

General Information

I Census of Manufacture

1. Purpose of the Census

The Census of Manufacture (hereafter referred to as the Census) is to clarify the condition of current Japanese manufacturing.

2. Legal Framework

The Census represents a fundamental statistics under the Statistics Act (Law No. 53 of 2007) and is implemented according to the Regulations for the Census of Manufacture (Ministerial Ordinance No. 81 of the Ministry of International Trade and Industry of 1951).

3. Reference Period

The reference period of the 2012 Census is calendar year 2012 (as of December 31, 2012).

4. Scope of the Census

The Census covers all establishments located in Japan (excluding those located in the enumeration districts which includes the “restricted areas etc.”, those belonging to the government and establishments with three or less employees) and falling under [Division E - Manufacturing Industry] listed in the Japan Standard Industrial Classification (No.618 of the Ministry of Internal Affairs and Communications issued in 2007).

“restricted areas etc.” : the restricted areas under the provisions of Article 63, paragraph 1, of the Basic Act on Disaster Control Measures (Act No.223 of 1961) as applied mutatis mutandis by replacing the terms pursuant to Article 28, Paragraph 2, of the Act on Special Measures Concerning Nuclear Emergency Preparedness(Act No.156 of 1999) regarding the Great East Japan Earthquake (disaster caused by the Tohoku-Pacific Ocean Earthquake, which struck on March 11, 2011, and the subsequent nuclear power plant accident) and planned evacuation areas designated by the Nuclear Emergency Response Headquarters.

5. Forms

Questionnaires are distributed to establishments by enumerators, except establishments designated by the Minister of Economy, Trade and Industry, that are located in the areas in which the execution of the Census was affected by the Great East Japan Earthquake, and whose headquarters have three or more establishments or have two hundred or more employees. Designated establishments receive the questionnaires directly from the Ministry of Economy, Trade and Industry.

Form A covers establishments with 30 or more employees, while Form B is for those with 29 or fewer employees in both cases excluding head offices that have no involvement in the manufacturing processing or repair of industrial products. The Census is based on entries in these forms filled by managers or administrators of applicable establishments, or representatives of the enterprises as in the case of questionnaires being sent to the headquarters.

6. Publication

The results of the Census of Manufacture 2012 are compiled by "**industry**," "commodity," "city, town and village," "industrial district," "industrial site and water," and "enterprise.

The Report by Industry focuses establishments with 4 or more employees to provide a portrait of the

manufacturing activities by industry. These establishments are classified pursuant to the Japan Standard Industrial Classification according to their principal activities so that their activities are to be tallied up by industry.

The Report by Commodity covers detailed figures on manufactured/processed goods by establishments with 4 or more employees on a commodity basis. The Report by City, Town and Village covers establishments with 4 or more employees, showing major survey items by city, town and village. The Report of Industrial district covers establishments with 4 or more employees, showing major survey items by prefectural industrial district.

The Report of Industrial Site and Water covers establishments with 30 or more employees, showing the status of the utilization of industrial sites and industrial water.

The Report of Enterprise provides findings with regard to establishments with 4 or more employees after recompiling the data by the enterprise to which these establishments belong.

II Details of the Report by Industry of the 2012 Census

1. Tabulation of Report by Industry

The Report by Industry provides findings with regard to establishments with 4 or more employees after recompiling the data of Form A and B of the 2012 Census by industry.

The figures in this Report may not be consistent with counterparts in the “ Summary of reports by industry”. The figures in this Report should be construed as final.

2. Industrial Classification for the Census

- (1) The Industrial Classification for the Census conforms in principle to the Japan standard Industrial classification. The exception is as follows.

Industrial classification for the Census of Manufacture	Japan standard Industrial classification
1421 Paper and machine-made Japanese paper, integrating paper (1421) and machine-made Japanese paper (1423)	1421 Paper 1423 Machine-made Japanese paper

- (2) The following is a list of products as mentioned elsewhere in Division 18 "plastic product manufacturing industry (except for mentioned elsewhere)".

