

# 統計学

第 104 号

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2013年3月

経済統計学会

## 創刊のこ と ば

社会科学の研究と社会的実践における統計の役割が大きくなるにしたがって、統計にかんする問題は一段と複雑になってきた。ところが統計学の現状は、その解決にかならずしも十分であるとはいえない。われわれは統計理論を社会科学の基礎のうえにおくことによって、この課題にこたえることができると考える。このためには、われわれの研究に社会諸科学の成果をとりいれ、さらに統計の実際と密接に結びつけることが必要であろう。

このような考えから、われわれは、一昨年来経済統計研究会をつくり、共同研究を進めてきた。そしてこれを一層発展させるために本誌を発刊する。

本誌は、会員の研究成果とともに、研究に必要な内外統計関係の資料を収めるが同時に会員の討論と研究の場である。われわれは、統計関係者および広く社会科学研究者の理解と協力をえて、本誌をさらによりよいものとするを望むものである。

1955年4月

## 経 済 統 計 研 究 会

## 経 済 統 計 学 会 会 則

第1条 本会は経済統計学会（JSES : Japan Society of Economic Statistics）という。

第2条 本会の目的は次のとおりである。

1. 社会科学に基礎をおいた統計理論の研究
2. 統計の批判的研究
3. すべての国々の統計学界との交流
4. 共同研究体制の確立

第3条 本会は第2条に掲げる目的を達成するために次の事業を行う。

1. 研究会の開催
2. 機関誌『統計学』の発刊
3. 講習会の開催、講師の派遣、パンフレットの発行等、統計知識の普及に関する事業
4. 学会賞の授与
5. その他本会の目的を達成するために必要な事業

第4条 本会は第2条に掲げる目的に賛成した以下の会員をもって構成する。

- (1) 正会員
- (2) 院生会員
- (3) 団体会員
- 2 入会に際しては正会員2名の紹介を必要とし、理事会の承認を得なければならない。
- 3 会員は別に定める会費を納入しなければならない。

第5条 本会の会員は機関誌『統計学』等の配布を受け、本会が開催する研究大会等の学術会合に参加することができる。

- 2 前項にかかわらず、別に定める会員資格停止者については、それを適用しない。

第6条 本会に、理事若干名をおく。

- 2 理事から組織される理事会は、本会の運営にかかわる事項を審議・決定する。
- 3 全国会計を担当する全国会計担当理事1名をおく。
- 4 渉外を担当する渉外担当理事1名をおく。

