【論文】

# Analysis of IO-based Annual Supply and Use Tables for the development of QNA*

Takeshi SAKURAMOTO**

**Summary**

This paper reports that it would be efficient for the Economic and Social Research Institute (ESRI) to introduce the Annual Supply and Use Tables (ASUT) and the balancing system of the ASUT to the core system of formulating Annual National Accounts (ANA) in Japan. The core system of the ANA currently depends on the Benchmark Input-Output Table (BIOT) according to SNA1968. However, if the JSNA improves the core system for its quarterly national accounts, the BIOT may be an obstacle in the future. Thus, it is necessary to examine the relation between the ANA and BIOT, which the present study undertakes. The combination of the BIOT and consistent ASUT will be an important choice for the JSNA instead of the European Supply and Use System. There are certain challenges when analyzing the ASUT, including the choice of balancing methods, the consistency of the product-flow method, and the frames of the ASUT. Although many concepts are difficult to estimate accurately in this novel estimation, the ASUT would allow the JSNA to select from many choices to improve actual measurement. This paper includes simple estimations of the ASUT (unbalanced and balanced) and provides a definitive suggestion for future changes.

**Key Words**

Annual Supply and Use Tables, Japanese System of National Accounts, Input-Output Table, Supply and Use Tables, product-flow method

* This paper was revised from Sakuramoto (2012a) and Sakuramoto (2012b) in English. The draft paper of this paper was reported in second poster session of the International Association for Research in Income and Wealth 32nd General Conference, Boston, USA, August 5-11, 2012. The views expressed are those of the author and should not be attributed to the Government of Japan. Errors remaining are my responsibility.

** Faculty of Economics, Matsuyama University, 4-2 Bunkyo-cho, Matsuyama-city, Ehime, Japan 790-8578, E-mail: zzzzj8@yahoo.co.jp

## Introduction***

This paper reports that it would be efficient for the Economic and Social Research Institute (ESRI) of the Government of Japan (GOJ) to introduce the Annual Supply and Use Tables (ASUT) and the balancing system of the ASUT to the core system of formulating Annual National Accounts (ANA) in Japan. Although the System of National Accounts 1993 (SNA1993 hereafter) was introduced into the ANA in 2000, the core system of the ANA still relies on SNA1968. However, as the GOJ can estimate the Benchmark Input-Output Table (BIOT) directly, the core system of the ANA is now based on the application of the BIOT rather than adopting supply and use tables (SUT). It is therefore necessary to examine the consistent use of SUT and their balancing system given that the BIOT is available in advance. The SNA1993/SNA2008 doesn't include such a special case in the core system of the ANA.

Given the foregoing, there is no consistent system for balancing Benchmark SUT (BSUT) with the BIOT in Japan in the short-term. The detailed BIOT is estimated in the first step in order to calculate the ANA as data sources in the second step. The JSNA, which can utilize the BIOT directly, face challenges estimating consistent SUT according to the SNA1993/SNA2008. Because the BIOT is an obstacle for SUT and for improving the Quarterly National Accounts (QNA) and ANA in Japan, it is necessary for the Japanese System of National Accounts to search for a breakthrough to maintain the BIOT and to provide consistent SUT for the introduction of the SNA1993/SNA2008.

Make and Use Tables (also termed V and U Tables) now depend on the BIOT. A Supply Table (unbalanced) is transposed onto the V Table using an import matrix, while the Use Table (unbalanced) is mostly a combination of a use matrix and the existent tables of the expenditure series. Briefly, Make and Use Tables are old-type SUT according to the framework of the SNA1968. The BIOT includes a V Table (a kind of Supply Table), and the ANA depend on the BIOT to provide a benchmark estimation every five years. Although SNA1993 was introduced into the ANA and BIOT, the ASUT are still based on Make and Use Tables. Moreover, there is only a balancing system in the BIOT in order to ensure the consistency of accounts, but not in the ANA.

The provision of the ANA without the ASUT restricts the performance of the official statistics. Recently, as this statistical discrepancy has expanded, it has become necessary to analyze the inconsistent numbers in the ANA. However, Japan has neither consistent SUT (balanced) nor a systematic analysis process in a core sys-

*** List of Abbreviations is as follows.
ANA: Annual National Accounts
ASUT: Annual Supply and Use Tables
BIOT: Benchmark Input-Output Table
BSUT: Benchmark Supply and Use Tables
CIF: Cost of Insurance Freight
ESRI: Economic and Social Research Institute
FOB: Free On Board
GDP: Gross Domestic Product
GFCF: Gross Fixed Capital Formation
GOJ: Government of Japan
JSNA: Japanese System of National Accounts
JSIC: Japan Standard Industrial Classification
IOT: Input-Output Table
QNA: Quarterly National Accounts
QSUT: Quarterly Supply and Use Tables
JSIC: Japan Standard Industrial Classification
SNA: System of National Accounts
SNA1968: System of National Accounts 1968
SNA1993: System of National Accounts 1993
SNA2008: System of National Accounts 2008
SUT: Supply and Use Tables

tem of the ANA.

By contrast, while the ESRI publishes quarterly Gross Domestic Product (GDP, Expenditure Approach) figures in the QNA in Japan, it no longer includes GDP (Output or Income Approach) and other series (e.g., household savings). It is therefore increasingly important to improve the JSNA in order to expand the QNA, and SUT are an effective tool in this regard. Thus, pairing the ASUT with the existent benchmark BIOT is an efficient policy choice, because this combination would improve the core system of the ANA and develop a consistent time series for the ASUT.

In light of this foregoing, there are three purposes for developing the ASUT in Japan. First, the ANA would have a system that was capable of analyzing the statistical discrepancy with the ASUT. Second, the actual work of the ANA would be vastly improved. For example, the ESRI may be able to measure fixed GDP without any discrepancy over a three-year period. Third, the ASUT would be necessary for the QNA and the Quarterly Supply and Use Tables (QSUT).

This paper principally covers the concept of and issues faced by the development of the ASUT (unbalanced, balanced) and the balancing system. There are certain challenges when analyzing the ASUT, including the choice of balancing methods, the consistency of the product-flow method (commodity-flow method), the frames of the ASUT, and so on. Although many concepts are difficult to estimate accurately in this novel estimation, the new frame of the ASUT would improve the measurement of the JSNA. In this paper, I thus argue in favor of introducing the new core system described herein into the JSNA.

The paper is organized as follows. I introduce the background of the ASUT in the first section. The second section deals with the frame and simple estimation of the ASUT. Section 3 concludes.

## 1. New Features of the JSNA

### 1-1 The conflict between the JSNA and the updated SNA

This paper discusses the so-called "Japanese contradiction", namely that the ESRI must break up its core accounts of the JSNA in order to introduce the SNA1993/SNA2008. This contradiction implies that it is necessary for the ESRI to analyze SUT to improve the QNA. However, if the ESRI were to actually introduce SUT in the short run, the existing BIOT would be a large obstacle. Although there is consensus that the ESRI would improve the key accounts in the long-term according to the recommendations of the SNA, the introduction of SUT would apply the wrong rules to certain Asian countries. Further, Japan, South Korea, and other Southeast Asian countries still utilize the BIOT according to SNA1968. The BIOT thus represents the key accounts for the SNA instead of SUT.

However, this process raises the questions of who thinks about Asian key accounts in terms of SNA2008 and how Asian countries report their key accounts in line with the SNA1993/SNA2008. This paper thus suggests a new scheme for adapting the core accounts in the SNA1993/SNA2008 according to this Input-Output System. The core accounts in SNA1993, SNA2008, and the European System of Accounts are the same according to the SUT Manual (Eurostat (2008)). Importantly, because the Japanese contradiction is a common problem across Asian countries, this paper concentrates on the Japanese Input-Output System and SUT

## Table 1 Japanese Main Statistics in connection with SNA.

| | Name of Statistics | Organization | Interval | Contents | Guide or Book | Website Address |
|---|---|---|---|---|---|---|
| 1 | Annual Report on National Accounts | The Economic and Social Research Institute (ESRI), Cabinet Office | Annual | Annual National Accounts included with some parts of GFS | ex.Economic and Social Research Institute (2011) | http://www.esri.cao.go.jp/en/sna/kakuhou/kakuhou_top.html |
| 2 | Quarterly Estimates of GDP | The Economic and Social Research Institute (ESRI), Cabinet Office | Quarterly | Quarterly GDP (Expenditure) | Economic and Social Research Institute (2005) | http://www.esri.cao.go.jp/en/sna/sokuhou/sokuhou_top.html |
| 3 | Prefectural Accounts | The Economic and Social Research Institute (ESRI), Cabinet Office | Annual | Regional GDP | | Japanese only |
| 4 | SNA Input-Output Table | The Economic and Social Research Institute (ESRI), Cabinet Office | Annual | Input-Output Table (product by product) consistent with National Accounts | | Japanese only |
| 5 | Input-Output Table* | Director-General for Policy Planning (Statistical Standards), Ministry of Internal Affairs and Communications, and 10 organizations | Every 5 years | Input-Output Table and many Supporting Tables | Ministry of Internal Affairs and Communications (2009) | http://www.stat.go.jp/english/data/io/index.htm |
| 6 | Annual Preliminary Input-Output Table | Ministry of Economy, Trade, and Industry | Annual | Input-Output Table (product by product) | | Japanese only |
| 7 | Annual Input-Output Table | Ministry of Economy, Trade, and Industry | Annual | Input-Output Table (product by product) | | Japanese only |
| 8 | Balance of Payments | Ministry of Finance, Bank of Japan | Quarterly | Japanese and Regional Balance of Payments, Direct Investment, Investment | | http://www.mof.go.jp/english/international_policy/reference/balance_of_payments/index.htm |
| 9 | Japan's Balance of Payments | International Department, Bank of Japan | Annual | Explanation and Analysis of BOP data | ex.Bank of Japan (2011a), Bank of Japan (2011b) | Every year's website |
| 10 | Flow of Funds Accounts | Research and Statistics Department, Bank of Japan | Annual, Quarterly | Financial transactions, financial assets and liabilities | Bank of Japan (2006a), Bank of Japan (2006b) | http://www.boj.or.jp/en/statistics/sj/index.htm/ |
| 11 | Japan Standard Industrial Classification Rev. 12 | Director-General for Policy Planning (Statistical Standards), Ministry of Internal Affairs and Communications, and 10 organizations | Casual timings | Industrial Classification | | http://www.stat.go.jp/english/index/seido/sangyo/index07.htm |

* This paper calls Number 5 BIOT.

## Table 2 The variation of GDP statistics in JSNA

| | QNA | | ANA | | | Benchmark revision |
|---|---|---|---|---|---|---|
| GDP statistics | First Quarterly Estimates of GDP | Second Quarterly Estimates of GDP | First Annual Report on National Accounts | Second Annual Report on National Accounts | Third Annual Report on National Accounts | |
| Delay | About a month and two weeks | About two months and 10 days | About 9 months | About a year and 9 months | About two years and 9 months | About 5 years |
| Contents | GDP (Expenditure approach) and Compensation of Employees | GDP (expenditure approach) and Compensation of Employees with some supporting tables | GDP (Expenditure, Production and Income approach), Current accounts, Capital Finance Accounts, Balance sheets | GDP (Expenditure, Production and Income approach), Current accounts, Capital Finance Accounts, Balance sheets | | GDP (Expenditure, Production and Income approach), Current accounts, Capital Finance Accounts, Balance sheets |
| GDP (Production Approach) | | | ○ | ○ | | ○ |
| GDP (Income Approach) | △ | △ | ○ | ○ | | ○ |
| GDP (Expenditure Approach) | ○ | ○ | ○ | ○ | | ○ |

as the international standards.

Even though the JSNA introduced SNA1993 in 2000, its core accounts still depend on SNA1968. The JSNA does not include SUT with a balancing system according to SNA1993 and thus they cannot control statistical discrepancies as the BIOT aims to but fulfills inconsistently. The JSNA covers Make and Use Tables estimated from the BIOT instead of SUT based on SNA1968.

Japanese core accounts are estimated from the BIOT nowadays. This method is the Japanese original system. Table 1 shows the main Japanese statistics in connection with the SNA. As shown in Table 1, numbers 1－7 and 10 were the accounts that introduced SNA1993. Because the Japan Standard Industrial Classification Rev. 12 (JSIC Rev. 12) introduced the International Standard Industrial Classification Rev. 3 not Rev. 4, the JSIC is expected to be updated by 2015. The BIOT will thus introduce SNA2008 in 2015 and the JSNA will follow suit a year later.

Numbers 1 and 2 in Table 1 are National Accounts Statistics. The Annual Report on National Accounts (number 1) represents the ANA, which comprise flow and stock accounts with many supporting tables. Table 2 shows the GDP estimation for the JSNA area. Time series are published five times over five years until the benchmark revision. The IMF ROSC report (see IMF, 2006) recommended that the GOJ de-

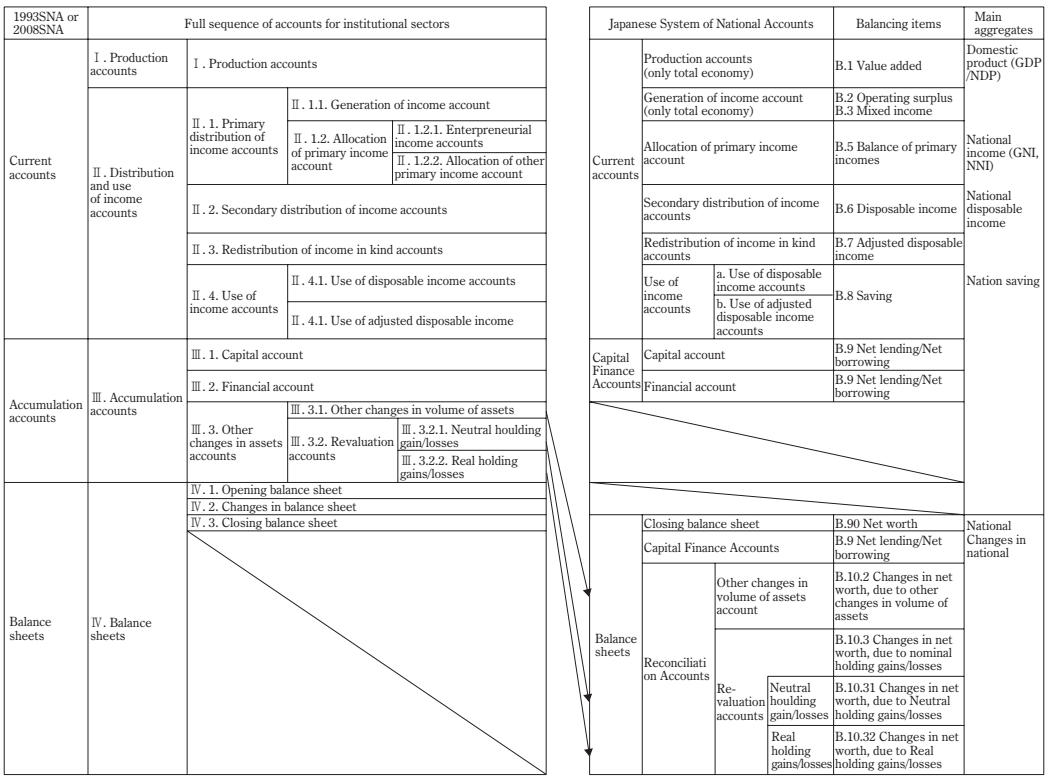



**Figure 1　Comparison of Accounts between SNA1993/SNA2008 and JSNA**

Reference: SNA part is from United Nations (1994) Figure 2.3. Japanese part depends on Economic Planning Agency (2000) Table 2-1.

velop a time series of GDP (i.e., the production approach) in the QNA. Although the JSNA does not provide GDP figures (i.e., the production and income approach) in the QNA nowadays, the ESRI recently analyzed these series in its QNA review. Figure 1 compares the accounts of SNA1993 with those of the JSNA. The ANA in Japan covers all the areas displayed in the right-hand table of Figure 1[1)].

