308	Changes in stock of finished goods, work in progress and goods for resale	63,760
Cost of non-industrial Services	428,546		
Wages and Salaries	492,040	Receipt for non-industrial services	••
Depreciation	810,822		
Operating Surplus	1,402,960		
<b>Total Allocation of Value Of Output</b>	<b>5,345,881</b>	<b>Value of output</b>	<b>5,345,881</b>

**TABLE 20: PRODUCTION STATEMENT - MANUFACTURING**

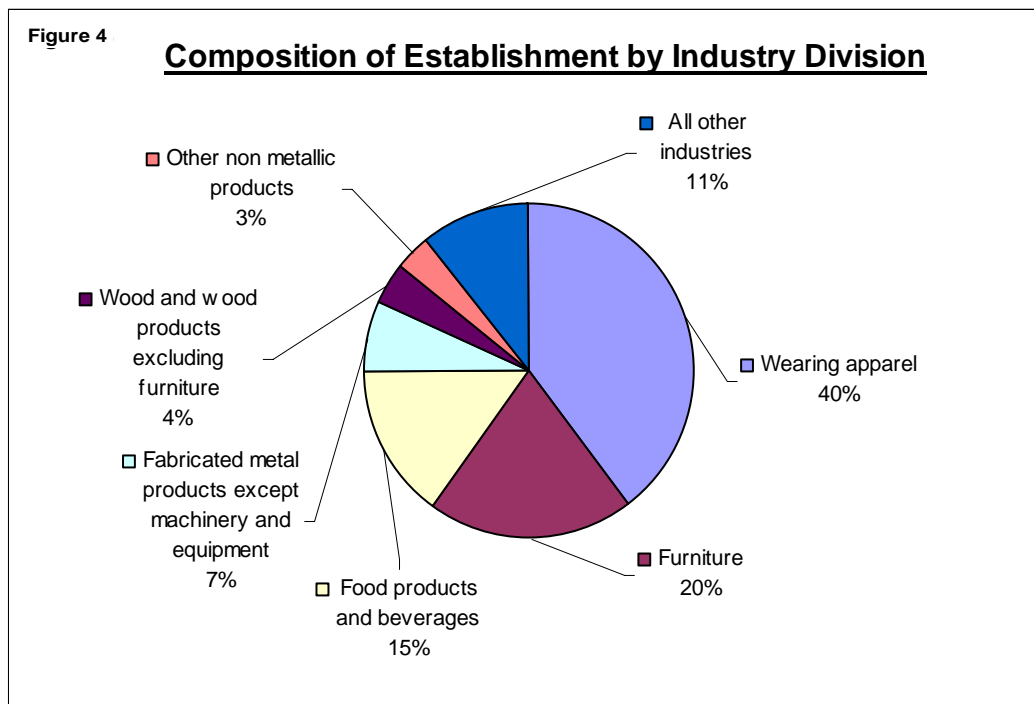
<b>Allocation</b>	<b>€ Million</b>	<b>Sources</b>	<b>€ Million</b>
Cost of Materials, fuel and supplies and industrial services	16,697,453	Sales and work done	26,376,128
Changes in stocks of materials, fuels and supplies	268,626	Changes in stock of finished goods, work in progress and goods for resale	242,678
Cost of non-industrial Services	1,324,928		
Wages and Salaries	1,653,068	Receipt for non-industrial services	••
Depreciation	1,106,111		
Operating Surplus	5,568,620		
<b>Total Allocation of Value Of Output</b>	<b>26,618,806</b>	<b>Value of output</b>	<b>26,618,806</b>

**TABLE 21: PRODUCTION STATEMENT – ELECTRICITY AND WATER**

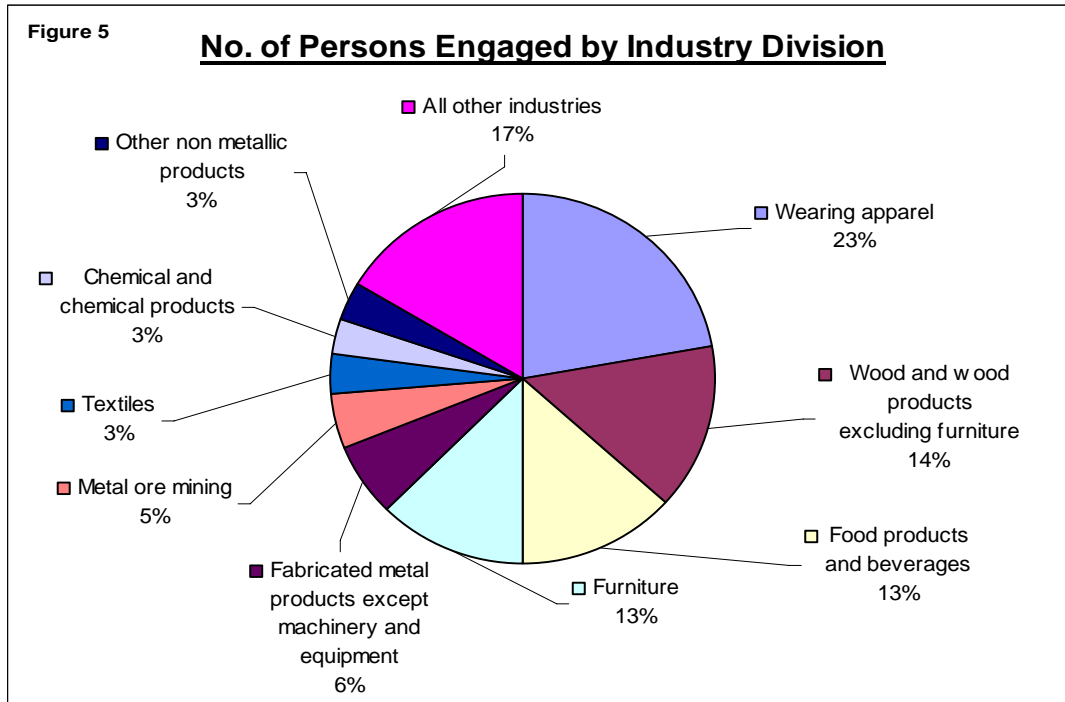
<b>Allocation</b>	<b>¢ Million</b>	<b>Sources</b>	<b>¢ Million</b>
Cost of Materials, fuel and supplies and industrial services	4,251,989	Sales and work done	6,157,062
Changes in stocks of materials, Fuel and supplies	158,672	Changes in stock of finished goods, work in progress and goods for resale	••
Cost of non-industrial Services	39,221	Receipt for non-industrial services	••
Wages and Salaries	315,100		
Depreciation	3,260,511		
Operating Surplus	1,868,341		
<b>Total Allocation of Value Of Output</b>	<b>6,157,062</b>	<b>Value of output</b>	<b>6,157,062</b>

5.3 INDUSTRY DIVISION

Figure 4 presents composition of establishments by industry divisions. The wearing apparel (40%), furniture (20%) and food products and beverages (15%) industry groups accounted for over 75 per cent of the total number of establishments.

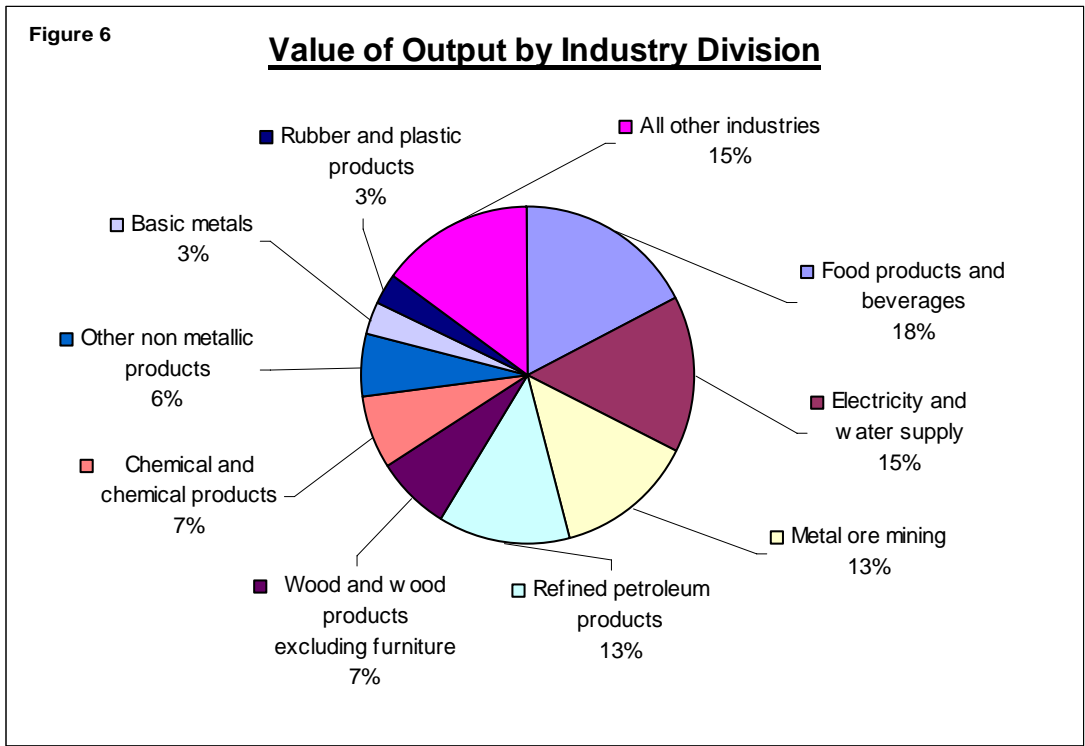


Of the 25 divisions covered, wearing apparel industry division was the largest employer, employing about 22 per cent of the persons engaged in industry. This was followed by wood and wood products division with about 14 per cent of persons engaged. Third in terms of employment was the food products and beverages division with about 13 per cent of persons engaged.(Figure 5)



About 58 per cent of persons engaged were employees; unpaid workers made up the remaining 42 per cent.

In terms of output, food products and beverages division accounted for the highest proportion (18 per cent) of total value of output followed by Electricity and Water production division with about 15 per cent. The metal ore mining and the refined petroleum products divisions each accounted for 13 per cent each of the value of output. Wood and wood products (7 per cent) chemical and chemical products (7 per cent) and other non metallic products ( 6 per cent) followed in that order as the other major contributors to value of output (Figure 6)



Value added is the best indicator of the relative economic importance of an industry. The metal ore mining division alone was responsible for 20 per cent of total census value added. Food products and beverages industry division contributed 18 per cent to the total census value added, compared with 11 per cent by the Electricity and Water industry division and 10 per cent by the wood and wood products (excluding furniture) industry division (Figure 7).

Figure 7

### Census Value-Added by Industry Division

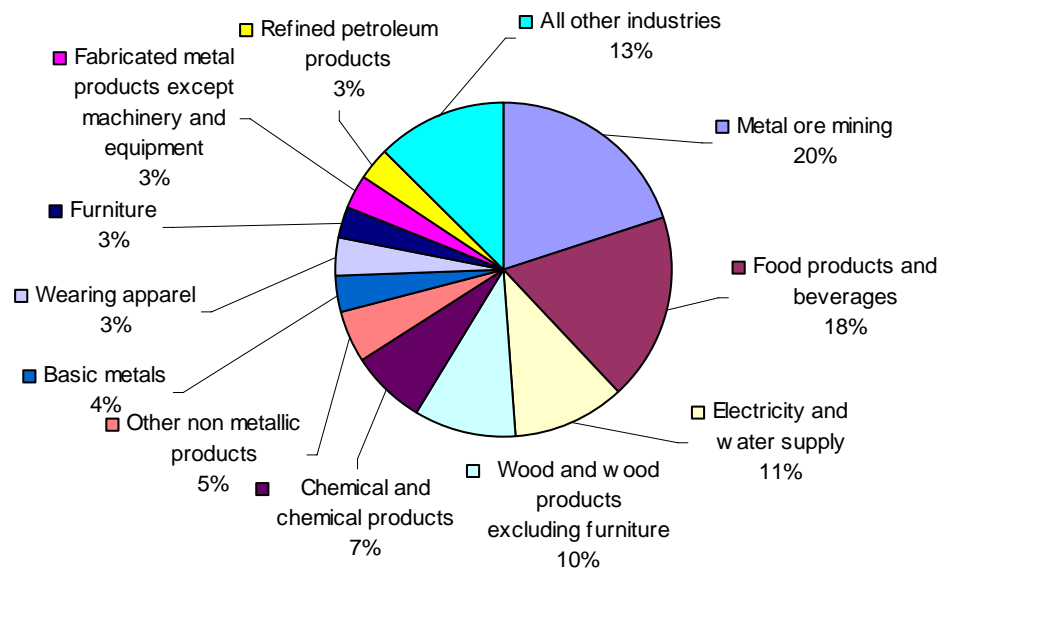


Table 22 shows census value added as a percentage of value of output. Other mining which includes stone quarrying and salt production had a relatively high percentage (76.3 per cent) of value added since the basic raw materials for these activities are relatively cheap. Manufacture of refined, petroleum and chemical products (20.0 per cent), manufacture of machinery and equipment (26.8) as well as the generation and distribution of electricity (28.1 per cent) had the lowest percentage of value added output which means that these industry divisions had high percentages for cost of materials, fuels and other industrial supplies relative to other industry divisions.

**Table 22**

**CENSUS VALUE ADDED AS PERCENTAGE OF VALUE OF OUTPUT  
BY INDUSTRY DIVISION**

Industry Divisions	Division Code 2 DIGIT ISIC	Value of Outputs ¢mil	Census value added ¢mil	Census Value Added/Output %
<b>Industry Total</b>		<b>37,815,311</b>	<b>14,590,926</b>	<b>38.6</b>
<b>Mining and Quarrying</b>		<b>5,282,121</b>	<b>3,134,368</b>	<b>59.3</b>
Metal ore mining	13	4,997,042	2,916,755	58.4
Other mining	14	285,079	217,613	76.3
<b>Manufacturing</b>		<b>26,376,128</b>	<b>9,652,725</b>	<b>36.6</b>
Manufacture of food products, beverages and tobacco products	15-16	6,980,392	2,909,692	41.7
Manufacture of textiles	17	1,024,981	337,189	32.9
Manufacture of wearing apparel; dressing and dyeing of fur	18	724,634	492,534	68.0
Tanning and dressing of leather, manufacture of luggage, handbags, saddlery, harness and footwear	19	53,804	21,600	40.1
Manufacture of wood and wood products excluding furniture	20	2,659,848	1,430,023	53.8
Manufacture of paper and paper products	21	151,161	63,875	42.3
Publishing, printing and reproduction of recorded media	22	335,457	208,624	62.2
Manufacture of refined petroleum and chemical products	23-24	7,519,146	1,502,213	20.0
Manufacture of rubber and plastic products	25	1,152,216	410,016	35.6
Manufacture of other non metallic products	26	2,284,343	716,967	31.4
Manufacture of basic metals	27	1,235,975	543,369	44.0
Manufacture of fabricated metal products except machinery and equipment	28	1,078,163	454,229	42.1
Manufacture of machinery and equipments	29-31	248,974	66,844	26.8
Manufacture of radio, television, medical, instruments, watches and clocks	32-33	29,010	12,189	42.0
Manufacture of motor vehicles, trailers and other transport equipments	34-35	22,135	8,759	39.6
Manufacture of furniture, manufacturing n.e.c.	36	875,890	474,603	54.2
<b>Electricity and Water</b>		<b>6,157,062</b>	<b>1,746,491</b>	<b>28.4</b>
Electricity, gas, steam and hot water supply	40	5,741,595	1,554,357	28.1
Collection, purification and distribution of water	41	415,467	192,134	46.2



At the industry group level, 147 unit ( 4 digit ISIC) groups were covered in the census and tables 23 to 25 rank the first 30 out of the 147 industry groups in terms of employment, value of output and census value added. These industry groups accounted for a large percentage of industrial production and employment. In Table 23, the 30 listed groups made up about 89 per cent of total persons engaged with manufacture of wearing apparel, wooden furniture and saw milling being the leading industries in terms of employment.

The 30 listed groups in table 24 contributed about 93 per cent of the total value of output while the remaining 137 groups accounted for 7 per cent. In table 25, the listed industry groups contributed about 92 per cent of total census value added.

**Table 23**

**NUMBER OF PERSONS ENGAGED BY INDUSTRY GROUP**

Descriptions	4 Digit ISIC	No. of Persons Engaged	
		No.	%
<b>Total</b>		<b>249,062</b>	<b>100.00</b>
Manufacture of wearing apparel by cutting and sewing fabrics	<b>1810</b>	55,301	22.20
Manufacture of wooden furniture	<b>3611</b>	27,664	11.11
Sawmill and planing of wood	<b>2010</b>	19,975	8.02
Manufacture veneer; manufacture of plywood, laminboard, particle board and other panels and boards	<b>2021</b>	10,978	4.41
Gold mining	<b>1321</b>	10,791	4.33
Manufacture of structural metal products	<b>2811</b>	7,963	3.20
Production and Distribution of Electricity	<b>4010</b>	7,298	2.93
Manufacture of other fabricated metal products not elsewhere classified	<b>2899</b>	6,422	2.58
Manufacture of bakery products	<b>1541</b>	6,149	2.47
Manufacture of grain mill products	<b>1531</b>	5,478	2.20
Manufacture of articles of concrete, cement and plaster	<b>2695</b>	5,386	2.16
Finishing of textiles	<b>1712</b>	4,812	1.93
Manufacture of vegetables and animal oils and fats	<b>1514</b>	4,808	1.93
Manufacture of plastic products	<b>2520</b>	4,619	1.85
Production and Distribution of Water	<b>4100</b>	4,558	1.83
Printing	<b>2221</b>	4,122	1.65
Processing and preservation of fish and fish products	<b>1512</b>	3,981	1.60
Manufacture of footwear	<b>1920</b>	3,619	1.45
Manufacture of soap and detergent, cleaning and polishing preparations, perfumes and toilet preparations	<b>2424</b>	3,432	1.38
Preparation and spinning of textile fibres; weaving of textiles	<b>1711</b>	3,360	1.35
Manufacture of builders' carpentry and joinery	<b>2022</b>	3,332	1.34

**Table 23 Cond't**

<b>Descriptions</b>	<b>4 Digit ISIC</b>	<b>No. of Persons Engaged</b>	
		<b>No.</b>	<b>%</b>
Malt liquors and malt	<b>1553</b>	3,160	1.27
Soft drinks and carbonated water industries	<b>1554</b>	3,047	1.22
Manufacture of pharmaceuticals, medicinal chemicals and botanical products	<b>2423</b>	2,442	0.98
Manufacture of rubber and tube; retreading & rebuilding of rubber tyres	<b>2519</b>	2,395	0.96
Manufacture of furniture of any kind except, stone, ceramic & concrete	<b>3610</b>	1,623	0.65
Salt mining	<b>1422</b>	1,613	0.65
Distilling, rectifying and blending of spirits, ethel alcohol production and fermented materials	<b>1551</b>	1,574	0.63
Manufacture of diary products	<b>1520</b>	1,488	0.60
Manufacture of basic precious & non-ferrous metals	<b>2710</b>	1,464	0.59
All other industries		26,209	10.52

Table 24

## VALUE OF OUTPUT BY INDUSTRY GROUP

Descriptions	4 Digit ISIC	Output (million cedis)	%
<b>Total</b>		<b>37,815,311.3</b>	<b>100.00</b>
Production and Distribution of Electricity	<b>4010</b>	5,741,595.0	15.18
Manufacture of refined petroleum products	<b>2320</b>	4,891,779.3	12.94
Gold mining	<b>1321</b>	4,655,589.4	12.31
Manufacture of cement, lime and plaster	<b>2694</b>	1,899,413.3	5.02
Manufacture of soap and detergent, cleaning and polishing preparations, perfumes and toilet preparations	<b>2424</b>	1,686,410.6	4.46
Sawmill and planing of wood	<b>2010</b>	1,470,283.8	3.89
Manufacture of grain mill products	<b>1531</b>	1,253,698.8	3.32
Manufacture of diary products	<b>1520</b>	994,750.4	2.63
Manufacture veneer; manufacture of plywood, laminboard, particle board and other panels and boards	<b>2021</b>	991,415.2	2.62
Manufacture of plastic products	<b>2520</b>	952,006.5	2.52
Malt liquors and malt	<b>1553</b>	943,905.9	2.50
Manufacture of cocoa, chocolate and sugar confectionery	<b>1543</b>	863,497.3	2.28
Finishing of textiles	<b>1712</b>	817,919.2	2.16
Manufacture of wearing apparel by cutting and sewing fabrics	<b>1810</b>	724,542.7	1.92
Processing and preservation of fish and fish products	<b>1512</b>	671,063.6	1.77
Manufacture of wooden furniture	<b>3611</b>	660,813.9	1.75
Manufacture of basic precious & non-ferrous metals	<b>2720</b>	653,216.4	1.73
Soft drinks and carbonated water industries	<b>1554</b>	622,056.3	1.64
Manufacture of other fabricated metal products not elsewhere classified	<b>2899</b>	529,858.3	1.40
Manufacture of basic precious & non-ferrous metals	<b>2710</b>	505,645.0	1.34
Manufacture of pharmaceuticals, medicinal chemicals and botanical products	<b>2423</b>	459,797.4	1.22
Manufacture of structural metal products	<b>2811</b>	428,851.0	1.13
Production and Distribution of Water	<b>4100</b>	415,466.7	1.10
Manufacture of tobacco products	<b>1600</b>	394,656.0	1.04
Manufacture of articles of concrete, cement and plaster	<b>2695</b>	355,490.0	0.94
Manufacture of bakery products	<b>1541</b>	349,077.5	0.92
Manufacture of vegetables and animal oils and fats	<b>1514</b>	294,095.2	0.78
Processing and preserving of fruits and vegetables	<b>1513</b>	267,831.3	0.71
Manganese mining	<b>1323</b>	247,079.0	0.65
Distilling, rectifying and blending of spirits, ethel alcohol production and fermented materials	<b>1551</b>	238,902.6	0.63
All other industries		2,834,603.6	7.50

Table 25

## CENSUS VALUE-ADDED BY INDUSTRY GROUP

Descriptions	4 Digit ISIC	Census value-added	
		(million cedis)	%
<b>Total</b>		<b>14,533,585.0</b>	<b>100.00</b>
Gold mining	<b>1321</b>	2,695,078.7	18.54
Production and Distribution of Electricity	<b>4010</b>	1,554,356.7	10.69
Sawmill and planing of wood	<b>2010</b>	813,416.1	5.60
Manufacture of soap and detergent, cleaning and polishing preparations, perfumes and toilet preparations	<b>2424</b>	752,495.7	5.18
Malt liquors and malt	<b>1553</b>	606,875.0	4.18
Manufacture of grain mill products	<b>1531</b>	601,882.0	4.14
Manufacture of diary products	<b>1520</b>	536,970.3	3.69
Manufacture of cement, lime and plaster	<b>2694</b>	524,085.1	3.61
Manufacture veneer; manufacture of plywood, laminboard, particle board and other panels and boards	<b>2021</b>	507,693.8	3.49
Manufacture of wearing apparel by cutting and sewing fabrics	<b>1810</b>	492,452.0	3.39
Manufacture of refined petroleum products	<b>2320</b>	451,094.3	3.10
Manufacture of basic precious & non-ferrous metals	<b>2720</b>	407,747.8	2.81
Manufacture of plastic products	<b>2520</b>	337,256.9	2.32
Manufacture of wooden furniture	<b>3611</b>	327,050.7	2.25
Manufacture of tobacco products	<b>1600</b>	287,752.0	1.98
Finishing of textiles	<b>1712</b>	243,346.0	1.67
Manufacture of other fabricated metal products not elsewhere classified	<b>2899</b>	239,855.2	1.65
Processing and preservation of fish and fish products	<b>1512</b>	201,781.2	1.39
Soft drinks and carbonated water industries	<b>1554</b>	197,722.1	1.36
Production and Distribution of Water	<b>4100</b>	192,134.4	1.32
Manufacture of pharmaceuticals, medicinal chemicals and botanical products	<b>2423</b>	187,909.8	1.29
Manufacture of structural metal products	<b>2811</b>	178,765.0	1.23
Manufacture of articles of concrete, cement and plaster	<b>2695</b>	178,459.8	1.23
Manganese mining	<b>1323</b>	159,390.7	1.10
Quarrying of stone, clay and sand	<b>1410</b>	152,082.1	1.05
Manufacture of vegetables and animal oils and fats	<b>1514</b>	144,463.8	0.99
Printing	<b>2221</b>	135,467.1	0.93
Manufacture of basic precious & non-ferrous metals	<b>2710</b>	108,331.4	0.75
Manufacture of furniture of any kind except, stone, ceramic & concrete	<b>3610</b>	102,489.5	0.71
Manufacture of builders' carpentry and joinery	<b>2022</b>	95,106.1	0.65
All other industries		1,120,073.7	7.71

#### 5.4 Industry in the Regions.

##### **Manufacturing**

Table 26 shows principal indicators of manufacturing , mining and quarrying activity by region. In terms of manufacturing employment, value of output and census value added, Greater Accra, Ashanti and Western Regions, in that order are the most important regions. The three regions together accounted for 68 per cent of the number of establishments and 71 percent of persons engaged, 91 per cent of value of output and 90 per cent of census value added.