第7条 本会に、本会を代表する会長1名をおく。

- 2 本会に、常任理事若干名をおく。
- 3 本会に、常任理事を代表する常任理事長を1名おく。
- 4 本会に、全国会計監査1名をおく。

第8条 本会に次の委員会をおく。各委員会に関する規程は別に定める。

1. 編集委員会
2. 全国プログラム委員会
3. 学会賞選考委員会
4. ホームページ管理運営委員会
5. 選挙管理委員会

第9条 本会は毎年研究大会および会員総会を開く。

第10条 本会の運営にかかわる重要事項の決定は、会員総会の承認を得なければならない。

第11条 本会の会計年度の起算日は、毎年4月1日とする。

- 2 機関誌の発行等に関する全国会計については、理事会が、全国会計監査の監査を受けて会員総会に報告し、その承認を受ける。

第12条 本会会則の改正、変更および財産の処分は、理事会の審議を経て会員総会の承認を受けなければならない。

付 則 1. 本会は、北海道、東北、関東、関西、九州に支部をおく。

2. 本会に研究部会を設置することができる。
3. 本会の事務所を東京都町田市相原4342法政大学日本統計研究所におく。

1953年10月9日（2010年9月16日一部改正[最新]）

【論文】

## Analysis of IO-based Annual Supply and Use Tables for the development of QNA<sup>\*</sup>

Takeshi SAKURAMOTO<sup>\*\*</sup>

### 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

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## 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 here 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)	<a href="http://www.esri.cao.go.jp/en/sna/kakuhou/kakuhou_top.html">http://www.esri.cao.go.jp/en/sna/kakuhou/kakuhou_top.html</a>
2	Quarterly Estimates of GDP	The Economic and Social Research Institute (ESRI), Cabinet Office	Quarterly	Quarterly GDP (Expenditure)	Economic and Social Research Institute (2005)	<a href="http://www.esri.cao.go.jp/en/sna/sokuhou/sokuhou_top.html">http://www.esri.cao.go.jp/en/sna/sokuhou/sokuhou_top.html</a>
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)	<a href="http://www.stat.go.jp/english/data/io/index.htm">http://www.stat.go.jp/english/data/io/index.htm</a>
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		<a href="http://www.mof.go.jp/english/international_policy/reference/balance_of_payments/index.htm">http://www.mof.go.jp/english/international_policy/reference/balance_of_payments/index.htm</a>
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)	<a href="http://www.boj.or.jp/en/statistics/sj/index.htm/">http://www.boj.or.jp/en/statistics/sj/index.htm/</a>
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		<a href="http://www.stat.go.jp/english/index/seido/sangyo/index07.htm">http://www.stat.go.jp/english/index/seido/sangyo/index07.htm</a>

\* This paper calls Number 5 BIOT.

Table 2 The variation of GDP statistics in JSNA

GDP statistics	QNA		ANA			Benchmark revision
	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-

1993SNA or 2008SNA	Full sequence of accounts for institutional sectors			Japanese System of National Accounts	Balancing items	Main aggregates	
Current accounts	I. Production accounts	I. Production accounts		Production accounts (only total economy)	B.1 Value added	Domestic product (GDP/NDP)	
		II. 1.1. Primary distribution of income accounts	II. 1.1. Generation of income account		Generation of income account (only total economy)		B.2 Operating surplus B.3 Mixed income
			II. 1.2. Allocation of primary income account	II. 1.2.1. Entrepreneurial income accounts II. 1.2.2. Allocation of other primary income account	Allocation of primary income account	B.5 Balance of primary incomes	National income (GNI, NNI)
		II. Distribution and use of income accounts	II. 2. Secondary distribution of income accounts		Secondary distribution of income accounts	B.6 Disposable income	National disposable income
	II. 3. Redistribution of income in kind accounts		Redistribution of income in kind accounts	B.7 Adjusted disposable income	Nation saving		
	II. 4. Use of income accounts		II. 4.1. Use of disposable income accounts II. 4.1. Use of adjusted disposable income	Use of income accounts		a. Use of disposable income accounts b. Use of adjusted disposable income accounts	B.8 Saving
	Accumulation accounts	III. Accumulation accounts	III. 1. Capital account		Capital account	B.9 Net lending/Net borrowing	National Changes in national
			III. 2. Financial account		Financial account	B.9 Net lending/Net borrowing	
			III. 3. Other changes in assets accounts	III. 3.1. Other changes in volume of assets		Closing balance sheet	B.90 Net worth
				III. 3.2.1. Neutral holding gain/losses III. 3.2.2. Real holding gains/losses	Reconciliation Accounts		
Balance sheets	IV. Balance sheets	IV. 1. Opening balance sheet		Other changes in volume of assets account	B.10.2 Changes in net worth, due to other changes in volume of assets		
		IV. 2. Changes in balance sheet			B.10.3 Changes in net worth, due to nominal holding gains/losses		
		IV. 3. Closing balance sheet			Re-valuation accounts	B.10.31 Changes in net worth, due to Neutral holding gains/losses	
		Neutral holding gain/losses	B.10.32 Changes in net worth, due to Real holding gains/losses				

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<sup>1)</sup>.

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 Indi-

rectly 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) Employees Engaged in Production Activities (by Occupation)	○	○	○					
	(7) Employment Matrix (Employees Engaged in Production Activities) (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-