Japanese data users have been able to adopt the new time series as a benchmark revision of 2010 since December 2011. The new data cover the "Financial Intermediation Services Indirectly Measured" and the "Net Capital Stocks of Fixed Assets classified by Institutional Sectors and Economic Activities".

As shown in Table 3, the BIOT represents the "Input-Output Table" (IOT) used in this paper, which is the formal name for the BIOT. The basic transaction tables in the BIOT are shown in the form of traditional (product-by-product) tables. Indeed, this table is the largest in the world on which the Director-General for Policy Planning (Statistical Standards), Ministry of Internal Affairs and Communications, and 10 organizations cooperate. Table 3 presents the

**Table 3 Benchmark Input-Output Table (BIOT) List**

| Input-Output Table | | Producers Prices | | | | Purchasers Prices | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | Basic Sector Classification 520×407 | Groups 190 | Divisions 108 | Sections 34 | Basic Sector Classification 520×407 | Groups 190 | Divisions 108 | Sections 34 |
| Basic Transaction Tables | (1) Input Table | ○ | ○ | | | ○ | ○ | | |
| | (2) Output Tables | ○ | ○ | | | ○ | ○ | | |
| | (3) Transactions Valued at Producers Prices | | | ○ | ○ | | | | |
| | (4) Transactions Valued at Purchasers Prices | | | | | | | ○ | ○ |
| Main Tables | (1 ) Input Coefficients at Producers Prices | ○ | ○ | ○ | ○ | ○ | ○ | | |
| | (2) Inverse Matrix Coefficients at Producers Prices [I-(I-M)A]-1 | | ○ | ○ | ○ | | | | |
| | (3) Inverse Matrix Coefficients at Producers Prices [I-Ad]-1 | | ○ | ○ | ○ | | | | |
| | (4) Inverse Matrix Coefficients at Producers Prices (I-A)-1 | | ○ | ○ | ○ | | | | |
| | (5) Domestic Production Induced by Individual Final demand Items | | ○ | ○ | ○ | | | | |
| | (6) Domestic Production Inducement Coefficients | | ○ | ○ | ○ | | | | |
| | (7) Domestic Production Inducement Distribution Ratios | | ○ | ○ | ○ | | | | |
| | (8) Gross Value Added Induced by Individual Final demand Items (1) Gross Value Added Induced | | ○ | ○ | ○ | | | | |
| | (9) Gross Value Added Induced by Individual Final demand Items (2) Gross Value Added Inducement Coefficients | | ○ | ○ | ○ | | | | |
| | (10) Gross Value Added Induced by Individual Final demand Items (3) Gross Value Added Inducement Distribution Ratios | | ○ | ○ | ○ | | | | |
| | (11) Imports Induced by Individual Final demand Items (1) Imports Induced | | ○ | ○ | ○ | | | | |
| | (12) Imports Induced by Individual Final demand Items (2) Imports Inducement Coefficients | | ○ | ○ | ○ | | | | |
| | (13) Imports Induced by Individual Final demand Items (3) Imports Inducement Distribution Ratios | | ○ | ○ | ○ | | | | |
| | (14) Imports Coefficients, Input Coefficients of Imported Goods and Services, Total Imports Coefficients and Total Value added Coefficients | | ○ | ○ | ○ | | | | |
| Supplementary Tables | (1) Trade Margins | ○ | ○ | ○ | | | | | |
| | (2) Domestic Freights | ○ | ○ | ○ | | | | | |
| | (3) Imports | ○ | ○ | ○ | | | | | |
| | (4) Scrap and By-products | ○ | | | | | | | |
| | (5) Value and Quantity | ○ | | | | | | | |
| | (6) Employeess Engaged in Production Activites (by Occupation) | ○ | ○ | ○ | | | | | |
| | (7) Employment Matrix (Employees Engaged in Production Activites) (by Occupation) | | | ○ | | | | | |
| | (8) Fixed Capital Matrix (Fixed Capital formation) | | | ○ Case A | | | | | |
| | (9) Commodity Output by Industry (Make table) | | | ○ | | | | | |
| | (10) Self-transports by private cars | ○ | ○ Case B | | | ○ | ○ Case B | | |

CaseA means Basic Sector Classification by Divisions
CaseB means Basic Sector Classification by Groups

BIOT list. The BIOT has been estimated every five years since 1955 and the JSNA depends on it in the benchmark year.

Figure 2 depicts a simple flowchart of the estimation method used by the JSNA and the connection between the ANA and other statistics. In other benchmark years, the product-flow method would be the most important for the ANA. Because the key accounts in the JSNA are of the SNA1968-type, the JSNA excludes balanced SUT. The BIOT and annual product-flow method thus play an important role instead of the balancing system of SUT. However, if the JSNA were to introduce the SUT framework to the core estimation, there would exist a relation between the ASUT and BSUT (as depicted by the area within the dotted line in Figure 2).

The BIOT as opposed to the SNA controls the industry and product classifications in Japan, making it the most important basic statistic for the JSNA. Thus, the JSNA has long since developed a system for controlling the BIOT (termed the Input-Output System in this paper). Moreover, South Korea and other Asian countries have introduced this system instead of the SUT framework of the SNA.

Japanese researchers recently recognized that SUT with a balancing system play an important role for the Input-Output System, too. Although the BSUT may not be necessary for the Japanese system, the ASUT with a balancing system are more efficient for the JSNA for three reasons. First, the ASUT with a balancing system improves the consistency of the SNA. In the JSNA, huge statistical discrepancies often prevent users from understanding the actu-

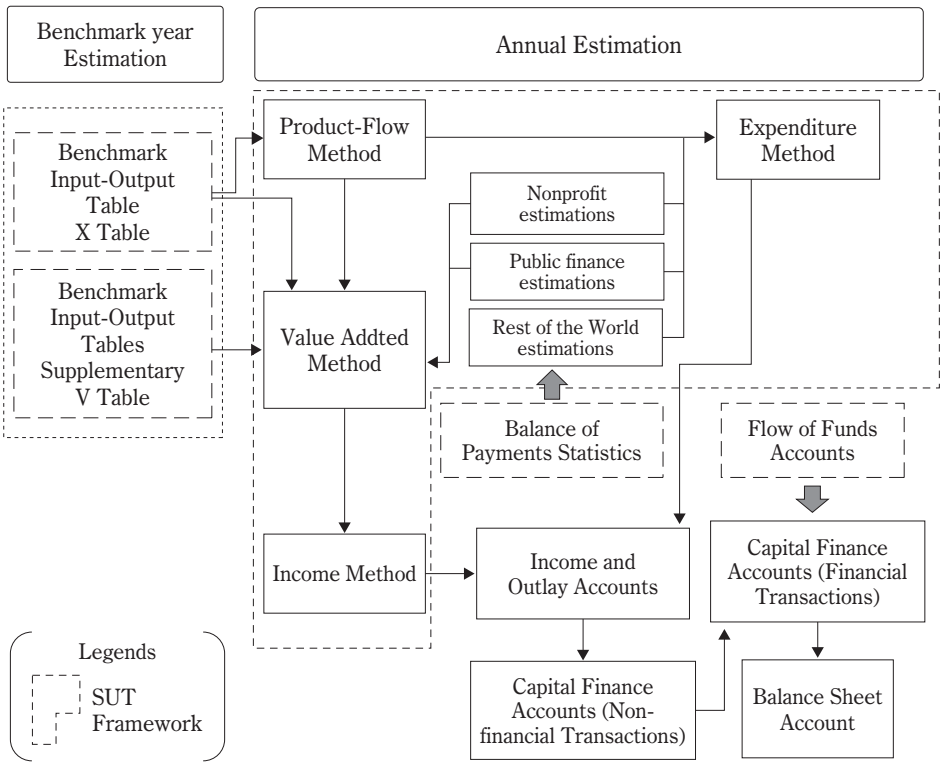



Figure 2 The JSNA and the Annual SUT (ASUT)

al situation. If the ESRI decided to use the ASUT and balancing system in the JSNA, this would solve the problem. According to the recommendations of the Japanese Statistics Commission, the ESRI analyzed the ASUT with balancing process for the fiscal year of 2012 and 2013.

The JSNA could also supply a consistent annual GDP figure by using the ASUT in the short-term. This measure would allow the JSNA to shorten the estimation interval of the balanced time series in the ANA. While JSNA users would have to wait five to 10 years to use this consistent and statistically accurate GDP value, ASUT users could benefit from annual data without statistical discrepancies within three years.

Second, if the JSNA were to introduce the ASUT, the ESRI could publish a consistent GDP figure in advance, namely before the benchmark revision. Therefore, the JSNA would improve the ANA by adopting the ASUT. As mentioned above, although the time series in the JSNA have been published five times in five years, all the GDP series in the JSNA include statistical discrepancies, including the data in the benchmark year.

Third, the ASUT with a balancing system would provide the key infrastructure for the QNA. If the ESRI were to expand the QNA in the future, the ASUT with a balancing system and the QSUT would be necessary for the JSNA. Section 1.2 describes the difference between the Input-Output and the Supply and Use Systems. Thus, I concentrate on a feature of the Asian key accounts in the SNA through the JSNA in the next step.

Instead of introducing the BIOT, the JSNA could introduce the BSUT, but proceeding with this choice is difficult for the following two reasons: the JSNA has scant experience of estimating the BSUT and the available financial and human resources are insufficient. If the JSNA gives up the BIOT to concentrate on the BSUT, they would decrease the statistical budget. Further, if the JSNA failed to estimate the BSUT accurately, the Ministry of Finance may decide to reduce the statistical budget. Thus, it is dangerous for the GOJ to allow the JSNA to directly challenge the BSUT and not to look for other approaches. In Japan, estimating the BSUT calls for the introduction of the SNA1993/SNA2008 for core accounts, which in turn means breaking up the key accounts of the JSNA. This paper calls this problem the Japanese Contradiction. Indeed, some Input-Output researchers have recognized that the JSNA would only introduce the BSUT instead of the BIOT as a black joke. In other words, the introduction of an SNA1993/SNA2008 to core accounts in order to improve the JSNA would mean destroying the existing core accounts in the short run. However, in the long run, both the Japanese Input-Output System and the SNA1993/SNA2008 as international standards are crucial for the JSNA. Therefore, to solve the above-described contradiction, we must confirm the difference between SNA1968 and the SNA1993/SNA2008 in the SUT framework.

### 1-2 The Input-Output and Supply and Use Systems

It is important for the estimation of the ASUT to compare the old frame with the new frame based on SNA1993/SNA2008 and SNA1968. Guo, Mark, and BEA (2006) examined the differences in SUT styles between SNA1968 and SNA1993. Similarly, Hayashi (1994) compared the Japanese Input-Output System and Supply and Use System in Japan ac-

cording to SNA1993 and discussed introducing SUT without the balancing system. Although these two papers are important, it is useful to examine the Japanese Input-Output System and European Supply and Use System further in this section.

Traditional research has often termed the IOT simply "SUT" in the SNA1993/SNA2008. Indeed, the United States, Canada, and Japan, among other countries, still use the old IOT. Many researchers in these countries consider the IOT to include the X Table, Make (V) Table, and Use (U) Table, which are all based on the SNA1968 framework. For example, the V Table is an old type of Output (Supply) Table, while the Make (V) and Use (U) Tables are compatible with the old SUT in SNA1968[2)].

Table 4 is called the "SUT framework" in the SNA1993/SNA2008; however, the SUT framework was termed the "IOT framework" in SNA1968. Thus, the technical terms can be misleading in this area. However, it is important to note that there are two kinds of users in the new and old frameworks and that symbols such as "X", "U", "V", and so on are matrixes.

It is also useful for us to confirm the difference between SUT in SNA1968 and those in the SNA1993/SNA2008. Table 6 shows that the V Table is the inverse matrix of the Supply Table, which publishes the output (product-by-industry) matrix. The V and Supply Tables are estimated by the basic price in principle. However, if it is difficult to calculate the V Table in terms of the basic price, the producers' price is applied. The GOJ estimates the V Table every five years as the supporting table in the BIOT. Further, the ESRI updates the V Table every year. Table 7 compares the V and Supply Tables. While the former is only an output matrix, the latter includes an import matrix. In addition, the

**Table 4 SUT framework**

| | | Products | | | Industries | | | Final uses | | | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Agricultural products | Industrial products | Services | Agriculture | Industry | Service activities | Final consumption | Gross capital formation | Ecports | |
| Products | Agricultural products | | | | 34 | 59 | 143 | 81 | 21 | 32 | 370 |
| | Industrial products | | | | 106 | 119 | 77 | 123 | 103 | 62 | 590 |
| | Services | | | | 70 | 112 | 75 | 291 | 61 | 31 | 640 |
| Industries | Agriculture | 270 | 10 | 20 | | | | | | | 300 |
| | Industry | 30 | 430 | 40 | | | | | | | 500 |
| | Service activities | 50 | 100 | 550 | | | | | | | 700 |
| Value added | | | | | 90 | 210 | 405 | | | | 705 |
| Imports | | 20 | 50 | 30 | | | | | | | 100 |
| Total | | 370 | 590 | 640 | 300 | 500 | 700 | 495 | 185 | 125 | |

Reference: Eurostat (2008) p.21 Box1.1

**Table 5 IOT framework**

| | Product | Industry | Final Demand | Total Output |
|---|---|---|---|---|
| Product | X | U | e | q |
| Industry | V | | | g |
| Value Added | | y′ | | |
| Total Input | q′ | g′ | | |

′ means inverse matrix.

Table 6 Japanese Make Table and Supply Table

| | V (Make) Table | Supply Table |
|---|---|---|
| System | SNA1968 | SNA1993/SNA2008<br>(SUT Manual 2008) |
| Feature | Imports are not included. | Imports are included. |
| Price | Japanese version is producer's price. | basic price (if difficult, producer's price) |
| Record in Japan | Every 5year (Input-Output Table Supporting Table), every year (Annual Report on National Accounts) | GOJ has not estimate Supply Table. |

Table 7 The Comparison between V (Make) Table in SNA1968 and Supply Table in the SNA1993/SNA2008

V Table
According to 1968SNA

| | Product 1 | Product 2 | Total Output |
|---|---|---|---|
| Industry A | | | |
| Industry B | | | |
| Total Output | | | |

Supply Table
According to 1993SNA or 2008SNA

| | Industry A | Industry B | Import | Total Supply |
|---|---|---|---|---|
| Product 1 | | | | |
| Product 2 | | | | |
| Total Output | | | | |

GOJ[3] did not estimate the Supply Table in the SNA1993/SNA2008.