Product	Industry	Product	Industry
Furniture and fixtures	13	Pens, lead pencils, painting materials and stationery	326
Plastic plate making for printing	1521	Lacquer ware	3271
Photosensitive materials	1695	“Tatami” mats (straw-mats)	3282
Gloves and mittens	2051	Fans and lanterns (Japanese style)	3283
Refractories	215	Brooms and brushes	3284
Abrasive products	2179	Smoking accessories and supplies, except precious metals and jewelry	3285
Artificial pearls	2199	Umbrellas, parasols and parts	3289
Gears	2531	Thermos bottles	3289
Setsquares with scale	2739	Signboards and signs	3292
Injection cylinders	2741	Pallets for transportation	3293
Artificial tooth	2744	Models and patterns	3294
Costume jewelry, costume accessories, buttons and related products, except precious metals and jewelry	322	Patterns manufactured for industrial use	3295
Wigs and tresses	3229	Records	3296
Watchcases	3231	Ophthalmic goods	3297
Musical instruments	324		
Toys and sporting goods	325		

3. Criteria for Classification of Establishments

Establishments are classified by industry with the following criteria.

(1) Common method

- i. With respect to establishments manufacturing a single type of products, the industry in which the establishments are classified is determined based on the upper four digits (class code) of the six-digit commodity number of the products.
- ii. Concerning establishments engaged in manufacturing of several types of products, the "top-down method" is applied. Firstly, the appropriate classification division (two digits) is determined based on the largest total shipment values of products. Then, the three-digits group and the four-digits class classifications are determined in the same way.

(2) Special method

In some cases, the industrial classification of an establishment is determined based on its raw materials, work process, and mechanical installations involved.

Specifically, the special method is applied to the following 11 industries classified in Division 22 "Manufacture of iron and steel" including "Iron industries, with blast furnaces", "Steel manufactured, including converters and electric furnaces and with rolling facilities", "Hot rolling", "Cold rolling", "Cold rolled steel shapes", "Steel pipes and tubes", "Re-rolled steel products", "Cold finished steel bars", "Pipes and tubes drawing", "Wire drawing", "Miscellaneous steel materials, except made by smelting furnaces and steel works with rolling facilities, except coated steel".

4. Definition of Variables

(1) Number of establishments

The 2012 Census provides the number of establishments as of December 31, 2012. These establishments are defined as a factory, works or plant, etc., mainly engaged in the manufacture or processing of industrial products at a single location.

(2) Number of persons employed

The 2012 Census provides the number of persons employed as a total number of "sole proprietors and unpaid family workers," "regular workers" as of December 31, 2012. It excludes temporary workers.

- i. "Sole proprietors and unpaid family workers" are defined as working proprietors and their families working full time for them without remuneration. Accordingly, inactive proprietors and families providing no more than casual help are not included in this definition.
- ii. "Regular workers" are classified into "full-time workers," "part-time workers" and "workers supplied by other companies," and are those who fall either one of the following categories:
 - a. those who are employed for an indefinite-period or for longer than a month,
 - b. those who were employed for 18 days or longer during the previous and current months out of casual hires on a daily or less-than-monthly basis,
 - c. those who are supplied by employment agencies, and are leased workers from a parent company, to whom the same rules as mentioned above a. and b. are applicable,
 - d. those who work full time and receive monthly remuneration as directors, executives, etc., and
 - e. those who are full-time family workers and receive monthly salaries or wages for work performed.
- a) "Full-time workers" are employed workers who are generally called "regular employees" or "regular officials" excluding those who are dispatched to other companies.

- b) "Part-time workers" are those who are generally called "part-time workers" or the like.
- c) "Workers supplied by other companies" are those who are leased or supplied by other companies, or employment agencies.

iii. "Temporary workers" refer to persons other than regular workers, and who are employed on agreements shorter than a month or on daily agreements.

(3) Monthly average number of regular workers (establishment with 30 or more employees)

Average number of regular workers at the end of each month during 2012.

(4) Value of total cash wages and salaries

The value of total cash wages and salaries is defined as the total amount of basic wages, basic allowances, special allowances (year-end bonus, etc.) paid to employees among regular workers, i.e. full-time workers and part-time workers, and other allowances during 2012.

Other allowances include retirement allowances and discharged allowances for employees, payments to workers dispatched from other companies, wages for temporary workers, and payments to workers dispatched to other companies, etc.