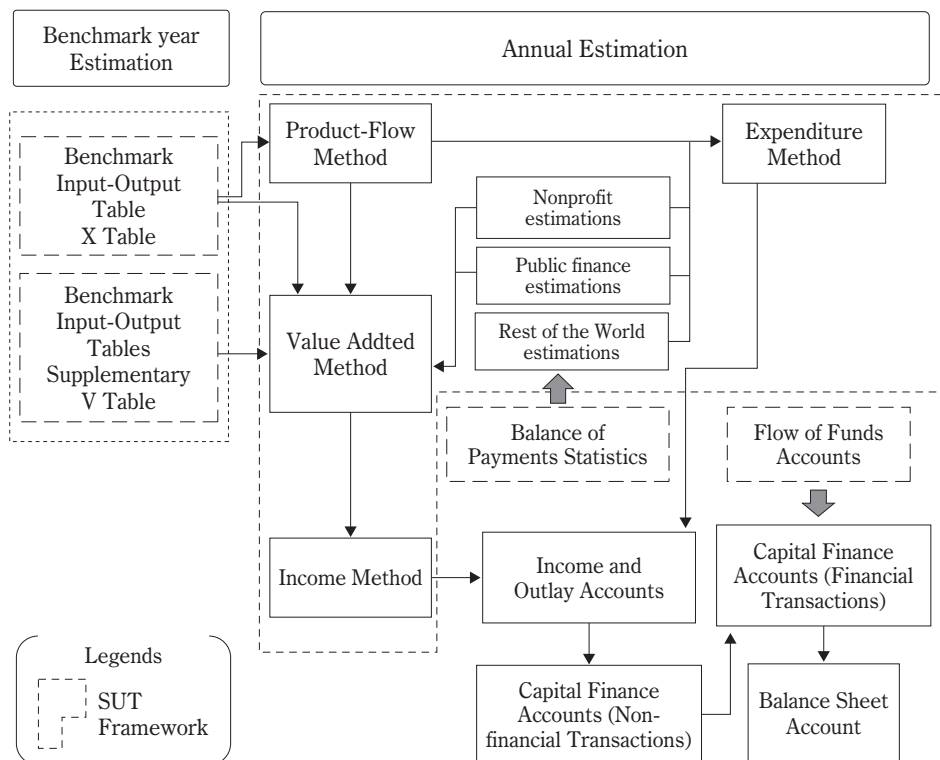


Figure 2 The JSNA and the Annual SUT (ASUT)

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 rea-

sons: 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-

according 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<sup>2)</sup>.

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	Exports	
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 (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				Supply Table According to 1993SNA or 2008SNA				
	Product 1	Product 2	Total Output		Industry A	Industry B	Import	Total Supply
Industry A				Product 1				
Industry B				Product 2				
Total Output				Total Output				

GOJ<sup>3)</sup> 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 × 420) in 2009<sup>4)</sup>. 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				Use Table According to 1993SNA or 2008SNA					
	Industry A	Industry B	Total Intermediate Input		Industry A	Industry B	Total Intermediate Input	The components of the expenditure site	Total Demand
Product 1				Product 1					
Product 2				Product 2					
Total Intermediate Input				Total Intermediate Input					
The components of the value added				The components of the value added					
Total Output				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 ana-

lyze 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.

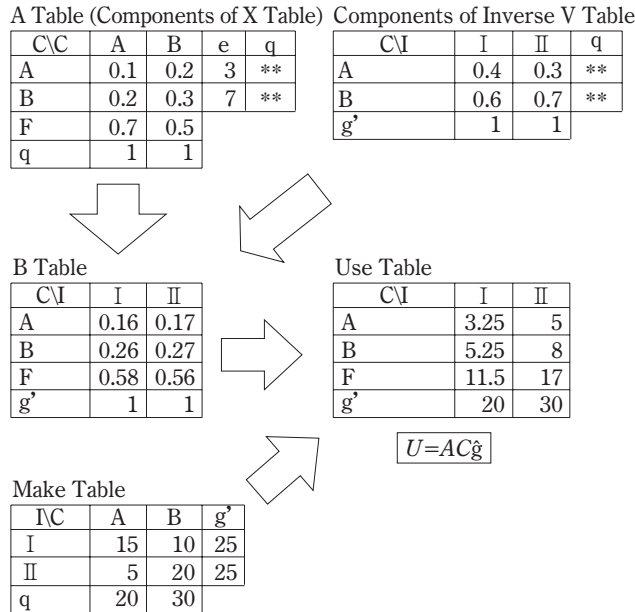


Figure 3 The Estimation Image of U table

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<sup>(5)</sup> 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<sup>(6)</sup>

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 utilize 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 include 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 necessary.	Without the sufficient resource, 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<sup>7)</sup> 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