It is thus necessary to estimate the consumer-tax table (a table of a kind of value-added tax in Japan) in order to introduce the Supply Table of basic prices. Hayashi (1994) insisted that the GOJ could not estimate the consumer-tax table. However, we argue that users of official statistics can roughly measure the difference between the values with the tax and the values without the tax at the product level. The Ministry of Economy, Trade, and Industry tried to estimate the consumer-tax table under a basic sector classification ($520 \times 420$) in 2009[4]. However, this table did not meet the publication's accuracy criterion. Hence, if it is difficult to estimate the Supply Tables of basic prices, the producers' price is the next best choice, according to SNA1993/SNA2008.

There are two kinds of producers' prices. The GOJ has chosen the producer's price that includes consumer-tax for addition into the JSNA without GFCF (Gross fixed capital formation). Therefore, this paper selects the criterion that the Supply Table estimation utilized the producers' price included with consumer-tax. In other words, the GOJ and this paper neglect discussions about value-added tax in the area of SUT.

Tables 8 and 9 shows two kinds of Use Tables. The JSNA, rather than the Japanese BIOT, include the former table in line with SNA1968. The U Table is the unbalanced Use Table in the SNA1993/SNA2008, which does not agree with the expenditure side, whose components are Private final consumption expenditure, GFCF, Government final consumption, Changes in inventories, Exports, and Imports. The U Table is estimated by the ESRI from the X Table in the BIOT and the V Table in the JSNA using a product-based technology. The GOJ has not estimated the Use Table in the SNA1993/SNA2008 and SUT with a balancing system. Thus, the JSNA cannot control the consistency in each

Table 8 The Variety of Japanese Use Tables

| | U Table | Use Table |
|---|---|---|
| System | SNA1968 | SNA1993/SNA2008 (SUT Manual 2008) |
| Feature | Final Demand matrix is not included. | Final Demand matrix is included. |
| Price | purchasers' price | purchasers' price |
| Record in Japan | Every 5 years, (Annual Report on National Accounts) | GOJ has not estimate Use Table. |

Table 9 The Comparison between U Table in SNA1968 and Use Table in SNA1993/SNA2008

U Table
According to 1968SNA

| | Industry A | Industry B | Total Intermediate Input |
|---|---|---|---|
| Product 1 | | | |
| Product 2 | | | |
| Total Intermediate Input | | | |
| The components of the value addted | | | |
| Total Output | | | |

Use Table
According to 1993SNA or 2008SNA

| | Industry A | Industry B | Total Intermediate Input | The components of the expenditure site | Total Demand |
|---|---|---|---|---|---|
| Product 1 | | | | | |
| Product 2 | | | | | |
| Total Intermediate Input | | | | | |
| The components of the value addted | | | | | |
| Total Output | | | | | |

GDP perfectly and the BIOT coordinates statistical discrepancies every five years. Moreover, the JSNA does not include SUT, implying that the analysis system is not comprehensive.

Figure 3 presents a simple estimation image of the U Table, which is estimated using the X and V matrixes to use product-based technology every five years in Japan. The BIOT is estimated from many surveys, including the Economic Census and Input Surveys. However, it is difficult to measure a product-by-product input matrix directly and thus the BIOT has serious problems with the accuracy of the input matrix.

Four problems with the JSNA should thus be solved. First, a system that can control and analyze the consistency in the SUT framework is necessary. Second, it is important to measure the input matrix, and thus the JSNA should consider introducing SUT according to the SNA1993/SNA2008 to deal with this issue. Third, the GOJ does not have to introduce a new framework to break up the Input-Output System and key accounts in the JSNA since the former is generally considered to be "too big to fail". We rather have to discuss a new framework to improve the existent system. Fourth, the JSNA should introduce SNA2008. Thus, we must consider a new framework that facilitates the introduction of international standards.

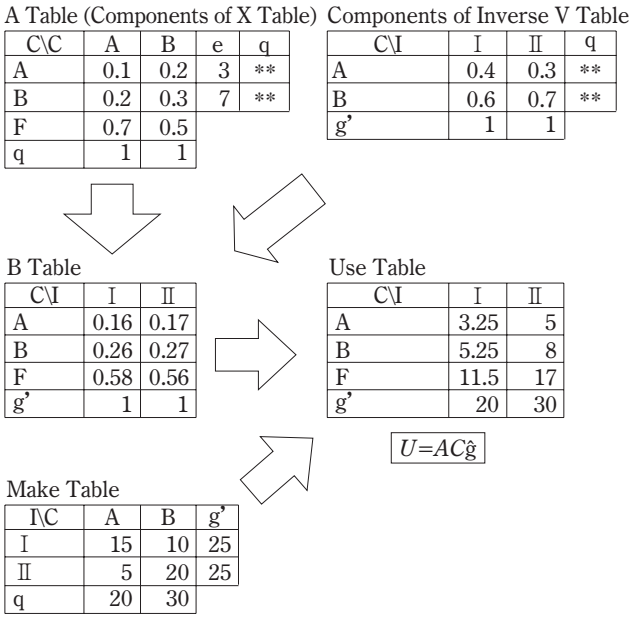



Figure 3 The Estimation Image of U table

## 2. Suggestion for the JSNA

### 2-1 Provisional Reform: Introduction of an Annual SUT System according to SNA2008

This section presents my suggestion for the JSNA. Because it would be difficult for the GOJ[5] to introduce the BSUT immediately, this paper recommends that the JSNA select two solutions from Table 10. Table 10 shows the choices available to the GOJ. Although the JSNA has three choices according to this table, they cannot choose plans 2 and 3 at once. If the JSNA retained the traditional Input-Output System, plan 2 would be their sole alternative. Then, the first step would be to introduce the ASUT matched with the traditional BIOT. Moreover, the JSNA would need to overcome the many problems to improving the ASUT.

The second step comprises two choices for the JSNA. If the JSNA continue to utilize the Japanese Input-Output System, the GOJ[6] would be able to select plan 2. However, it would need to improve the use matrix and continue to estimate the ASUT in that case. The use matrix would also be a combination of the product-by-product matrix (X Table) and the product-by-industry matrix. This improvement is similar to the Chinese case. If the GOJ had the courage to formulate the BSUT instead of the BIOT, plan 3 would be suitable for the JSNA. However, the GOJ has to allocate a sufficient financial budget as well as adequate human resources otherwise plan 3 would be very risky and plan 2 would be preferable.

Appended figure 1, which is convenient when discussing plan 2, compares Japanese traditional accounts and the country's new accounts based on Figure 5.2 in Eurostat (2008, p.126). This figure shows the European accounts. However, appended figure 1 explains the new Input-Output System as opposed to the Supply and Use System. The new system is represented by the

Table 10 Three Choices for GOJ

| | Plan 1: Continue to estimate Input-Output System | Plan 2: Develop New Input-Output System | Plan 3: Change over to Supply and Use System |
|---|---|---|---|
| Target to estimate | Make and Use Tables, and Input-Output table (product by product) | Improved BIOT and ASUT | BSUT and ASUT |
| Standards | Traditional East Asian standard (1968SNA) | The original style | International standard (1993SNA or 2008SNA) |
| Advantage | No efforts | JSNA can utilyze ASUT for QNA and the system consistency without the little effort. | JSNA can introduce updated SNA to the core accounts perfectly. |
| Defect | The core system in JSNA can't incrudes updated SNA. JSNA can't control the consistency in SNA and can't explore QNA without SUT. | JSNA can't include BSUT. But if JSNA has the BIOT and ASUT, BSUT is not neccesary. | Without the sufficient resorce, JSNA break the existent Input-Output System. |

colored area in the background in appended figure 1, namely the ASUT and QSUT. The two kinds of SUT include an unbalanced table and a balanced table.

Plan 3 may be the best choice for the JSNA in terms of international standards; however, the choice will be difficult for the JSNA to introduce in the short run. Thus, this paper supposes that the JSNA will introduce plan 2. Section 2-2 describes a rough image of the balancing system in the JSNA according to plan 2 (i.e., a new Input-Output System).

### 2-2 Balancing System in the ASUT

This section presents my suggestion for the Japanese balancing system in the ASUT. In Figure 4, there are six procedures (A－F) that all aim to balance the unbalanced ASUT with the balanced ASUT. Moreover, there are two kinds of statistical discrepancies. First, the inconsistency between the Cost of Insurance Freight (CIF) and Free on Board (FOB) is the cause. The Japanese product-flow method includes CIF in its import series; however, Japanese BOP includes the FOB-based series but not CIF. If the JSNA were to introduce the ASUT, it would need to control the CIF/FOB adjustment perfectly.

Second, the JSNA needs to analyze the second main cause of the statistical discrepancy in the ASUT framework. In order for the JSNA to strike the right balance, the SUT area must be divided into two areas, namely the production and the income side, to recalculate the preliminary value of the expenditure side. In each case, it is necessary for balancers[7] to unite and readjust these two areas.

In order to estimate the ASUT, I have to omit steps B and C in Figure 4 and utilize the automatic balancing method instead of steps D and E. Appended table 1 shows the (unbalanced and balanced) Supply Tables. I roughly calculated the CIF/FOB adjustment and decided on the preliminary value of the product-flow method before the calculation of appended table 1. Appended table 2 is the unbalanced Use Table, while appended table is the balanced Use Table.

Because this estimation does not use internal JSNA data, it cannot cover all ASUT processes. Further, the levels of the industry and product classifications are only roughly estimated. However, the purpose of this estimation is purely to present a simple image of the core accounts for the JSNA.

If the ESRI were to introduce a balancing process to the core accounts of ANA, it should

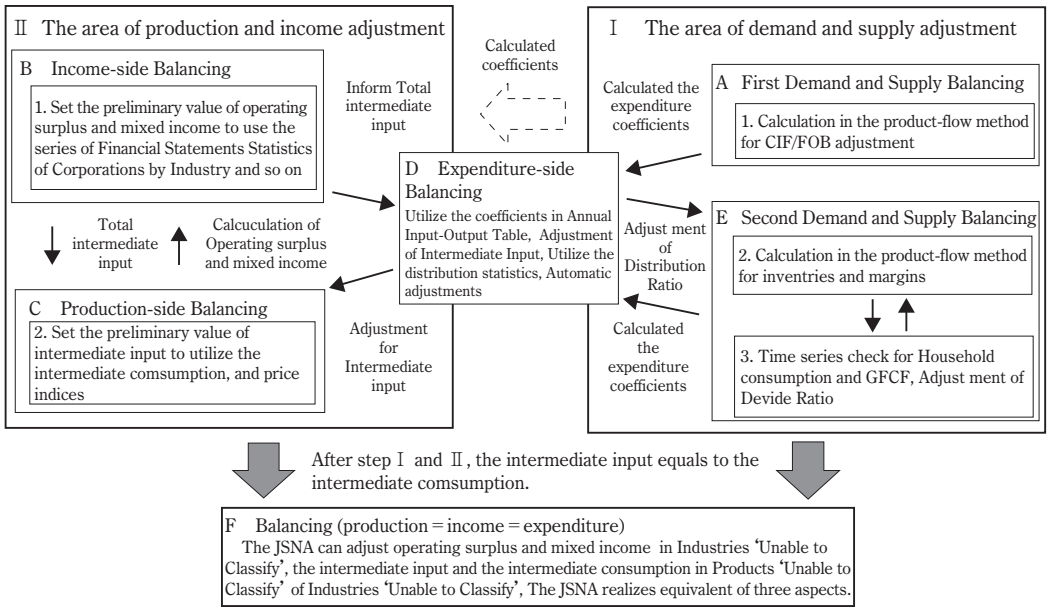



Figure 4 Suggestion for a balancing system for the ASUT in Japan

Table 11 Balancing Processes in the first area of the ASUT Part 1

| Processes | Adjustment Items | Adjustment Methods |
|---|---|---|
| A First Demand and Supply Balancing | Exports and imports | This step aims to calculate the preliminary values of the product-flow method after using the value of the Second Annual Report on the National Accounts to deal with the CIF/FOB adjustment. |
| D Expenditure-side Balancing | Domestic final consumption expenditure of households, GFCF, and intermediate consumption | In this step, some kind of automatic balancing is convenient. This step aims to estimate the intermediate input as well as the ratios of domestic final consumption expenditure of households, GFCF, and intermediate consumption in the product-flow method. |
| E Second Demand and Supply Balancing | Trade and transport margin and total supply | This step aims to adjust the margins and values of the product-flow method. |

Table 12 Balancing Processes in the second area of the ASUT Part 2

| Processes | Adjustment Items | Adjustment Methods |
|---|---|---|
| B Income-side Balancing | Operating surplus and mixed income by industry | It is important to check the series of the profit/loss figures for firms or compare the series in the Annual Input-Output Table with those in the JSNA in order to estimate total intermediate input by industry. |
| C Production-side Balancing | Intermediate input by industry | It is useful to reflect on the series of price indices and to calculate the preliminary matrix of intermediate input. |
| F Balancing (production = income = expenditure) | Intermediate input by product (or operating surplus and mixed income) | Finally, it is necessary to adjust certain items for the equivalent of these three aspects. |

develop the third annual report on national accounts, as this will be the best timing for the process of annual balancing. The second annual report does not incorporate the final publication of the Industry Survey (or the Economic Census) nor the Annual Input-Output Table, which is necessary information for the annual balancing process. In particular, the Annual Input-Output Table includes the coefficients of the intermediate matrix. Even though the JSNA does not cooperate with the Annual Preliminary Input-Output Table and Annual Input-Output Table, it should use comprehensive information in the balancing process, as published by the Ministry of Economy, Trade, and Industry.

### 2-3 Improvements to the Input-Output System

Many problems related to the JSNA should be discussed here in order to improve the new Japanese Input-Output System. First, the GOJ[8] cannot utilize current tax information within its calculations. For example, it has adopted a consumer-tax as its simple system rather than a value-added tax system, and even the Ministry of Finance cannot measure accurate tax information through this simple framework. If the GOJ[9] were to introduce a national number system called "My number" and value-added tax, this information would be necessary for the balancing process of the JSNA.

Second, the secondary products ratio in the V Table of the JSNA is unusual. This ratio represents the value of secondary products divided by output (primary products+secondary products). Table 13 compares the secondary products ratios of selected developed countries. The Japanese value of only approximately 0.9% implies that the Japanese Input-Output System must begin to measure secondary products seriously. For example, although many Japanese companies innovate in the area of electricity generation, this series cannot follow such technology breakthroughs.