Greater Accra Region alone had 28 per cent of the number of manufacturing establishments and 44 per cent of the number of employees and was responsible for 69 per cent of value of output and 59 per cent of census value added. Ashanti Region accounted for 27 per cent of establishments, 22 per cent of employees, 11 per cent of output and 16 per cent of census value added.

##### **Mining and Quarrying**

Ashanti and Western Regions were the main contributors to Mining and Quarrying activities. The two Regions contributed over 70 per cent of both employees and persons engaged, 89.8 per cent of Wages and Salaries, 94.6 per cent of output; and 92.9 per cent of census value added.

##### **Electricity and Water**

There was difficulty disaggregating production data for electricity and water by region due to the fact that accounting records for most establishments in this sector are classified into regional boundaries that differ from Ghana's administrative regions.

Table 26

## PRINCIPAL INDICATORS OF INDUSTRIAL ACTIVITY BY REGION

Manufacturing							
REGION	No. of establ.	No. of employees	No. of pers. eng.	Wages and salaries	Value of output	Cost of mats. And Ind. Serv.	Census value added
Western	1,178	18,062	24,266	200,430.71	3,011,238.28	1,615,605.50	1,411,194.43
Central	1,808	4,710	12,712	35,851.02	289,333.15	164,765.63	125,159.03
Greater Accra	6,629	51,440	75,594	1,017,118.39	18,167,152.66	12,455,669.86	5,682,016.87
Volta	1,246	2,985	9,275	52,930.23	670,643.74	396,799.08	258,833.19
Eastern	3,038	7,199	18,615	81,539.06	578,375.85	344,021.54	221,746.88
Ashanti	6,521	24,977	56,736	223,548.06	3,010,022.53	1,403,982.36	1,611,700.95
Brong Ahafo	1,693	4,873	12,914	30,375.93	390,053.61	190,954.96	209,210.42
Northern	695	756	5,041	4,423.00	176,209.73	70,808.89	104,998.83
Upper East	665	1,033	4,372	2,642.21	36,691.75	25,171.86	11,561.11
Upper West	324	739	2,428	4,208.96	46,406.94	29,674.00	16,304.22
<b>National Total</b>	<b>23,797</b>	<b>116,773</b>	<b>221,952</b>	<b>1,653,067.6</b>	<b>26,376,128.2</b>	<b>16,697,453.7</b>	<b>9,652,725.9</b>

Mining and Quarrying							
REGION	No. of establ.	No. of employees	No. of pers. eng.	Wages and salaries	Value of output	Cost of mats. and ind. Serv.	Census value added
Western	14	4,223	4,264	180,642.74	3,357,056.42	1,450,226.48	1,931,245.35
Central	32	1,355	1,484	8,411.47	23,818.27	7,539.83	16,557.37
Greater Accra	33	1,287	1,406	15,241.51	210,800.35	31,567.93	191,824.87
Volta	20	133	205	1,306.22	1,929.05	17.01	1,937.56
Eastern	6	955	957	24,149.62	42,763.10	34,366.28	8,351.48
Ashanti	18	6,802	6,824	261,004.45	1,638,186.43	673,860.43	980,659.26
4 Northern Regions	2	114	114	1284.28	7569.68	3627.12	3791.95
<b>National Total</b>	<b>125</b>	<b>14,868</b>	<b>15,254</b>	<b>492,040.3</b>	<b>5,282,121.3</b>	<b>2,201,205.1</b>	<b>3,134,367.8</b>

## PART 3





Table A1

**PRINCIPAL INDICATORS OF INDUSTRIAL ACTIVITY BY  
MAJOR INDUSTRY GROUP (4 DIGIT ISIC )– ALL ESTABLISHMENTS**

4 Digit ISIC	Descriptions	Average no. of employees	Average no. of Persons engaged	Total wages	Output	Gross Additions to Fixed Assets	Census value-added	Book Value of Fixed Assets (Beg yr.)	Depreciation of Fixed Assets
	<b>Total</b>	<b>143,467</b>	<b>249,062</b>	<b>2,460,207.9</b>	<b>37,815,311.3</b>	<b>2,671,354.6</b>	<b>14,533,585.0</b>	<b>56,872,675.2</b>	<b>238,941,596.6</b>
	<b>Mining &amp; Quarrying</b>	<b>14,868</b>	<b>15,254</b>	<b>492,040.3</b>	<b>5,282,121.3</b>	<b>562,596.4</b>	<b>3,134,367.8</b>	<b>9,003,179.5</b>	<b>810,822.4</b>
1321	Gold mining	10,732	10,791	408,526.2	4,655,589.4	400,568.2	2,695,078.7	8,464,102.8	751,062.7
1322	Bauxite minig	387	387	18,438.0	94,374.0	125,630.0	62,285.2	129,875.0	16,109.7
1323	Manganese mining	550	550	20,258.6	247,079.0	16,027.1	159,390.7	124,907.6	18,075.9
1410	Quarrying of stone, clay and sand	1,106	1,157	13,708.6	203,201.9	15,341.6	152,082.1	144,947.6	15,355.2
1422	Salt mining	1,337	1,613	10,894.3	50,822.2	5,029.5	54,598.0	54,266.4	4,210.3
1429	Diamond mining	756	756	20,214.6	31,054.7	0.0	10,933.3	85,080.0	6,008.6
	<b>Manufacturing</b>	<b>116,773</b>	<b>221,952</b>	<b>1,653,067.6</b>	<b>26,376,128.3</b>	<b>1,068,180.3</b>	<b>9,652,726.1</b>	<b>13,780,202.0</b>	<b>1,106,111.5</b>
1511	Production, processing and preserving of meat and meat products	318	415	2,743.1	49,837.1	339.7	16,008.3	33,259.7	2,333.2
1512	Processing and preservation of fish and fish products	2,771	3,981	39,411.7	671,063.6	28,340.4	201,781.2	253,654.3	20,244.4
1513	Processing and preserving of fruits and vegetables	1,259	1,282	26,979.1	267,831.3	7,161.4	56,496.9	95,830.8	8,659.7
1514	Manufacture of vegetables and animal oils and fats	3,398	4,808	28,726.7	294,095.2	26,192.8	144,463.8	378,309.4	36,322.4
1520	Manufacture of diary products	1,488	1,488	60,824.7	994,750.4	25,678.8	536,970.3	105,083.5	11,116.5
1531	Manufacture of grain mill products	3,125	5,478	37,680.2	1,253,698.8	8,389.9	601,882.0	245,431.6	21,373.1

<b>1532</b>	Manufacture of starches and starch products	104	154	1,560.5	601.5	19,390.0	-903.1	41,969.8	1,883.2
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Table A1 cont'd

<b>4 Digit ISIC</b>	<b>Descriptions</b>	<b>Average no. of employees</b>	<b>Average no. of Persons engaged</b>	<b>Total wages</b>	<b>Output</b>	<b>Gross Additions to Fixed Assets</b>	<b>Census value-added</b>	<b>Book Value of Fixed Assets (Beg yr.)</b>	<b>Depreciation of Fixed Assets</b>
<b>1533</b>	Manufacture of prepared animal feed	120	122	367.7	26,396.0	1.9	21,348.7	343.0	37.2
<b>1541</b>	Manufacture of bakery products	3,300	6,149	19,349.6	349,077.5	1,596.4	74,480.1	29,861.6	3,026.1
<b>1543</b>	Manufacture of cocoa, chocolate and sugar confectionery	1,316	1,412	50,449.8	863,497.3	33,350.7	87,245.3	343,350.6	30,542.2
<b>1549</b>	Manufacture of other food products not elsewhere classified	113	509	952.2	9,399.1	51.2	2,556.3	3,001.5	137.4
<b>1551</b>	Distilling, rectifying and blending of spirits, ethel alcohol production and fermented materials	916	1,574	13,132.8	238,902.6	5,766.1	74,861.0	914,001.7	143,444.0
<b>1552</b>	Production of wines	6	7	59.2	624.0	0.0	152.4	0.0	0.0
<b>1553</b>	Malt liquors and malt	1,501	3,160	35,431.1	943,905.9	106,931.0	606,875.0	203,165.5	18,779.7
<b>1554</b>	Soft drinks and carbonated water industries	2,870	3,047	46,866.2	622,056.3	17,059.9	197,722.1	212,290.8	19,217.5
<b>1600</b>	Manufacture of tobacco products	353	353	17,425.0	394,656.0	24,427.0	287,752.0	54,952.0	6,038.1
<b>1711</b>	Preparation and spinning of textile fibres; weaving of textiles	2,183	3,360	37,392.1	186,164.1	62,472.4	86,610.3	112,293.8	8,133.9
<b>1712</b>	Finishing of textiles	3,838	4,812	129,555.0	817,919.2	26,324.6	243,346.0	256,324.2	23,266.9
<b>1721</b>	Manufacture of made-up textile goods except wearing apparel	95	110	626.9	7,947.1	1,156.7	4,630.1	2,978.7	259.7
<b>1723</b>	Manufacture of cordage, rope, twine and netting	278	285	1,137.7	12,410.7	1,601.5	2,270.9	16,473.7	1,247.1

<b>1729</b>	Manufacture textiles not elsewhere classified	1	16	1.6	134.3	0.0	64.9	0.0	0.0
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Table A1 cont'd

<b>4 Digit ISIC</b>	<b>Descriptions</b>	<b>Average no. of employees</b>	<b>Average no. of Persons engage d</b>	<b>Total wages</b>	<b>Output</b>	<b>Gross Additions to Fixed Assets</b>	<b>Census value-added</b>	<b>Book Value of Fixed Assets (Beg yr.)</b>	<b>Depreciation of Fixed Assets</b>
<b>1730</b>	Manufacture or knitting and crocheted fabrics and articles	12	29	26.6	405.3	0.0	266.9	0.0	0.0
<b>1810</b>	Manufacture of wearing apparel by cutting and sewing fabrics	6,999	55,301	57,410.3	724,542.7	2,683.3	492,452.0	16,694.4	1,258.5
<b>1820</b>	Dressing and dyeing of fur, manufacture of articles of fur	0	22	0.0	90.9	0.0	81.7	0.0	0.0
<b>1911</b>	Tanning and dressing of leather	1	6	0.6	9.3	0.0	3.0	0.0	0.0
<b>1912</b>	Manufacture of luggage, handbags and the like, saddlery & harness	33	130	399.2	4,818.6	5.3	2,640.4	949.4	100.8
<b>1920</b>	Manufacture of footwear	678	3,619	3,801.2	48,975.9	1,724.4	18,956.9	9,087.4	869.9
<b>2010</b>	Sawmill and planing of wood	19,353	19,975	196,673.9	1,470,283.8	122,124.3	813,416.1	1,305,354.6	144,518.5
<b>2021</b>	Manufacture veneer; manufacture of plywood, laminboard, particle board and other panels and boards	10,819	10,978	133,040.3	991,415.2	24,483.2	507,693.8	704,628.6	74,870.8
<b>2022</b>	Manufacture of builders' carpentry and joinery	1,515	3,332	6,333.5	165,452.2	2,921.0	95,106.1	37,483.8	3,163.6
<b>2023</b>	Sawmill and planing of wood	209	449	1,361.6	3,632.5	12.9	1,915.7	385.3	34.9

<b>2029</b>	Manufacture of other products of wood; manufacture of articles of cork, straw products and plating materials	496	1,150	1,513.1	29,064.0	559.0	11,891.3	3,320.8	315.3
<b>2101</b>	Manufacture of pulp, paper and paper board	48	48	317.7	4,906.4	1,013.0	2,131.3	1,194.9	52.6

Table A1 cont'd

<b>4 Digit ISIC</b>	<b>Descriptions</b>	<b>Average no. of employees</b>	<b>Average no. of Persons engaged</b>	<b>Total wages</b>	<b>Output</b>	<b>Gross Additions to Fixed Assets</b>	<b>Census value-added</b>	<b>Book Value of Fixed Assets (Beg yr.)</b>	<b>Depreciation of Fixed Assets</b>
<b>2102</b>	Manufacture of corrugated paper and paper board and of containers of paper and paper board	396	401	9,156.6	87,610.4	826.8	33,514.6	38,673.4	3,472.3
<b>2109</b>	Manufacture of other articles of paper and paper board	655	677	17,006.3	58,643.9	1,270.9	28,228.6	18,507.8	1,524.4
<b>2211</b>	Publishing of books, brochures and other publications	8	20	43.2	672.0	0.0	396.7	0.0	0.0
<b>2212</b>	Publishing of newspapers, journals and periodicals	962	962	32,490.1	103,195.9	19,798.8	68,814.1	79,318.3	7,792.1
<b>2213</b>	Publishing of music	8	14	54.0	86.0	13.9	75.7	173.0	17.3
<b>2219</b>	Other publishing	83	88	594.1	3,384.5	0.0	913.6	486.5	49.3
<b>2221</b>	Printing	3,183	4,122	21,902.4	223,253.1	15,809.0	135,467.1	92,446.0	8,429.4
<b>2222</b>	Service activities related to printing	88	582	754.4	4,865.5	212.3	2,956.8	1,293.0	118.7
<b>2320</b>	Manufacture of refined petroleum products	925	925	70,658.7	4,891,779.3	129,985.0	451,094.3	2,819,265.0	281,075.9
<b>2411</b>	Manufacture of basic industrial chemicals except fertilizers and nitrogen compounds	300	369	6,487.0	39,486.1	560.5	24,395.4	15,975.0	1,560.2
<b>2412</b>	Manufacture of fertilizers and nitrogen compounds	14	14	75.1	43.7	0.0	43.7	0.0	0.0

<b>2413</b>	Manufacture of plastics in primary forms and of synthetic rubber	297	297	2,511.1	87,044.8	8,615.6	23,746.6	34,376.4	3,286.5
<b>2421</b>	Manufacture of plastics in primary forms and of synthetic rubber	109	109	4,210.0	104,000.9	2,632.4	6,087.2	5,413.9	545.4

Table A1 cont'd

<b>4 Digit ISIC</b>	<b>Descriptions</b>	<b>Average no. of employees</b>	<b>Average no. of Persons engaged</b>	<b>Total wages</b>	<b>Output</b>	<b>Gross Additions to Fixed Assets</b>	<b>Census value-added</b>	<b>Book Value of Fixed Assets (Beg yr.)</b>	<b>Depreciation of Fixed Assets</b>
<b>2422</b>	Manufacture of paints, vanishes and similar coatings, printing ink and mastics	746	747	7,260.9	215,097.9	23,638.2	33,964.1	23,372.9	2,152.3
<b>2423</b>	Manufacture of pharmaceuticals, medicinal chemicals and botanical products	2,326	2,442	29,008.6	459,797.4	23,950.5	187,909.8	124,748.7	9,811.7
<b>2424</b>	Manufacture of soap and detergent, cleaning and polishing preparations, perfumes and toilet preparations	2,993	3,432	85,976.4	1,686,410.6	31,397.2	752,495.7	169,186.8	15,391.3
<b>2429</b>	Manufacture of chemical products not elsewhere classified	34	36	138.0	777.5	0.0	570.5	810.0	54.2
<b>2430</b>	Manufacture of man-made fibres	582	584	3,126.3	34,708.1	3,147.7	21,905.8	21,120.9	1,418.8
<b>2519</b>	Manufacture of rubber and tube; retreading & rebuilding of rubber tyres	2,260	2,395	18,502.3	200,209.3	12,622.7	72,759.0	174,979.6	13,921.1
<b>2520</b>	Manufacture of plastic products	4,608	4,619	46,880.0	952,006.5	72,796.5	337,256.9	417,507.4	35,886.7
<b>2610</b>	Manufacture of glass and glass products	12	39	33.5	2,271.8	0.0	648.2	0.0	0.0
<b>2691</b>	Manufacture of non-structural non-fractory ceramic ware	137	327	914.4	3,306.0	1,510.7	2,467.9	2,958.2	202.7

<b>2692</b>	Manufacture of refractory ceramic products	178	220	714.3	3,838.7	157.0	2,079.0	1,621.2	173.1
<b>2693</b>	Manufacture of refractory ceramic products	903	1,000	2,666.5	17,154.1	657.3	7,843.8	26,637.6	2,544.8

Table A1 cont'd

<b>4 Digit ISIC</b>	<b>Descriptions</b>	<b>Average no. of employees</b>	<b>Average no. of Persons engaged</b>	<b>Total wages</b>	<b>Output</b>	<b>Gross Additions to Fixed Assets</b>	<b>Census value-added</b>	<b>Book Value of Fixed Assets (Beg yr.)</b>	<b>Depreciation of Fixed Assets</b>
<b>2694</b>	Manufacture of cement, lime and plaster	761	809	53,150.4	1,899,413.3	11,291.8	524,085.1	252,411.4	23,476.0
<b>2695</b>	Manufacture of articles of concrete, cement and plaster	4,284	5,386	49,202.4	355,490.0	8,111.1	178,459.8	80,552.1	7,787.2
<b>2696</b>	Cutting, shaping and finishing of stone	4	4	15.1	48.2	0.0	26.6	0.0	0.0
<b>2699</b>	Manufacture of other non-metallic mineral products not elsewhere classified	62	83	298.8	2,821.2	0.0	1,356.5	14.0	1.4
<b>2710</b>	Manufacture of basic precious & non-ferrous metals	1,354	1,464	47,226.4	505,645.0	60,045.4	108,331.4	69,251.1	5,602.5
<b>2720</b>	Manufacture of basic precious & non-ferrous metals	837	861	35,919.6	653,216.4	6,012.7	407,747.8	136,393.6	11,788.9
<b>2731</b>	Casting of iron and steel	640	644	8,223.2	77,040.3	1,114.8	27,276.1	20,157.0	1,962.8
<b>2732</b>	Casting of non-ferrous metals	0	8	0.0	73.6	0.0	13.4	0.0	0.0
<b>2811</b>	Manufacture of structural metal products	1,911	7,963	13,766.8	428,851.0	7,006.7	178,765.0	31,668.9	2,340.7
<b>2812</b>	Manufacture of tanks, reservoirs and containers of metal	177	547	1,694.5	22,904.4	94.4	1,391.1	25,207.9	2,241.4

<b>2813</b>	Manufacture of steam generators, except central heating hot water boilers	4	6	20.2	85.0	0.0	57.9	0.0	0.0
<b>2891</b>	Forging, pressing, stamping and roll-forming of metal; powder metallurgy	4	11	11.2	50.3	0.0	23.6	0.0	0.0

Table A1 cont'd

<b>4 Digit ISIC</b>	<b>Descriptions</b>	<b>Average no. of employees</b>	<b>Average no. of Persons engaged</b>	<b>Total wages</b>	<b>Output</b>	<b>Gross Additions to Fixed Assets</b>	<b>Census value-added</b>	<b>Book Value of Fixed Assets (Beg yr.)</b>	<b>Depreciation of Fixed Assets</b>
<b>2892</b>	Treatment and coating of metals; general mechanical engineering on fee or contract basis	15	57	48.0	496.7	1.4	220.7	5.5	0.6
<b>2893</b>	Manufacture of cutlery, hand tools, and general hardware	430	820	6,052.2	95,917.1	143.3	33,915.1	19,549.4	1,252.8
<b>2899</b>	Manufacture of other fabricated metal products not elsewhere classified	3,674	6,422	34,394.5	529,858.3	18,369.8	239,855.2	103,384.8	8,544.1
<b>2911</b>	Manufacture of engines and turbines except aircraft, vehicles, and cycle engines	0	4	0.0	95.4	0.0	88.8	0.0	0.0
<b>2914</b>	Manufacture of ovens, furnances and furnance burners	36	71	195.7	2,451.8	0.0	551.7	0.0	0.0
<b>2915</b>	Manufacture of lifting and handling equipment	0	33	0.0	174.6	0.5	106.3	3.7	0.4
<b>2921</b>	Manufacture of agricultural and forestry machinery	434	992	6,967.9	29,986.6	3,770.1	15,986.2	9,726.4	817.6
<b>2922</b>	Manufacture of machine tools	129	215	586.0	8,811.3	125.3	4,247.2	789.3	87.1