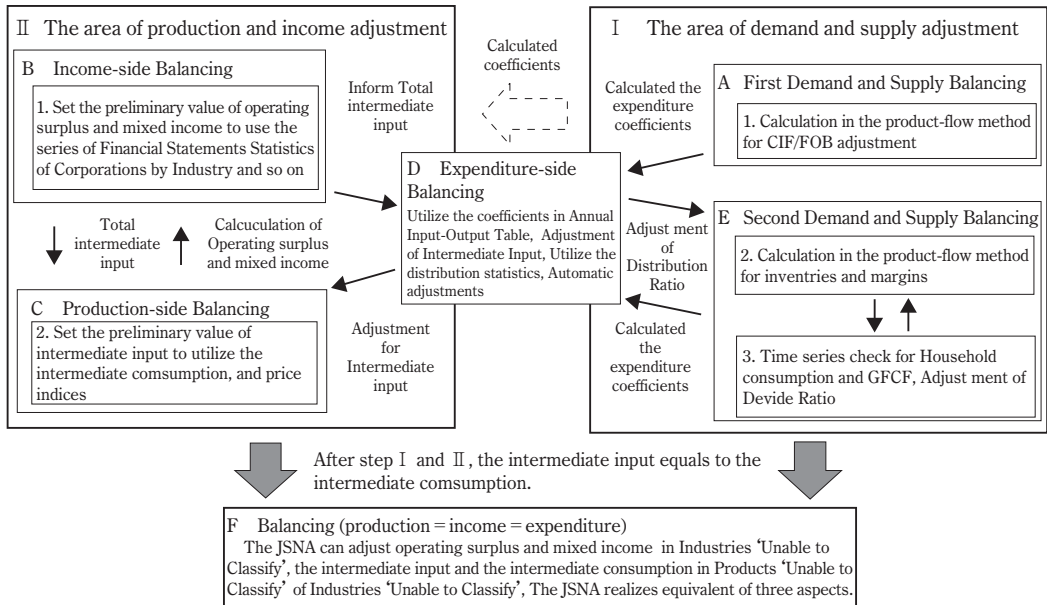


Figure 4 Suggestion for a balancing system for the ASUT in Japan

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<sup>(8)</sup> 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<sup>(9)</sup> 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 se-

**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		○	△ <sup>(3)</sup>
Australia	○	○	○
New Zealand	○	○	
Austria	○	○ <sup>(1)</sup>	
Denmark	○	○	○ <sup>(2)</sup>
Finland	○	○ <sup>(1)</sup>	○ <sup>(2)</sup>
France	○	○ <sup>(1)</sup>	○ <sup>(2)</sup>
Germany	○	○ <sup>(1)</sup>	○ <sup>(2)</sup>
Italy	○	○ <sup>(1)</sup>	
Netherlands	○	○ <sup>(1)</sup>	
Norway	○	○ <sup>(1)</sup>	○ <sup>(2)</sup>
Spain	○	○ <sup>(1)</sup>	
Sweden	○	○	
Switzerland	○	○ <sup>(1)</sup>	
Turkey	○	○	
United Kingdom	○	○	○

(1) Change in 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

riously. For example, although many Japanese companies innovate in the area of electricity generation, this series cannot follow such technology breakthroughs.