**Table 13 Secondary Products Ratio by country**

| Country/Year | 2000 | 2001 | 2002 | 2003 |
|---|---|---|---|---|
| Belgium | 11.9 | 14.7 | 15.2 | – |
| Slovakia | 16.5 | – | 13.6 | – |
| Germany | 5.4 | 5.4 | 5.4 | – |
| Spain | 4.9 | – | – | – |
| France | 1.9 | 1.8 | – | – |
| United Kingdom | 6.1 | 6.0 | 5.8 | 5.5 |
| EU | 6.3 | 6.3 | 6.8 | 7.4 |
| Japan | 0.9 | 0.9 | 0.9 | 0.9 |

Reference: Table 11.8 from Eurostat (2008) and Supporting Table 4 from ESRI (2010)

**Table 14 The Situation of QNA by country**

| Country/Side | Production | Expenditure | Income |
|---|---|---|---|
| Canada | ○ | ○ | ○ |
| USA | | ○ | ○ |
| Japan | | ○ | △(3) |
| Australia | ○ | ○ | ○ |
| New Zealand | ○ | ○ | |
| Austria | ○ | ○(1) | |
| Denmark | ○ | ○ | ○(2) |
| Finland | ○ | ○(1) | ○(2) |
| France | ○ | ○(1) | ○(2) |
| Germany | ○ | ○(1) | ○(2) |
| Itary | ○ | ○(1) | |
| Netherlands | ○ | ○(1) | |
| Norway | ○ | ○(1) | ○(2) |
| Spain | ○ | ○(1) | |
| Sweden | ○ | ○ | |
| Switzerland | ○ | ○(1) | |
| Turkey | ○ | ○ | |
| United Kingdum | ○ | ○ | ○ |

(1) Changein Inventories is estimated as the residual.
(2) Operating surplus is estimated as the residual.
(3) The time series in the income area is the only Compensation of Employees.
Reference: OECD (Unidentified) Table 1

Table 15 The Comparison of Human resource in some countries

| | Formal Staffs | General Government | Corporations Sector | Financial Accounts | Rest of the World | Share of very qualified Staff | Regional accounts | Productivity numbers | Satellite accounts | Development of special statistics | Purchasing Power Parities | Other Activities |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Australia | 54 | 2 | 1 | 4 | 1 | n.a. | ○ | ○ | ○ | | | |
| Canada | 162 | n.a. | n.a. | n.a. | n.a. | n.a. | | | | | | |
| China | 31 | 1 | 1 | 3 | 0.2 | 100% | | | | | | |
| France | 127 | 29 | 18 | 14 | 1 | 40.2% | | | | | ○ | ○ |
| Germany | 105 | 10.4 | 2 | 7 | 2 | 22.3% | ○ | ○ | ○ | ○ | ○ | ○ |
| Japan | 47 | 4.5 | 5.5 | 1 | 0.5 | 63.8% | ○ | | ○ | ○ | | |
| Korea | 90 | 5 | 2 | 9 | 2 | n.a. | | | ○ | ○ | ○ | ○ |
| Netherlands | 96 | 7 | 2 | 6 | 1 | 74.2% | ○ | ○ | ○ | ○ | | |
| United Kingdom | 107 | 16 | 11 | 14 | 16 | n.a. | ○ | | ○ | | | |
| USA | 174 | 32 | 4 | 14 | 2 | n.a. | ○ | ○ | ○ | ○ | ○ | |

Unit: Number of Members
Reference: Lequiller and Zorn (2007) Table 1 and Table 3

Third, the only expenditure side in the QNA is displayed in the JSNA. Table 14 shows that it faces difficulties keeping up-to-date in the area of the QNA. Although it has tried to estimate GDP using production and income approaches in the QNA, the JSNA does not currently use the ASUT with a balancing process or the QSUT. In the future, it will be necessary to develop the QSUT to be consistent with the ASUT.

Fourth, it will be important for the JSNA to publish sufficient information on other countries, because other Asian countries have similar systems to the Japanese Input-Output System. Fifth, the current level of human resources is insufficient in the JSNA (Table 15), making it necessary to increase the number of experts in the future.

## 3. Conclusion

This paper examined the current situation in Japan compared with international standards and made suggestions in order to improve the core system of the JSNA. In brief, it concluded that a combination of the ASUT and the BIOT may be the best choice for the JSNA to follow in the future. However, it is important to note that this suggestion is only one of a number of choices available in Japan. Moreover, if the GOJ elected to combine the ASUT and the BIOT in the future, the next SNA (SNA2023?) would need to cover the new Supply and Use System.

There are five principal advantages to the JSNA introducing the balanced ASUT. First, the ESRI would have the capability to estimate balanced and consistent GDP figures within only three years compared with the current delay between Japanese benchmark revisions (i.e., every five years). Further, new benchmark series are released every 5-10 years for the ANA report. Second, a balancing system would contribute to improving the estimation process of the JSNA, as each (individual) check system in the JSNA now tends to be inconsistent.

Third, the JSNA would fulfill the recommendations of the SNA1993/SNA2008 by implementing the balanced ASUT, which depend on the satellite BIOT instead of on core accounts, such as SUT. Fourth, the ESRI would be able to estimate the QSUT and thus utilize the ASUT. The QSUT would also be useful for providing a consistent series of quarterly GDP and stable estimations of the QNA. The ESRI would further be able to develop new statistics and QNA

series in order to utilize the QSUT. Fifth, the experience of the ASUT would be necessary to estimate the BSUT if in the future the GOJ wished to do so. However, if the GOJ chose to improve the use matrix (plan 2) instead of the BSUT (plan 3), it can use the experience of the ASUT in order to balance the estimation of the use matrix.

Thus, this study finds that the ASUT with a balancing process is crucial for the future of the JSNA. Further, because other Asian countries such as South Korea face similar problems to those in Japan, this process might also provide a template for development in those nations. Following statistical reforms in Japan, the JSNA is improving gradually. Although the GOJ has many possible directions, it does not have complete freedom over the Japanese Input-Output System. Therefore, if the ANA were to include the ASUT and a balancing process in the core accounts, this approach could expand the Japanese QNA. The future choices of the JSNA would then depend on the degree of expansion.

### Acknowledgement

This paper was funded by the special research fund (Tokubetukenkyujyosei) of Matsuyama University in the fiscal year of 2012. I thank the fund, and Susumu Kikuchi (Professor of Rikkyo Univ), Ryuzo Kuroki (Professor of Rikkyo Univ), Itsuo Sakuma (Professor of Senshu Univ), Li Jie (Professor of Saitama Univ), Michael Osterwald-Lenum (Statistics Denmark), Colin A Gaffney, Hidehiko Futamura (ESRI), Kosuke Suzuki (ESRI), Hideaki Kitaki (ESRI), Minoru Nogimori (ESRI), and many commenters.

### Notes

1）BIOT includes some classifications. The output is measured by 10-digit (3571 products). The basic industry classification is 6-digit (407 activities (products)) or 7-digit (520 activities (products)).
2）To be exact, SUT was similar to the Make (Output) and Use Tables in SNA1968.
3）All the ministries.
4）See Arai (2010).
5）All the ministries, mainly, The Economic and Social Research Institute (ESRI), Cabinet Office and Director-General for Policy Planning (Statistical Standards), Ministry of Internal Affairs and Communications
6）All the ministries, mainly, The Economic and Social Research Institute (ESRI), Cabinet Office and Director-General for Policy Planning (Statistical Standards), Ministry of Internal Affairs and Communications
7）Balancers are experts that deal with the balancing system in national accounts. There are no balancers in Japan nowadays.
8）All the statistical offices.
9）All the ministries.

### References

Bank of Japan (2006a), "Guide to Japan's Flow of Funds Accounts", the website of Bank of Japan, http://www.boj.or.jp/en/statistics/outline/exp/exsj01.htm/
Bank of Japan (2006b), "The Compilation of Japan's Flow of Funds Accounts", the website of Bank of Japan,

http://www.boj.or.jp/en/statistics/outline/exp/exsj02.htm/

Bank of Japan (2011a), "Explanation of "Balance of Payments Statistics", the website of Bank of Japan, http://www.boj.or.jp/en/statistics/outline/exp/exbs02.htm/

Bank of Japan (2011b), "Japan's Balance of Payments for 2009", the website of Bank of Japan, http://www.boj.or.jp/en/research/brp/ron_2010/ron1006a.htm/

Director-General for Policy Planning (Statistical Standards), Ministry of Internal Affairs and Communications, and 10 organizations (2009), "2005 Input-Output Tables for Japan", the website of Ministry of Internal Affairs and Communications http://www.stat.go.jp/english/data/io/index.htm

Economic Planning Agency (2000), "Wagakunino 93SNA henoikounitsuite", the website of ESRI, http://www.esri.cao.go.jp/jp/sna/sankou/kouhou/001115/93snamenu.html, Japanese only

Economic and Social Research Institute (2005), "Estimation Method of Preliminary Quarterly GDP (QE)", the website of ESRI, http://www.esri.cao.go.jp/en/sna/sankou/050721/method.html

Economic and Social Research Institute (2010, 2011), "Annual Report on National Accounts", the website of ESRI, http://www.esri.cao.go.jp/en/sna/data/kakuhou/files/kako_top.html

Eurostat (2008), "Eurostat Manual of Supply, Use and Input-Output Tables-2008 edition", the website of Eurostat http://epp.eurostat.ec.europa.eu/cache/ITY_OFFPUB/KS-RA-07-013/EN/KS-RA-07-013-EN.PDF

Guo, Jiemin and Mark A. Planting, Bureau of Economic Analysis (2006), "Integrating U.S. Input-Output Tables with SNA: Valuations and Extensions", The 29th Conference of The International Association for Research in Income and Wealth Website http://www.iariw.org/c2006.asp

Hideki Hayashi (1994), "kaitei-SNA ni okeru tonyusansyutuhyo taikei ni tsuiteno itikosatsu" *Journal of Economics in Niigata University*

International Monetary Fund (2006), "Japan: Report on Observance of Standards and Codes – Data Module, Response by the Authorities, and Detailed Assessments Using the Data Quality Assessment Framework (DQAF)", Website of IMF, the website of IMF, http://www.imf.org/external/pubs/ft/scr/2006/cr06115.pdf

Lequiller, François and Hendrik Zorn (2007), "SURVEY ON NATIONAL ACCOUNTS RESOURCES SUMMARY OF THE RESULTS", the paper for Working Party on National Accounts"

OECD (Unidentified), "QUARTERLY NATIONAL ACCOUNTS", the website of OECD http://www.oecd.org/dataoecd/57/36/1909562.pdf

Sonoe Arai (2010), "2005nen sangyorenkanhyo no kihonkakakuhyo ni tuite", *keizaisangyokenkyu*, No. 38 (4), pp.148-167.

Takeshi Sakuramoto (2012a), "Nihon no kokuminkeizaikeisantaikei ni okeru kyokyushiyohyo ni kansuru kenkyu", *New ESRI Working paper*, No. 26 http://www.esri.go.jp/jp/archive/new_wp/new_wp030/new_wp026.pdf

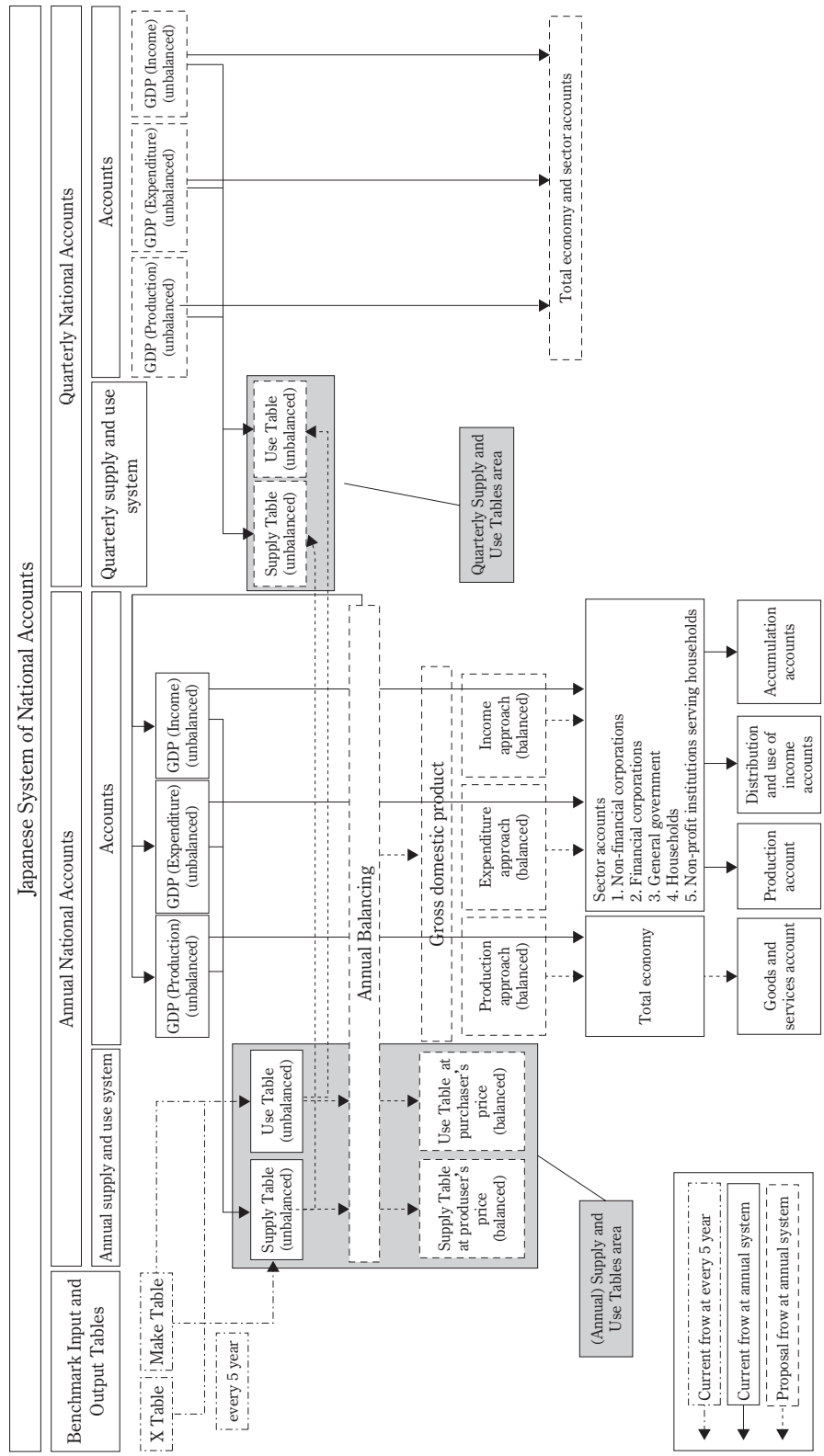
Takeshi Sakuramoto (2012b), "Analysis of IO-based Annual Supply and Use Tables for the Development of QNA-The Japanese Paradox between 1968 SNA and updated SNA" http://www.iariw.org/papers/2012/SakuramotoPaper.pdf

United Nations (1999), *HANDBOOK OF INPUT-OUTPUT TABLE COMPILATION AND ANALYSIS*, Series F, No. 74

United Nations, Commission of the European Communities/Eurostat, International Monetary Fund, Organisation for Economic Co-operation and Development, and World Bank (1994), *The System of National Accounts 1993*, the website of United Nations http://unstats.un.org/unsd/sna1993/toctop.asp

United Nations Statistics Division (2008), *International Standard Industrial Classification of All Economic Activities, Rev.4*, the website of United Nations, http://unstats.un.org/unsd/cr/registry/regcst.asp?Cl=27

United Nations, European Commission, International Monetary Fund, Organisation for Economic Co-operation and Development, and World Bank (2009), *The System of National Accounts 2008*, Website of United Nations, http://unstats.un.org/unsd/snaSNA1993rev1.asp




Appended Figure 1 The Suggestion of Provisional Reform: Japanese BIOT and Annual SUT in JSNA