(5) Cost of raw materials, fuels and electricity consumed, and subcontracting expenses for consigned production

Payments for annual raw materials, fuels and electricity consumed, and subcontracting expenses for production outsourcing, expenses related to outsourcing of support functions and purchases of goods for resale during 2012, including consumption tax.

i. "The cost of raw materials consumed" represents the total consumption of major raw materials, auxiliary supplies, purchased components and parts, containers, packing materials, plant maintenance materials, consumables, etc., including coal, petroleum, etc. used as raw materials, and the value of raw materials supplied to subcontractors on consigned production.

ii. "The cost of electricity consumed" represents total payments for power supply by vendors, excluding private power generation.

iii. "The subcontracting expenses for production outsourcing" represent payments made and accounts payable to subcontractors for consigned production and/or processing, supplying raw materials or semi-manufactured goods to them.

iv. "The expenses related to outsourcing of support functions" include payment regarding services such as repair/inspection/maintenance of production equipment, operation of machinery/equipment, and development of software that will be embedded in the products.

v. "The purchases of goods for resale" are the amounts of purchases of goods which the establishment resold in the same condition as received during the reference period.

(6) Value of manufactured goods shipments

The value of manufactured goods shipments is defined as the total value of annual income in 2012 from manufactured goods shipments, receipts for production done to others, and other revenue, including internal tax on consumption and consumption tax.

i. "Manufactured goods shipment" refers to the case where products manufactured by an establishment using its own raw materials (including products transformed by others on material-supplied subcontract) are shipped by the establishment in 2012, including the following:

- a. Products transferred to other establishments of the same enterprise,

- b. Consumption of own production (consumed as final products by the establishment itself), and
 - c. Shipped on consigned sales (including those shipped but unsold, but excluding those returned in 2012).
- ii. "Receipts for production done for others" represents payments received and/or receivable against production activities such as processing, transforming, assembling or fabricating of principal-owned materials as ordered during 2012.
 - iii. "Other revenue" refers to receipts other than i. And ii., including the value of sale of goods purchased/received for resale in the same condition as received, receipt for maintenance service, receipt for cold storage, and sale of privately-generated surplus power.
- (7) Value of manufactured goods inventory, value of semi-manufactured goods and work in progress, and value of raw materials and fuels in inventory (establishment with 30 or more employees) represent the book values of each establishment, including material-supplied outsourcing production.
- (8) The value of tangible fixed assets (establishment with 30 or more employees) is based on the book value effective in 2012.
- i. "The value of acquisition of tangible fixed assets" is classified as follows:
 - a. Land,
 - b. Buildings and structures (including civil engineering and attached facilities),
 - c. Machinery and equipment (including attachments), and
 - d. Vessels, rolling stock, vehicles, tools, apparatuses, fixtures and furniture with a durable life of a year or longer, etc.
 - ii. "The value of increase in the construction process accounts" represents the amount debited to this account and "The value of decrease" represents amount transferred from this account to others.
 - iii. "The value of disposal of tangible fixed assets" represents the value of tangible fixed assets sold, removed, lost or transferred to other establishments that belong to the same enterprise.
 - iv. Formulas for the value of tangible fixed assets are as follows:
 - a. Actual value of tangible fixed assets at the end of the year =

$$\text{Actual value of tangible fixed assets at beginning of the year} + \text{Value of acquisition} - \text{Value of disposal} - \text{Value of depreciation}$$
 - b. Increase or decrease during the year of temporary construction accounts =

$$\text{Value of increase} - \text{Value of decrease}$$
 - c. Value of investment =

$$\text{Value of acquisition} + \text{Increase or decrease during the year of temporary construction accounts}$$
- (9) Value of contracts and payments based on lease contracts (establishment with 30 or more employees)
- i. "The lease" represents rental transactions in which users use items longer than one year, and it is almost impossible to cancel or change the agreement before maturity. In cases where the accounting procedures of lease transactions conform to those of common sales transactions, they should be regarded as acquisitions of tangible fixed assets.
 - ii. "The value of lease contracts" represents the value of lease items contracts with lease documents delivered concerning fresh leases in which such items were supplied, installed and examined from January to December in 2012, including consumption tax.
 - iii. "The value of lease payments" represents the total amount of monthly payments as lease items use from January to December in 2012, including consumption tax. Accordingly, payments paid during 2012 for lease items of which the contracts were made before 2012 are also included.