<b>2923</b>	Manufacture of parts and accessories for motor vehicles and their engines	24	28	198.2	434.6	15.9	241.1	285.6	26.0
<b>2924</b>	Manufacture of machinery for mining, quarrying and construction	90	108	1,383.6	8,139.0	377.9	5,002.6	2,251.9	150.7

Table A1 cont'd

<b>4 Digit ISIC</b>	<b>Descriptions</b>	<b>Average no. of employees</b>	<b>Average no. of Persons engaged</b>	<b>Total wages</b>	<b>Output</b>	<b>Gross Additions to Fixed Assets</b>	<b>Census value-added</b>	<b>Book Value of Fixed Assets (Beg yr.)</b>	<b>Depreciation of Fixed Assets</b>
<b>2925</b>	Manufacture of machinery for food, beverages and tobacco processing	364	683	3,593.6	11,779.6	410.7	8,228.7	2,738.1	207.2
<b>2926</b>	Manufacture of machinery for textile, apparel and leather production	0	3	0.0	5.4	0.0	2.8	0.0	0.0
<b>2927</b>	Manufacture of weapons and ammunition	76	89	1,829.6	62,867.1	1,530.3	12,403.9	3,804.8	411.8
<b>2929</b>	Manufacture of other special purpose machinery	8	25	186.1	1,330.3	1.5	1,105.7	0.0	0.0
<b>3130</b>	Manufacture of insulated wire and cable	195	205	6,615.8	122,861.8	3,407.0	18,863.8	14,035.4	1,492.8
<b>3150</b>	Manufacture of electric lamps and lighting equipment	2	5	10.1	36.3	0.0	15.2	0.0	0.0
<b>3220</b>	Manufacture of television and radio transmitters and apparatus for line	1	4	4.8	43.6	0.0	6.5	0.0	0.0



telephone and line  
telegraphy

<b>3230</b>	Manufacture of television and radio receivers, sound and video recording or reproduction apparatus and associated goods	109	148	1,324.2	24,780.6	21.4	9,639.3	3,375,473.7	52,383.8
<b>3311</b>	Manufacture of medical and surgical equipment and orthopaedic appliances	8	24	78.7	1,275.0	0.0	1,075.4	1,218.0	73.8

Table A1 cont'd

<b>4 Digit ISIC</b>	<b>Descriptions</b>	<b>Average no. of employees</b>	<b>Average no. of Persons engage d</b>	<b>Total wages</b>	<b>Output</b>	<b>Gross Additions to Fixed Assets</b>	<b>Census value-added</b>	<b>Book Value of Fixed Assets (Beg yr.)</b>	<b>Depreciation of Fixed Assets</b>
<b>3320</b>	Manufacture of optical instruments and photographic equipment	11	11	103.0	2,911.0	23.0	1,468.0	896.0	98.0
<b>3420</b>	Manufacture of bodies (coachwork) for motor vehicles; manufacture of trailers and semi-trailers	163	713	2,855.2	16,090.1	272.1	4,247.1	27,916.3	1,502.5
<b>3430</b>	Manufacture of parts and accessories for motor vehicles and their engines	13	108	120.8	2,485.6	0.0	1,452.1	25.5	2.5
<b>3511</b>	Building and repairing of ships	14	137	43.6	1,449.2	0.0	1,001.3	0.0	0.0
<b>3592</b>	Manufacture of bicycles and invalid carriages	3	13	22.6	114.5	0.0	36.3	0.0	0.0
<b>3599</b>	Manufacture of other transport equipment not elsewhere classified	37	108	152.3	1,995.9	13.3	2,022.4	78.8	9.1

<b>3610</b>	Manufacture of furniture of any kind except, stone, ceramic & concrete	797	1,623	12,749.6	147,428.5	21,874.6	102,489.5	97,297.4	7,646.4
<b>3611</b>	Manufacture of wooden furniture	8,254	27,664	47,987.4	660,813.9	9,923.4	327,050.7	51,151.2	5,037.8
<b>3612</b>	Manufacture of plastic furniture	42	42	316.1	28,923.9	12,661.8	21,055.8	1,500.9	275.5
<b>3613</b>	Manufacture of metal furniture	60	297	50.6	5,016.2	8.5	1,664.6	11.5	0.9
<b>3691</b>	Manufacture of jewellery and related articles	179	301	1,061.5	17,142.0	7.3	13,263.8	167.8	12.7
<b>3692</b>	Manufacture of musical instruments	0	70	0.0	2,522.8	0.0	1,362.7	0.0	0.0

Table A1 cont'd

<b>4</b>	<b>Digit</b>	<b>ISIC</b>	<b>Descriptions</b>	<b>Average no. of employees</b>	<b>Average no. of Persons engaged</b>	<b>Total wages</b>	<b>Output</b>	<b>Gross Additions to Fixed Assets</b>	<b>Census value-added</b>	<b>Book Value of Fixed Assets (Beg yr.)</b>	<b>Depreciation of Fixed Assets</b>
<b>3693</b>			Manufacture of sports goods	0	7	0.0	21.3	0.0	5.4	0.0	0.0
<b>3694</b>			Manufacture of games and toys	6	38	60.3	100.7	-1.8	68.7	4.0	0.0
<b>3699</b>			Other manufacturing not elsewhere classified	244	1,122	1,832.5	13,920.4	184.6	7,642.4	1,683.9	201.7
			<b>Electricity &amp; Water</b>	<b>11,826</b>	<b>11,856</b>	<b>315,100.0</b>	<b>6,157,061.7</b>	<b>1,040,578.0</b>	<b>1,746,491.2</b>	<b>34,089,293.7</b>	<b>237,024,662.7</b>
<b>4010</b>			Production and Distribution of Electricity	7,298	7,298	230,106.0	5,741,595.0	1,033,703.0	1,554,356.7	32,616,838.0	236,960,954.6
<b>4100</b>			Production and Distribution of Water	4,528	4,558	84,994.0	415,466.7	6,875.0	192,134.4	1,472,455.7	63,708.2

Table A2

**PRINCIPAL INDICATORS FOR MINING AND QUARRYING  
ESTABLISHMENTS ENGAGING 10 OR MORE PERSONS BY 4 DIGIT ISIC**

<b>ISIC</b>	<b>Description</b>	<b>Ave. Emp</b>	<b>Ave. Persons engage d</b>	<b>Wages</b>	<b>Output</b>	<b>Census value- added</b>	<b>Book Value of Fixed Assets (Beg yr.)</b>	<b>Depreciatio n of Fixed Assests</b>	<b>Gross Addition s to Fixed Assets</b>
1321	Gold mining	10,658	10,712	408,056	4,652,922	2,694,061	8,463,937	751,051	400,518
1322	Bauxite minig	387	387	18,438	94,374	62,285	129,875	16,110	125,630
1323	Manganese mining	550	550	20,259	247,079	159,391	124,908	18,076	16,027
1410	Quarrying of stone, clay and sand	1,027	1,058	13,469	202,595	151,653	144,635	15,331	15,312
1422	Salt mining	1,276	1,546	10,591	50,342	54,018	53,045	4,185	4,924
1429	Diamond mining	756	756	20,215	31,055	10,933	85,080	6,009	0
<b>Total</b>		<b>14,654</b>	<b>15,009</b>	<b>491,027</b>	<b>5,278,367</b>	<b>3,132,341</b>	<b>9,001,479</b>	<b>810,761</b>	<b>562,411</b>

TABLE A3

**PRINCIPAL INDICATORS OF MANUFACTURING ACTIVITY  
FOR ESTABLISHMENTS ENGAGING 10 OR MORE PERSONS BY 4 DIGIT ISIC**

Major Industry Code	Description	No. of employees	No. of pers. eng.	Wages and salaries	Value of output	Census value added	Book Value of Fixed Assets (Beg yr.)	Depreciation of Fixed Assests	Gross Additions to Fixed Assets
<b>Manufacturing</b>		<b>97,759</b>	<b>133,174</b>	<b>1,552,195.33</b>	<b>24,577,757.99</b>	<b>8,687,501.37</b>	<b>13,760,641.19</b>	<b>1,104,309.34</b>	<b>1,066,311.61</b>
<b>1511</b>	Production, processing and preserving of meat and meat products	258	310	2,465.49	43,054.68	14,289.32	33,259.72	2,333.16	339.68
<b>1512</b>	Processing and preservation of fish and fish products	2,591	2,774	39,072.40	637,101.14	189,435.11	253,520.12	20,223.57	28,338.74
<b>1513</b>	Processing and preserving of fruits and vegetables	1,248	1,260	26,961.26	267,739.51	56,432.42	95,830.75	8,659.72	7,161.43
<b>1514</b>	Manufacture of vegetables and animal oils and fats	3,067	3,621	28,252.62	282,714.34	139,185.29	378,097.83	36,301.77	26,191.48
<b>1520</b>	Manufacture of dairy products	1,488	1,488	60,824.69	994,750.40	536,970.30	105,083.52	11,116.52	25,678.79
<b>1531</b>	Manufacture of grain mill products	1,702	1,760	33,638.11	1,203,431.88	560,538.41	245,250.15	21,357.40	8,381.52

<b>1532</b>	Manufacture of starches and starch products	60	65	1,427.30	59.80	-1,409.25	41,969.80	1,883.22	19,390.00
<b>1533</b>	Manufacture of prepared animal feed	75	77	270.49	24,102.81	21,239.76	342.98	37.16	1.90
<b>1541</b>	Manufacture of bakery products	2,856	3,652	16,226.04	239,829.77	59,743.46	29,758.61	3,016.50	1,593.58
<b>1543</b>	Manufacture of cocoa, chocolate and sugar confectionery	1,314	1,405	50,446.06	863,450.49	87,237.31	343,350.64	30,542.17	33,350.67
<b>1549</b>	Manufacture of other food products not elsewhere classified	88	157	805.23	6,157.25	1,311.45	3,001.49	137.40	51.15
<b>1551</b>	Distilling, rectifying and blending of spirits, ethel alcohol production and fermented materials	717	1,052	12,631.78	233,345.00	72,346.59	913,906.66	143,435.75	5,766.11
<b>1553</b>	Malt liquors and malt	1,018	1,268	34,098.55	926,987.34	601,818.90	203,151.97	18,777.78	106,918.07

Table A3 Cont'd

<b>Major Industry Code</b>	<b>Description</b>	<b>No. of employees</b>	<b>No. of pers. eng.</b>	<b>Wages and salaries</b>	<b>Value of output</b>	<b>Census value added</b>	<b>Book Value of Fixed Assets (Beg yr.)</b>	<b>Depreciation of Fixed Assests</b>	<b>Gross Additions to Fixed Assets</b>
<b>1554</b>	Soft drinks and carbonated water industries	2,585	2,635	46,380.51	615,333.39	195,569.99	212,013.34	19,186.50	17,051.88
<b>1600</b>	Manufacture of tobacco products	353	353	17,425.00	394,656.00	287,752.00	54,952.00	6,038.12	24,427.00
<b>1711</b>	Preparation and spinning of textile fibres; weaving of textiles	1,951	2,539	36,737.61	180,513.01	82,551.76	112,280.75	8,133.01	62,472.14
<b>1712</b>	Finishing of textiles	3,725	4,261	129,217.88	811,193.94	240,880.76	256,322.31	23,266.75	26,322.08
<b>1721</b>	Manufacture of made-up textile goods except wearing apparel	90	90	599.22	7,782.40	4,552.69	2,978.70	259.70	1,156.65
<b>1723</b>	Manufacture of cordage, rope, twine and netting	274	280	1,129.90	12,334.48	2,226.37	16,473.67	1,247.05	1,601.54
<b>1810</b>	Manufacture of wearing apparel by cutting and sewing fabrics	3,104	18,599	37,139.89	352,403.39	221,193.26	15,948.56	1,200.94	2,648.27

<b>1912</b>	Manufacture of luggage, handbags and the like, saddlery & harness	29	32	135.64	2,867.30	1,502.29	948.60	100.73	5.00
<b>1920</b>	Manufacture of footwear	449	1,067	3,064.98	19,429.78	6,965.44	8,969.03	863.11	1,737.64
<b>2010</b>	Sawmill and planing of wood	19,036	19,513	194,692.25	1,449,548.67	797,645.77	1,300,861.58	144,044.00	122,058.29
<b>2021</b>	Manufacture veneer; manufacture of plywood, laminboard, particle board and other panels and boards	10,756	10,793	132,782.85	987,487.92	504,875.34	704,443.67	74,857.21	24,359.37
<b>2022</b>	Manufacture of builders' carpentry and joinery	1,218	2,185	5,300.10	105,559.21	50,079.05	37,199.21	3,132.32	2,854.90
<b>2023</b>	Sawmill and planing of wood	63	108	184.32	935.78	491.31	302.82	26.98	11.99
<b>2029</b>	Manufacture of other products of wood; manufacture of articles of cork, straw products and plating materials	443	629	1,325.78	9,141.75	6,904.71	3,281.02	311.27	563.35
<b>2101</b>	Manufacture of pulp, paper and paper board	48	48	317.66	4,906.39	2,131.32	1,194.86	52.59	1,013.03

Table A3 Cont'd

<b>Major Industry Code</b>	<b>Description</b>	<b>No. of employees</b>	<b>No. of pers. eng.</b>	<b>Wages and salaries</b>	<b>Value of output</b>	<b>Census value added</b>	<b>Book Value of Fixed Assets (Beg yr.)</b>	<b>Depreciation of Fixed Assests</b>	<b>Gross Additions to Fixed Assets</b>
<b>2102</b>	Manufacture of corrugated paper and paper board and of containers of paper and paper board	396	401	9,156.63	87,610.41	33,514.61	38,673.39	3,472.26	826.82
<b>2109</b>	Manufacture of other articles of paper and paper board	647	667	16,995.44	58,598.28	28,206.28	18,507.81	1,524.37	1,270.90
<b>2212</b>	Publishing of newspapers, journals and periodicals	962	962	32,490.09	103,195.90	68,814.07	79,318.28	7,792.13	19,798.84
<b>2213</b>	Publishing of music	8	14	54.00	86.00	75.70	173.00	17.30	13.87
<b>2219</b>	Other publishing	73	73	556.21	3,000.00	776.71	486.48	49.31	0.00
<b>2221</b>	Printing	1,848	2,177	14,854.10	155,655.90	84,276.27	89,652.87	8,190.08	15,566.76
<b>2222</b>	Service activities related to printing	88	162	443.36	2,808.49	1,485.65	1,229.79	112.93	212.28
<b>2320</b>	Manufacture of refined petroleum products	925	925	70,658.71	4,891,779.34	451,094.34	2,819,265.00	281,075.86	129,985.00

<b>2411</b>	Manufacture of basic industrial chemicals except fertilizers and nitrogen compounds	204	270	3,664.19	32,239.34	18,910.30	15,974.86	1,560.14	560.49
<b>2412</b>	Manufacture of fertilizers and nitrogen compounds	14	14	75.10	43.70	43.70	0	0	0
<b>2413</b>	Manufacture of plastics in primary forms and of synthetic rubber	285	285	2,423.20	86,797.00	23,593.98	34,376.43	3,286.49	8,615.63
<b>2421</b>	Manufacture of plastics in primary forms and of synthetic rubber	109	109	4,210.01	104,000.85	6,087.19	5,413.93	545.36	2,632.41
<b>2422</b>	Manufacture of paints, vanishes and similar coatings, printing ink and mastics	746	747	7,260.87	215,097.87	33,964.09	23,372.91	2,152.26	23,638.15
<b>2423</b>	Manufacture of pharmaceuticals, medicinal chemicals and botanical products	2,272	2,314	28,477.21	456,418.29	187,024.99	124,748.69	9,811.72	23,950.53

Table A3 Cont'd

<b>Major Industry Code</b>	<b>Description</b>	<b>No. of employees</b>	<b>No. of pers. eng.</b>	<b>Wages and salaries</b>	<b>Value of output</b>	<b>Census value added</b>	<b>Book Value of Fixed Assets (Beg yr.)</b>	<b>Depreciation of Fixed Assets</b>	<b>Gross Additions to Fixed Assets</b>
<b>2424</b>	Manufacture of soap and detergent, cleaning and polishing preparations, perfumes and toilet preparations	2,980	3,202	85,951.40	1,684,092.15	751,222.49	169,184.76	15,391.11	31,397.16
<b>2429</b>	Manufacture of chemical products not elsewhere classified	29	31	134.35	757.50	563.90	810.00	54.20	0.00
<b>2430</b>	Manufacture of man-made fibres	582	584	3,126.26	34,708.08	21,905.80	21,120.86	1,418.78	3,147.66
<b>2519</b>	Manufacture of rubber and tube; retreading & rebuilding of rubber tyres	2,260	2,365	18,502.30	200,062.42	72,757.04	174,979.55	13,921.05	12,622.70
<b>2520</b>	Manufacture of plastic products	4,608	4,619	46,880.04	952,006.47	337,256.88	417,507.42	35,886.65	72,796.45

<b>2691</b>	Manufacture of non-structural non-fractory ceramic ware	73	243	395.61	1,194.97	969.93	2,958.16	202.66	1,510.72
<b>2692</b>	Manufacture of refractory ceramic products	147	173	589.89	2,421.90	1,467.97	1,621.20	173.10	157.00
<b>2693</b>	Manufacture of refractory ceramic products	824	847	2,344.16	13,138.46	6,647.35	26,474.06	2,525.46	647.14
<b>2694</b>	Manufacture of cement, lime and plaster	760	803	53,145.58	1,899,270.39	524,063.22	252,411.38	23,476.01	11,291.83
<b>2695</b>	Manufacture of articles of concrete, cement and plaster	2,085	2,614	32,802.99	205,869.68	117,894.69	75,209.59	7,348.84	7,995.91
<b>2710</b>	Manufacture of basic precious & non-ferrous metals	1,354	1,451	47,226.41	505,514.45	108,287.93	69,251.06	5,602.54	60,045.37
<b>2720</b>	Manufacture of basic precious & non-ferrous metals	837	853	35,919.55	653,124.03	407,693.83	136,393.64	11,788.85	6,012.66
<b>2731</b>	Casting of iron and steel	640	644	8,223.20	77,040.34	27,276.09	20,156.98	1,962.80	1,114.81
<b>2811</b>	Manufacture of structural metal products	1,147	4,275	11,500.58	200,162.67	68,910.32	30,925.82	2,275.54	6,949.28
<b>2812</b>	Manufacture of tanks, reservoirs and containers of metal	164	266	1,595.72	20,754.17	477.99	25,044.82	2,224.08	67.07

Table A3 Cont'd

<b>Major Industry Code</b>	<b>Description</b>	<b>No. of employees</b>	<b>No. of pers. eng.</b>	<b>Wages and salaries</b>	<b>Value of output</b>	<b>Census value added</b>	<b>Book Value of Fixed Assets (Beg yr.)</b>	<b>Depreciation of Fixed Assets</b>	<b>Gross Additions to Fixed Assets</b>
<b>2892</b>	Treatment and coating of metals; general mechanical engineering on fee or contract basis	4	13	12.71	122.82	57.04	5.45	0.55	1.35
<b>2893</b>	Manufacture of cutlery, hand tools, and general hardware	384	421	5,908.81	92,718.92	33,178.02	19,535.30	1,251.62	141.73
<b>2899</b>	Manufacture of other fabricated metal products not elsewhere classified	3,329	4,662	31,916.99	470,864.16	211,312.21	102,963.24	8,487.90	18,074.51
<b>2914</b>	Manufacture of ovens, furnances and furnance burners	20	37	163.01	2,127.12	429.19	0.00	0.00	0.00



<b>2915</b>	Manufacture of lifting and handling equipment	0	25	0.00	95.00	85.19	2.50	0.25	0.08
<b>2921</b>	Manufacture of agricultural and forestry machinery	405	963	5,121.11	21,402.39	9,684.87	9,726.39	817.62	3,770.11
<b>2922</b>	Manufacture of machine tools	129	173	585.98	7,186.26	2,921.20	777.89	85.51	123.30
<b>2923</b>	Manufacture of parts and accessories for motor vehicles and their engines	24	28	198.21	434.57	241.06	285.57	26.02	15.87
<b>2924</b>	Manufacture of machinery for mining, quarrying and construction	85	86	1,337.58	7,430.05	4,712.52	2,251.85	150.73	377.88
<b>2925</b>	Manufacture of machinery for food, beverages and tobacco processing	334	485	2,090.45	5,974.27	4,183.49	2,695.50	199.63	408.02
<b>2927</b>	Manufacture of weapons and ammunition	76	76	1,829.63	62,812.38	12,376.73	3,804.78	411.75	1,530.31
<b>2929</b>	Manufacture of other special purpose machinery	3	13	2.70	18.00	18.86	0	0	1.50
<b>3130</b>	Manufacture of insulated wire and cable	195	205	6,615.77	122,861.78	18,863.75	14,035.44	1,492.82	3,407.00

Table A3 Cont'd

<b>Major Industry Code</b>	<b>Description</b>	<b>No. of employees</b>	<b>No. of pers. eng.</b>	<b>Wages and salaries</b>	<b>Value of output</b>	<b>Census value added</b>	<b>Book Value of Fixed Assets (Beg yr.)</b>	<b>Depreciation of Fixed Assets</b>	<b>Gross Additions to Fixed Assets</b>
<b>3230</b>	Manufacture of television and radio receivers, sound and video recording or reproduction apparatus and associated goods	65	70	1,254.12	24,048.98	9,198.31	3,375,473.66	52,383.76	21.38
<b>3311</b>	Manufacture of medical and surgical equipment and orthopaedic appliances	8	24	78.70	1,275.00	1,075.38	1,218.00	73.80	0.00
<b>3320</b>	Manufacture of optical instruments and photographic equipment	11	11	103.00	2,911.00	1,468.00	896.00	98.00	23.00