**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.

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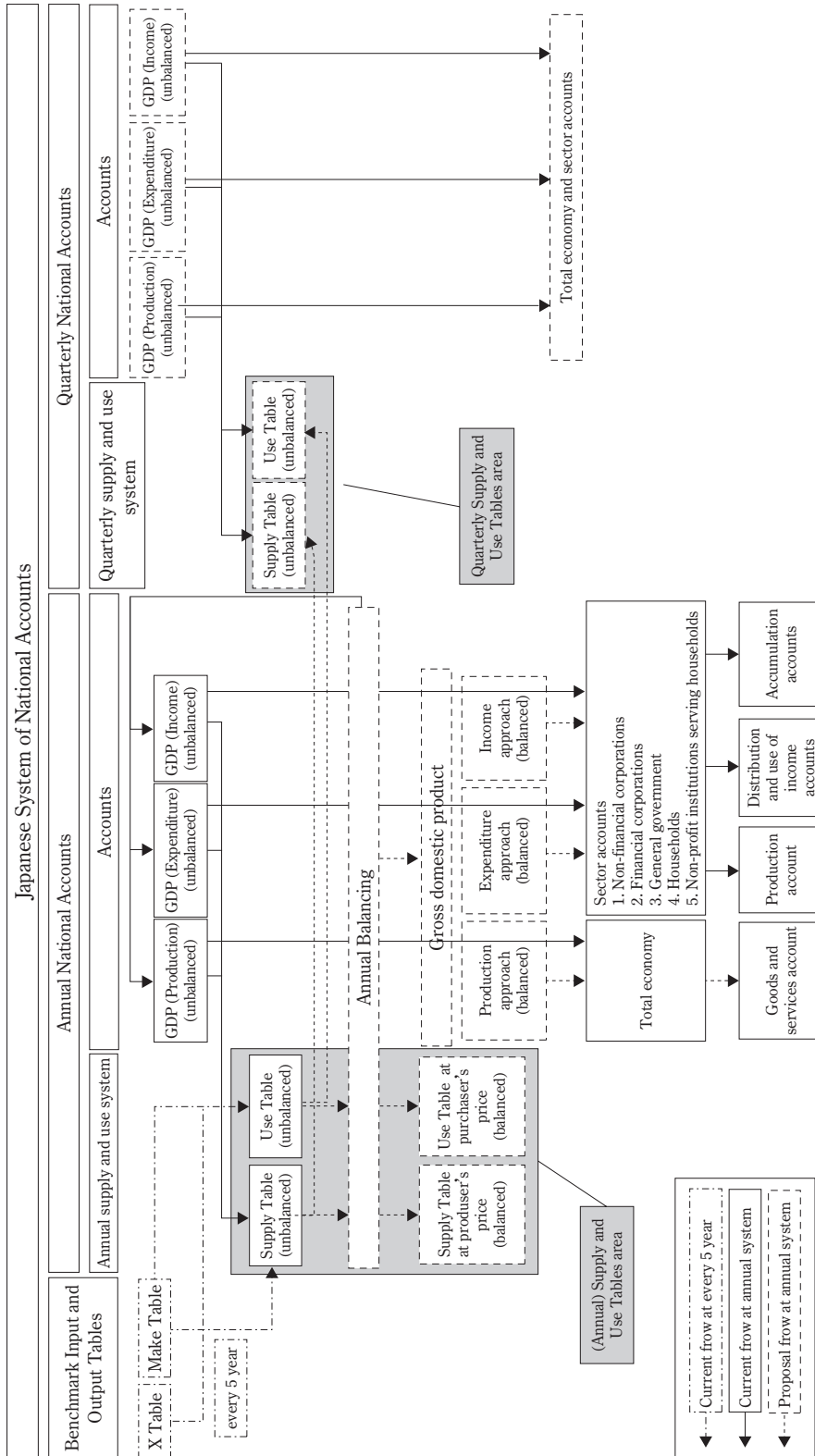
### Notes

- 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/](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](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](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 taikai 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 kokuminkeizaikeisantaikai 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](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

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

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 products	h. Fabricated metal products	i. Machinery	j. Electrical machinery and supplies	k. Transport equipment	l. Precision instruments	m. Others	(4) Construction	
																		751731.0
(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	0.0	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	0.0	0.1
(3) Manufacturing	303711.0	525.1	146	299201.6	34906.6	2768.9	8709.9	26132.1	13328.1	8160.3	23920.2	13104.4	28479.9	53886.5	42066.8	3778.2	40737.7	-3.8
a. Food products and beverages	38047.3	518.8	0.0	34985.1	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	1.4	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	8321.6	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	40488.9	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	41375.7	6.3	0.3	41192.3	9.8	39.3	123.5	188.5	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	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	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	8120.1	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	0.0
3. Producers of private non-profit services 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)



Appendix 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 commu- nications	(10) Service and commu- nication activities	3.			Imports of goods and services (The c.i.f. prices)	Imports of goods and services (The c.i.f. adjustment prices)	Differential between approaches	Taxes and duties on imports	Total supply (at producers' prices)	Trade and transport margins	Total supply (at purchasers' prices)	
							2. Producers of government services	1. Producers of private non- profit services to households	Gross output								
1. Industries	23493.3	4201.4	42857.1	64417.4	44800.8	175486.4	0.0	0.0	751731.0	45121.0	471965.5	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	690.6	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	11736.1
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	19496.4
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	2072.7	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	26591.3	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	389.4	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	48543.0	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	173330.1	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	0.0	63161.7	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	12444.3	0.0	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	0.0	0.0	0.0	0.0	0.0	0.0
Gross output	23493.3	4201.4	42857.1	64417.4	44800.8	175486.4	63161.7	12444.3	827337.0	47940.4	471965.5	0.0	-1452.3	3869.4	879146.8	109044.0	989190.8