(10) Value of production (establishment with 30 or more employees) is calculated as follows:

Formula:

$$\begin{aligned} \text{Value of production} = & \\ & \text{Value of manufactured goods shipments} + \text{Receipts for production done for others} + \\ & (\text{Value of manufactured goods inventory at the end of the year} - \text{Value of manufactured} \\ & \text{goods inventory at the beginning of the year}) + (\text{Value of semi-manufactured goods and} \\ & \text{work-in-progress at the end of the year} - \text{Value of semi-manufactured goods and} \\ & \text{work-in-progress at the beginning of the year}) \end{aligned}$$

(11) Value added (gross value added) is calculated as follows:

i. An establishment with 30 or more employees

Formula:

$$\begin{aligned} \text{Value added} = & \\ & \text{Value of manufactured goods shipments} + (\text{Value of inventories at the end of the year} - \\ & \text{Value of inventories at the beginning of the year}) + (\text{Value of semi-manufactured goods} \\ & \text{and work-in-progress at the end of the year} - \text{Value of semi-manufactured goods and} \\ & \text{work-in-progress at the beginning of the year}) - (\text{Internal tax on consumption (*1)} + \\ & \text{Estimated consumption tax (*2)}) - \text{Cost of raw materials, fuels and electricity consumed,} \\ & \text{and subcontracting expenses for production outsourcing} - \text{Depreciation} \end{aligned}$$

ii. An establishment with 29 or fewer employees

Formula:

$$\begin{aligned} \text{Gross value added} = & \\ & \text{Value of manufactured goods shipments} - (\text{Internal tax on consumption} + \text{Estimated} \\ & \text{general consumption tax}) - \text{Cost of raw materials, fuels and electricity consumed, and} \\ & \text{subcontracting expenses for production outsourcing} \end{aligned}$$

*1: The value of internal tax on consumption excluding general consumption tax is the total tax amount paid or payable as liquor tax, tobacco tax, gasoline tax and local road tax.

*2: Estimated general consumption tax is calculated excluding the direct export, raw materials and investment of tangible fixed assets.

(12) Per-unit value of manufactured goods shipments, value added, and total cash wages and salaries

i. An establishment with 30 or more employees

- a. Value of manufactured goods shipments per persons employed =
$$\frac{\{(\text{Value of manufactured goods shipments}) - (\text{Internal tax on consumption excluding general consumption tax} + \text{Estimated general consumption tax})\}}{\{(\text{Monthly average number of regular workers}) + (\text{Number of sole proprietors and unpaid family workers})\}}$$
- b. Value added per persons employed =
$$\frac{(\text{Value added})}{\{(\text{Monthly average number of regular workers}) + (\text{Number of sole proprietors and unpaid family workers})\}}$$
- c. Cash wages and salaries per regular worker =
$$\frac{(\text{Basic wages plus allowances and special allowances to employees among regular workers})}{(\text{Number of employees among regular workers})}$$

ii. An establishment with 4 to 29 employees

- a. Total cash wages and salaries per persons employed =
$$\frac{(\text{Total cash wages and salaries})}{\{(\text{Number of regular workers}) + (\text{Number of sole proprietors and unpaid family workers})\}}$$
- b. Value of manufactured goods shipments per persons employed =
$$\frac{\{(\text{Value of manufactured goods shipments}) - (\text{Internal tax on consumption excluding general consumption tax} + \text{Estimated consumption tax})\}}{\{(\text{Number of regular workers}) + (\text{Number of sole proprietors and unpaid family workers})\}}$$

c. Gross value added per persons employed =
 (Gross value added) / {(Number of regular workers) + (Number of sole proprietors and unpaid family workers)}

(13) Refer to the annexed Census of Manufacture Questionnaire Forms for details.

6. Representation

(1) In cases where there is only one industry classification under a group, both the group and the industry are collectively represented under the title of the applicable group.

Name of industry	Abbreviation	Name of industry	Abbreviation
09 Manufacture of food	Food	23 Manufacture of non-ferrous metals and products	Non-ferrous metals
10 Manufacture of beverages, tobacco and feed	Beverages	24 Manufacture of fabricated metal products	Fabricated metal
11 Manufacture of textile mill products	Textile	25 Manufacture of general-purpose machinery	General machinery
12 Manufacture of lumber and wood products, except furniture	Lumber	26 Manufacture of production machinery	Production machinery
13 Manufacture of furniture and fixtures	Furniture	27 Manufacture of business oriented machinery	Business machinery
14 Manufacture of pulp, paper and paper products	Paper & pulp	28 Electronic parts, devices and electronic circuits	Electronic parts
15 Printing and allied industries	Printing	29 Manufacture of electrical machinery, equipment and supplies	Electrical machinery
16 Manufacture of chemical and allied products	Chemical	30 Manufacture of information and communication electronics equipment	Information machinery
17 Manufacture of petroleum and coal products	Petroleum	31 Manufacture of transportation equipment	Transportation equipment
18 Manufacture of plastic products, except otherwise classified	Plastic	32 Miscellaneous manufacturing industries	Miscellaneous
19 Manufacture of rubber products	Rubber		
20 Manufacture of leather tanning, leather products and fur skins	Leather		
21 Manufacture of ceramic, stone and clay products	Ceramic		
22 Manufacture of iron and steel	Iron & steel		