	Manufacture of bodies (coachwork) for motor vehicles; manufacture of trailers and semi-trailers	160	500	2,842.54	12,248.91	3,943.18	27,916.26	1,502.46	272.14
<b>3420</b>									
<b>3511</b>	Building and repairing of ships	5	5	12.06	74.83	21.58	0.00	0.00	0.00
	Manufacture of other transport equipment not elsewhere classified	23	36	97.84	808.07	1,485.43	78.76	9.11	13.34
<b>3599</b>									
	Manufacture of furniture of any kind except, stone, ceramic & concrete	636	691	11,976.87	136,549.41	95,835.88	97,296.21	7,646.33	21,874.64
<b>3610</b>									
<b>3611</b>	Manufacture of wooden furniture	3,866	9,757	24,402.49	228,633.43	109,376.70	48,394.22	4,797.46	9,119.56
<b>3612</b>	Manufacture of plastic furniture	42	42	316.11	28,923.91	21,055.75	1,500.86	275.46	12,661.84
<b>3613</b>	Manufacture of metal furniture	50	217	0.00	4,353.01	1,263.25	11.50	0.88	8.48
	Manufacture of jewellery and related articles	122	146	893.25	12,127.09	10,809.60	150.81	11.70	7.35
<b>3691</b>									
<b>3699</b>	Other manufacturing not elsewhere classified	113	385	1,224.67	7,489.74	4,179.74	1,683.90	201.68	184.56

Table A4

ISIC	Division Code	Average no. of Employees	Average no. of Persons Engaged	Total wages	Output	Input Costs	Census Value-Added
<b>Total</b>		<b>143,467</b>	<b>249,062</b>	<b>2,460,208</b>	<b>37,815,311</b>	<b>23,150,556</b>	<b>14,533,614</b>
<b>Mining and Quarrying</b>		<b>14,868</b>	<b>15,254</b>	<b>492,040</b>	<b>5,282,121.31</b>	<b>2,201,205.09</b>	<b>3,134,398</b>
Metal ore mining	13	11,669	11,728	528,655	4,997,042.40	2,121,041.12	2,916,754.57
Other mining	14	3,199	3,526	47,101	285,078.91	80,163.97	217,613.26
<b>Manufacturing</b>		<b>116,773</b>	<b>221,952</b>	<b>1,653,068</b>	<b>26,376,128.27</b>	<b>16,697,453</b>	<b>9,652,725</b>
Manufacture of food products and beverages	15	22,606	33,019	364,534	6,585,736.48	3,884,933.78	2,619,348.26
Manufacture of tobacco products	16	353	353	17,425	394,656.00	128,263.00	287,752.00
Manufacture of textiles	17	6,406	8,611	168,740	1,024,980.72	661,150.89	336,820.14
Manufacture of wearing apparel; dressing and dyeing of fur	18	6,999	55,538	57,410	724,633.64	281,804.20	442,606.25
Tanning and dressing of leather, manufacture of luggage, handbags, saddlery, harness and footwear	19	712	3,755	4,201	53,803.75	31,966.94	21,026.07
Manufacture of wood and wood products excluding furniture	20	32,394	35,886	338,922	2,659,847.70	1,265,421.78	1,429,179.17
Manufacture of paper and paper products	21	1,099	1,126	26,481	151,160.74	82,626.00	63,873.83
Publishing, printing and reproduction of recorded media	22	4,332	5,786	55,838	335,457.03	127,609.86	207,285.02
Manufacture of coke, refined petroleum products and nuclear fuel	23	925	925	70,659	4,891,779.34	4,513,460.00	451,094.34

Table A4 - Cont'd

ISIC	Division Code	Average no. of Employees	Average no. of Persons Engaged	Total wages	Output	Input Costs	Census Value-Added
Manufacture of chemical and chemical products	24	7,399	8,028	138,793	2,627,366.83	1,553,546.66	1,050,441.81
Manufacture of rubber and plastic products	25	6,868	7,015	65,382	1,152,215.77	713,522.87	410,015.88
Manufacture of other non-metallic products	26	6,341	7,865	106,995	2,284,343.40	1,530,030.29	710,834.34
Manufacture of basic metals	27	2,831	2,977	91,369	1,235,975.34	670,914.09	543,365.16
Manufacture of fabricated metal products except machinery and equipment	28	6,215	15,846	55,987	1,078,162.80	661,406.78	452,609.80
Manufacture of machinery and equipment n.e.c.	29	1,160	2,254	14,941	126,075.42	73,386.17	47,615.28
Manufacture of electrical machinery and apparatus	31	197	210	6,626	122,898.08	92,467.67	18,877.74
Manufacture of radio, television and communication equipment and apparatus	32	110	153	1,329	24,824.21	16,672.20	9,630.69
Manufacture of medical, precision and optical instruments, watches and clocks	33	19	35	182	4,186.00	1,804.46	2,543.38
Manufacture of motor vehicles, trailers and semi-trailers	34	175	820	2,976	18,575.74	11,593.13	5,618.02
Manufacture of other transport equipments	35	54	264	218	3,559.61	1,449.94	3,024.97
Manufacture of furniture; manufacturing n.e.c.	36	9,583	31,245	64,058	875,889.67	467,578.65	465,008.19
<b>Electricity &amp; Water</b>		<b>11,826</b>	<b>11,856</b>	<b>315,100</b>	<b>6,157,061.71</b>	<b>4,251,898.18</b>	<b>1,746,491.15</b>
Electricity ,gas, steam and hot water supply	40	7,298	7,298	230,106	5,741,595.00	4,040,006.29	1,554,356.71
Collection, purification and distribution of water	41	4,528	4,558	84,994	415,466.71	211,891.89	192,134.44

Table A5

## ALL PRINCIPAL INDICATORS OF INDUSTRIAL ACTIVITY BY MAJOR INDUSTRY GROUP (4 DIGIT ISIC)

Isic	No. of Employees	Unpaid workers	Average no. of employees	Average no. of Persons engaged	Wages:Cash	Wag:Kind	Wage:Supplements	Total wages	Output	Input costs	Stocks Mat Fue &Sup beginning	Stocks Fin Gds., Wk Prog, Gds Res beginning
1321	11,186	59	10,732	10,791	289,175.5	21,095.1	98,255.5	408,526.2	4,655,589.4	1,998,135.1	379,733.2	376,950.8
1322	382	0	387	387	15,819.0	0.0	2,619.0	18,438.0	94,374.0	27,418.8	10,363.0	19,665.0
1323	555	0	550	550	18,606.0	0	1,652.6	20,258.6	247,079.0	95,487.2	26,757.8	31,669.1
1410	1,130	51	1,106	1,157	11,604.2	646.6	1,457.7	13,708.6	203,201.9	50,555.5	3,191.6	2,637.6
1422	1,415	276	1,337	1,613	8,958.1	1,218.5	717.7	10,894.3	50,822.2	9,517.0	1,604.0	1,035.3
1429	756	0	756	756	18,241.2	0.0	1,973.4	20,214.6	31,054.7	20,091.5	0.0	0.0
1511	318	96	318	414	2,388.5	46.0	308.6	2,743.1	49,837.1	33,374.6	118.0	26.3
1512	2545	1,210	2771	3,981	30,661.6	5,904.4	2,845.7	39,411.7	671,063.6	456,600.9	22,242.2	39,136.2
1513	1256	23	1259	1,282	23,856.1	1,510.0	1,613.0	26,979.1	267,831.3	203,233.8	26,790.7	1,837.7
1514	2608	1,410	3398	4,808	21,832.3	2,625.4	4,269.0	28,726.7	294,095.2	149,646.6	6,589.5	3,355.2
1520	1458	0	1488	1,488	41,847.5	14,092.2	4,885.0	60,824.7	994,750.4	457,025.0	15,110.8	23,497.2
1531	3113	2,352	3125	5,477	34,511.0	183.2	2,986.0	37,680.2	1,253,698.8	624,059.7	94,303.0	14,237.1
1532	100	49	104	153	1,359.3	47.9	153.3	1,560.5	601.5	4,129.8	0.0	0.0
1533	122	2	120	122	289.9	12.5	65.3	367.7	26,396.0	5,363.5	505.0	32.2
1541	3256	2,848	3300	6,148	16,083.3	2,206.9	1,059.3	19,349.6	349,077.5	270,973.7	7,414.4	2,563.9
1543	1321	96	1316	1,412	35,653.4	8,322.4	6,474.0	50,449.8	863,497.3	785,079.0	65,730.5	84,873.4
1549	112	397	113	510	786.6	70.3	95.4	952.2	9,399.1	5,681.7	57.8	1,270.8
1551	883	658	916	1,574	12,108.2	179.8	844.9	13,132.8	238,902.6	169,483.1	26,392.4	6,362.6
1552	6	1	6	7	50.4	0.0	8.8	59.2	624.0	471.6	0.0	0.0
1553	1504	1,659	1501	3,160	29,300.7	2,766.6	3,363.8	35,431.1	943,905.9	307,857.5	42,999.6	6,911.4
1554	2796	177	2870	3,047	41,333.7	1,085.1	4,447.3	46,866.2	622,056.3	409,361.3	56,602.7	2,073.8
1600	300	0	353	353	14,581.0	0.0	2,844.0	17,425.0	394,656.0	128,263.0	54,827.0	2,214.0
1711	2164	1,177	2183	3,360	26,897.3	7,633.1	2,861.8	37,392.1	186,164.1	94,108.8	7,400.0	13,289.9
1712	3798	974	3838	4,812	103,496.1	5,700.9	20,358.0	129,555.0	817,919.2	554,483.5	83,064.4	64,961.9
1721	94	15	95	110	530.8	36.8	59.4	626.9	7,947.1	3,329.0	159.1	241.0
1723	285	7	278	285	987.2	18.4	132.1	1,137.7	12,410.7	8,652.7	1,328.6	2,738.4
1729	1	15	1	16	1.6	0.0	0.0	1.6	134.3	69.4	0.0	0.0
1730	12	17	12	29	26.6	0.1	0.0	26.6	405.3	138.4	0.0	0.0
1810	7018	48,302	6999	55,301	49,169.6	7,290.1	950.7	57,410.3	724,542.7	231,867.5	1,547.9	2,669.4

1820	0	22	0	22	0.0	0.0	0.0	0.0	90.9	9.2	0.0	0.0
1911	1	5	1	6	0.6	0.0	0.0	0.6	9.3	6.3	0.0	0.0
1912	33	98	33	131	360.8	31.4	7.0	399.2	4,818.6	2,196.8	72.8	106.4

**Table A5 Cont'd**

Isic	No. of Employees	Unpaid workers	Average no. of employees	Average no. of Persons engaged	Cash	Kind	Supplements	Total wages	Output	Input costs	Stocks Mat Fue & Sup beginning	Stocks Fin Gds., Wk Prog, Gds Res beginning
1920	674	2,940	678	3,618	3,423.8	63.2	314.2	3,801.2	48,975.9	29,189.6	2,727.8	519.2
2010	19538	622	19353	19,975	176,899.9	6,383.0	13,391.0	196,673.9	1,470,283.8	682,498.4	60,937.1	71,245.2
2021	10736	159	10819	10,978	124,235.4	3,347.9	5,457.0	133,040.3	991,415.2	490,933.0	35,200.7	39,786.1
2022	1519	1,817	1515	3,332	5,896.2	215.5	221.9	6,333.5	165,452.2	72,167.7	3,771.9	8,045.3
2023	209	240	209	449	961.1	347.5	53.0	1,361.6	3,632.5	1,757.8	47.3	72.4
2029	494	654	496	1,150	1,489.5	22.1	1.5	1,513.1	29,064.0	17,221.0	326.6	742.1
2101	48	0	48	48	282.3	0.0	35.4	317.7	4,906.4	2,784.7	9.7	0.0
2102	396	5	396	401	7,327.3	275.9	1,553.5	9,156.6	87,610.4	51,013.1	11,676.3	4,133.1
2109	655	22	655	677	15,289.1	43.9	1,673.3	17,006.3	58,643.9	28,827.5	6,728.6	1,883.4
2211	8	12	8	20	24.0	19.2	0.0	43.2	672.0	275.3	0.0	0.0
2212	997	0	962	962	28,580.6	349.0	3,560.5	32,490.1	103,195.9	32,448.0	3,858.5	43.0
2213	8	6	8	14	54.0	0.0	0.0	54.0	86.0	10.3	0.0	0.0
2219	83	5	83	88	590.5	3.3	0.4	594.1	3,384.5	2,342.7	193.8	0.0
2221	3194	939	3183	4,122	18,380.6	1,249.4	2,272.4	21,902.4	223,253.1	89,274.4	10,957.1	5,044.5
2222	88	493	88	581	370.2	329.2	55.0	754.4	4,865.5	1,920.2	367.4	169.0
2320	925	0	925	925	55,231.0	4,582.0	10,845.7	70,658.7	4,891,779.3	4,513,460.0	79,652.0	332,719.0
2411	309	69	300	369	4,382.5	1,453.4	651.1	6,487.0	39,486.1	14,665.5	630.0	2,548.1
2412	14	0	14	14	67.1	0.0	8.1	75.1	43.7	0.0	0.0	0.0
2413	276	0	297	297	2,174.1	0.0	337.1	2,511.1	87,044.8	64,815.1	5,715.7	2,032.9
2421	139	0	109	109	3,338.9	192.5	678.6	4,210.0	104,000.9	88,712.1	16,882.0	4,220.5
2422	746	1	746	747	6,330.7	350.6	579.6	7,260.9	215,097.9	180,663.8	22,229.5	9,915.5
2423	2314	116	2326	2,442	24,699.7	1,604.5	2,704.3	29,008.6	459,797.4	274,102.3	27,613.4	32,203.0
2424	2837	440	2993	3,433	76,999.8	1,579.0	7,397.6	85,976.4	1,686,410.6	921,974.1	96,415.9	60,388.4
2429	39	2	34	36	128.0	3.1	6.8	138.0	777.5	200.0	3.5	10.8
2430	588	2	582	584	2,851.3	0.0	275.0	3,126.3	34,708.1	7,736.7	8,808.1	1,590.0
2519	2323	136	2260	2,396	16,432.0	24.5	2,045.8	18,502.3	200,209.3	124,242.9	16,296.8	6,825.5
2520	4615	11	4608	4,619	40,819.1	1,531.0	4,529.9	46,880.0	952,006.5	589,280.0	80,249.2	83,463.7
2610	12	27	12	39	33.5	0.0	0.0	33.5	2,271.8	1,623.6	0.0	0.0
2691	137	191	137	328	800.8	79.8	33.9	914.4	3,306.0	921.7	236.4	12.6
2692	178	42	178	220	645.0	49.8	19.5	714.3	3,838.7	1,779.0	66.3	178.0
2693	499	97	903	1,000	2,081.0	380.2	205.4	2,666.5	17,154.1	9,153.4	864.3	1,892.2

2694	749	48	761	809	41,084.5	8,524.0	3,541.9	53,150.4	1,899,413.3	1,329,539.7	67,992.0	29,299.4
2695	4704	1,102	4284	5,386	42,286.0	2,826.6	4,089.8	49,202.4	355,490.0	179,395.8	15,532.3	24,276.7
2696	4	0	4	4	15.1	0.0	0.0	15.1	48.2	21.6	0.0	0.0

**Table A5 Cont'd**

Isic	No. of Employees	Unpaid workers	Average no. of employees	Average no. of Persons engaged	Cash	Kind	Supplements	Total wages	Output	Input costs	Stocks Mat Fue & Sup beginning	Stocks Fin Gds., Wk Prog, Gds Res beginning
2699	62	21	62	83	275.0	15.8	8.0	298.8	2,821.2	1,462.9	0.0	9.9
2710	1344	110	1354	1,464	26,988.7	5,811.6	14,426.1	47,226.4	505,645.0	383,070.9	23,412.0	20,381.1
2720	844	24	837	861	30,671.1	40.5	5,207.9	35,919.6	653,216.4	242,170.0	6,842.0	21,316.8
2731	627	4	640	644	7,755.8	3.3	464.2	8,223.2	77,040.3	45,609.6	11,146.2	2,479.4
2732	0	8	0	8	0.0	0.0	0.0	0.0	73.6	60.2	0.0	0.0
2811	1946	6,052	1911	7,963	8,976.4	871.6	3,918.8	13,766.8	428,851.0	247,722.7	17,146.8	4,440.2
2812	199	369	177	546	1,398.1	183.0	113.4	1,694.5	22,904.4	18,719.0	6,500.8	4,385.9
2813	4	2	4	6	20.2	0.0	0.0	20.2	85.0	27.2	0.0	0.0
2891	4	7	4	11	10.5	0.7	0.0	11.2	50.3	26.7	0.0	0.0
2892	15	42	15	57	45.6	2.4	0.0	48.0	496.7	276.0	0.0	0.0
2893	429	390	430	820	4,428.2	198.9	1,425.1	6,052.2	95,917.1	68,647.5	26,075.9	8,223.6
2899	3729	2,748	3674	6,422	28,586.5	2,269.0	3,539.1	34,394.5	529,858.3	324,368.9	54,881.6	37,287.2
2911	0	4	0	4	0.0	0.0	0.0	0.0	95.4	6.6	0.0	0.0
2914	36	35	36	71	170.7	25.0	0.0	195.7	2,451.8	1,900.0	0.0	0.0
2915	0	33	0	33	0.0	0.0	0.0	0.0	174.6	76.7	0.0	13.5
2921	419	558	434	992	6,335.4	28.9	603.6	6,967.9	29,986.6	11,748.5	2,314.9	3,910.5
2922	129	86	129	215	556.3	12.2	17.5	586.0	8,811.3	4,538.6	355.0	279.0
2923	22	3	24	27	167.0	17.9	13.4	198.2	434.6	180.1	13.4	0.0
2924	80	18	90	108	898.7	20.5	464.4	1,383.6	8,139.0	3,108.8	183.0	287.2
2925	366	320	364	684	2,999.7	166.2	427.7	3,593.6	11,779.6	3,618.4	146.8	117.7
2926	0	3	0	3	0.0	0.0	0.0	0.0	5.4	2.5	0.0	0.0
2927	75	14	76	90	1,558.8	0.0	270.8	1,829.6	62,867.1	47,623.5	19,731.2	0.0
2929	8	17	8	25	180.3	0.0	5.8	186.1	1,330.3	232.6	8.0	5.5
3130	203	10	195	205	5,553.2	0.0	1,062.6	6,615.8	122,861.8	92,445.4	4,053.9	20,943.8
3150	2	3	2	5	10.1	0.0	0.0	10.1	36.3	21.1	0.0	0.0
3220	1	3	1	4	4.8	0.0	0.0	4.8	43.6	37.1	0.0	0.0
3230	106	40	109	149	1,061.8	173.5	88.9	1,324.2	24,780.6	16,620.0	161.1	1,773.1
3311	8	16	8	24	77.4	0.0	1.3	78.7	1,275.0	179.5	73.4	0.0
3320	10	0	11	11	85.0	7.0	11.0	103.0	2,911.0	1,625.0	2,554.0	639.0
3420	172	550	163	713	2,188.3	374.1	292.7	2,855.2	16,090.1	10,476.9	951.6	1,294.3
3430	13	95	13	108	105.7	15.1	0.0	120.8	2,485.6	1,035.0	1.7	0.2

3511	14	123	14	137	39.3	4.3	0.0	43.6	1,449.2	447.9	0.0	0.0
3592	3	11	3	14	19.5	2.3	0.8	22.6	114.5	78.2	0.0	0.0
3599	37	71	37	108	131.0	8.5	12.8	152.3	1,995.9	888.8	685.9	4.2

**Table A5 Cont'd**

Isic	No. of Employees	Unpaid workers	Average no. of employees	Average no. of Persons engaged	Cash	Kind	Supplements	Total wages	Output	Input costs	Stocks Mat Fue & Sup beginning	Stocks Fin Gds., Wk Prog, Gds Res beginning
3610	798	826	797	1,623	11,053.1	930.8	765.7	12,749.6	147,428.5	95,152.1	64,431.9	3,815.6
3611	8235	19,410	8254	27,664	43,142.4	3,328.3	1,516.7	47,987.4	660,813.9	340,697.9	9,511.7	22,688.7
3612	42	0	42	42	220.6	35.8	59.7	316.1	28,923.9	7,209.4	397.4	1,421.3
3613	60	236	60	296	42.7	7.9	0.0	50.6	5,016.2	3,356.6	5.0	7.0
3691	179	122	179	301	990.4	15.9	55.2	1,061.5	17,142.0	4,007.4	171.8	236.5
3692	0	70	0	70	0.0	0.0	0.0	0.0	2,522.8	1,160.1	0.0	0.0
3693	0	7	0	7	0.0	0.0	0.0	0.0	21.3	16.0	0.0	0.0
3694	6	32	6	38	54.9	5.4	0.0	60.3	100.7	32.0	0.0	0.0
3699	243	878	244	1,122	1,654.6	31.0	146.9	1,832.5	13,920.4	6,352.1	127.8	571.0
4010	7,318	0	7,298	7,298	196,827.0	0.0	33,279.0	230,106.0	5,741,595.0	4,040,006.3	471,742.0	618,974.0
4100	4,746	30	4,528	4,558	75,644.7	0.0	9,349.3	84,994.0	415,466.7	211,891.9	35,007.7	46,448.1
<b>Total</b>	<b>143,116</b>	<b>105,595</b>	<b>143,467</b>	<b>249,062</b>	<b>2,015,652</b>	<b>133,161</b>	<b>311,396</b>	<b>2,460,208</b>	<b>37,815,311</b>	<b>23,150,557</b>	<b>2,269,530</b>	<b>2,249,570</b>