Reference: Modified Eurostat (2008) P.126 Figure 5.2 for this paper's subject

## Appended Table 1 Supply Table (unbalanced, calendar year 2000, Billion yen) Part 1

| Products (Goods and Services), Industry, (Billion Yen) | 1. Industries | (1) Agricul-ture, forestry and fishing | (2) Mining | (3) Manufac-turing | a. Food products and beverages | b. Textiles | c. Pulp, paper and paper products | d. Chemicals | e. Petroleum and coal products | f. Non-metallic mineral products | g. Basic metal | h. Fabricated metal products | i. Machinery | j. Electrical ma-chinery, equipment and supplies | k. Transport equipment | l. Precision instru-ments | m. Others | (4) Construc-tion |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1. Industries | 751731.0 | 15455.1 | 1371.9 | 301980.2 | 34915.2 | 2774.7 | 8990.0 | 26583.4 | 13394.9 | 8267.6 | 24206.9 | 13158.7 | 28896.5 | 54083.0 | 42084.8 | 3828.4 | 40796.1 | 77711.4 |
| (1) Agriculture, forestry and fishing | 14353.0 | 14274.1 | 5.0 | 26.2 | 2.3 | 2.7 | 11.6 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 9.6 | 9.7 |
| (2) Mining | 1460.5 | 0.0 | 1345.4 | 115.0 | 0.0 | 0.0 | 0.0 | 12.1 | 10.5 | 39.0 | 53.3 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.1 | 0.0 |
| (3) Manufacturing | 303711.0 | 525.1 | 14.6 | 299920.6 | 34908.6 | 2768.9 | 8709.9 | 26132.1 | 13328.1 | 8160.3 | 23920.2 | 13104.4 | 28479.9 | 53886.5 | 42005.8 | 3778.2 | 40737.7 | −3.8 |
| a. Food products and beverages | 38047.3 | 518.8 | 0.0 | 34995.1 | 34787.5 | 0.1 | 2.4 | 195.9 | 0.1 | 1.2 | 0.1 | 0.2 | 0.9 | 0.2 | 0.0 | 1.9 | 4.6 | 0.0 |
| b. Textiles | 2828.7 | 0.0 | 0.0 | 2828.7 | 0.8 | 2700.1 | 17.7 | 38.0 | 0.0 | 0.1 | 1.4 | 2.7 | 0.1 | 4.1 | 1.2 | 0.0 | 62.5 | 0.0 |
| c. Pulp, paper and paper products | 8751.2 | 0.0 | 0.0 | 8748.4 | 3.3 | 12.7 | 8521.6 | 70.7 | 0.0 | 10.2 | 1.7 | 1.6 | 1.6 | 16.2 | 1.1 | 0.1 | 107.6 | 0.0 |
| d. Chemicals | 25708.9 | 0.0 | 0.0 | 25708.8 | 102.0 | 4.8 | 30.6 | 25028.8 | 154.0 | 15.7 | 104.7 | 2.8 | 80.4 | 28.5 | 6.3 | 13.7 | 136.5 | 0.0 |
| e. Petroleum and coal products | 13763.1 | 0.0 | 2.1 | 13749.0 | 0.4 | 0.0 | 0.0 | 203.4 | 13162.2 | 7.9 | 374.0 | 0.1 | 0.5 | 0.0 | 0.0 | 0.0 | 0.5 | 0.0 |
| f. Non-metallic mineral products | 8319.0 | 0.0 | 10.3 | 8306.1 | 0.5 | 2.2 | 3.0 | 163.9 | 7.0 | 7944.3 | 48.3 | 23.7 | 7.9 | 61.6 | 1.9 | 3.6 | 38.2 | 0.0 |
| g. Basic metal | 23274.7 | 0.0 | 1.6 | 23276.5 | 0.0 | 0.5 | 0.5 | 40.5 | 0.1 | 14.4 | 22709.9 | 113.3 | 111.9 | 154.7 | 92.9 | 5.1 | 32.7 | −3.4 |
| h. Fabricated metal products | 13422.3 | 0.0 | 0.0 | 13422.3 | 0.6 | 0.6 | 4.2 | 4.2 | 0.3 | 11.0 | 373.6 | 12251.5 | 399.8 | 113.2 | 149.0 | 9.0 | 105.3 | 0.0 |
| i. Machinery | 28432.4 | 0.0 | 0.3 | 28432.1 | 3.7 | 1.3 | 3.6 | 39.0 | 1.0 | 16.1 | 79.4 | 274.2 | 25984.0 | 1104.8 | 728.2 | 73.5 | 123.3 | 0.0 |
| j. Electrical machinery, equipment and supplies | 53463.8 | 0.0 | 0.0 | 53463.8 | 0.0 | 0.7 | 2.7 | 74.4 | 1.4 | 75.8 | 168.1 | 113.9 | 748.6 | 51390.9 | 281.3 | 241.7 | 364.3 | 0.0 |
| k. Transport equipment | 42413.9 | 0.0 | 0.0 | 41885.5 | 0.0 | 6.0 | 0.1 | 6.2 | 0.0 | 1.5 | 15.1 | 67.9 | 819.3 | 299.3 | 40468.9 | 75.5 | 125.7 | 0.0 |
| l. Precision instruments | 3912.0 | 0.0 | 0.0 | 3912.0 | 0.0 | 0.6 | 0.0 | 68.6 | 0.0 | 4.8 | 3.2 | 9.7 | 173.8 | 291.4 | 21.9 | 3324.4 | 13.6 | 0.0 |
| m. Others | 41373.7 | 6.3 | 0.3 | 41192.3 | 9.8 | 39.3 | 123.5 | 198.5 | 2.0 | 57.3 | 40.7 | 242.8 | 151.1 | 421.6 | 253.1 | 29.7 | 39622.9 | −0.4 |
| (4) Construction | 77976.9 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 77705.5 |
| (5) Electricity, gas and water supply | 24591.3 | 0.0 | 6.0 | 1103.2 | 0.0 | 1.9 | 267.4 | 436.3 | 55.9 | 64.7 | 227.1 | 2.8 | 3.2 | 12.0 | 11.8 | 2.4 | 17.7 | 0.0 |
| (6) Wholesale and retail trade | 1500.7 | 572.6 | 0.0 | 3.2 | 3.2 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| (7) Finance and insurance | 42857.1 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| (8) Real estate | 64407.4 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| (9) Transport and communications | 43543.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| (10) Service activities | 177330.1 | 83.3 | 0.9 | 812.0 | 1.1 | 1.2 | 1.1 | 2.9 | 0.4 | 3.6 | 6.3 | 51.5 | 413.4 | 184.5 | 67.2 | 47.8 | 31.0 | 0.0 |
| 2. Producers of government services | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | |
| 3. Producers of private non-profit servic-es to households | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Direct purchases abroad by resident households | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| (less) Direct purchases in the domestic market by non-resident households | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Gross output | 751731.0 | 15455.1 | 1371.9 | 301980.2 | 34915.2 | 2774.7 | 8990.0 | 26583.4 | 13394.9 | 8267.6 | 24206.9 | 13158.7 | 28896.5 | 54083.0 | 42084.8 | 3828.4 | 40796.1 | 77711.4 |

Reference for Annual Report on National Accounts of 2010 Supporting Tables (1) and (4)

## Appended Table 1 Supply Table (unbalanced, calendar year 2000, Billion yen) Part 2

| Products (Goods and Services), Industry, (Billion Yen) | (5) Electricity, gas and water supply | (6) Wholesale and retail trade | (7) Finance and insurance | (8) Real estate | (9) Transport and communications | (10) Service activities | 2. Producers of government services | 3. Producers of private non-profit services to households | Gross output | Imports of goods and services | Imports of goods and services (The c.i.f prices) | c.i.f/f.o.b adjustment | Differential between aproaches | Taxes and duties on imports | Total supply (at producers' prices) | Trade and transport margins | Total supply (at purchasers' prices) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1. Industries | 23449.3 | 4201.4 | 42857.1 | 64417.4 | 44800.8 | 175486.4 | 0.0 | 0.0 | 751731.0 | 45121.0 | 47196.5 | 3527.8 | −1452.3 | 3869.4 | 800721.4 | 109044.0 | 909765.4 |
| (1) Agriculture, forestry and fishing | 6.8 | 0.2 | 0.0 | 3.2 | 0.0 | 27.8 | 0.0 | 0.0 | 14353.0 | 1796.5 | 1967.1 | 170.6 | 0.0 | 143.4 | 16292.9 | 6491.8 | 22784.7 |
| (2) Mining | 0.1 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 1460.5 | 7043.3 | 7712.1 | 668.8 | 0.0 | 989.1 | 9492.9 | 1629.9 | 11122.8 |
| (3) Manufacturing | 12.1 | 2705.2 | 0.0 | 0.0 | 528.4 | 8.8 | 0.0 | 0.0 | 303711.0 | 28313.9 | 31002.3 | 2688.4 | 0.0 | 2703.6 | 334728.5 | 100529.9 | 435258.4 |
| a. Food products and beverages | 0.0 | 2530.2 | 0.0 | 0.0 | 0.0 | 3.2 | 0.0 | 0.0 | 38047.3 | 3606.7 | 3949.2 | 342.5 | 0.0 | 922.1 | 42576.1 | 25276.4 | 67852.5 |
| b. Textiles | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 2828.7 | 328.3 | 359.5 | 31.2 | 0.0 | 37.1 | 3194.1 | 660.6 | 3854.7 |
| c. Pulp, paper and paper products | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 2.8 | 0.0 | 0.0 | 8751.2 | 422.9 | 463.1 | 40.2 | 0.0 | 24.5 | 9198.6 | 2527.5 | 11726.1 |
| d. Chemicals | 0.1 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 25708.9 | 2277.5 | 2493.7 | 216.2 | 0.0 | 152.9 | 28139.3 | 7849.9 | 35989.2 |
| e. Petroleum and coal products | 12.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 13763.1 | 1583.4 | 1733.8 | 150.4 | 0.0 | 112.2 | 15458.7 | 4036.7 | 19495.4 |
| f. Non-metallic mineral products | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 2.6 | 0.0 | 0.0 | 8319.0 | 350.9 | 384.2 | 33.3 | 0.0 | 21.2 | 8691.1 | 3065.2 | 11756.3 |
| g. Basic metal | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 23274.7 | 2117.0 | 2318.0 | 201.0 | 0.0 | 128.7 | 25520.4 | 3431.3 | 28951.7 |
| h. Fabricated metal products | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 13422.3 | 315.4 | 345.3 | 29.9 | 0.0 | 19.7 | 13757.4 | 2912.8 | 16670.2 |
| i. Machinery | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 28432.4 | 1338.0 | 1465.0 | 127.0 | 0.0 | 73.2 | 29843.6 | 7248.9 | 37092.5 |
| j. Electrical machinery, equipment and supplies | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 53463.8 | 8023.8 | 8785.7 | 761.9 | 0.0 | 439.3 | 61926.9 | 11474.6 | 73401.5 |
| k. Transport equipment | 0.0 | 0.0 | 0.0 | 0.0 | 528.4 | 0.0 | 0.0 | 0.0 | 42413.9 | 1641.8 | 1797.7 | 155.9 | 0.0 | 88.4 | 44144.1 | 9091.2 | 53235.3 |
| l. Precision instruments | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 3912.0 | 867.3 | 949.7 | 82.4 | 0.0 | 48.0 | 4827.3 | 2227.0 | 7054.3 |
| m. Others | 0.0 | 175.0 | 0.0 | 0.0 | 0.0 | 0.2 | 0.0 | 0.0 | 41373.7 | 5440.8 | 5957.4 | 516.6 | 0.0 | 636.3 | 47450.8 | 20727.7 | 68178.5 |
| (4) Construction | 0.0 | 0.0 | 0.0 | 0.0 | 271.4 | 0.0 | 0.0 | 0.0 | 77976.9 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 77976.9 | 0.0 | 77976.9 |
| (5) Electricity, gas and water supply | 23360.0 | 28.0 | 0.0 | 0.0 | 23.1 | 71.0 | 0.0 | 0.0 | 24591.3 | 2.8 | 2.3 | 0.0 | −0.5 | 0.0 | 24594.1 | 0.0 | 24594.1 |
| (6) Wholesale and retail trade | 0.0 | 750.4 | 0.0 | 0.0 | 0.8 | 173.7 | 0.0 | 0.0 | 1500.7 | 828.3 | 677.3 | 0.0 | −151.0 | 0.0 | 2329.0 | 0.0 | 2329.0 |
| (7) Finance and insurance | 0.0 | 0.0 | 42857.1 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 42857.1 | 451.7 | 369.4 | 0.0 | −82.3 | 0.0 | 43308.8 | 0.0 | 43308.8 |
| (8) Real estate | 0.0 | 0.0 | 0.0 | 64407.4 | 0.0 | 0.0 | 0.0 | 0.0 | 64407.4 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 64407.4 | 0.0 | 64407.4 |
| (9) Transport and communications | 0.2 | 0.0 | 0.0 | 0.1 | 43466.5 | 76.2 | 0.0 | 0.0 | 43543.0 | 1978.4 | 1617.8 | 0.0 | −360.6 | 0.0 | 45521.4 | 0.0 | 45521.4 |
| (10) Service activities | 70.1 | 717.6 | 0.0 | 6.7 | 510.6 | 175128.9 | 0.0 | 0.0 | 177330.1 | 4706.0 | 3848.2 | 0.0 | −857.8 | 33.3 | 182069.4 | 392.3 | 182461.7 |
| 2. Producers of government services | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 63161.7 | 63161.7 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 63161.7 | 0.0 | 63161.7 |
| 3. Producers of private non-profit services to households | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 12444.3 | 12444.3 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 12444.3 | 0.0 | 12444.3 |
| Direct purchases abroad by resident households | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 2819.4 | 0.0 | 0.0 | 0.0 | 0.0 | 2819.4 | 0.0 | 2819.4 |
| (less) Direct purchases in the domestic market by non-resident households | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | −3527.8 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Gross output | 23449.3 | 4201.4 | 42857.1 | 64417.4 | 44800.8 | 175486.4 | 63161.7 | 12444.3 | 827337.0 | 47940.4 | 47196.5 | 0.0 | −1452.3 | 3869.4 | 879146.8 | 109044.0 | 988190.8 |

Reference for Annual Report on National Accounts of 2010 Supporting Tables (1) and (4)