(2) In the Outline of this Report, the names of industries are abbreviated as follows.

7. Response rate to questionnaires

Number of sample a)	Collected questionnaires b)	Response rate c)
227,770	216,262	94.9%

Notes 1. Numbers of sample and collected questionnaires exclude establishments which ceased operation, changed business, were temporarily or seasonally inactive, were in preparation stage, or had shipping record after foundation.

Notes 2. Response rate: $c = b / a \times 100$

8. Symbols and Notes

(1) Symbols used in this report are as follows:

[-]: no relevant value

[0]: fractions of a unit rounded off

[▲]: negative figures

The symbol [X] represents confidential. When the number of respondent establishment(s) is either one or two, the data are suppressed. Some other data may be suppressed even the number of respondents is three or more, when there is a risk of the disclosure of individual information. However, the number of persons employed was no longer suppressed after August 2005.

(2) The unit of value is million of yen, and fractions less than unit are rounded off.

With regard to figures in [5. Statistical Table per Establishment and per Employees], the unit is thousands of yen.

III Special Instructions

1. The Figures regarding Establishments with 3 or fewer Employees

The Census is conducted on establishments with 4 or more employees. As establishments with 3 or fewer employees were not surveyed, they are estimated as follows and represented in the Reference Tables.

(1) Items of estimation

There are five data items which are estimated, i.e., Number of establishments, Number of persons employed, Total cash wages and salaries, Cost of raw materials, fuels and electricity consumed, and Value of manufactured goods shipments.

(2) Method of estimation

i. Number of establishments and Number of persons employed

The items are estimated by the Preparatory Survey Directory.

ii. Total cash wages and salaries, Cost of raw materials, fuels and electricity consumed, and Value of manufactured goods shipments

The national total figures are estimated as follows:

firstly multiplying the 2006 prefectural industry-level figures of establishments with three or fewer employees by the year-on-year national increase/decrease rate by industry with regard to establishments with 4 to 9 employees; then, aggregating these figures to obtain estimation by prefecture for upper groups (three-digit classification) and upper divisions (two-digit classification); and finally summing up figures by prefecture.

2. The figures in 2011 were obtained by aggregating the results of "2012 Economic Census for Business Activity" which corresponded to all the following conditions.

- a. establishments with 4 or more employees
- b. establishments that are not engaged in only administrative or ancillary economic activities
- c. establishments that answered the question on the value of shipment of manufactured goods by commodity

Because of differences in the definition of the survey items, the time of the survey, upon interpretation of the numerical value, it should be noted that the figures of Industrial Census and that of 2011 are not linked partly.

For example,

To meet the definition of Industrial Census, "Total number of persons employed" of 2011 has been created by rearranging the figures * of "2012 Economic Census for Business Activity".

* "Total number of persons employed" of 2011 = "Total number of employees" – "Temporary workers" – "Workers supplied to other companies" + "Workers supplied by other companies"

"Regular workers" of "2012 Economic Census for Business Activity" includes "Workers supplied to other companies". For this reason, "Total number of persons employed" does not match the total value of each breakdown ("Sole proprietors and unpaid family workers" and "Regular workers").

"Total cash wages and salaries" of 2011 does not include payments to "Workers supplied to other companies".

The time of the "2012 Economic Census for Business Activity" survey is February 1 of the year following the reference period of the Census. So the figures for the number of establishments, number of employees of 2011 are of February 1.

3. Any person who intends to release these figures in other publications should state the source of information as follows:

The Census of Manufacture (2012 edition) compiled by the Research and Statistics Department, Minister's Secretariat, Ministry of Economy, Trade and Industry.

4. Address your questions or inquiries on this statistics table to:

Structural Statistics Office, Research and Statistics Department,
Minister's Secretariat, Ministry of Economy, Trade and Industry.

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