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

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

Products (Goods and Services), Industry, (Billion Yen)	I. Industries	(1) Agriculture, forestry and fishing	(2) Mining	(3) Manufacturing	a. (4) Manufacturing										(5) Electricity, gas and water supply	(6) Wholesale and retail trade		
					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
1. Industries	390549.2	6550.1	744.5	190311.5	20495.8	1699.7	5745.1	17393.2	7776.7	4450.5	16914.8	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	1.2	948.5	250.1	1.7	1616.1
(2) Mining	11906.2	0.3	8.4	8506.8	0.7	0.6	56.3	250.1	6117.5	954.3	1068.1	10.1	6.8	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	5322.2	14149.1	27228.7	28321.9	28727.9	1668.4	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	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	1.0
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	4.6
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	94.7
e. Petroleum and coal 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
f. Non-metallic mineral products	26396.9	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
g. Basic metal	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
h. Fabricated metal products	10193.3	0.6	8.2	7634.4	1.6	0.7	2.0	13.8	0.6	33.9	36.4	107.8	5700.2	721.8	754.3	66.9	134.4	659.5
i. Machinery	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
j. Electrical machinery, equipment and supplies	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
k. Transport equipment	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
l. Precision instruments	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
m. Others	7848.9	85.5	9.7	14100.0	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
(4) Construction	15074.1	106.8	43.3	6522.2	479.4	78.0	458.8	1231.9	152.5	347.6	980.5	267.4	388.6	884.7	490.7	64.6	699.5	500.4
(5) Electricity, gas and water supply	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	672.0
(6) Wholesale and retail trade	7617.2	137.3	42.1	14191.1	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
(7) Finance and insurance	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
(8) Real estate	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
(9) Transport and communications	84502.2	582.4	289.3	20690.4	2200.0	150.2	58.2	2764.4	219.6	672.3	1162.9	1063.6	2131.3	4443.2	1736.6	282.3	3281.8	7504.1
(10) Service activities	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
2. Producers of government services																		
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	0.0	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
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
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
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
Compensation of employees	230459.7	1985.5	380.4	99317.8	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
Operating surplus and mixed income	115321.7	4754.8	25.7	38049.7	3627.5	-281.0	75.1	3059.6	1759.9	544.8	1772.0	144.9	792.5	2761.0	1295.5	127.0	1702.9	2026.0
Gross output	860775.9	15455.1	1372.2	301980.7	34915.4	2774.8	8990.0	26583.7	13394.9	8297.8	24207.0	13158.8	28896.4	54083.1	42084.7	3828.3	40796.1	77711.4

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

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

	(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	Imputed bank service charge	Total intermediate input (B)	Statistical discrepancy (C)-(A)-(B)	Intermediate consumption (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 formation	Changes in inventories	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	-2869.6	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	1495.5	64.4	-	14405.2	157.3	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	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	127.3	-	223089.5	5701.2	230790.7	46.3	104651.6	104651.6	0.0	49822.7	55.0	49422.0	432528.3	
a. Food products and beverages	0.0	0.3	11.6	8973.6	479.9	137.7	-	179410.0	1812.5	17965.3	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	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	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	-	26338.3	207.9	27046.2	0.0	5191.3	5191.3	0.0	0.0	-44.6	3793.3	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	19495.4	
f. Non-metallic mineral products	0.9	5.1	41.6	376.7	70.8	20.7	-	10571.7	107.6	10679.3	0.0	479.6	479.6	0.0	0.0	-96.2	683.6	11756.3	
g. Basic metal	0.0	0.0	60.0	141.4	12.2	1.0	-	26380.1	-214.1	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	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	10409.2	0.0	150.3	150.3	0.0	18973.4	-410.0	7989.4	37092.3	
j. Electrical machinery, equipment and supplies	7.2	2.0	74.0	1301.7	452.6	1.4	-	25695.0	1699.8	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	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	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	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	9070.5	0.0	0.0	0.0	0.0	0.0	0.0	10.5	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	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	
(7) Finance and insurance	1150.0	413.1	790.0	1237.2	248.4	116.2	23294.1	31275.9	104.6	31380.5	0.0	11592.8	11592.8	0.0	0.0	0.0	353.9	4327.2	
(8) Real estate	622.3	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	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	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	12304.8	
2. Producers of government services	41.5	43.1	410.5	1114.6	113.5	26.6	-	2303.9	114.8	2418.7	57649.7	3043.1	3043.1	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	765.0	5392.8	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	0.0	2819.4	
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	989453.6
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	14892.2	32013.8	4218.8	19453.7	0.0	0.0	-23294.1	92027.6											
Gross output	42857.1	64417.5	57255.3	175486.2	63161.7	12444.3	0.0	936381.7											