Table A5 Cont'd

Isic	Stocks Mat, Fuel & Supp :end	Stocks Fin Gds, Wk Prog, Gds Res:end	Non- Industrial Costs	Gross Additions to Fixed Assets	Census value- added	Book Value of Fixed Assets (Beg yr.)	Depreciation of Fixed Assets
1321	396,280.2	431,122.2	403,057.3	400,568.2	2,695,078.7	8,464,102.8	751,062.7
1322	13,267.0	17,899.0	5,282.0	125,630.0	62,285.2	129,875.0	16,109.7
1323	24,273.5	36,983.7	4,962.4	16,027.1	159,390.7	124,907.6	18,075.9
1410	3,636.2	2,517.7	11,871.5	15,341.6	152,082.1	144,947.6	15,355.2
1422	2,163.7	14,887.6	3,137.8	5,029.5	54,598.0	54,266.4	4,210.3
1429	180.0	150.0	338.0	0.0	10,933.3	85,080.0	6,008.6
1511	598.0	52.1	643.2	339.7	16,008.3	33,259.7	2,333.2
1512	26,414.0	30,626.5	8,498.2	28,340.4	201,781.2	253,654.3	20,244.4
1513	39,809.9	6,756.4	34,541.7	7,161.4	56,496.9	95,830.8	8,659.7
1514	7,835.0	4,615.9	9,005.8	26,192.8	144,463.8	378,309.4	36,322.4
1520	15,698.7	23,330.1	13,302.0	25,678.8	536,970.3	105,083.5	11,116.5
1531	131,012.0	23,189.0	42,463.5	8,389.9	601,882.0	245,431.6	21,373.1
1532	0.0	2,625.2	3,007.4	19,390.0	-903.1	41,969.8	1,883.2
1533	205.0	48.4	104.2	1.9	21,348.7	343.0	37.2
1541	10,389.4	1,915.3	17,027.1	1,596.4	74,480.1	29,861.6	3,026.1
1543	94,074.8	122,044.7	26,621.6	33,350.7	87,245.3	343,350.6	30,542.2
1549	5.0	57.0	735.9	51.2	2,556.3	3,001.5	137.4
1551	22,223.0	7,634.7	6,769.3	5,766.1	74,861.0	914,001.7	143,444.0
1552	0.0	0.0	98.4	0.0	152.4	0.0	0.0
1553	70,816.0	5,554.5	106,560.4	106,931.0	606,875.0	203,165.5	18,779.7
1554	78,274.9	8,773.1	20,494.4	17,059.9	197,722.1	212,290.8	19,217.5
1600	33,885.0	2,631.0	2,522.0	24,427.0	287,752.0	54,952.0	6,038.1
1711	13,887.7	14,332.7	2,253.2	62,472.4	86,610.3	112,293.8	8,133.9
1712	99,570.6	61,378.6	50,301.5	26,324.6	243,346.0	256,324.2	23,266.9
1721	282.2	376.1	248.8	1,156.7	4,630.1	2,978.7	259.7
1723	1,080.6	1,003.3	977.5	1,601.5	2,270.9	16,473.7	1,247.1
1729	0.0	0.0	4.8	0.0	64.9	0.0	0.0
1730	0.0	0.0	127.9	0.0	266.9	0.0	0.0
1810	1,063.8	1,962.0	91,330.3	2,683.3	492,452.0	16,694.4	1,258.5

1820	0.0	0.0	4.4	0.0	81.7	0.0	0.0
1911	0.0	0.0	2.1	0.0	3.0	0.0	0.0

**Table A5 Cont'd**

<b>Isic</b>	<b>Stocks Mat, Fuel &amp; Supp :end</b>	<b>Stocks Fin Gds, Wk Prog, Gds Res:end</b>	<b>Non- Industrial Costs</b>	<b>Gross Additions to Fixed Assets</b>	<b>Census value- added</b>	<b>Book Value of Fixed Assets (Beg yr.)</b>	<b>Depreciation of Fixed Assets</b>
1912	69.8	122.1	84.0	5.3	2,640.4		
1920	4,327.3	1,289.3	2,637.8	1,724.4	18,956.9	9,087.4	869.9
2010	63,647.5	99,586.3	107,881.9	122,124.3	813,416.1	1,305,354.6	144,518.5
2021	17,549.9	29,346.9	27,908.5	24,483.2	507,693.8	704,628.6	74,870.8
2022	1,613.6	7,708.7	4,414.3	2,921.0	95,106.1	37,483.8	3,163.6
2023	11.7	77.8	284.0	12.9	1,915.7	385.3	34.9
2029	143.5	607.4	847.1	559.0	11,891.3	3,320.8	315.3
2101	0.0	0.0	70.9	1,013.0	2,131.3	1,194.9	52.6
2102	14,241.2	3,615.3	6,204.2	826.8	33,514.6	38,673.4	3,472.3
2109	8,823.7	2,390.7	7,142.3	1,270.9	28,228.6	18,507.8	1,524.4
2211	0.0	0.0	28.6	0.0	396.7	0.0	0.0
2212	6,102.4	353.0	3,922.7	19,798.8	68,814.1	79,318.3	7,792.1
2213	0.0	0.0	7.6	13.9	75.7	173.0	17.3
2219	322.1	0.0	200.2	0.0	913.6	486.5	49.3
2221	12,569.0	8,144.9	13,825.7	15,809.0	135,467.1	92,446.0	8,429.4
2222	378.1	191.2	412.1	212.3	2,956.8	1,293.0	118.7
2320	127,340.0	453,182.0	326,845.0	129,985.0	451,094.3	2,819,265.0	281,075.9
2411	867.7	2,360.7	4,842.8	560.5	24,395.4	15,975.0	1,560.2
2412	0.0	0.0	1.8	0.0	43.7	0.0	0.0
2413	8,105.8	5,939.9	9,133.1	8,615.6	23,746.6	34,376.4	3,286.5
2421	29,150.7	7,287.7	3,736.2	2,632.4	6,087.2	5,413.9	545.4
2422	26,677.5	13,893.6	5,879.9	23,638.2	33,964.1	23,372.9	2,152.3
2423	41,478.4	48,282.6	30,464.4	23,950.5	187,909.8	124,748.7	9,811.7
2424	106,462.0	58,493.7	45,973.0	31,397.2	752,495.7	169,186.8	15,391.3
2429	10.5	10.8	15.7	0.0	570.5	810.0	54.2
2430	17,133.4	4,849.8	2,186.4	3,147.7	21,905.8	21,120.9	1,418.8
2519	26,405.2	13,726.5	4,342.0	12,622.7	72,759.0	174,979.6	13,921.1
2520	113,299.4	91,044.3	46,871.5	72,796.5	337,256.9	417,507.4	35,886.7
2610	0.0	0.0	372.5	0.0	648.2	0.0	0.0
2691	215.1	75.0	811.2	1,510.7	2,467.9	2,958.2	202.7

2692	32.0	163.0	233.7	157.0	2,079.0	1,621.2	173.1
2693	638.8	1,509.7	1,544.1	657.3	7,843.8	26,637.6	2,544.8
2694	102,660.0	18,178.9	31,672.9	11,291.8	524,085.1	252,411.4	23,476.0
2695	16,172.0	27,282.0	23,597.1	8,111.1	178,459.8	80,552.1	7,787.2

**Table A5 Cont'd**

<b>Isic</b>	<b>Stocks Mat, Fuel &amp; Supp :end</b>	<b>Stocks Fin Gds, Wk Prog, Gds Res:end</b>	<b>Non- Industrial Costs</b>	<b>Gross Additions to Fixed Assets</b>	<b>Census value- added</b>	<b>Book Value of Fixed Assets (Beg yr.)</b>	<b>Depreciation of Fixed Assets</b>
2696	0.0	0.0	9.9	0.0	26.6		
2699	0.0	8.0	167.2	0.0	1,356.5	14.0	1.4
2710	26,983.8	9,710.1	48,927.8	60,045.4	108,331.4	69,251.1	5,602.5
2720	7,353.6	18,529.7	38,165.7	6,012.7	407,747.8	136,393.6	11,788.9
2731	14,492.5	1,671.1	3,824.0	1,114.8	27,276.1	20,157.0	1,962.8
2732	0.0	0.0	4.0	0.0	13.4	0.0	0.0
2811	23,354.8	8,284.9	14,662.5	7,006.7	178,765.0	31,668.9	2,340.7
2812	7,908.1	2,998.8	1,290.8	94.4	1,391.1	25,207.9	2,241.4
2813	0.0	0.0	61.8	0.0	57.9	0.0	0.0
2891	0.0	0.0	11.2	0.0	23.6	0.0	0.0
2892	0.0	0.0	36.4	1.4	220.7	5.5	0.6
2893	21,748.1	10,541.4	1,179.3	143.3	33,915.1	19,549.4	1,252.8
2899	52,727.1	69,498.5	15,625.4	18,369.8	239,855.2	103,384.8	8,544.1
2911	0.0	0.0	8.5	0.0	88.8	0.0	0.0
2914	0.0	0.0	111.3	0.0	551.7	0.0	0.0
2915	0.0	22.0	0.5	0.5	106.3	3.7	0.4
2921	2,237.1	1,580.8	3,161.7	3,770.1	15,986.2	9,726.4	817.6
2922	379.5	278.0	145.5	125.3	4,247.2	789.3	87.1
2923	26.7	0.0	25.2	15.9	241.1	285.6	26.0
2924	202.0	278.7	103.5	377.9	5,002.6	2,251.9	150.7
2925	94.3	132.8	880.8	410.7	8,228.7	2,738.1	207.2
2926	0.0	0.0	2.3	0.0	2.8	0.0	0.0
2927	22,570.8	0.0	631.2	1,530.3	12,403.9	3,804.8	411.8
2929	0.0	5.5	288.3	1.5	1,105.7	0.0	0.0
3130	3,254.5	8,591.7	4,946.2	3,407.0	18,863.8	14,035.4	1,492.8
3150	0.0	0.0	5.8	0.0	15.2	0.0	0.0
3220	0.0	0.0	1.0	0.0	6.5	0.0	0.0
3230	230.7	3,321.4	559.5	21.4	9,639.3	3,375,473.7	52,383.8
3311	93.6	0.0	23.4	0.0	1,075.4	1,218.0	73.8
3320	2,330.0	597.0	571.0	23.0	1,468.0	896.0	98.0

3420	1,703.3	679.9	513.1	272.1	4,247.1	27,916.3	1,502.5
3430	0.0	0.0	153.3	0.0	1,452.1	25.5	2.5
3511	0.0	0.0	75.5	0.0	1,001.3	0.0	0.0
3592	0.0	0.0	11.0	0.0	36.3	0.0	0.0

**Table A5 Cont'd**

<b>Isic</b>	<b>Stocks Mat, Fuel &amp; Supp :end</b>	<b>Stocks Fin Gds, Wk Prog, Gds Res:end</b>	<b>Non- Industrial Costs</b>	<b>Gross Additions to Fixed Assets</b>	<b>Census value- added</b>	<b>Book Value of Fixed Assets (Beg yr.)</b>	<b>Depreciation of Fixed Assests</b>
3599	240.3	473.9	103.7	13.3	2,022.4		
3610	15,679.2	5,276.1	7,281.5	21,874.6	102,489.5	97,297.4	7,646.4
3611	11,221.7	31,333.2	26,891.3	9,923.4	327,050.7	51,151.2	5,037.8
3612	1,056.2	1,421.3	628.1	12,661.8	21,055.8	1,500.9	275.5
3613	0.0	7.0	466.7	8.5	1,664.6	11.5	0.9
3691	143.5	337.4	732.4	7.3	13,263.8	167.8	12.7
3692	0.0	0.0	72.8	0.0	1,362.7	0.0	0.0
3693	0.0	0.0	2.9	0.0	5.4	0.0	0.0
3694	0.0	0.0	4.0	-1.8	68.7	4.0	0.0
3699	151.7	668.9	519.3	184.6	7,642.4	1,683.9	201.7
4010	0.0	0.0	32,342.7	1,033,703.0	1,554,356.7	32,616,838.0	3,196,802.8
4100	0.0	0.0	6,878.4	6,875.0	192,134.4	1,472,455.7	63,708.2
<b>Total</b>	<b>2,049,558</b>	<b>1,898,428</b>	<b>1,792,798</b>	<b>2,671,355</b>	<b>14,533,585</b>	<b>56,872,675</b>	<b>5,177,445.5</b>

Table A6

**ALL PRINCIPAL INDICATORS OF INDUSTRIAL ACTIVITY BY 4 DIGIT ISIC  
FOR ESTABLISHMENTS ENGAGING 10 OR MORE PERSONS**

ISIC	No. of Employees	No. of Persons Engaged	Wages and Salaries	Output	Input	Stocks Mat Fue & Sup beginning	Stocks Fin Gds., Wk Prog, Gds Res beginning
<b>Total</b>	<b>124,239</b>	<b>160,039</b>	<b>2,358,322.4</b>	<b>36,013,186.9</b>	<b>22,315,207.1</b>	<b>2,267,645.1</b>	<b>1,590,148.6</b>
1321	10,658	10,712	408,055.8	4,652,922.4	1,996,490.9	379,721.7	396,280.2
1322	387	387	18,438.0	94,374.0	27,418.8	10,363.0	13,267.0
1323	550	550	20,258.6	247,079.0	95,487.2	26,757.8	24,273.5
1410	1,027	1,058	13,469.1	202,594.9	50,352.9	3,168.2	3,636.2
1422	1,276	1,546	10,591.0	50,342.1	9,399.6	1,526.5	2,158.2
1429	756	756	20,214.6	31,054.7	20,091.5	0.0	180.0
1511	258	310	2,465.5	43,054.7	28,311.2	118.0	26.3
1512	2,591	2,774	39,072.4	637,101.1	434,974.7	22,242.2	39,136.2
1513	1,248	1,260	26,961.3	267,739.5	203,206.4	26,790.7	1,837.7
1514	3,067	3,621	28,252.6	282,714.3	143,544.7	6,589.2	3,355.2
1520	1,488	1,488	60,824.7	994,750.4	457,025.0	15,110.8	23,497.2
1531	1,702	1,760	33,638.1	1,203,431.9	615,136.4	94,303.0	14,237.1
1532	60	65	1,427.3	59.8	4,094.3	0.0	0.0
1533	75	77	270.5	24,102.8	3,179.2	505.0	32.2
1541	2,856	3,652	16,226.0	239,829.8	176,454.0	7,403.4	2,563.9
1543	1,314	1,405	50,446.1	863,450.5	785,040.3	65,730.5	84,873.4
1549	88	157	805.2	6,157.3	3,684.8	57.8	1,270.8
1551	717	1,052	12,631.8	233,345.0	166,440.7	26,392.4	6,362.6
1553	1,018	1,268	34,098.5	926,987.3	295,974.1	42,976.2	6,910.7
1554	2,585	2,635	46,380.5	615,333.4	404,793.2	56,564.1	2,073.5
1600	353	353	17,425.0	394,656.0	128,263.0	54,827.0	2,214.0
1711	1,951	2,539	36,737.6	180,513.0	92,516.5	7,400.0	13,289.7
1712	3,725	4,261	129,217.9	811,193.9	550,223.4	83,060.6	64,958.3
1721	90	90	599.2	7,782.4	3,241.7	159.1	241.0
1723	274	280	1,129.9	12,334.5	8,621.0	1,328.6	2,738.4
1810	3,104	18,599	37,139.9	352,403.4	130,929.8	1,411.3	2,543.1
1912	29	32	135.6	2,867.3	1,382.3	71.4	105.9
1920	449	1,067	3,065.0	19,429.8	11,566.1	2,507.1	423.1
2010	19,036	19,513	194,692.2	1,449,548.7	677,450.1	60,761.6	71,146.9

2021	10,756	10,793	132,782.9	987,487.9	489,828.1	35,198.1	39,779.5
2022	1,218	2,185	5,300.1	105,559.2	57,316.2	3,764.2	7,961.0

**Table A6 Cont'd**

ISIC	No. of Employees	No. of Persons Engaged	Wages and Salaries	Output	Input	Stocks Mat Fue & Sup beginning	Stocks Fin Gds., Wk Prog, Gds Res beginning
2023	63	108	184.3	935.8	474.7	33.8	18.4
2029	443	629	1,325.8	9,141.7	2,289.7	319.3	729.5
2101	48	48	317.7	4,906.4	2,784.7	9.7	0.0
2102	396	401	9,156.6	87,610.4	51,013.1	11,676.3	4,133.1
2109	647	667	16,995.4	58,598.3	28,804.2	6,728.6	1,883.4
2212	962	962	32,490.1	103,195.9	32,448.0	3,858.5	43.0
2213	8	14	54.0	86.0	10.3	0.0	0.0
2219	73	73	556.2	3,000.0	2,095.1	193.8	0.0
2221	1,848	2,177	14,854.1	155,655.9	72,893.6	10,822.4	4,764.0
2222	88	162	443.4	2,808.5	1,344.7	367.4	150.9
2320	925	925	70,658.7	4,891,779.3	4,513,460.0	79,652.0	332,719.0
2411	204	270	3,664.2	32,239.3	12,903.9	630.0	2,548.1
2412	14	14	75.1	43.7	0.0	0	0
2413	285	285	2,423.2	86,797.0	64,719.9	5,715.7	2,032.9
2421	109	109	4,210.0	104,000.9	88,712.1	16,882.0	4,220.5
2422	746	747	7,260.9	215,097.9	180,663.8	22,229.5	9,915.5
2423	2,272	2,314	28,477.2	456,418.3	271,608.0	27,613.4	32,203.0
2424	2,980	3,202	85,951.4	1,684,092.1	920,974.5	96,381.0	60,310.9
2429	29	31	134.4	757.5	186.6	3.5	10.8
2430	582	584	3,126.3	34,708.1	7,736.7	8,808.1	1,590.0
2519	2,260	2,365	18,502.3	200,062.4	124,098.0	16,296.8	6,825.5
2520	4,608	4,619	46,880.0	952,006.5	589,280.0	80,249.2	83,463.7
2691	73	243	395.6	1,195.0	308.8	236.4	12.6
2692	147	173	589.9	2,421.9	973.3	66.3	178.0
2693	824	847	2,344.2	13,138.5	6,332.0	859.1	1,889.6
2694	760	803	53,145.6	1,899,270.4	1,329,418.6	67,992.0	29,299.4
2695	2,085	2,614	32,803.0	205,869.7	90,112.6	15,018.7	24,117.4
2710	1,354	1,451	47,226.4	505,514.5	382,983.8	23,412.0	20,381.1
2720	837	853	35,919.5	653,124.0	242,131.5	6,842.0	21,316.8
2731	640	644	8,223.2	77,040.3	45,609.6	11,146.2	2,479.4
2811	1,147	4,275	11,500.6	200,162.7	128,913.6	17,036.4	4,260.7

2812	164	266	1,595.7	20,754.2	17,483.9	6,494.3	4,372.4
2892	4	13	12.7	122.8	65.8	0	0
2893	384	421	5,908.8	92,718.9	66,187.3	26,070.0	8,216.7
2899	3,329	4,662	31,917.0	470,864.2	294,062.2	54,739.1	36,951.1

**Table A6 Cont'd**

ISIC	No. of Employees	No. of Persons Engaged	Wages and Salaries	Output	Input	Stocks Mat Fue & Sup beginning	Stocks Fin Gds., Wk Prog, Gds Res beginning
2914	20	37	163.0	2,127.1	1,697.9	0.0	0.0
2915	0	25	0.0	95.0	9.8	0.0	0.0
2921	405	963	5,121.1	21,402.4	9,465.6	2,314.9	3,910.5
2922	129	173	586.0	7,186.3	4,239.6	355.0	279.0
2923	24	28	198.2	434.6	180.1	13.4	0.0
2924	85	86	1,337.6	7,430.1	2,690.0	183.0	287.2
2925	334	485	2,090.4	5,974.3	1,850.1	146.7	117.7
2927	76	76	1,829.6	62,812.4	47,596.0	19,731.2	0.0
2929	3	13	2.7	18.0	7.1	8.0	5.5
3130	195	205	6,615.8	122,861.8	92,445.4	4,053.9	20,943.8
3230	65	70	1,254.1	24,049.0	16,329.4	161.1	1,773.1
3311	8	24	78.7	1,275.0	179.5	73.4	0.0
3320	11	11	103.0	2,911.0	1,625.0	2,554.0	639.0
3420	160	500	2,842.5	12,248.9	6,939.6	951.6	1,294.3
3511	5	5	12.1	74.8	53.3	0.0	0.0
3599	23	36	97.8	808.1	237.9	685.9	4.2
3610	636	691	11,976.9	136,549.4	90,926.0	64,431.2	3,815.6
3611	3,866	9,757	24,402.5	228,633.4	126,223.4	9,359.8	22,488.6
3612	42	42	316.1	28,923.9	7,209.4	397.4	1,421.3
3613	50	217	0.0	4,353.0	3,094.8	5.0	7.0
3691	122	146	893.3	12,127.1	1,435.3	149.2	208.2
3699	113	385	1,224.7	7,489.7	3,351.5	127.8	543.5
4010	7,298	7,298	230,106.0	5,741,595.0	4,040,006.3	471,742.0	0.0
4100	4,528	4,558	84,994.0	415,466.7	211,891.9	35,007.7	0.0