## Appended Table 2 Use Table (unbalanced, calendar year 2000, Billion yen) Part 1

| Products (Goods and Services), Industry, (Billion Yen) | 1. Industries | (1) Agriculture, forestry and fishing | (2) Mining | (3) Manufacturing | a. Food products and beverages | b. Textiles | c. Pulp, paper and paper products | d. Chemicals | e. Petroleum and coal products | f. Non-metallic mineral products | g. Basic metal | h. Fabricated metal products | i. Machinery | j. Electrical machinery, equipment and supplies | k. Transport equipment | l. Precision instruments | m. Others | (4) Construction | (5) Electricity, gas and water supply | (6) Wholesale and retail trade |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1. Industries | 390549.2 | 6550.1 | 744.5 | 190311.5 | 20495.8 | 1699.7 | 5745.1 | 17393.2 | 7776.7 | 4450.5 | 16914.8 | 7125.9 | 17397.2 | 33981.1 | 31138.3 | 2104.7 | 24088.2 | 40495.5 | 9840.1 | 29465.2 |
| (1) Agriculture, forestry and fishing | 14191.3 | 1981.2 | 1.5 | 8412.4 | 7236.9 | 61.9 | 14.6 | 106.5 | 0.8 | 3.5 | 2.7 | 9.8 | 5.1 | 14.7 | 6.1 | 1.2 | 948.5 | 250.1 | 1.7 | 1605.1 |
| (2) Mining | 11906.2 | 0.3 | 8.4 | 8506.8 | 0.7 | 0.6 | 56.3 | 250.1 | 6117.5 | 934.3 | 1068.1 | 10.1 | 6.8 | 21.2 | 5.8 | 1.3 | 33.9 | 1037.0 | 2336.4 | 3.5 |
| (3) Manufacturing | 217954.5 | 3510.3 | 281.2 | 138525.2 | 10074.9 | 1328.7 | 4392.8 | 12069.0 | 1036.7 | 2118.7 | 12871.0 | 5323.2 | 14149.1 | 27228.7 | 28321.2 | 1652.0 | 17959.1 | 28727.9 | 1669.4 | 5702.9 |
| a. Food products and beverages | 17323.4 | 1461.5 | 0.1 | 6600.5 | 6296.2 | 2.4 | 32.7 | 185.6 | 0.8 | 5.5 | 1.0 | 0.4 | 2.9 | 7.4 | 3.0 | 0.8 | 61.7 | 0.5 | 0.7 | 274.6 |
| b. Textiles | 2786.3 | 38.0 | 0.1 | 2429.6 | 3.6 | 663.1 | 67.7 | 15.7 | 0.1 | 9.6 | 7.8 | 6.9 | 15.5 | 60.6 | 88.3 | 2.1 | 1488.7 | 106.1 | 1.0 | 45.8 |
| c. Pulp, paper and paper products | 9437.3 | 233.2 | 0.2 | 7274.1 | 724.4 | 33.8 | 2997.6 | 518.7 | 1.6 | 156.4 | 22.3 | 52.1 | 54.9 | 317.3 | 35.3 | 24.9 | 2335.1 | 327.8 | 4.6 | 706.7 |
| d. Chemicals | 26568.1 | 943.6 | 14.7 | 16349.5 | 455.7 | 503.9 | 377.8 | 8279.5 | 156.5 | 254.4 | 316.5 | 194.4 | 291.3 | 796.6 | 556.5 | 46.4 | 4119.9 | 468.9 | 94.7 | 28.3 |
| e. Petroleum and coal products | 13309.5 | 385.6 | 174.7 | 4537.6 | 256.0 | 36.0 | 174.4 | 1350.5 | 810.0 | 231.0 | 881.9 | 98.0 | 122.8 | 177.7 | 136.1 | 17.6 | 245.5 | 1822.4 | 1133.6 | 1379.8 |
| f. Non-metallic mineral products | 10480.2 | 23.2 | 1.5 | 3332.6 | 216.1 | 2.2 | 14.3 | 214.6 | 12.6 | 916.9 | 233.3 | 70.0 | 219.6 | 729.4 | 393.5 | 76.2 | 234.1 | 6629.0 | 12.3 | 57.3 |
| g. Basic metal | 26366.9 | 1.9 | 3.1 | 23894.8 | 54.2 | 1.6 | 6.1 | 156.1 | 2.0 | 130.3 | 10912.3 | 3410.0 | 2869.2 | 2842.3 | 2852.9 | 155.3 | 502.5 | 2241.3 | 14.4 | 10.0 |
| h. Fabricated metal products | 14827.5 | 27.3 | 30.9 | 5290.4 | 817.8 | 2.1 | 15.7 | 300.6 | 22.9 | 90.0 | 69.3 | 844.4 | 1072.8 | 976.0 | 491.0 | 78.7 | 509.1 | 8703.0 | 20.5 | 331.7 |
| i. Machinery | 10199.3 | 0.6 | 8.2 | 7634.4 | 1.6 | 0.7 | 2.0 | 13.8 | 0.6 | 33.9 | 36.4 | 107.8 | 5760.2 | 721.8 | 754.3 | 66.9 | 134.4 | 659.5 | 5.8 | 110.4 |
| j. Electrical machinery, equipment and supplies | 25241.0 | 5.8 | 1.1 | 22707.0 | 2.3 | 1.7 | 4.1 | 64.0 | 1.5 | 32.6 | 78.7 | 160.5 | 2092.0 | 17103.5 | 2299.2 | 443.2 | 423.6 | 1017.4 | 3.0 | 121.8 |
| k. Transport equipment | 21880.0 | 73.4 | 0.3 | 19094.0 | 0.2 | 2.9 | 0.2 | 2.7 | 0.0 | 1.3 | 8.1 | 35.8 | 340.4 | 172.5 | 18431.7 | 42.7 | 55.4 | 0.6 | 0.6 | 120.7 |
| l. Precision instruments | 1544.6 | 2.9 | 0.0 | 821.8 | 0.2 | 0.2 | 0.8 | 10.4 | 0.0 | 1.3 | 1.3 | 4.6 | 199.5 | 111.2 | 46.4 | 437.5 | 8.3 | 9.8 | 0.6 | 210.0 |
| m. Others | 37990.5 | 313.4 | 46.2 | 18559.0 | 1246.9 | 78.0 | 699.5 | 956.8 | 28.0 | 255.5 | 302.2 | 338.3 | 1107.9 | 3212.4 | 2232.9 | 259.7 | 7840.9 | 6741.7 | 377.6 | 2305.7 |
| (4) Construction | 7848.9 | 85.5 | 9.7 | 1410.0 | 70.6 | 8.6 | 81.3 | 213.0 | 31.6 | 124.2 | 199.8 | 120.6 | 94.5 | 225.1 | 74.7 | 17.6 | 148.5 | 208.1 | 1131.2 | 554.8 |
| (5) Electricity, gas and water supply | 15074.1 | 106.8 | 43.3 | 6522.2 | 479.4 | 78.0 | 456.8 | 1231.9 | 152.5 | 347.6 | 980.5 | 267.4 | 388.6 | 884.7 | 490.7 | 64.6 | 699.5 | 500.4 | 1335.1 | 1128.4 |
| (6) Wholesale and retail trade | 677.2 | 4.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 672.0 |
| (7) Finance and insurance | 7617.2 | 137.3 | 42.1 | 1419.1 | 127.3 | 28.9 | 54.1 | 169.2 | 89.9 | 66.1 | 129.2 | 58.8 | 153.3 | 186.9 | 158.3 | 18.5 | 178.5 | 480.4 | 224.5 | 1723.5 |
| (8) Real estate | 8973.1 | 25.9 | 12.9 | 1192.1 | 75.2 | 12.1 | 34.5 | 155.3 | 15.6 | 45.8 | 78.7 | 71.7 | 128.9 | 248.4 | 92.5 | 21.9 | 211.6 | 286.4 | 216.0 | 2851.6 |
| (9) Transport and communications | 21804.5 | 116.4 | 56.1 | 3633.3 | 230.8 | 30.7 | 72.5 | 433.8 | 112.5 | 138.0 | 421.9 | 200.7 | 339.6 | 728.2 | 252.4 | 45.3 | 626.8 | 1501.1 | 274.7 | 4587.3 |
| (10) Service activities | 84502.2 | 582.4 | 289.3 | 20690.4 | 2200.0 | 150.2 | 582.2 | 2764.4 | 219.6 | 672.3 | 1162.9 | 1063.6 | 2131.3 | 4443.2 | 1736.6 | 282.3 | 3281.8 | 7504.1 | 2651.1 | 10636.1 |
| 2. Producers of government services | 2163.8 | 9.3 | 1.1 | 229.5 | 35.5 | 3.0 | 7.8 | 42.4 | 5.6 | 10.5 | 13.7 | 9.3 | 17.7 | 31.9 | 18.2 | 3.5 | 30.3 | 86.1 | 32.8 | 195.3 |
| 3. Producers of private non-profit services to households | 0.4 | 0.0 | 0.0 | 0.3 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.2 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Direct purchases abroad by resident households | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| (less) Direct purchases in the domestic market by non-resident households | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total intermediate input | 392713.6 | 6559.3 | 745.6 | 190541.3 | 20531.5 | 1702.6 | 5753.0 | 17435.6 | 7782.4 | 4461.0 | 16928.7 | 7135.1 | 17415.1 | 34013.1 | 31156.5 | 2108.3 | 24118.6 | 40581.8 | 9873.0 | 29660.4 |
| Consumption of fixed capital | 84901.0 | 1815.4 | 151.0 | 18480.8 | 1347.9 | 138.4 | 677.2 | 2025.3 | 352.4 | 679.9 | 1651.7 | 796.3 | 1857.4 | 4394.2 | 2138.2 | 251.6 | 2170.4 | 5494.3 | 5467.0 | 5796.8 |
| Taxes on production and imports less subsidies | 37379.9 | 340.1 | 69.5 | 15591.1 | 4072.4 | 145.8 | 338.7 | 869.2 | 3230.1 | 399.7 | 915.2 | 541.1 | 984.3 | 1563.6 | 1007.4 | 139.8 | 1383.7 | 2085.4 | 1452.1 | 6593.6 |
| Compensation of employees | 230459.7 | 1985.5 | 380.4 | 59317.8 | 5336.1 | 1069.0 | 1466.0 | 3194.0 | 272.1 | 2182.4 | 2939.4 | 4541.4 | 7847.1 | 11351.2 | 6497.1 | 1201.6 | 11420.5 | 27523.9 | 3571.8 | 41378.9 |
| Operating surplus and mixed income | 115321.7 | 4754.8 | 25.7 | 18049.7 | 3627.5 | −281.0 | 755.1 | 3059.6 | 1757.9 | 544.8 | 1772.0 | 144.9 | 792.5 | 2761.0 | 1285.5 | 127.0 | 1702.9 | 2026.0 | 3085.5 | 16891.5 |
| Gross output | 860775.9 | 15455.1 | 1372.2 | 301980.7 | 34915.4 | 2774.8 | 8990.0 | 26583.7 | 13394.9 | 8267.8 | 24207.0 | 13158.8 | 28896.4 | 54083.1 | 42084.7 | 3828.3 | 40796.1 | 77711.4 | 23449.4 | 100321.2 |

Reference: Annual Report on National Accounts of 2010 Supporting Tables (1) and (5)