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

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

Products (Goods and Services), Industry (Billion Yen)	(1) Industries	(2) Agriculture, forestry and fishing	(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 products	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	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	1381.2	1.5	8412.4	7236.9	61.9	146	106.5	0.8	3.5	2.7	9.8	5.1	14.7	6.1	1.2	948.5	250.1	17
(2) Mining	11049.1	0.3	7.8	7894.4	0.6	52.2	232.1	5677.1	867.0	991.2	9.4	6.3	19.7	19.7	5.4	1.2	31.5	962.3	2168.2
(3) Manufacturing	217954.5	3510.3	281.2	138255.2	10074.9	1328.7	12069.0	10067.7	2118.7	12871.0	5323.2	14149.2	27228.7	28321.2	1652.0	17959.1	28727.9	1669.4	5702.9
a. Food products and beverages	17223.4	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
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
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	54.3	317.3	35.3	24.9	2335.1	327.8	4.6
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
e. Petroleum and coal products	133094.5	385.6	174.7	437.6	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	1333.6
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	294.1	6629.0	12.3
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	2889.2	2842.3	2832.9	156.3	592.5	2241.3	14.4
h. Fabricated metal products	14827.5	27.3	30.9	5290.4	817.8	2.1	15.7	300.6	22.9	90.0	66.3	844.4	1072.8	976.0	491.0	78.7	509.1	8703.0	20.5
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	5790.2	721.8	754.3	66.9	134.4	659.5	5.8
j. Electrical machinery, equipment and supplies	25411.0	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
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
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
m. Others	37900.5	313.4	46.2	18559.0	1246.9	78.0	699.5	956.8	28.0	255.5	302.2	338.3	1107.9	3214.2	2232.9	250.7	7840.9	6741.7	377.6
(4) Construction	7848.9	85.5	9.7	1410.0	701.6	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	131.2
(5) Electricity, gas and water supply	15074.1	106.8	43.3	6522.2	4794	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
(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	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
(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
(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
(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	213.3	4443.2	1736.6	282.3	3281.8	7504.1	2651.1
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
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
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
(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
Totals	391421.4	6559.4	745.0	189928.9	20531.2	1702.7	5748.8	17417.6	7341.9	4383.7	16851.6	7134.5	17444.4	34011.7	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	233.2	251.6	2170.4	5494.3	5467.0
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	138.8	1383.7	2085.4	1452.1
Compensation of employees	230459.7	1885.5	380.4	59317.8	5336.1	1069.0	1466.0	3194.0	272.1	2382.4	2839.4	4541.4	7847.1	11351.2	6497.1	1201.6	11420.5	27523.9	3571.8
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
Gross output	859018.6	15455.2	1371.6	301368.3	349151.1	2774.9	8985.8	26565.7	12954.4	8200.5	24129.9	13158.2	28866.7	54081.7	42084.3	3828.1	40793.6	77636.5	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

	(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	Imputed bank service charge	Total intermediate input (B)	Statistical discrepancy (C)=(A-B)	Intermediate consumption (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 formation	Changes in inventories	Exports (f.o.b. prices)	Total Demand
1. Industries	12370.3	6510.4	22483.2	71332.6	17074.2	3476.4	2294.1	433101.9	0.0	433101.9	27292.0	263536.4	263536.4	0.0	129033.6	1373.6	55241.3	90578.9
(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	-	1165.3	0.0	1165.3	0.0	0.0	0.0	-4.4	53.7	20.3	11128.8	
(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	526.0	49422.0	435238.3
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	618.7	215.0	67852.5	
b. Textiles	0.4	0.1	23.8	141.4	12.2	6.7	-	2895.2	0.0	2895.2	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	588.3	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	4066.1	4066.1	0.0	0.0	45.4	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	7989.4	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	213.5	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	0.0	1.2	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	2294.1	31275.9	0.0	31275.9	0.0	11697.4	11697.4	0.0	0.0	353.9	4327.2	
(8) Real estate	62.3	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	1466.4	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	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	133.5	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	12444.0	0.0	5392.8	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	0.0	0.0
Total intermediate input	12411.8	6533.5	22903.7	72447.3	17187.7	3503.0	2294.1	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	37699.4										
Compensation of employees	12300.6	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	-2294.1	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つては、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。
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A：「論文」・「研究ノート」；B：その他
  - (1) 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
  - (2) 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）
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### 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）

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