Table A6 Cont'd

ISIC	Stocks Mat, Fuel & Supp :end	Stocks Fin Gds, Wk Prog, Gds Res: end	Census Value-Added	Book Value of Fixed Assets (Beg yr.)	Depreciation of Fixed Assets	Gross Additions to Fixed Assets	Non-Industrial Cost
<b>Total</b>	<b>2,705,702.4</b>	<b>1,896,559.9</b>	<b>13,566,333.8</b>			<b>2,669,300.9</b>	<b>1,614,394.6</b>
1321	376,933.8	431,122.2	2,694,061.4	8,463,936.7	751,051.3	400,518.4	403,044.6
1322	19,665.0	17,899.0	62,285.2	129,875.0	16,109.7	125,630.0	5,282.0
1323	31,669.1	36,983.7	159,390.7	124,907.6	18,075.9	16,027.1	4,962.4
1410	2,634.5	2,513.0	151,652.6	144,635.1	15,331.2	15,312.2	11,847.0
1422	947.3	14,654.6	54,018.2	53,044.8	4,184.7	4,923.6	2,652.0
1429	0.0	150.0	10,933.3	85,080.0	6,008.6	0	338.0
1511	598.0	52.1	14,289.3	33,259.7	2,333.2	339.7	310.2
1512	26,414.0	30,616.7	189,435.1	253,520.1	20,223.6	28,338.7	5,760.4
1513	39,809.9	6,756.4	56,432.4	95,830.8	8,659.7	7,161.4	34,507.5
1514	7,834.3	4,615.9	139,185.3	378,097.8	36,301.8	26,191.5	7,612.1
1520	15,698.7	23,330.1	536,970.3	105,083.5	11,116.5	25,678.8	13,302.0
1531	131,012.0	23,189.0	560,538.4	245,250.2	21,357.4	8,381.5	33,591.0
1532	0.0	2,625.2	-1,409.3	41,969.8	1,883.2	19,390.0	2,971.9
1533	205.0	48.4	21,239.8	343.0	37.2	1.9	25.3
1541	10,386.8	1,915.1	59,743.5	29,758.6	3,016.5	1,593.6	7,934.7
1543	94,074.8	122,044.7	87,237.3	343,350.6	30,542.2	33,350.7	26,618.1
1549	5.0	57.0	1,311.5	3,001.5	137.4	51.1	498.6
1551	22,222.0	7,634.6	72,346.6	913,906.7	143,435.8	5,766.1	5,803.7
1553	70,814.3	5,554.5	601,818.9	203,152.0	18,777.8	106,918.1	104,223.3
1554	78,227.6	8,766.7	195,570.0	212,013.3	19,186.5	17,051.9	19,319.0
1600	33,885.0	2,631.0	287,752.0	54,952.0	6,038.1	24,427.0	2,522.0
1711	13,887.7	14,332.7	82,551.8	112,280.7	8,133.0	62,472.1	2,093.6
1712	99,570.6	61,378.6	240,880.8	256,322.3	23,266.7	26,322.1	49,818.3
1721	282.2	376.1	4,552.7	2,978.7	259.7	1,156.7	217.0
1723	1,080.6	1,003.3	2,226.4	16,473.7	1,247.0	1,601.5	971.7
1810	976.6	1,828.0	221,193.3	15,948.6	1,200.9	2,648.3	15,502.3
1912	69.8	121.6	1,502.3	948.6	100.7	5.0	25.6
1920	4,190.7	1,208.5	6,965.4	8,969.0	863.1	1,737.6	716.9
2010	63,570.4	99,502.9	797,645.8	1,300,861.6	144,044.0	122,058.3	106,053.0



2021	17,549.9	29,346.9	504,875.3	704,443.7	74,857.2	24,359.4	27,487.6
2022	1,609.0	7,641.8	50,079.0	37,199.2	3,132.3	2,854.9	2,322.3
2023	6.3	21.1	491.3	302.8	27.0	12.0	44.7
2029	139.5	602.4	6,904.7	3,281.0	311.3	563.3	276.8

**Table A6 Cont'd**

ISIC	Stocks Mat, Fuel & Supp :end	Stocks Fin Gds, Wk Prog, Gds Res:end	Census Value-Added	Book Value of Fixed Assets (Beg yr.)	Depreciation of Fixed Assests	Gross Additions to Fixed Assets	Non-Industrial Cost
2101	0.0	0.0	2,131.3			1,013.0	70.9
2102	14,241.2	3,615.3	33,514.6	38,673.4	3,472.3	826.8	6,204.2
2109	8,823.7	2,390.7	28,206.3	18,507.8	1,524.4	1,270.9	7,138.5
2212	6,102.4	353.0	68,814.1	79,318.3	7,792.1	19,798.8	3,922.7
2213	0.0	0.0	75.7	173.0	17.3	13.9	7.6
2219	322.1	0.0	776.7	486.5	49.3	0.0	152.3
2221	12,475.6	7,931.3	84,276.3	89,652.9	8,190.1	15,566.8	7,077.5
2222	378.1	183.5	1,485.6	1,229.8	112.9	212.3	301.2
2320	127,340.0	453,182.0	451,094.3	2,819,265.0	281,075.9	129,985.0	326,845.0
2411	867.7	2,360.7	18,910.3	15,974.9	1,560.1	560.5	2,131.9
2412	0	0	43.7	0	0	0	1.8
2413	8,105.8	5,939.9	23,594.0	34,376.4	3,286.5	8,615.6	9,095.1
2421	29,150.7	7,287.7	6,087.2	5,413.9	545.4	2,632.4	3,736.2
2422	26,677.5	13,893.6	33,964.1	23,372.9	2,152.3	23,638.2	5,879.9
2423	41,478.3	48,282.6	187,025.0	124,748.7	9,811.7	23,950.5	29,739.0
2424	106,456.4	58,491.0	751,222.5	169,184.8	15,391.1	31,397.2	45,831.8
2429	10.5	10.8	563.9	810.0	54.2	0.0	7.6
2430	17,133.4	4,849.8	21,905.8	21,120.9	1,418.8	3,147.7	2,186.4
2519	26,405.2	13,726.5	72,757.0	174,979.6	13,921.1	12,622.7	4,341.1
2520	113,299.4	91,044.3	337,256.9	417,507.4	35,886.7	72,796.5	46,871.5
2691	215.1	75.0	969.9	2,958.2	202.7	1,510.7	415.4
2692	32.0	163.0	1,468.0	1,621.2	173.1	157.0	146.1
2693	633.7	1,505.2	6,647.4	26,474.1	2,525.5	647.1	914.8
2694	102,660.0	18,178.9	524,063.2	252,411.4	23,476.0	11,291.8	31,664.4
2695	15,652.6	26,888.8	117,894.7	75,209.6	7,348.8	7,995.9	8,374.6
2710	26,983.8	9,710.1	108,287.9	69,251.1	5,602.5	60,045.4	48,919.1
2720	7,353.6	18,529.7	407,693.8	136,393.6	11,788.9	6,012.7	38,160.1
2731	14,492.5	1,671.1	27,276.1	20,157.0	1,962.8	1,114.8	3,824.0
2811	23,269.4	8,154.9	68,910.3	30,925.8	2,275.5	6,949.3	5,616.8
2812	7,908.1	2,993.8	478.0	25,044.8	2,224.1	67.1	1,173.0

2892	0	0	57.0	5.5	0.5	1.4	1.6
2893	21,743.0	10,536.1	33,178.0	19,535.3	1,251.6	141.7	841.1
2899	52,644.3	69,366.5	211,312.2	102,963.2	8,487.9	18,074.5	13,716.9
2914	0.0	0.0	429.2	0.0	0.0	0.0	96.8
2915	0.0	0.0	85.2	2.5	0.3	0.1	0.4

**Table A6 Cont'd**

ISIC	Stocks Mat, Fuel & Supp :end	Stocks Fin Gds, Wk Prog, Gds Res:end	Census Value-Added	Book Value of Fixed Assets (Beg yr.)	Depreciation of Fixed Assests	Gross Additions to Fixed Assets	Non-Industrial Cost
2921	2,237.1	1,580.8	9,684.9			3,770.1	2,295.3
2922	379.5	278.0	2,921.2	777.9	85.5	123.3	65.5
2923	26.7	0.0	241.1	285.6	26.0	15.9	25.2
2924	202.0	278.7	4,712.5	2,251.9	150.7	377.9	63.4
2925	94.3	124.6	4,183.5	2,695.5	199.6	408.0	428.7
2927	22,570.8	0.0	12,376.7	3,804.8	411.7	1,530.3	625.0
2929	0.0	5.5	18.9	0	0	1.5	0.8
3130	3,254.5	8,591.7	18,863.8	14,035.4	1,492.8	3,407.0	4,946.2
3230	230.7	3,321.4	9,198.3	3,375,473.7	52,383.8	21.4	456.1
3311	93.6	0.0	1,075.4	1,218.0	73.8	0.0	23.4
3320	2,330.0	597.0	1,468.0	896.0	98.0	23.0	571.0
3420	1,703.3	679.9	3,943.2	27,916.3	1,502.5	272.1	254.0
3511	0.0	0.0	21.6	0.0	0.0	0.0	15.0
3599	240.3	473.9	1,485.4	78.8	9.1	13.3	27.7
3610	15,679.2	5,276.1	95,835.9	97,296.2	7,646.3	21,874.6	4,168.9
3611	11,065.9	31,161.3	109,376.7	48,394.2	4,797.5	9,119.6	5,671.6
3612	1,056.2	1,421.3	21,055.8	1,500.9	275.5	12,661.8	628.1
3613	0.0	7.0	1,263.3	11.5	0.9	8.5	389.1
3691	137.9	314.8	10,809.6	150.8	11.7	7.3	267.7
3699	151.7	608.9	4,179.7	1,683.9	201.7	184.6	188.0
4010	618,974.0	0.0	1,554,356.7	32,616,838.0	3,196,802.8	1,033,703.0	32,342.7
4100	46,448.1	0.0	192,134.4	1,472,455.7	63,708.2	6,875.0	6,878.4

Table A7

**PRINCIPAL INDICATORS OF INDUSTRIAL ACTIVITY  
BY REGION AND MAJOR INDUSTRY DIVISION**

Region and major industry division	No. of establ.	No. of employees	No. of pers. eng.	Wages and salaries	Value of output	Cost of mats. and ind. Act.	Stocks Mat Fuel & Sup beginning	Stocks Fin Gds., Wk Prog, Gds Res beginning	Stocks Mat, Fuel & Sup :end
<b>National Total</b>	<b>23,922</b>	<b>131,642</b>	<b>237,206</b>	<b>2,145,108</b>	<b>31,658,250</b>	<b>18,898,659</b>	<b>1,762,780</b>	<b>1,591,991</b>	<b>2,041,715</b>
Western	1,192	22,285	28,530	381,073.45	6,368,294.70	3,065,831.97	439,302.34	542,910.88	460,407.68
Mining and quarrying	14	4,223	4,264	180,642.74	3,357,056.42	1,450,226.48	197,866.78	433,714.79	225,596.54
Manufacturing	1,178	18,062	24,266	200,430.71	3,011,238.28	1,615,605.50	241,435.56	109,196.09	234,811.14
Central	1,840	6,065	14,196	44,262.48	313,151.42	172,305.47	12,463.93	4,745.58	17,394.84
Mining and quarrying	32	1,355	1,484	8,411.47	23,818.27	7,539.83	475.81	270.32	280.88
Manufacturing	1,808	4,710	12,712	35,851.02	289,333.15	164,765.63	11,988.12	4,475.26	17,113.95
Greater Accra	6,662	52,727	77,000	1,032,359.90	18,377,953.01	12,487,237.80	922,757.03	905,265.69	1,149,526.07
Mining and quarrying	33	1,287	1,406	15,241.51	210,800.35	31,567.93	3,765.07	4,685.96	2,621.29
Manufacturing	6,629	51,440	75,594	1,017,118.39	18,167,152.66	12,455,669.86	918,991.96	900,579.74	1,146,904.78
Eastern	3,043	8,154	19,572	105,688.68	621,138.95	378,387.82	37,524.42	34,785.53	49,715.69
Mining and quarrying	6	955	957	24,149.62	42,763.10	34,366.28	390.74	184.53	405.28
Manufacturing	3,038	7,199	18,615	81,539.06	578,375.85	344,021.54	37,133.68	34,601.01	49,310.41
Volta	1,265	3,118	9,480	54,236.45	672,572.79	396,816.09	19,726.59	9,626.30	34,144.03
Mining and quarrying	20	133	205	1,306.22	1,929.05	17.01	151.97	44.75	145.21
Manufacturing	1,246	2,985	9,275	52,930.23	670,643.74	396,799.08	19,574.62	9,581.55	33,998.82
Ashanti	6,539	31,779	63,560	484,552.51	4,648,208.96	2,077,842.79	317,909.56	61,711.00	317,553.23
Mining and quarrying	18	6,802	6,824	261,004.45	1,638,186.43	673,860.43	218,721.60	376.52	202,563.94
Manufacturing	6,521	24,977	56,736	223,548.06	3,010,022.53	1,403,982.36	99,187.96	61,334.48	114,989.29
Brong Ahafo	1,694	4,926	12,967	31,112.21	392,043.74	191,624.17	9,214.05	20,657.87	8,130.71
Mining and quarrying	1	54	54	736.29	1,990.13	669.20	0	0.00	0
Manufacturing	1,693	4,873	12,914	30,375.93	390,053.61	190,954.96	9,214.05	20,657.87	8,130.71
Northern	695	756	5,041	4,423.00	176,209.73	70,808.89	2,880.23	11,183.02	3,590.31

**Table A7** Cont'd

<b>Region and major industry division</b>	<b>No. of establ.</b>	<b>No. of employees</b>	<b>No. of pers. eng.</b>	<b>Wages and salaries</b>	<b>Value of output</b>	<b>Cost of mats. and ind. Act.</b>	<b>Stocks Mat Fue &amp; Sup beginning</b>	<b>Stocks Fin Gds., Wk Prog, Gds Res beginning</b>	<b>Stocks Mat, Fuel &amp; Sup :end</b>
Manufacturing	695	756	5,041	4,423.00	176,209.73	70,808.89	2,880.23	11,183.02	3,590.31
Upper East	666	1,093	4,431	3,190.20	42,269.30	28,129.78	385.91	619.61	465.40
Mining and quarrying	1	60	60	547.99	5,577.55	2,957.92	277.68	523.69	344.55
Manufacturing	665	1,033	4,372	2,642.21	36,691.75	25,171.86	108.23	95.92	120.85
Upper West	324	739	2,428	4,208.96	46,406.94	29,674.00	616.31	485.37	786.69
Manufacturing	324	739	2,428	4,208.96	46,406.94	29,674.00	616.31	485.37	786.69



Table A7 Cont'd

**PRINCIPAL INDICATORS OF INDUSTRIAL ACTIVITY  
BY REGION AND MAJOR INDUSTRY DIVISION**

<b>Region and major industry division</b>	<b>Stocks Fin Gds, Wk Prog, Gds Res:end</b>	<b>Census value added</b>	<b>Gross additions</b>	<b>Bk value</b>	<b>Depre</b>	<b>Other operating cost</b>
<b>National Total</b>	<b>1,898,428</b>	<b>12,787,094</b>	<b>1,630,597</b>	<b>22,783,381</b>	<b>1,916,934</b>	<b>1,753,577</b>
Western	603,993.27	3,342,439.78	575,870.22	4,533,922.47	371,704.54	507,751.52
Mining and quarrying	485,859.95	1,931,245.35	458,391.91	3,135,253.11	232,319.95	399,334.16
Manufacturing	118,133.32	1,411,194.43	117,478.31	1,398,669.36	139,384.60	108,417.37
Central	10,546.92	141,716.39	27,241.20	310,258.73	25,415.35	19,796.31
Mining and quarrying	354.32	16,557.37	1,454.87	48,912.41	4,508.90	947.00
Manufacturing	10,192.60	125,159.03	25,786.34	261,346.33	20,906.46	18,849.31
Greater Accra	1,115,161.26	5,873,841.74	655,465.18	10,231,877.70	752,646.17	906,377.99
Mining and quarrying	16,134.63	191,824.87	21,700.99	152,232.80	14,913.79	12,482.34
Manufacturing	1,099,026.63	5,682,016.87	633,764.19	10,079,644.89	737,732.38	893,895.65
Eastern	34,324.03	230,098.36	29,451.20	233,885.56	21,108.43	39,067.40
Mining and quarrying	153.72	8,351.48	1,615.91	93,618.08	7,147.47	1,597.71
Manufacturing	34,170.31	221,746.88	27,835.29	140,267.48	13,960.96	37,469.69
Volta	9,057.79	260,770.75	18,213.97	195,894.65	15,247.11	10,427.77
Mining and quarrying	63.50	1,937.56	20.27	218.03	8.26	28.10
Manufacturing	8,994.29	258,833.19	18,193.70	195,676.62	15,238.85	10,399.67
Ashanti	83,348.71	2,592,360.21	256,689.51	7,146,288.32	717,957.56	239,492.66
Mining and quarrying	552.11	980,659.26	78,273.18	5,566,123.88	551,297.62	13,529.24
Manufacturing	82,796.60	1,611,700.95	178,416.34	1,580,164.45	166,659.93	225,963.42
Brong Ahafo	30,010.44	210,855.48	10,053.82	74,566.41	8,397.95	20,087.27
Mining and quarrying	324.13	1,645.06	0.00	2,342.96	196.77	17.51
Manufacturing	29,686.31	209,210.42	10,053.82	72,223.45	8,201.18	20,069.76
Northern	11,491.10	104,998.83	56,637.84	35,958.33	2,831.45	3,415.07
Manufacturing	11,491.10	104,998.83	56,637.84	35,958.33	2,831.45	3,415.07
Upper East	267.59	13,708.00	1,411.23	5,113.81	498.63	4,064.30
Mining and quarrying	117.83	2,146.89	959.36	4,478.19	429.66	712.93
Manufacturing	149.76	11,561.11	451.87	635.63	68.96	3,351.37
Upper West	227.03	16,304.22	-437.39	15,615.49	1,126.72	3,096.55
Manufacturing	227.03	16,304.22	-437.39	15,615.49	1,126.72	3,096.55

**APPENDIX 1**
**DISTRIBUTION OF SELECTED ESTABLISHMENTS AND SAMPLE RESULTS AND RESPONSE RATES BY TYPE OF ACTIVITY\***

ISIC	Industry Division	Response Rates		No. of Est.		No. of Est.		No. of Est.		No. of Est.		No. of Est.		No. of Est.	
		1-9	10+	Frame	Frame	Sample		Completed		Out of Scope+ Association		Not Completed		Closed Down /Not Located	
				1-9	10+	1-9	10+	1-9	10+	1-9	10+	1-9	10+	1-9	10+
13	Mining of Metal Ores	0.88	0.86	20.00	35.00	20.00	35.00	15.00	19.00	3.00	13.00	2.00	3.00	0.00	0.00
14	Other Mining and Quarrying	0.43	0.71	45.00	72.00	45.00	72.00	15.00	39.00	8.00	17.00	20.00	16.00	2.00	0.00
15	Manufacture of Food product & Beverages	0.69	0.74	3,472.00	896.00	178.00	896.00	109.00	350.00	15.00	416.00	48.00	123.00	5.00	14.00
16	Manufacture of Tobacco products	na	1.00	0.00	2.00	0.00	2.00	0.00	2.00	0.00	0.00	0.00	0.00	0.00	0.00
17	Manufacture of Textiles	0.80	0.85	472.00	144.00	58.00	144.00	37.00	99.00	2.00	25.00	9.00	18.00	10.00	2.00
18	Manufacture of Wearing Apparel	0.77	0.92	9,370.00	1,044.00	243.00	1,044.00	177.00	832.00	6.00	119.00	54.00	68.00	6.00	25.00
19	Manufacture of Luggage, Handbags, and Footwear	0.90	0.85	518.00	102.00	31.00	102.00	26.00	72.00	1.00	14.00	2.00	13.00	1.00	3.00
20	Manufacture of Wood and of products of wood except Furniture	0.74	0.79	759.00	322.00	46.00	322.00	32.00	227.00	1.00	31.00	11.00	60.00	2.00	4.00
21	Manufacture of Paper and Paper product	1.00	0.46	4.00	13.00	4.00	13.00	2.00	6.00	1.00	0.00	1.00	3.00	1.00	0.00
22	Publishing and Printing	0.50	0.83	412.00	94.00	38.00	94.00	18.00	68.00	1.00	11.00	18.00	14.00	1.00	1.00
23	Manufacture of refined Petroleum products	na	1.00	0.00	3.00	0.00	3.00	0.00	2.00	0.00	1.00	0.00	0.00	0.00	0.00
24	Manufacture of Chemicals and Chemical products	0.69	0.82	105.00	113.00	14.00	113.00	9.00	79.00	1.00	14.00	4.00	17.00	0.00	3.00
25	Manufacture of Rubber and Plastics products	0.25	0.74	24.00	48.00	4.00	48.00	1.00	35.00	0.00	0.00	3.00	12.00	0.00	1.00
26	Manufacture of other Non-metallic Mineral products	0.77	0.78	702.00	164.00	79.00	164.00	59.00	108.00	0.00	23.00	19.00	30.00	2.00	2.00
27	Manufacture of basic metals	0.50	0.74	9.00	30.00	9.00	30.00	4.00	17.00	0.00	7.00	4.00	6.00	1.00	0.00
28	Manufacture of Fabricated metal products, except Machinery and Equipment	0.65	0.87	1,449.00	323.00	101.00	323.00	60.00	255.00	3.00	23.00	34.00	37.00	5.00	8.00
29	Manufacture of Machinery and Equipment n.e.c.	0.65	0.87	100.00	43.00	37.00	43.00	22.00	33.00	1.00	2.00	12.00	5.00	2.00	3.00
30	Manufacture of Office, and Computing Machinery	na	na	1.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00
31	Manufacture of Electrical Machinery and Apparatus	0.75	0.50	5.00	5.00	5.00	5.00	3.00	2.00	1.00	1.00	1.00	3.00	0.00	0.00
32	Manufacture of Radio, Television etc.	0.67	1.00	26.00	2.00	6.00	2.00	4.00	2.00	0.00	0.00	2.00	0.00	0.00	0.00
33	Manufacture of Medical precision and Optical Instruments	na	1.00	0.00	3.00	0.00	3.00	0.00	2.00	0.00	0.00	0.00	0.00	0.00	1.00
34	Manufacture of Motor vehicles, and Trailers	0.75	0.81	110.00	38.00	14.00	36.00	9.00	25.00	1.00	3.00	3.00	6.00	1.00	2.00
35	Manufacture of other Transport equipment	0.86	0.86	26.00	3.00	21.00	8.00	18.00	6.00	0.00	1.00	3.00	1.00	0.00	0.00
36	Manufacture of Furniture: manufacturing n.e.c.	0.75	0.93	4,694.00	589.00	228.00	589.00	163.00	498.00	8.00	44.00	54.00	49.00	3.00	12.00
40	Electricity, Gas, Steam and Hot water	1.00	1.00	56.00	70.00	56.00	70.00	56.00	70.00	0.00	0.00	0.00	0.00	0.00	0.00
41	Collection, Purification and Distribution of Water	1.00	1.00	25.00	72.00	25.00	72.00	56.00	70.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>Total</b>		<b>0.77</b>	<b>0.86</b>	<b>22,404.00</b>	<b>4,230.00</b>	<b>1,263.00</b>	<b>4,233.00</b>	<b>895.00</b>	<b>2,918.00</b>	<b>53.00</b>	<b>765.00</b>	<b>304.00</b>	<b>484.00</b>	<b>43.00</b>	<b>81.00</b>

\* Includes Groups and Cooperatives

\*\*Response rates is equal to the ratio of not of completed to the adjusted No. of Establishments.