## Appended Table 2 Use Table (unbalanced, calendar year 2000, Billion yen) Part 2

| Products (Goods and Services), Industry, (Billion Yen) | (7) Finance and insurance | (8) Real estate | (9) Transport and communi-cations | (10) Service activities | 2. Producers of government services | 3. Producers of private non-profit services to households | Imputed bank service charge | Total interme-diate input (B) | Statistical discrep-ancy (C)=(A − B) | (C/D) | Interme-diate consump-tion (A) | Govern-ment final consump-tion expendi-ture | Private final consump-tion expendi-ture | Domestic final consumption expenditure of households | Final consumption expenditure of private non-profit institutions serving households | Gross fixed capital formation | Changes in invento-ries | Exports (the f.o.b. prices) | Total Demand (D) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1. Industries | 12370.3 | 6510.4 | 22493.9 | 71767.7 | 17074.4 | 3476.5 | 23294.1 | 434394.2 | −2860.6 | −0.3% | 431533.6 | 27292.0 | 264880.6 | 264880.6 | 0.0 | 129692.6 | 1373.6 | 55241.3 | 910013.7 |
| (1) Agriculture, forestry and fishing | 0.0 | 0.7 | 4.9 | 1933.7 | 149.5 | 64.4 | − | 14405.2 | 157.3 | 0.7% | 14562.5 | 0.0 | 7142.8 | 7142.8 | 0.0 | 201.1 | 794.9 | 83.4 | 22784.7 |
| (2) Mining | 0.0 | 0.0 | 10.3 | 3.5 | 3.2 | 1.3 | − | 11910.7 | −857.4 | −7.7% | 11053.3 | 0.0 | 0.0 | 0.0 | 0.0 | −4.4 | 53.7 | 20.3 | 11122.8 |
| (3) Manufacturing | 1517.6 | 255.4 | 4700.5 | 33064.1 | 5897.7 | 1237.3 | − | 225089.5 | 5701.2 | 1.3% | 230790.7 | 46.3 | 104651.6 | 104651.6 | 0.0 | 49822.7 | 525.0 | 49422.0 | 435258.3 |
| a. Food products and beverages | 0.0 | 0.3 | 11.6 | 8973.6 | 479.9 | 137.7 | − | 17941.0 | 1812.5 | 2.7% | 19753.5 | 0.0 | 47265.3 | 47265.3 | 0.0 | 0.0 | 618.7 | 215.0 | 67852.5 |
| b. Textiles | 0.4 | 0.1 | 23.8 | 141.4 | 12.2 | 6.7 | − | 2805.2 | 5.5 | 0.1% | 2810.7 | 0.0 | 244.6 | 244.6 | 0.0 | 186.5 | −12.5 | 625.6 | 3854.8 |
| c. Pulp, paper and paper products | 84.9 | 12.4 | 235.1 | 558.3 | 78.0 | 62.4 | − | 9577.7 | 1137.9 | 9.7% | 10715.6 | 0.0 | 674.3 | 674.3 | 0.0 | 0.0 | 41.6 | 294.6 | 11726.1 |
| d. Chemicals | 1.1 | 2.2 | 37.9 | 8627.2 | 193.7 | 76.5 | − | 26838.3 | 207.9 | 0.6% | 27046.2 | 0.0 | 5191.3 | 5191.3 | 0.0 | 0.0 | −44.6 | 3796.3 | 35989.2 |
| e. Petroleum and coal products | 99.4 | 105.4 | 2265.8 | 1405.2 | 718.8 | 97.0 | − | 14125.3 | −918.5 | −4.7% | 13206.8 | 0.0 | 5524.6 | 5524.6 | 0.0 | 0.0 | 455.4 | 308.6 | 19495.4 |
| f. Non-metallic mineral products | 0.9 | 5.1 | 41.6 | 376.7 | 70.8 | 20.7 | − | 10571.7 | 107.6 | 0.9% | 10679.3 | 0.0 | 479.6 | 479.6 | 0.0 | 0.0 | −96.2 | 693.6 | 11756.3 |
| g. Basic metal | 0.0 | 0.0 | 60.0 | 141.4 | 12.2 | 1.0 | − | 26380.1 | −214.1 | −0.7% | 26166.0 | 0.0 | 113.5 | 113.5 | 0.0 | 89.5 | −36.6 | 2619.4 | 28951.8 |
| h. Fabricated metal products | 3.0 | 24.0 | 117.9 | 278.8 | 221.2 | 8.4 | − | 15057.1 | 11.6 | 0.1% | 15068.7 | 0.1 | 650.8 | 650.8 | 0.0 | 462.0 | −70.5 | 559.1 | 16670.2 |
| i. Machinery | 0.0 | 0.1 | 79.2 | 1701.1 | 51.8 | 0.1 | − | 10251.2 | 158.0 | 0.4% | 10409.2 | 0.0 | 150.3 | 150.3 | 0.0 | 18973.4 | −410.0 | 7969.4 | 37092.3 |
| j. Electrical machinery, equipment and supplies | 7.2 | 2.0 | 74.0 | 1301.7 | 452.6 | 1.4 | − | 25695.0 | 1699.8 | 2.3% | 27394.8 | 0.0 | 12133.7 | 12133.7 | 0.0 | 16386.6 | 591.8 | 16894.6 | 73401.5 |
| k. Transport equipment | 0.1 | 0.0 | 767.3 | 1823.0 | 1097.3 | 0.1 | − | 22977.4 | −62.1 | −0.1% | 22915.3 | 0.0 | 9265.7 | 9265.7 | 0.0 | 8994.9 | −51.1 | 12110.4 | 53235.2 |
| l. Precision instruments | 2.9 | 0.3 | 4.0 | 492.3 | 54.6 | 9.0 | − | 1608.2 | 54.4 | 0.8% | 1662.6 | 0.0 | 1629.2 | 1629.2 | 0.0 | 2405.8 | −34.8 | 1391.6 | 7054.4 |
| m. Others | 1317.7 | 103.5 | 982.3 | 7243.4 | 2454.6 | 816.4 | − | 41261.5 | 1700.6 | 2.5% | 42962.1 | 46.2 | 21328.6 | 21328.6 | 0.0 | 2324.1 | −426.1 | 1943.7 | 68178.5 |
| (4) Construction | 160.1 | 2831.7 | 590.0 | 867.8 | 1002.8 | 244.0 | − | 9095.7 | −25.2 | 0.0% | 9070.5 | 0.0 | 0.0 | 0.0 | 0.0 | 68906.4 | 0.0 | 0.0 | 77976.9 |
| (5) Electricity, gas and water supply | 220.5 | 214.0 | 1080.9 | 3922.5 | 2131.5 | 249.4 | − | 17455.0 | −194.0 | −0.8% | 17261.0 | 0.0 | 7333.3 | 7333.3 | 0.0 | 0.0 | 0.0 | 10.5 | 24604.7 |
| (6) Wholesale and retail trade | 0.0 | 0.0 | 0.0 | 1.2 | 0.0 | 0.0 | − | 677.2 | 498.6 | 21.4% | 1175.8 | 0.0 | 583.5 | 583.5 | 0.0 | 319.0 | 0.0 | 252.9 | 2331.2 |
| (7) Finance and insurance | 1150.0 | 413.1 | 790.0 | 1237.2 | 248.4 | 116.2 | 23294.1 | 31275.9 | 104.6 | 0.2% | 31380.5 | 0.0 | 11592.8 | 11592.8 | 0.0 | 0.0 | 0.0 | 353.9 | 43327.2 |
| (8) Real estate | 652.3 | 406.4 | 1033.2 | 2296.3 | 96.0 | 95.4 | − | 9164.5 | −36.9 | −0.1% | 9127.6 | 0.0 | 55279.8 | 55279.8 | 0.0 | 0.0 | 0.0 | 79.3 | 64486.7 |
| (9) Transport and communications | 1436.4 | 131.6 | 6501.3 | 3566.3 | 1788.5 | 285.7 | − | 23878.7 | −408.7 | −0.9% | 23470.0 | 0.7 | 19204.5 | 19204.5 | 0.0 | 0.0 | 0.0 | 2888.6 | 45563.8 |
| (10) Service activities | 7233.4 | 2257.5 | 7782.8 | 24875.1 | 5756.8 | 1182.8 | − | 91441.8 | −7800.0 | −4.3% | 83641.8 | 27245.0 | 59092.3 | 59092.3 | 0.0 | 10447.9 | 0.0 | 2130.4 | 182557.3 |
| 2. Producers of government services | 41.5 | 43.1 | 410.5 | 1114.6 | 113.5 | 26.6 | − | 2303.9 | 114.8 | 0.2% | 2418.7 | 57649.7 | 3093.1 | 3093.1 | 0.0 | 0.0 | 0.1 | 4.4 | 63166.0 |
| 3. Producers of private non-profit services to households | 0.0 | 0.0 | 0.0 | 0.1 | 0.0 | 0.0 | − | 0.4 | 0.2 | 0.0% | 0.6 | 0.0 | 12443.8 | 7051.0 | 5392.8 | 0.0 | 0.0 | 10.1 | 12454.5 |
| Direct purchases abroad by resident households | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 2819.4 | 2819.4 | 0.0 | 0.0 | 0.0 | 0.0 | 2819.4 |
| (less) Direct purchases in the domestic market by non-resident households | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | −262.9 | −262.9 | 0.0 | 0.0 | 0.0 | 262.9 | 0.0 |
| Total intermediate input | 12411.9 | 6553.6 | 22904.4 | 72882.3 | 17187.9 | 3503.0 | 23294.1 | 436698.5 | −2745.6 | −0.3% | 433952.9 | 84941.7 | 282974.0 | 277581.2 | 5392.8 | 129692.6 | 1373.7 | 55518.7 | 988453.6 |
| Consumption of fixed capital | 3613.4 | 18858.5 | 7905.4 | 17318.5 | 13212.8 | 856.7 | 0.0 | 98970.5 | | | | | | | | | | | |
| Taxes on production and imports less subsidies | −361.0 | 3242.7 | 3233.8 | 5132.7 | 69.3 | 160.2 | 0.0 | 37609.4 | | | | | | | | | | | |
| Compensation of employees | 12390.6 | 3748.9 | 19462.9 | 60699.0 | 32691.7 | 7924.4 | 0.0 | 271075.7 | | | | | | | | | | | |
| Operating surplus and mixed income | 14802.2 | 32013.8 | 4218.8 | 19453.7 | 0.0 | 0.0 | −23294.1 | 92027.6 | | | | | | | | | | | |
| Gross output | 42857.1 | 64417.5 | 57725.3 | 175486.2 | 63161.7 | 12444.3 | 0.0 | 936381.7 | | | | | | | | | | | |

Reference: Annual Report on National Accounts of 2010 Supporting Tables (1) and (5)

## Appended Table 3 Use Table (balanced, calendar year 2000, Billion yen) Part 1

| Products (Goods and Services), Industry, (Billion Yen) | 1. Industries | (1) Agriculture, forestry and fishing | (2) Mining | (3) Manufacturing | a. Food products and beverages | b. Textiles | c. Pulp, paper and paper products | d. Chemicals | e. Petroleum and coal products | f. Non-metallic mineral products | g. Basic metal | h. Fabricated metal products | i. Machinery | j. Electrical machinery, equipment and supplies | k. Transport equipment | l. Precision instruments | m. Others | (4) Construction | (5) Electricity, gas and water supply | (6) Wholesale and retail trade |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1. Industries | 389257.2 | 6550.1 | 743.9 | 189699.1 | 20495.7 | 1699.7 | 5741.0 | 17375.2 | 7336.3 | 4383.2 | 16837.9 | 7125.2 | 17396.7 | 33979.6 | 31137.9 | 2104.6 | 24085.8 | 40420.8 | 9671.9 | 29464.9 |
| (1) Agriculture, forestry and fishing | 14191.3 | 1981.2 | 1.5 | 8412.4 | 7236.9 | 61.9 | 14.6 | 106.5 | 0.8 | 3.5 | 2.7 | 9.8 | 5.1 | 14.7 | 6.1 | 1.2 | 948.5 | 250.1 | 1.7 | 1605.1 |
| (2) Mining | 11049.1 | 0.3 | 7.8 | 7894.4 | 0.6 | 0.6 | 52.2 | 232.1 | 5677.1 | 867.0 | 991.2 | 9.4 | 6.3 | 19.7 | 5.4 | 1.2 | 31.5 | 962.3 | 2168.2 | 3.2 |
| (3) Manufacturing | 217954.5 | 3510.3 | 281.2 | 138525.2 | 10074.9 | 1328.7 | 4392.8 | 12069.0 | 1036.7 | 2118.7 | 12871.0 | 5323.2 | 14149.1 | 27228.7 | 28321.2 | 1652.0 | 17959.1 | 28727.9 | 1669.4 | 5702.9 |
| a. Food products and beverages | 17323.4 | 1461.5 | 0.1 | 6600.5 | 6296.2 | 2.4 | 32.7 | 185.6 | 0.8 | 5.5 | 1.0 | 0.4 | 2.9 | 7.4 | 3.0 | 0.8 | 61.7 | 0.5 | 0.7 | 274.6 |
| b. Textiles | 2786.3 | 38.0 | 0.1 | 2429.6 | 3.6 | 663.1 | 67.7 | 15.7 | 0.1 | 9.6 | 7.8 | 6.9 | 15.5 | 60.6 | 88.3 | 2.1 | 1488.7 | 106.1 | 1.0 | 45.8 |
| c. Pulp, paper and paper products | 9437.3 | 233.2 | 0.2 | 7274.1 | 724.4 | 33.8 | 2997.6 | 518.7 | 1.6 | 156.4 | 22.3 | 52.1 | 54.9 | 317.3 | 35.3 | 24.9 | 2335.1 | 327.8 | 4.6 | 706.7 |
| d. Chemicals | 26568.1 | 943.6 | 14.7 | 16349.5 | 455.7 | 503.9 | 377.8 | 8279.5 | 156.5 | 254.4 | 316.5 | 194.4 | 291.3 | 796.6 | 556.5 | 46.4 | 4119.9 | 468.9 | 94.7 | 28.3 |
| e. Petroleum and coal products | 13309.5 | 385.6 | 174.7 | 4537.6 | 256.0 | 36.0 | 174.4 | 1350.5 | 810.0 | 231.0 | 881.9 | 98.0 | 122.8 | 177.7 | 136.1 | 17.6 | 245.5 | 1822.4 | 1133.6 | 1379.8 |
| f. Non-metallic mineral products | 10480.2 | 23.2 | 1.5 | 3332.6 | 216.1 | 2.2 | 14.3 | 214.6 | 12.6 | 916.9 | 233.3 | 70.0 | 219.6 | 729.4 | 393.5 | 76.2 | 234.1 | 6629.0 | 12.3 | 57.3 |
| g. Basic metal | 26366.9 | 1.9 | 3.1 | 23894.8 | 54.2 | 1.6 | 6.1 | 156.1 | 2.0 | 130.3 | 10912.3 | 3410.0 | 2869.2 | 2842.3 | 2852.9 | 155.3 | 502.5 | 2241.3 | 14.4 | 10.0 |
| h. Fabricated metal products | 14827.5 | 27.3 | 30.9 | 5290.4 | 817.8 | 2.1 | 15.7 | 300.6 | 22.9 | 90.0 | 69.3 | 844.4 | 1072.8 | 976.0 | 491.0 | 78.7 | 509.1 | 8703.0 | 20.5 | 331.7 |
| i. Machinery | 10199.3 | 0.6 | 8.2 | 7634.4 | 1.6 | 0.7 | 2.0 | 13.8 | 0.6 | 33.9 | 36.4 | 107.8 | 5760.2 | 721.8 | 754.3 | 66.9 | 134.4 | 659.5 | 5.8 | 110.4 |
| j. Electrical machinery, equipment and supplies | 25241.0 | 5.8 | 1.1 | 22707.0 | 2.3 | 1.7 | 4.1 | 64.0 | 1.5 | 32.6 | 78.7 | 160.5 | 2092.0 | 17103.5 | 2299.2 | 443.2 | 423.6 | 1017.4 | 3.0 | 121.8 |
| k. Transport equipment | 21880.0 | 73.4 | 0.3 | 19094.0 | 0.2 | 2.9 | 0.2 | 2.7 | 0.0 | 1.3 | 8.1 | 35.8 | 340.4 | 172.5 | 18431.7 | 42.7 | 55.4 | 0.6 | 0.6 | 120.7 |
| l. Precision instruments | 1544.6 | 2.9 | 0.0 | 821.8 | 0.2 | 0.2 | 0.8 | 10.4 | 0.0 | 1.3 | 1.3 | 4.6 | 199.5 | 111.2 | 46.4 | 437.5 | 8.3 | 9.8 | 0.6 | 210.0 |
| m. Others | 37990.5 | 313.4 | 46.2 | 18559.0 | 1246.9 | 78.0 | 699.5 | 956.8 | 28.0 | 255.5 | 302.2 | 338.3 | 1107.9 | 3212.4 | 2232.9 | 259.7 | 7840.9 | 6741.7 | 377.6 | 2305.7 |
| (4) Construction | 7848.9 | 85.5 | 9.7 | 1410.0 | 70.6 | 8.6 | 81.3 | 213.0 | 31.6 | 124.2 | 199.8 | 120.6 | 94.5 | 225.1 | 74.7 | 17.6 | 148.5 | 208.1 | 1131.2 | 554.8 |
| (5) Electricity, gas and water supply | 15074.1 | 106.8 | 43.3 | 6522.2 | 479.4 | 78.0 | 456.8 | 1231.9 | 152.5 | 347.6 | 980.5 | 267.4 | 388.6 | 884.7 | 490.7 | 64.6 | 699.5 | 500.4 | 1335.1 | 1128.4 |
| (6) Wholesale and retail trade | 677.2 | 4.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 672.0 |
| (7) Finance and insurance | 7617.2 | 137.3 | 42.1 | 1419.1 | 127.3 | 28.9 | 54.1 | 169.2 | 89.9 | 66.1 | 129.2 | 58.8 | 153.3 | 186.9 | 158.3 | 18.5 | 178.5 | 480.4 | 224.5 | 1723.5 |
| (8) Real estate | 8973.1 | 25.9 | 12.9 | 1192.1 | 75.2 | 12.1 | 34.5 | 155.3 | 15.6 | 45.8 | 78.7 | 71.7 | 128.9 | 248.4 | 92.5 | 21.9 | 211.6 | 286.4 | 216.0 | 2851.6 |
| (9) Transport and communications | 21804.5 | 116.4 | 56.1 | 3633.3 | 230.8 | 30.7 | 72.5 | 433.8 | 112.5 | 138.0 | 421.9 | 200.7 | 339.6 | 728.2 | 252.4 | 45.3 | 626.8 | 1501.1 | 274.7 | 4587.3 |
| (10) Service activities | 84067.4 | 582.4 | 289.3 | 20690.4 | 2200.0 | 150.2 | 582.2 | 2764.4 | 219.6 | 672.3 | 1162.9 | 1063.6 | 2131.3 | 4443.2 | 1736.6 | 282.3 | 3281.8 | 7504.1 | 2651.1 | 10636.1 |
| 2. Producers of government services | 2163.8 | 9.3 | 1.1 | 229.5 | 35.5 | 3.0 | 7.8 | 42.4 | 5.6 | 10.5 | 13.7 | 9.3 | 17.7 | 31.9 | 18.2 | 3.5 | 30.3 | 86.1 | 32.8 | 195.3 |
| 3. Producers of private non-profit services to households | 0.4 | 0.0 | 0.0 | 0.3 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.2 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Direct purchases abroad by resident households | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| (less) Direct purchases in the domestic market by non-resident households | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total intermediate input | 391421.4 | 6559.4 | 745.0 | 189928.9 | 20531.2 | 1702.7 | 5748.8 | 17417.6 | 7341.9 | 4393.7 | 16851.6 | 7134.5 | 17414.4 | 34011.7 | 31156.1 | 2108.1 | 24116.1 | 40506.9 | 9704.7 | 29660.2 |
| Consumption of fixed capital | 84901.0 | 1815.4 | 151.0 | 18480.8 | 1347.9 | 138.4 | 677.2 | 2025.3 | 352.4 | 679.9 | 1651.7 | 796.3 | 1857.4 | 4394.2 | 2138.2 | 251.6 | 2170.4 | 5494.3 | 5467.0 | 5796.8 |
| Taxes on production and imports less subsidies | 37379.9 | 340.1 | 69.5 | 15591.1 | 4072.4 | 145.8 | 338.7 | 869.2 | 3230.1 | 399.7 | 915.2 | 541.1 | 984.3 | 1563.6 | 1007.4 | 139.8 | 1383.7 | 2085.4 | 1452.1 | 6593.6 |
| Compensation of employees | 230459.7 | 1985.5 | 380.4 | 59317.8 | 5336.1 | 1069.0 | 1466.0 | 3194.0 | 272.1 | 2182.4 | 2939.4 | 4541.4 | 7847.1 | 11351.2 | 6497.1 | 1201.6 | 11420.5 | 27523.9 | 3571.8 | 41378.9 |
| Operating surplus and mixed income | 115756.5 | 4754.8 | 25.7 | 18049.7 | 3627.5 | − 281.0 | 755.1 | 3059.6 | 1757.9 | 544.8 | 1772.0 | 144.9 | 792.5 | 2761.0 | 1285.5 | 127.0 | 1702.9 | 2026.0 | 3085.5 | 16891.5 |
| Gross output | 859918.6 | 15455.2 | 1371.6 | 301368.3 | 34915.1 | 2774.9 | 8985.8 | 26565.7 | 12954.4 | 8200.5 | 24129.9 | 13158.2 | 28895.7 | 54081.7 | 42084.3 | 3828.1 | 40793.6 | 77636.5 | 23281.1 | 100321.0 |