Adjusted to exclude out of scopes and association, groups and cooperatives, closed down and not located establishments.

APPENDIX 2

ERROR MARGINS

19/05/06 10:40:49

IMPS Version 3.1

Problem description:  
Activity by output

Files:

Data dictionary: OUTPUT.DD  
Input data: MERGEO~1.DAT  
Output listing: TEST1905.VAR

Sample design:

Stratum field: STRATUM  
Cluster field: REFNUM  
Weight field: WEIGHT  
Stratum rates: RATE

Two-stage option: NO

ANALYSIS TYPE: SUBPOPULATION TOTALS

Analysis Variable: MANUFACTURING OUTPUTS

Category	Estimate	Standard Error	C.V. (%)	95% Confidence Interval		Design Effect	Number of Observations
				Lower	Upper		
<INTERCEPT>							
1	26,376,166	580,131	2.20	25,239,108	27,513,224	0.00	3,430
ACTIVITY							
3130	122,862	4,502	3.66	114,038	131,686	0.00	3



3430	2,486	846	34.03	828	4,143	0.26	4
2691	3,306	1,749	52.90	-122	6,734	0.45	7
2692	3,839	405	10.55	3,045	4,632	0.01	16
2693	17,154	2,549	14.86	12,158	22,150	0.06	20
2694	1,899,413	0	0.00	1,899,413	1,899,413	0.00	5
2695	355,490	48,957	13.77	259,534	451,446	0.05	102
2696	48	0	0.00	48	48	0.00	1
2101	4,906	0	0.00	4,906	4,906	0.00	2
2102	87,610	0	0.00	87,610	87,610	0.00	4
3592	115	47	41.25	22	207	0.04	2
2699	2,821	371	13.15	2,094	3,548	0.02	10
3150	36	0	0.00	36	36	0.00	2
1810	724,575	88,068	12.15	551,962	897,187	0.04	991
2109	58,644	30,179	51.46	-506	117,794	0.14	7
1514	294,095	21,746	7.39	251,472	336,718	0.01	61
3599	1,996	63	3.15	1,873	2,119	0.00	13
1513	267,831	74,844	27.94	121,138	414,525	0.04	9
2411	39,486	6,933	17.56	25,897	53,075	0.01	7
2412	44	0	0.00	44	44	0.00	1
2710	505,645	131,975	26.10	246,975	764,315	0.05	10
1520	994,750	0	0.00	994,750	994,750	0.00	3
2413	87,045	237	0.27	86,580	87,510	0.00	2
1512	671,064	56,480	8.42	560,362	781,765	0.00	22
3311	1,275	0	0.00	1,275	1,275	0.00	1
3610	147,428	7,031	4.77	133,648	161,209	0.00	11
3611	660,814	56,518	8.55	550,040	771,589	0.13	581
3612	28,924	0	0.00	28,924	28,924	0.00	1
2421	104,001	790	0.76	102,453	105,549	0.00	3
2422	215,098	27,131	12.61	161,922	268,274	0.01	10
2423	459,797	71,734	15.60	319,198	600,397	0.03	30
2424	1,686,411	6,313	0.37	1,674,037	1,698,784	0.00	27
2720	653,216	393,505	60.24	-118,053	1,424,486	0.12	7
1532	601	536	89.04	-448	1,651	5.46	3
3320	2,911	0	0.00	2,911	2,911	0.00	1
1533	26,396	2,267	8.59	21,952	30,840	0.00	5
2429	778	0	0.00	778	778	0.00	3
2430	34,708	0	0.00	34,708	34,708	0.00	2
1511	49,837	3,610	7.24	42,762	56,912	0.00	7
3613	5,016	4,125	82.23	-3,068	13,101	2.40	15
2731	77,040	0	0.00	77,040	77,040	0.00	3
2732	74	0	0.00	74	74	0.00	1
1541	349,077	57,582	16.50	236,216	461,939	0.16	113

1531	1,253,703	217,980	17.39	826,462	1,680,944	0.02	
56							
1543	863,497	3,093	0.36	857,434	869,561	0.00	8
1820	91	10	11.55	70	111	0.01	3
1549	9,399	2,062	21.94	5,358	13,440	0.06	13
2891	50	0	0.00	50	50	0.00	4
1551	238,903	100,252	41.96	42,409	435,396	0.09	18
2893	95,917	1,233	1.29	93,500	98,335	0.00	16
1552	624	0	0.00	624	624	0.00	1
1554	622,056	4,177	0.67	613,869	630,244	0.00	44
1553	943,906	7,532	0.80	929,143	958,669	0.00	41
2892	497	85	17.19	329	664	0.03	6
2899	529,858	32,573	6.15	466,015	593,701	0.01	101
1711	186,164	8,185	4.40	170,121	202,207	0.00	61
2010	1,470,284	170,837	11.62	1,135,443	1,805,125	0.04	133
1712	817,919	2,803	0.34	812,426	823,413	0.00	24
2610	2,272	1,161	51.12	-4	4,548	0.15	6
2911	95	0	0.00	95	95	0.00	1
1721	7,947	63	0.80	7,823	8,071	0.00	8
2914	2,452	587	23.94	1,301	3,602	0.03	8
2021	991,415	129,512	13.06	737,572	1,245,258	0.02	26
3511	1,449	496	34.24	477	2,422	0.47	9
2320	4,891,779	0	0.00	4,891,779	4,891,779	0.00	2
1723	12,411	4,984	40.16	2,641	22,180	0.13	6
2023	3,633	1,097	30.20	1,482	5,783	0.65	14
2022	165,452	44,698	27.02	77,845	253,059	0.48	85
2921	29,987	8,328	27.77	13,664	46,309	0.04	11
1729	134	0	0.00	134	134	0.00	4
2029	29,064	8,821	30.35	11,774	46,354	0.65	29
2924	8,139	0	0.00	8,139	8,139	0.00	6
2925	11,780	4,493	38.14	2,973	20,586	0.54	14
1730	405	22	5.43	362	448	0.00	7
2927	62,867	28	0.04	62,813	62,921	0.00	3
3220	44	0	0.00	44	44	0.00	1
2929	1,330	0	0.00	1,330	1,330	0.00	3
2922	8,811	1,606	18.22	5,664	11,959	0.01	6
2915	175	32	18.61	111	238	0.01	2
3230	24,781	149	0.60	24,488	25,073	0.00	8
2926	5	0	0.00	5	5	0.00	1
2923	435	275	63.34	-105	974	0.11	1
1600	394,656	0	0.00	394,656	394,656	0.00	1
3691	17,142	3,686	21.50	9,917	24,367	0.03	14

3692	2,523	1,177	46.64	217	4,829	0.42	3
3693	21	0	0.00	21	21	0.00	1
3694	101	69	68.94	-35	237	0.59	2
3699	13,920	1,978	14.21	10,043	17,798	0.10	31
1912	4,819	1,175	24.38	2,516	7,121	0.05	6
1911	9	0	0.00	9	9	0.00	2
2212	103,196	0	0.00	103,196	103,196	0.00	3
2213	86	0	0.00	86	86	0.00	1
2211	672	657	97.77	-616	1,960	0.64	1
2811	428,851	88,012	20.52	256,347	601,355	0.20	188
2812	22,904	341	1.49	22,237	23,572	0.00	15
2813	85	0	0.00	85	85	0.00	1
1920	48,976	5,493	11.22	38,210	59,742	0.07	88
2219	3,385	0	0.00	3,385	3,385	0.00	5
2519	200,209	23,183	11.58	154,771	245,647	0.01	12
2221	223,253	30,207	13.53	164,047	282,460	0.09	68
2520	952,006	123,283	12.95	710,371	1,193,642	0.03	27
2222	4,866	759	15.61	3,377	6,354	0.05	16
3420	16,090	3,221	20.02	9,777	22,403	0.05	27
CLASSTRATUM							
1	122,813	83,854	68.28	-41,541	287,168	8.20	66
2 - 4	618,999	109,870	17.75	403,654	834,344	5.16	393
5 - 9	1,056,589	80,743	7.64	898,333	1,214,846	1.38	720
10 - 19	1,072,662	83,698	7.80	908,615	1,236,710	0.06	1,461
20+	23,505,102	552,396	2.35	22,422,407	24,587,798	0.00	790

ANALYSIS TYPE: TOTALS

Number of observations: 3430

Variable	Estimate	Standard Error	C.V. (%)	95% Confidence Interval		Design Effect
				Lower	Upper	
<INTERCEPT>	23,798	425	1.79	22,965	24,632	*****
REGION	110,626	2,374	2.15	105,972	115,279	9.66
ACTIVITY	54,395,029	1,051,709	1.93	52,333,679	56,456,379	13.29
OUTPUTS	26,376,166	580,131	2.20	25,239,108	27,513,224	0.00

APPENDIX 3

CHAPTER 6

GHANA STANDARD INDUSTRIAL CLASSIFICATION

Section

C

DIVISION	MAJOR GROUP	CLASS CODE	DESCRIPTION OF ITEM
11			<b>Mining and Quarrying</b>
	111	1110	<b>Extraction of crude petroleum and natural gas</b> Extraction of crude petroleum and natural gas
13			<b>Mining of metal ores</b>
	131		<b>Metal Ore Mining</b>
		1310	Mining of metal ores
	132		<b>Manufacture of non-ferrous metal ores, except uranium &amp; thorium ores</b>
		1321	Gold Mining / Dredging
		1322	<u>Bauxite Mining</u>
		1323	<b>Manganese Mining</b>
14			<b>Other mining and quarrying</b>
	141		<b>Other Mining</b>
		1410	<b>Quarrying of stone, clay and sand</b>
	142	1422	Salt Mining
		1429	Diamond Mining

**Section**

**D**

**15**

			<b>Manufacturing</b>
	151		<b>Manufacturing of food Products and beverages</b>
			<b>Production, processing and preservation of meat , fish, fruits, vegetables, oils and fats</b>
		1511	<b>Production, processing and preserving of meat and meat products</b> Include manufacture of sausages and hamburgers
		1512	<b>Processing and preservation of fish and fish products</b> such as: Salting, drying, smoking, curing, canning, quick freezing of Fish (cold stores), Shrimps, Oysters, Crabs and other sea foods.
		1513	<b>Processing and preserving of fruit and vegetables</b> Manufacture of Orange and lemon squash; Canning and bottling of fruit and vegetable juices; Jams and jellies, Canned soups, Roasting of nuts.
		1514	<b>Manufacture of vegetable and animal oils and fats</b> Manufacture of Copra Oil, Groundnut oil, Palm Kernel oil, Shea butter production and Other oil producing mills; Production of crude vegetable and nut cake and meal; Production of fish meal
	152	1520	<b>Manufacture of dairy products such as</b> Butter; Condensed, powdered, fresh and evaporated milk, Ice cream and lilies and other edible milk products
	153		<b>Manufacture of grain mill products, starches and starch products and prepared animal feeds</b>
		1531	<b>Manufacture of grain mill products such as;</b> - Rice milling, Corn milling; Bean splitting and grinding; Flour manufacturing; Coffee hulling.
		1532	<b>Manufacture of starches and starch products</b> wet corn milling; Manufacture of tapioca
		1533	<b>Manufacture of prepared animal feed</b> Production of prepared feeds for Animals, Fowls, Including dog and other pet foods
	154		<b>Manufacture of other food products</b>
		1541	<b>Manufacture of bakery products</b>

Manufacture of the following and similar products:  
Bread, Cakes, Cookies, Doughnuts, Biscuits, Pies.

1542 **Manufacture of sugar**

**Sugar factories and refineries**

The manufacture and refining from sugar cane or sugar beets of  
Raw sugar, Syrup, Granulated sugar, Molasses.

1543 **Manufacture of cocoa, chocolate and sugar confectionery**

Manufacture of

Cocoa powder, Cocoa butter, Chocolate powder, All types of sugar confectionery, Boiled Sweets,  
Toffee, Chewing gum

1544 **Manufacture of macaroni, noodles, couscous, and similar farinaceous products**

such as: Macaroni, Spaghetti, noodles, etc.

1549 **Manufacture of other food products not elsewhere classified**

Manufacture of

Baking powder, Flavouring extracts; Yeast, Coffee roasting and Spice grinding.  
Processing of tea leaves into black tea; Edible salt refining.

Manufacture of ice (blocks); Kenkey making (factories) and Gari making (factories).

155 **Manufacture of beverages**

1551 **Distilling, rectifying and blending of spirits, ethel alcohol production and fermented materials**

The distilling of ethyl alcohol, rectifying and blending of alcoholic liquors such as  
Whisky, Brandy, Schnnaps, Gin, Akpeteshie and Rum.

1552 **Production of wines**

The manufacture of - Wines, Cider and Perry.

1553 **Malt Liquors and Malt**

The manufacture of: Malt, Malt liquors such as Beer, stout and Pito.

1554 **Soft drinks and carbonated waters Industries**

The manufacture of non-alcoholic beverages such as

Soft drinks, Including fruit-flavoured and carbonated fruit drinks; Carbonated minerals waters  
and filtered water.

16

1600 **Manufacture of tobacco products**

160

The manufacture of tobacco products such as  
Cigarettes, Cigars, Smoking, chewing, homogenized tobacco and Snuff.

17

**Manufacture of Textiles**

171

i.e. Preparation and spinning; weaving and finishing of textiles

1711 **Preparation and spinning of textile fibres; weaving of textiles**

Preparing fibres for

Spinning, Weaving, of Yarn, Fabric, Jute mills and Kente weaving.

1712 **Finishing of textiles**

Bleaching and Dyeing of fabrics i. e. tie & dye and Printing and Finishing of yarns and fabrics.

172

1721 **Manufacture of made-up textile goods except wearing apparel**

Manufacture of house furnishings such as

Curtains, Draperies, Sheets; Flags, Banners; Tents, Tapaulins etc.

Napkins, Table clothes; Pillow cases, Blankets, Bed spreads, Pillows;

Textile bags, Canvas products, Embroideries.

1722 **Manufacture of carpets and rugs**

The manufacture of woven, tufted or braided

Carpets and rugs of any textile fibre or yarn; Mats or mattings of twisted paper; grass, coir,  
sisal, jute, rags.

	1723	<b>Manufacture of cordage, rope, twine and netting</b> Rope, Cable, Twine, cordage, Net (including fishing nets) and related products from abacca, sisal cotton, paper, jute, man-made fibres
	1729	<b>Manufacture of textiles not elsewhere classified</b> The manufacture of Linoleum and other hard-surface floor coverings, Oil cloth, artificial leather, Felt, Laces except knitted; Upholstery filling from all fibres
<b>173</b>	1730	<b>Manufacture of knitting and crocheted fabrics and articles</b> Manufacture of - Pullovers, Jerseys, Waist Coats, Other knitted apparel and other knitted fabrics and laces from natural and synthetic fibres. Included are the bleaching, dyeing and finishing of knitted products
<b>18</b>		<b>Manufacture of wearing apparel, dressing and dyeing of fur</b>
<b>181</b>	1810	<b>Manufacture of wearing apparel by cutting and sewing fabrics, leather, etc., for</b> Hats and caps, Shirts, suits, trousers, blouses, brassiers, nightwears etc.; Gloves, Robes and Dressing gowns, Rain coats and other water proofed outer garments, Belts; Handkerchiefs, Academic caps and gowns
<b>182</b>	1820	<b>Dressing and dyeing of fur, manufacture of articles of fur</b> i.e. Dressing and dyeing of furskins and hides with hair on
<b>19</b>		<b>Tanning and dressing of leather, manufacture of luggage, handbags, saddlery, harness and footwear</b>
<b>191</b>		Tanning and dressing of leather, manufacture of luggage, handbags, saddlery and harness
	1911	<b>Tanning and dressing of leather</b> Production of tanned leather, manufacture of composition leather
	1912	<b>The manufacture of luggage, handbags and the like, saddlery &amp; harness</b> Luggage, Handbags and the like, Cigarette and key cases and coin purses; Non-metallic watch straps, Driving belts, packings; Pocket books, etc.
<b>192</b>	1920	<b>Manufacture of footwear</b> Manufacture of footwear of any material, including moulding Manufacture of parts of footwear, like uppers, inner, outer, soles, heels
<b>20</b>		<b>Manufacture of wood and wood and cork products, except furniture; manufacture of articles of straw and plaiting materials</b>
<b>201</b>	2010	<b>Sawmilling and planing of wood</b> The manufacture of Lumber, Wooden railway sleepers, Sawing, planing & machining of wood; Slicing, peeling or chipping logs; Preservation of wood, Wood wool, wood flour, chips, and particles.
<b>202</b>		<b>Manufacture of products of wood, cork, straw and plaiting materials</b>
	2021	<b>Manufacture of veneer sheets; manufacture of plywood, laminboard,</b> particle board and other panels and boards Veneer, Plywood, Hardboard and particle board, Densified wood and T & G
	2022	<b>Manufacture of builders' carpentry and joinery</b> Manufacture of wooden goods intended for construction industry, i.e. Beams, rafters, doors, windows, frames, stairs, railings, shingles etc.
	2023	<b>Manufacture of wooden containers</b> The manufacture of Boxes, Crates, Drums, Barrels, Pallets, Packing cases, Tubs and Vats
	2029	<b>Manufacture of other products of wood; manufacture of articles of cork, straw products and plaiting materials</b> The manufacture of Products of cork, Small ware consisting wholly or mainly of wood, Hangers, wooden cases,

		Wooden ladders, Lasts, Blocks, Handles, Pins, Racks, Rods, Wood carvings, (tool handles, stools, etc.), Picture and mirror frames and Basketware and wickerwork.
<b>21</b>	<b>210</b>	<b>Manufacture of paper and paper products</b>
	2101	<b>Manufacture of pulp, paper and paper board</b> The manufacture of Pulp from wood, rags and other fibres, Paper, Paperboard, Fibre building paper, Fibre board.
	2102	<b>Manufacture of corrugated paper and paperboard and of containers of paper and paperboard</b> The manufacture of Containers of corrugated paper and paperboard, Folding paperboard containers, Containers of solid paper Sacks and bags of paper, office box files
	2109	<b>Manufacture of other articles of paper and paperboard</b> The manufacture of Letter cards, Envelopes and stationery, Wall paper, Towels (paper), Toilet Paper, Straws, Egg trays, labels, Handkerchiefs, cleansing tissues, and Patterns.
<b>22</b>	<b>221</b>	<b>Publishing, printing, and reproduction of recorded media</b>
		<b>Publishing</b>
	2211	<b>Publishing of books, brochures and other publications</b> Publishing of books, brochures, audio books, leaflets, dictionaries, etc.
	2212	<b>Publishing of newspapers, journals and periodicals</b> Publishing of comic books, newspapers, including advertising newspapers; periodicals and trade journals.
	2213	<b>Publishing of music</b> Publishing of gramophone records, CDs, tapes, and printed music
	2219	<b>Other publishing</b> Publishing of photos, postcards, greetings cards, posters, timetables etc Reproduction of works of art
	<b>222</b>	<b>Printing and service activities related to printing</b>
	2221	<b>i. e.</b> Printing of newspapers, brochures, magazines, maps, atlases, albums, diaries, postage stamps, calenders, music & music manuscripts, Computer printers, Screen printing etc.
	2222	<b>Service activities related to printing</b> Services for the printing trade such as: type setting, engraving and etching, steel and copper Plates, Plate-making services, binding of printed sheets Photo engraving, embossing, varnishing & laminating Electrotyping and stereotyping
	<b>223</b>	<b>Reproduction of recorded media</b> Reproduction from master copies of CDs, tapes, gramophone records,etc
<b>23</b>	<b>231</b>	<b>Manufacture of coke, refined petroleum products and nuclear fuel</b>
	2310	<b>Manufacture of coke oven products</b> The manufacture of Asphalt paving and roofing materials; Compounded and blended lubricating oils and greases from purchased materials.
	2320	<b>Manufacture of refined petroleum products</b> Motor fuel: gasoline, kerosene, etc., Fuel oils, Illuminating oils, Lubricating Oils and greases, and other products from crude petroleum and its fractionation products eg. Petroleum jelly, vaseline, paraffin wax etc.
	2330	<b>Processing of nuclear fuel</b>
<b>24</b>	<b>241</b>	<b>Manufacture of chemicals and chemical products</b>
		<b>Manufacture of basic chemicals</b>
	2411	<b>Manufacture of basic industrial chemicals except fertilizers and nitrogen compounds</b> The manufacture of basic industrial organic and inorganic chemicals such as:



Cyclic intermediates and crudes, Dyes, Organic pigments; Non-cyclic organic chemicals; Solvents; Polyhydric alcohols; Rubber processing chemicals; Synthetic and natural tanning materials; Gum and wood chemicals (charcoal); Esters of polyhydric alcohols; Urea and fatty and other acids; Alkalides; Inorganic pigments, Hydrogen peroxide, Carbon bisulphide; Phosphorus, Magnesium Carbonate, Bromine Iodine, Industrial gas in compressed liquified and solid form (L'air Liquide), Sodium Nitrate; Potassium Nitrate.

2412 **Manufacture of fertilizers and nitrogen compounds**

The manufacture of straight, mixed, compound and complex nitrogeous, phosphate and potash fertilizers.

2413 **Manufacture of plastics in primary forms and of synthetic rubber**

The manufacture of

- Synthetic resins, Plastic materials and Non-Vulcanizable, Non-Elastomers, in the form of moulding and extrusion compound; Solid and liquid resins, Sheets, rods, tubes, granules and powders; Cellulosic and other man-made fibres except glass, in the form of monofilament, multi-filament, staple or tow suitable for further processing, on textile machines

24 242

**Manufacture of other chemical products**

2421 **Manufacture of pesticides and other agro-chemical products**

- The formulation and preparation of ready-to-use pesticides, insecticides, fungicides, and herbicides and of concentrates for this purpose

2422 **Manufacture of paints, vanishes and similar coatings, printing ink and mastics**

- Paints, Varnishes, Stains, Shellac, Lacquers, Enamels, Printing ink, Composite thinners, Paint removers, Paint brush cleaners, Putty and other caking and filling materials

2423 **Manufacture of pharmaceuticals, medicinal chemicals and botanical products**

The manufacture, fabrication and processing of

- Drugs and medicines; Biological products such as: bacterial and virus vaccines, serum and plasmas: Medicinal and botanical products such as antibiotics, quinine, stichine, sulphur drugs, opium and derivatives, adrenal, caffeine, codeine derivatives,

2424 **Manufacture of soap and detergents, cleaning and polishing preparations, perfumes, and toilet preparations**

The manufacture of

- Soap in any form, Synthetic detergents, polishes for wood & leather, waxes, etc. Shampoos and shaving products; Cleansers, washing and scouring powders and similar cleaning preparations, Crude and refined glycerin from vegetable and animal oils and fats, Natural and synthetic perfumes and deodorants, Cosmetics, Lotions, Hair dressings, Tooth paste and other toilet preparations

2429 **Manufacture of chemical products not elsewhere classified**

The manufacture of miscellaneous chemical products such as:

- .. Propellant powders Natural aromatic products, Aromatic distilled waters; Wetting agents, emulsifiers and penetrants; Explosives and ammunition; Adhesives, glues, sizes and cements, Candles; Inks and carbon black; Incense and camphor products, Essential oils; Bluing and Laundry sours, Boiler and heat insulating compounds, Water-proofing compounds Metal, oil and water treating compounds, Prepared photo-chemical materials; Sensitized film, paper and cloth

2430 **Manufacture of man-made fibre**

- .. Synthetic & artificial filament, Synthetic & artificial staple fibres

25

**Manufacture of rubber and plastic products**

251

Manufacture of rubber products

2511 **The manufacture of rubber & tubes; retreading & rebuilding of rubber tyres**

- The manufacture of Tyres and tubes for automobiles, trucks, air crafts, tractors and other equipment; Tyre rebuilding and retreading

	2519	<b>Manufacture of other rubber products</b>	The manufacture from natural or synthetic rubber of all kinds of rubber products such as: .. Rubber plates, sheets, strip, rods, profile shapes, Rubber conveyor and transmission belt Rubber gloves, mats, sponges, rings, floor coverings, Rubber thread
<b>252</b>	2520	<b>Manufacture of plastic products</b>	The moulding, extruding and fabricating of - Plastic dinner ware, tableware, and kitchen ware; Plastic mats, plastic doors, windows, frames, tanks; Synthetic sausage casings; Laminated sheets, rods and tubes; Plastic components for insulation; Plastic machinery parts, bottles, tubes and cabinets
<b>26</b>		<b>Manufacture of other non-metallic mineral products</b>	
<b>261</b>	2610	<b>Manufacture of glass and glass products</b>	The manufacture of - Glass, glass mirrors; bottles, containers, drinking glasses; Glass fibres and other glass products, glasswares used in jewellery, etc
<b>269</b>		<b>Manufacture of non-metallic mineral products</b>	
	2691	<b>Manufacture of non-structural non-refractory ceramic ware</b>	.. Pottery, China and earthenware (Ceramics), Ceramic tableware, pots, jars, insulators, .. Furniture, Ceramic laboratory, chemical & industrial products
	2692	<b>Manufacture of refractory ceramic products</b>	..ie. Refractory mortars, concretes, etc; Heat insulating ceramic goods, Refractory bricks, blocks and tiles; nozzles, tubes pipes etc. All other ceramic products
	2693	<b>Manufacture of structural non-refractory clay and ceramic products</b>	The manufacture of structural clay products such as: - Bricks, Roofing Tile, chimney pots, conduits, pipe, Crucibles, Architectural terracotts, Stove Lining
	2694	<b>Manufacture of cement, lime and plaster</b>	The manufacture of - All types of cement such as Portland, natural, masonry puzzolana; Quicklime, slaked lime & hydraulic lime
	2695	<b>Manufacture of articles of concrete, cement and plaster</b>	The manufacture of - Concrete, gypsum and plaster products; Ready-mixed concrete; Monument works (concrete mouldings); Concrete blocks and pavement blocks; Plaster.
	2696	<b>Cutting, shaping and finishing of stone</b>	- Cutting, shaping & finishing of stone for use in construction, cemeteries
	2699	<b>Manufacture of other non-metallic mineral products not elsewhere classified</b>	The manufacture of miscellaneous non-metallic mineral products such as: - Sandcrete block making; Asbestos pipes and sheets, Monument works (concrete mouldings) Abrasives; asphalt based adhesives; coaltar pitch, Graphite products.
<b>27</b>		<b>Manufacture of basic metals</b>	
<b>271</b>	2710	<b>Manufacture of basic iron and steel</b>	The manufacture of primary iron and steel products consisting of all processes from smelting in blast furnaces to the semi-finished stated in rolling mills and foundries, i.e. the production of: - Billets, Blooms, Slabs or bars; Hot and cold rolling and drawing into basic forms, such as sheets, tin-plate, terne-plate and black plate, strips, tubes and pipes, rails, rods, wire rods.
<b>272</b>	2720	<b>Manufacture of basic precious &amp; non-ferrous metals</b>	The manufacture of primary non-ferous metal products, consisting of all processes from smelting, alloying, and refining, rolling and drawing and founding and casting; i.e. the production of Ingots, Bars and billets, Sheets, strips, circles, sections, rods, tubes, pipes, and wire rods;

		Production of aluminium from bauxite
	2731	<b>Casting of iron and steel</b> .. Casting of iron & steel products
	2732	<b>Casting of non-ferrous metals</b> .. Casting of semi-finished products of aluminium, zinc, magnesium, etc .. Casting of light metal castings, Casting of heavy metal castings
<b>28</b>	<b>281</b>	<b>Manufacture of fabricated metal products, except machinery and equipment</b> Manufacture of structural metal products such as: tanks, reservoirs, and steam generators
	2811	<b>Manufacture of structural metal products</b> Manufacture of structural components, steel or other metal of: - Bridges, Smoke stacks and buildings, Metal doors and screens, Window frames and sashes Metal stair cases and other architectural metal work (gates, burglary proof, metal banisters, etc). .. Metal shutters, Metal gates.
	2812	<b>Manufacture of tanks, reservoirs and containers of metal</b> Such as Tanks (surface and underground), metal containers, reservoirs; .. Manufacture of central heating, boilers & radiators and gas cylinders
	2813	<b>Manufacture of steam generators, except central heating hot water boilers</b> Such as: Boiler shop products, sheet metal components of buildings; .. Steam or vapour generators, parts for marine or power boilers.
	289	<b>Manufacture of other fabricated metal products, metal working service activities</b>
	2891	<b>Forging, pressing, stamping and roll-forming of metal; powder metallurgy</b> .. Forging, pressing & roll forming of metal, powder metallurgy
	2892	<b>Treatment and coating of metals; general mechanical engineering on fee or contract basis</b> .. Plaiting, anodizing of metal, heat treatment of metal, colouring, engraving printing of metal, polishing, welding, grinding & sawing of metal and key cutting.
	2893	<b>Manufacture cutlery, hand tools, and general hardware</b> The manufacture of - Table, kitchen and other cutlery; Hand and edge tools such as axes and hatchets, chisels and files, hammers, shovels, rakes, hoes, and other agricultural and garden tools, hand saws and plumbers, masons, mechanics and machinists' precision hand tools; Hardware such as: fire place and key-set and other builders' and furniture hardware, casters, clamps and marine and luggage vehicle hard ware Blacksmiths, tools, padlocks, cutlasses, swords, keys, hinges etc.
	2899	<b>Manufacture of other fabricated metal products not elsewhere classified</b> - Metal cans from tin-plate, terne-plate, or enamel sheet metal (baking pans included). Metal shipping containers, barrels, drums, kegs and pails, Metal stampings, Screw machine products, Safes and Vaults, Fabricated wire and cable products excluding insulated wire and cable; Steel springs, Bolts, nuts, washers, rivets and collapsible tubes, Furnaces, stoves and other space heaters, Enamelled iron and metal sanitary ware, Small metal ware, nails, sliding doors.
<b>29</b>	<b>291</b>	<b>Manufacture of machinery not elsewhere classified except electrical</b> <b>Manufacture of general purpose machinery</b>
	2911	<b>Manufacture of engines and turbines except air craft, vehicles, and cycle engines</b> The manufacture of - Steam and gas engines, Steam, gas and hydraulic turbines, Petrol, diesel and other internal combustion engines.

	2912	<b>Manufacture of pumps, compressors, taps and valves</b> - Plumbers' brass goods, Valve and pipe fittings, Hand pumps, water pumps, oil & fuel pumps.
	2913	<b>Manufacture of bearings, gears, gearing and driving elements</b> .. Ball & roller bearings, gears & gear box, clutches & shaft couplings
	2914	<b>Manufacture of ovens, furnaces and furnace burners</b> ..Industrial & laboratory furnaces and ovens, burners etc.
	2915	<b>Manufacture of lifting and handling equipment</b> .. Hand-operated or power-driven lifting, loading/unloading machinery
	2919	<b>Manufacture of other general purpose machinery</b> .. Refrigerating or freezing industrial equipment, air conditioning machines, non domestic fans, weighing machines, etc.
<b>292</b>		<b>Manufacture of special purpose machinery</b>
	2921	<b>Manufacture of agricultural and forestry machinery</b> The manufacture of agricultural machinery and equipment such as: - Planting, seeding, fertilizing, cultivating, harvesting implements, Ploughs, tractors, mowers, spraying machines, Harrows, Stalk butters, Milking machines.
	2922	<b>Manufacture of machine-tools</b> The manufacture of wood working and metal-working machinery, such as: machinery for: - Planting mills, Furniture makers and veneer workers, Sawmills, Lathes, Boring, Drilling, Grinding and Milling, Shearing and shaping machines; Power saws and sanders; Drop forges and other forging machines; Rolling mills, Presses and drawing machines, Extruding, melting and non-electrical welding machines and machines tools, Dies and jigs, Attachments and accessories for woodworking and metal-working, machines are included .
	2923	<b>Manufacture of machinery for metallurgy</b> The manufacture of special industrial machinery and equipment except wood-working and metal working machinery such as: machines & equipment for handling hot metals i.e. converters, ingot moulds, ladles, casting machines
	2924	<b>Manufacture of machinery for mining, quarrying and construction</b> Manufacture of Heavy machinery and equipment used by construction and mining industries; Concrete and mortar mixtures; Oil refinery machinery and equipment; Bulldozers.
	2925	<b>Manufacture of machinery for food, beverages and tobacco processing</b> - Food machinery (corn mills, cassava gratgers, dough kneeding machines etc)., .. Manufacture of presses, crushers for wine, fruit juices etc.
	2926	<b>Manufacture of machinery for textile, apparel and leather production</b> - Textile machinery, Sewing machines, ironing machines, knitting & weaving machines
	2927	<b>Manufacture of weapons and ammunition</b> .. Arms & amunitions etc.
	2929	<b>Manufacture of other special purpose machinery</b> Manufacture of Paper industry machinery, Printing-trade machinery and equipment; Chemical Industry machinery and equipment; Machinery for producing tiles, bricks, pipes etc.
<b>293</b>	2930	<b>Manufacture of domestic appliances not elsewhere classified</b> The manufacture of electrical appliances and house wares such as: - Electric heaters, refrigerators & freezers, electric irons, dryers etc., Hot Plates, Toasters and food mixers
<b>30</b>		<b>Manufacture of office, accounting and computing machinery</b>
<b>300</b>	3000	<b>Manufacture of office, computing and accounting machinery</b> The manufacture of office machines and equipment such as: - Calculating machines, Adding machines, Accounting machines, Punched-card systems machines and equipment, Digital and Analog computers and associated electronic data processing, equipment and accessories, Cash registers, Typewriters, Duplicating machines
<b>31</b>		<b>Manufacture of electrical machinery and apparatus, appliances</b>

		<b>not elsewhere classified</b>
<b>311</b>	<b>3110</b>	<b>Manufacture of electric motors, generators and transformers</b> The manufacture of: - Electric motors, Generators and complete turbine - generators and engine - generator sets; Transformers, Electronic timing and positioning devices
<b>312</b>	<b>3120</b>	<b>Manufacture of electricity distribution and control apparatus</b> - Fixtures and lamp sockets and receptacles, Snap switches, conductor connectors, Conduits and fittings, Electrical insulators and insulation materials except porcelain and glass insulators.
	<b>3130</b>	<b>Manufacture of insulated wire and cable</b> - Insulated wires and cables i.e. electric wires and cables
<b>314</b>	<b>3140</b>	<b>Manufacture of accumulators, primary cells and primary batteries</b> - Storage and primary batteries wet and dry
<b>315</b>	<b>3150</b>	<b>Manufacture of electric lamps and lighting equipment</b> Such as: Tubes, Lamps, Gas lamps, miner's carbide lights, Flashbulbs, Arc lamps.
<b>319</b>	<b>3190</b>	<b>Manufacture of other electrical equipment not elsewhere classified</b> The manufacture of other electrical apparatus, accessories and not elsewhere classified such as: electrical ignition, windscreen wipers, traffic control equipment, etc.
<b>32</b>		<b>Manufacture of radio, television and communication equipment and apparatus</b>
<b>321</b>	<b>3210</b>	<b>Manufacture of electronic valves and tubes and other electronic components</b> Such as: Electrical capacitors, resistors, television picture tubes, Tv camera tubes
	<b>3220</b>	<b>Manufacture of television and radio transmitters and apparatus for line telephony and line telegraphy</b> ie. TV cameras, apparatus for line telephony, Wire and wireless telephone and telegraph equipment, Radio and television transmitting, signalling and detection equipment, and apparatus, mobile telephones, data communication equipment etc.
<b>323</b>	<b>3230</b>	<b>Manufacture of television and radio receivers, sound and video recording or reproducing apparatus and associated goods</b> The manufacture of - Radio and Television receiving sets, Sound reproducing and recording equipment, Public address systems, Gramophones, Tape recorders, Gramophone records and pre-recorded magnetic tapes, CD & DVD players, microphones, headphones, amplifiers, TV decoders.
<b>33</b>		<b>Manufacture of medical, precision and optical instruments, watches and clocks</b>
<b>331</b>		Manufacture of medical appliances and instruments for measuring, checking, testing, navigating and other purposes, except optical instruments.
	<b>3311</b>	<b>Manufacture of medical and surgical equipment and orthopaedic appliances</b> ie. The production of surgical, medical, dental, and orthopedic appliances .. Syringes, needles, X-ray tubes etc.
	<b>3312</b>	<b>Manufacture of instruments and appliances for measuring, checking, testing, navigating and other purposes; except industrial process control equipment</b> .. Mathematical calculating instruments, Microscopes, surveying instruments.
	<b>3313</b>	<b>Manufacture of industrial control equipment</b> .. Instruments used to measure temperature, viscosity, pressure etc.
<b>332</b>	<b>3320</b>	<b>Manufacture of optical instruments and photographic equipment</b> The manufacture of - Optical instruments and lenses, Ophthalmic goods, Photographic and photo-copying equipment and supplies, Optical instruments for scientific and medical use.

34	333	3330	<p><b>Manufacture of watches and clocks</b></p> <p>The manufacture of</p> <ul style="list-style-type: none"> <li>- Clocks and watches of all kinds; metal watch straps, watch bands; Clock and watch parts and cases; Mechanisms for timing devices</li> </ul>
			<p><b>Manufacture of motor vehicles, trailers and semi-trailers</b></p>
	341	3410	<p><b>Manufacture of motor vehicles</b></p> <p>The manufacture, assembly, re-building and major alteration of complete motor vehicles such as:</p> <ul style="list-style-type: none"> <li>- Passenger automobiles, Commercial cars and buses, lorries and taxi-cabs, ambulances, etc.</li> </ul>
	342	3420	<p><b>Manufacture of bodies (coachwork) for motor vehicles; manufacture of trailers and semi-trailers</b></p> <p>Such as: Truck trailers, Trailer and pick up coaches, Carriage containers.</p>
	343	3430	<p><b>Manufacture of parts and accessories for motor vehicles and their engines</b></p> <ul style="list-style-type: none"> <li>- Specialized parts such as motors, saddles, seat posts, frames gears and handle bars, exhaust pipes, clutches, safety belts</li> </ul>
35			<p><b>Manufacture of other transport equipment</b></p>
	351		<p><b>Building and repairs of ships and boats</b></p>
		3511	<p><b>Building and repairing of ships</b></p> <p>Building and repairing of</p> <ul style="list-style-type: none"> <li>.. Commercial vessels, ferry boats, cargo ships, Warships, Fishing boats, Floating docks,</li> <li>.. Pontoons etc.</li> </ul>
		3512	<p><b>Building and repairing of pleasure and sporting boats</b></p> <ul style="list-style-type: none"> <li>.. Building of sail boats, motor boats, rafts, pleasure boats etc.</li> </ul>
	352	3520	<p><b>Manufacture of railway and tramway locomotives and rolling stock</b></p> <p>The building, re-building of</p> <ul style="list-style-type: none"> <li>- Locomotives of any type or gauge, Railroad and tramway coaches for freight and passenger service, Production of specialized parts for locomotives, railroad and tramway cars.</li> </ul>
	353	3530	<p><b>Manufacture of aircraft and spacecraft</b></p> <p>The manufacture, assembly, re-building and <u>repair</u> of</p> <ul style="list-style-type: none"> <li>- Aeroplanes and Gliders; Aircraft parts such as engines, propellers, and under carriages, Space vehicles and specialized parts.</li> </ul>
		3591	<p><b>Manufacture of motorcycles</b></p> <p>The manufacture, assembly, re-building and major alteration of</p> <ul style="list-style-type: none"> <li>- Motorcycles</li> </ul>
		3592	<p><b>Manufacture of bicycles and invalid carriages</b></p> <p>Scooters, Bicycles, Tricycles; Specialized parts such as: motors, saddles, seat posts, frames gears and handle bars.</p>
		3599	<p><b>Manufacture of other transport equipment not elsewhere classified</b></p> <p>The manufacture of transport equipment not elsewhere classified such as:</p> <ul style="list-style-type: none"> <li>- Animal - drawn wagons, Carts and sleighs, Hand drawn push carts, Wheelbarrows.</li> </ul>
36			<p><b>Manufacture of furniture; manufacturing not elsewhere classified</b></p>
	361	3610	<p><b>Manufacture of furniture of any kind except, stone, ceramic &amp; concrete</b></p> <ul style="list-style-type: none"> <li>.. Manufacture of cane chairs;</li> <li>- Mattresses and bed springs (including foam mattress and products)</li> </ul>
		3611	<p><b>Manufacture of wooden furniture</b></p> <ul style="list-style-type: none"> <li>- Household furniture and fixtures (beds, wardrobes, dining table and chairs, dressing mirrors, coffee tables, sofa, arm chairs, etc.); Office furniture and fixtures (writing tables and desks,</li> </ul>

chairs, filing cabinets); Public building, furniture, Professional and restaurant furniture and fixtures; Upholstered furniture regardless of the material used in the frame.

3612 **Manufacture of plastic furniture**

.. Plastic chairs, plastic tables etc.

3613 **Manufacture of metal furniture**

.. Metal chairs, metal tables etc

**369 Manufacturing not elsewhere classified**

3691 **Manufacture of Jewellery and related articles**

Manufacture of Jewellery, using precious metals, semi-precious and pearls; and of silverware and silver; Gold and other precious metal plated ware (Goldsmith and silversmith shops included). The cutting and polishing of precious and semi-precious stones  
The striking of coins and medals.

3692 **Manufacture of musical Instruments**

The manufacture and repair of musical instruments such as:

- Pianos, String instruments, Wind instruments, Percussion instruments, Drums.

3693 **Manufacture of sports goods**

Manufacture of sporting and athletic goods such as:

- Football, basket ball, boxing, cricket and baseball equipment; Gymnasium and playground equipment; Athletic equipment; Fitness centre; Golf and tennis goods

3694 **Manufacture of games and toys**

- Toys, dolls, playing cards, Billiards and casino games, bowling alleys.

3699 **Other manufacturing not elsewhere classified**

The manufacture of products not elsewhere classified such as:

- Pens, pencils and other artists' and office materials; Umbrellas and canes, Buttons, Brooms and brushes, Candles, artificial flowers, Identification plates, embossing labels, Cigarette .. lighters & matches, Emblems and Tags, Burial caskets, hand sieves, Metal and rubber stamps and stencils, Hair slides, combs, smoking pipes

**37**

**Recycling**

**371 3710 Recycling of metal waste and scrap**

.. Mechanical crushing of metal waste such as used cars, Shredding of metal waste

**372 3720 Recycling of non-metal waste and scrap**

.. Reclaiming of rubber like used tyres to produce secondary raw material

**40**

**Electricity, Gas, Steam and hot water supply**

**401 4010 Production, transmission & distribution of electricity**

The generation, transmission and distribution of electric energy for sale to household, industrial and commercial users;

..Operation of distribution system i.e. lines, poles, meters, Sale of electricity to users

4020 **Manufacture of Gas; distribution of gaseous fuels through mains**

The manufacture of gas in gasworks and the distribution of manufactured or natural gas through a system of mains to household, industrial and commercial users.

4030 **Steam and hot water supply for**

Establishments primarily engaged in the production and distribution of steam and hot water for heating power and other purposes.

**41**

**410 4100 Collection, purification & distribution of water**

The collection, purification and distribution of water to household, industrial and commercial users.

**Section**

**F**

**45**

**Construction**

**451 4510 Site Preparation**

Demolition or wrecking of buildings and other structures, clearing of building

- 452 4520 sites, Blasting, Land filling, land drainage and other land preparation,  
**Building of complete constructions or parts thereof, Civil Engineering**  
General Building Construction, ie. Construction of entire dwellings, office buildings, farm buildings etc. Repair and organization of Building projects, Civil Engineering Construction  
Construction of Highways, Streets, bridges, tunnels, railways, airfields, harbours, and other water projects, irrigation systems, sewerage systems etc.  
Specialized construction of parts of general building projects and civil engineering projects that require special skills and equipment. Includes: Foundation work, Water well drilling, concrete work, brick laying, stone setting, roof covering, etc.
- 453 4530 **Building Installation**  
Installation of all kinds of utilities, Plumbing; Installation of heating and Air conditioning systems, elevators, etc. Installation of illumination and signaling systems for roads, railways, airports, and installation of electric power and transformer plants, telecommunication etc. Repair of all the above.
- 454 4540 **Building Completion**  
Glazing, plastering, painting, decorating, floor and wall tiling or covering, finish carpentry, cleaning of exterior etc. Repair of all the above.
- 455 4550 **Renting of Construction or Demolition Equipment with Operator**