Reference: Annual Report on National Accounts of 2010 Supporting Tables (1) and (5)

## Appended Table 3 Use Table (balanced, calendar year 2000, Billion yen) Part 2

| Products (Goods and Services), Industry, (Billion Yen) | (7) Finance and insurance | (8) Real estate | (9) Transport and communi-cations | (10) Service activities | 2. Producers of government services | 3. Producers of private non-profit services to households | Imputed bank service charge | Total intermediate input (B) | Statistical discrepancy (C)=(A－B) | Interme-diate consump-tion (A) | Government final consumption expenditure | Private final consumption expenditure | Domestic final consumption expenditure of households | Final consumption expenditure of private non-profit institutions serving households | Gross fixed capital forma-tion | Changes in invento-ries | Exports (the f.o.b. prices) | Total Demand |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1. Industries | 12370.3 | 6510.4 | 22493.2 | 71332.6 | 17074.2 | 3476.4 | 23294.1 | 433101.9 | 0.0 | 433101.9 | 27292.0 | 263536.4 | 263536.4 | 0.0 | 129033.6 | 1373.6 | 55241.3 | 909578.9 |
| (1) Agriculture, forestry and fishing | 0.0 | 0.7 | 4.9 | 1933.7 | 149.5 | 64.4 | － | 14405.2 | 0.0 | 14405.2 | 0.0 | 7295.8 | 7295.8 | 0.0 | 205.5 | 794.9 | 83.4 | 22784.7 |
| (2) Mining | 0.0 | 0.0 | 9.6 | 3.2 | 3.0 | 1.2 | － | 11053.3 | 0.0 | 11053.3 | 0.0 | 0.0 | 0.0 | 0.0 | －4.4 | 53.7 | 20.3 | 11122.8 |
| (3) Manufacturing | 1517.6 | 255.4 | 4700.5 | 33064.1 | 5897.7 | 1237.3 | － | 225089.5 | 0.0 | 225089.5 | 46.3 | 108516.4 | 108516.4 | 0.0 | 51659.1 | 525.0 | 49422.0 | 435258.3 |
| a. Food products and beverages | 0.0 | 0.3 | 11.6 | 8973.6 | 479.9 | 137.7 | － | 17941.0 | 0.0 | 17941.0 | 0.0 | 49077.8 | 49077.8 | 0.0 | 0.0 | 618.7 | 215.0 | 67852.5 |
| b. Textiles | 0.4 | 0.1 | 23.8 | 141.4 | 12.2 | 6.7 | － | 2805.2 | 0.0 | 2805.2 | 0.0 | 247.7 | 247.7 | 0.0 | 188.8 | －12.5 | 625.6 | 3854.8 |
| c. Pulp, paper and paper products | 84.9 | 12.4 | 235.1 | 558.3 | 78.0 | 62.4 | － | 9577.7 | 0.0 | 9577.7 | 0.0 | 1812.2 | 1812.2 | 0.0 | 0.0 | 41.6 | 294.6 | 11726.1 |
| d. Chemicals | 1.1 | 2.2 | 37.9 | 8627.2 | 193.7 | 76.5 | － | 26838.3 | 0.0 | 26838.3 | 0.0 | 5399.2 | 5399.2 | 0.0 | 0.0 | －44.6 | 3796.3 | 35989.2 |
| e. Petroleum and coal products | 99.4 | 105.4 | 2265.8 | 1405.2 | 718.8 | 97.0 | － | 14125.3 | 0.0 | 14125.3 | 0.0 | 4606.1 | 4606.1 | 0.0 | 0.0 | 455.4 | 308.6 | 19495.4 |
| f. Non-metallic mineral products | 0.9 | 5.1 | 41.6 | 376.7 | 70.8 | 20.7 | － | 10571.7 | 0.0 | 10571.7 | 0.0 | 587.2 | 587.2 | 0.0 | 0.0 | －96.2 | 693.6 | 11756.3 |
| g. Basic metal | 0.0 | 0.0 | 60.0 | 141.4 | 12.2 | 1.0 | － | 26380.1 | 0.0 | 26380.1 | 0.0 | －6.2 | －6.2 | 0.0 | －4.9 | －36.6 | 2619.4 | 28951.8 |
| h. Fabricated metal products | 3.0 | 24.0 | 117.9 | 278.8 | 221.2 | 8.4 | － | 15057.1 | 0.0 | 15057.1 | 0.1 | 657.5 | 657.5 | 0.0 | 466.8 | －70.5 | 559.1 | 16670.2 |
| i. Machinery | 0.0 | 0.1 | 79.2 | 1701.1 | 51.8 | 0.1 | － | 10251.2 | 0.0 | 10251.2 | 0.0 | 151.5 | 151.5 | 0.0 | 19130.1 | －410.0 | 7969.4 | 37092.3 |
| j. Electrical machinery, equipment and supplies | 7.2 | 2.0 | 74.0 | 1301.7 | 452.6 | 1.4 | － | 25695.0 | 0.0 | 25695.0 | 0.0 | 12856.9 | 12856.9 | 0.0 | 17363.2 | 591.8 | 16894.6 | 73401.5 |
| k. Transport equipment | 0.1 | 0.0 | 767.3 | 1823.0 | 1097.3 | 0.1 | － | 22977.4 | 0.0 | 22977.4 | 0.0 | 9234.2 | 9234.2 | 0.0 | 8964.3 | －51.1 | 12110.4 | 53235.2 |
| l. Precision instruments | 2.9 | 0.3 | 4.0 | 492.3 | 54.6 | 9.0 | － | 1608.2 | 0.0 | 1608.2 | 0.0 | 1651.2 | 1651.2 | 0.0 | 2438.2 | －34.8 | 1391.6 | 7054.4 |
| m. Others | 1317.7 | 103.5 | 982.3 | 7243.4 | 2454.6 | 816.4 | － | 41261.5 | 0.0 | 41261.5 | 46.2 | 22862.0 | 22862.0 | 0.0 | 2491.1 | －426.1 | 1943.7 | 68178.5 |
| (4) Construction | 160.1 | 2831.7 | 590.0 | 867.8 | 1002.8 | 244.0 | － | 9095.7 | 0.0 | 9095.7 | 0.0 | 0.0 | 0.0 | 0.0 | 68881.2 | 0.0 | 0.0 | 77976.9 |
| (5) Electricity, gas and water supply | 220.5 | 214.0 | 1080.9 | 3922.5 | 2131.5 | 249.4 | － | 17455.0 | 0.0 | 17455.0 | 0.0 | 7139.2 | 7139.2 | 0.0 | 0.0 | 0.0 | 10.5 | 24604.7 |
| (6) Wholesale and retail trade | 0.0 | 0.0 | 0.0 | 1.2 | 0.0 | 0.0 | － | 677.2 | 0.0 | 677.2 | 0.0 | 905.9 | 905.9 | 0.0 | 495.2 | 0.0 | 252.9 | 2331.2 |
| (7) Finance and insurance | 1150.0 | 413.1 | 790.0 | 1237.2 | 248.4 | 116.2 | 23294.1 | 31275.9 | 0.0 | 31275.9 | 0.0 | 11697.4 | 11697.4 | 0.0 | 0.0 | 0.0 | 353.9 | 43327.2 |
| (8) Real estate | 652.3 | 406.4 | 1033.2 | 2296.3 | 96.0 | 95.4 | － | 9164.5 | 0.0 | 9164.5 | 0.0 | 55242.9 | 55242.9 | 0.0 | 0.0 | 0.0 | 79.3 | 64486.7 |
| (9) Transport and communications | 1436.4 | 131.6 | 6501.3 | 3566.3 | 1788.5 | 285.7 | － | 23878.7 | 0.0 | 23878.7 | 0.7 | 18795.8 | 18795.8 | 0.0 | 0.0 | 0.0 | 2888.6 | 45563.8 |
| (10) Service activities | 7233.4 | 2257.5 | 7782.8 | 24440.3 | 5756.8 | 1182.8 | － | 91007.0 | 0.0 | 91007.0 | 27245.0 | 52464.2 | 52464.2 | 0.0 | 9276.0 | 0.0 | 2130.4 | 182122.5 |
| 2. Producers of government services | 41.5 | 43.1 | 410.5 | 1114.6 | 113.5 | 26.6 | － | 2303.9 | 0.0 | 2303.9 | 57649.7 | 3207.9 | 3207.9 | 0.0 | 0.0 | 0.1 | 4.4 | 63166.0 |
| 3. Producers of private non-profit services to households | 0.0 | 0.0 | 0.0 | 0.1 | 0.0 | 0.0 | － | 0.4 | 0.0 | 0.4 | 0.0 | 12444.0 | 7051.2 | 5392.8 | 0.0 | 0.0 | 10.1 | 12454.5 |
| Direct purchases abroad by resident households | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 2819.4 | 2819.4 | 0.0 | 0.0 | 0.0 | 0.0 | 2819.4 |
| (less) Direct purchases in the domestic market by non-resident households | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | －262.9 | －262.9 | 0.0 | 0.0 | 0.0 | 262.9 | 0.0 |
| Total intermediate input | 12411.8 | 6553.5 | 22903.7 | 72447.3 | 17187.7 | 3503.0 | 23294.1 | 435406.2 | 0.0 | 435406.2 | 84941.7 | 280266.0 | 274873.2 | 5392.8 | 130512.5 | 1373.7 | 55518.7 | 988018.8 |
| Consumption of fixed capital | 3613.4 | 18858.5 | 7905.4 | 17318.5 | 13212.8 | 856.7 | 0.0 | 98970.5 | | | | | | | | | | |
| Taxes on production and imports less subsidies | －361.0 | 3242.7 | 3233.8 | 5132.7 | 69.3 | 160.2 | 0.0 | 37609.4 | | | | | | | | | | |
| Compensation of employees | 12390.6 | 3748.9 | 19462.9 | 60699.0 | 32691.7 | 7924.4 | 0.0 | 271075.7 | | | | | | | | | | |
| Operating surplus and mixed income | 14802.2 | 32013.8 | 4218.8 | 19888.5 | 0.0 | 0.0 | －23294.1 | 92462.4 | | | | | | | | | | |
| Gross output | 42857.0 | 64417.4 | 57724.6 | 175486.0 | 63161.5 | 12444.3 | 0.0 | 935524.3 | | | | | | | | | | |

Reference: Annual Report on National Accounts of 2010 Supporting Tables (1) and (5)

## 編集委員会からのお知らせ

山口秋義（編集委員長）

機関誌『統計学』の編集・発行について

1．常時，投稿を受け付けます。

2．各号ごとに投稿の締め切りを設けます。その期日までに受け付けた原稿でも，査読の進捗如何によっては，その号に掲載されないことがあります。

3．投稿に際しては，2012年9月の総会において改正された「投稿規程」,「執筆要綱」,「査読要領」をご熟読願います。

4．原稿は編集委員長に宛ててお送り願います。

5．原稿はPDF形式のファイルとして提出してください。また紙媒体での提出も旧規程に準拠して受け付けます。紙媒体の送付先も編集委員長としてください。

6．原則としてすべての投稿原稿が査読の対象となります。

7．今後の締め切りは次のとおりです。

A：「論文」・「研究ノート」；B：その他

⑴ 第105号（2013年9月30日発行予定）

A：2013年7月31日；B：2013年8月31日

⑵ 第106号（2014年3月31日発行予定）

検討中（学会HPなどでお知らせします）

8．次年度（2013年4月－2014年3月）編集委員会メンバー（敬称略）は次のとおりです。
金子治平（関西，委員長，原稿送付先），西村善博（九州，副委員長），山田　満（関東），
橋本貴彦（関西），栗原由紀子（関東）

以上

## 編集後記

研究成果をご投稿いただいた会員諸氏に御礼申し上げます。また製版と発送の作業を昭和情報プロセス株式会社様と音羽リスマチック株式会社様にお世話になりました。この場をお借りして御礼申し上げます。本号では山口秋義（編集委員長）が責任編集を務め，前田修也（東北支部編集委員）が発行業務を担当しました。

（山口秋義　記）

## 執筆者紹介（掲載順）


山口幸三（(独)統計センター）
伊藤伸介（明海大学経済学部）
秋山裕美（(独)統計センター）
櫻本　健（松山大学経済学部）
IRINA ELISEEVA（Dr. Professor, Member-in-correspondence of Russian Academy of Sciences）


## 支部名　事務局

| 支部名 | | 事務局 | | |
|---|---|---|---|---|
| 北海道 | …… | 062-8605 | 札幌市豊平区旭町 4-1-40<br>北海学園大学経済学部<br>（011-841-1161） | 水野谷武志 |
| 東北 | …… | 986-8580 | 石巻市南境新水戸 1<br>石巻専修大学経営学部<br>（0225-22-7711） | 深川通寛 |
| 関東 | …… | 192-0393 | 八王子市東中野 742-1<br>中央大学経済学部<br>（042-674-3424） | 芳賀　寛 |
| 関西 | …… | 525-8577 | 草津市野路東 1-1-1<br>立命館大学経営学部<br>（077-561-4631） | 田中　力 |
| 九州 | …… | 870-1192 | 大分市大字旦野原 700<br>大分大学経済学部<br>（097-554-7706） | 西村善博 |

## 編集委員




統　計　学　No.104

2013年3月31日　発行

発行所　経済統計学会
〒194-0298　東京都町田市相原町4342
法政大学日本統計研究所内
TEL 042(783)2325　FAX 042(783)2332
http://www.jsest.jp/

発行人　代表者　森　博美

発売所　株式会社　産業統計研究社
〒162-0801　東京都新宿区山吹町15番地
TEL 03(5206)7605　FAX 03(5206)7601
E-mail：sangyoutoukei@sight.ne.jp
代表者　品川宗典

昭和情報プロセス㈱印刷

# STATISTICS

No. 104 2013 March

## Articles



## Note



## Activities of the Society



JAPAN SOCIETY OF ECONOMIC STATISTICS